

**ICAR-ATARI, Pune**

**DETAILS OF ANNUAL PROGRESS REPORT OF KVKs DURING 2017-18**

**(1<sup>st</sup> April 2017 to 31<sup>st</sup> March 2018)**

**1. GENERAL INFORMATION ABOUT THE KVK**

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

Address with PIN code	Telephone		E mail	Website address & No. of visitors (hits)
	Office	FAX		
KVK-Vadodara (Mangalbharti) At.&Po.Golagamdi, Ta.Sankheda, Dist. Chhotaduepur.- 391125	02665-243240	-	<a href="mailto:kvkvdr@gmail.com">kvkvdr@gmail.com</a>	www.kvkvadodara.org

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

Address	Telephone		E mail	Website address
	Office	FAX		
Mangalbharti At.&Po.Golagamdi, Ta.Sankheda, Dist. Chhotaduepur.- 391125	02665-243240	-	<a href="mailto:kvkvdr@gmail.com">kvkvdr@gmail.com</a>	www.kvkvadodara.org

**1.3. Name of the Senior Scientist and Head with phone & mobile no.**

Name	Telephone / Contact		
	Office	Mobile	Email
Dr. B. M. Mehta	02665-243240	094268 34346	bmehta_61@rediffmail.com

**1.4. Year of sanction:        1995**

### 1.5. Staff Position (as on March 31, 2018)

Sl. No.	Sanctioned post	Name of the incumbent	Discipline	If Permanent, Please indicate		Date of joining
				Current Pay Band	Current Grade Pay	
1.	Senior Scientist and Head	Dr.B.M.Mehta	-	37400-9000-67000	9000	17/9/2013
2.	Subject Matter Specialist	C. R. Patel	Agronomy	15600-5400-39100	5400	23/6/2011
3.	Subject Matter Specialist	M. C. Brahmhatt	Horticulture	-do-	5400	11/7/2011
4.	Subject Matter Specialist	J. P. Meena	Animal Science	-do-	5400	7/7/2011
5.	Subject Matter Specialist	K. J. Soni	Home Science	-do-	5400	2/7/2011
6.	Subject Matter Specialist	B. L. Dhayal	Ext.Edu	-do-	5400	23/8/13
7.	Subject Matter Specialist	V.D.Patel	Plant.Prot	-do-	5400	06/02/17
8.	Programme Assistant	K. K. Sutaria	-	9300-4200-34800	4200	1/12/2008
9.	Computer Programmer	M.R.Kulkarni	-	-do-	4200	21/01/2008
10.	Farm Manager	Hariom Sharma	-	-do-	4200	2/9/2013
11.	Accountant/Superintendent	V.V.Shah	-	-do-	4200	04/06/2001
12.	Stenographer	C.M.Raval	-	5200-2400-20200	2400	2/9/2013
13.	Driver 1	R.N.Prajapati	-	5200-2000	2000	17/01/2008
14.	Driver 2	Z. S.Vora	-	-do-	2000	27/6/2011
15.	Supporting staff 1	P.B.Rathwa	-	5200-1800	1800	5/9/2003
16.	Supporting staff 2	J.R.Tadvi	-	-do-	1800	29/7/2002

### 1.6. Total land with KVK (in ha):

S. No.	Item	Area (ha)
1	Under Buildings	1.30
2.	Under Demonstration Units	2.00
3.	Under Crops	8.00
4.	Horticulture	1.50
5.	Pond	0.50
6.	Others if any	6.70

## 1.7. Infrastructural Development:

### A. Buildings

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Year	Plinth area (Sq.m)	Expenditure (Rs.)	Starting year	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	62x39mt.	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	11899 hrs.	Poor condition
Mahindra Bolero	29/03/10	6,25,000=00	181186	Working condition
Bajaj Discover	09/02/11	48,251=00	75748	Working condition

### C. Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
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	Poor condition
Micro Scope	19/09/96	3,500=00	Poor condition
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	Poor condition
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	Poor condition
Library table	15/03/2001	22,000=00	Poor condition
Plastic chair	30/03/2001	11,900=00	Poor condition
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	Poor condition
Rotavator (rotary)	31/12/2004	49,000=00	Poor condition
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	Poor condition
Steel cupboard	26/02/2006	10,440=00	Good
Plastic chair	26/02/2006	4,560=00	Poor condition
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	Poor condition
Office table	31/03/2006	3,165=00	Poor condition
Computer chair	31/03/2006	4,310=00	Poor condition
Plastic chair	31/03/2006	8,125=00	Poor condition
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	Faulty

"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	Poor condition & not working, Under TMC-MM-II
LCD Projector (Panasonic-Model. No.-PT-PISD1500luens.	16/03/07	73010=00	Poor condition and not working condition so, this projector is buyback and purchase new Projector EPSON-EX-31
DVD Handy Cam	20/03/07	20500=00	Poor condition

(Sony.Model:608E Digital Camera (Orite Mod.No.-C8000 Trolley With Cabinet	20/03/07 16/03/07	9200=00 10688=00	
Projector Screen with Stand (Size:52"70)	16/03/07	11560=00	Poor condition
Seed cum fertilizer drill	28/11/10	30000=00	Under ICAR grant Poor condition
Projector EPSON-EX-31	24/3/17	33700=00	Under NRC Grant
Hitachi Air Condition No.2	23/3/17	80000=00	" "
Nikon Digital Camera D-5300 & Sony Handy-cam PJ-675	14/3/17	94800=00	" "
RO with Cooler	20/3/17	79990=00	" "
Computer with Accessorizes No.3	14/3/17	149953=00	" "
Office Table (7+2)	28/3/17	41800=00	" "

### 1.8. Details of SAC meetings to be conducted in the year

Sl.No.	Date
1. Scientific Advisory Committee	January ' 2019

## 2. DETAILS OF DISTRICT

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

S. No	Farming system/enterprise
Crop	Agril.alone Agril.Horticulture Agril.-Animal Husbandary Agril.-silviculture
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° 49' to 22° 49' north latitude and 72° 51' to 74° 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 (2016-17)

Sr. No.	Crop	Area (ha)	Production (MT.)	Productivity (kg/ha)
<b>A</b>	<b><i>Kharif</i></b>			
1	Cotton	141657	509965	1800
2	Paddy Irrigated	23405	112344	4000
	Un irrigated	42400	106000	2500
3	Castor	20890	41780	2000
4	Maize	37700	75400	2000
5	Pigeon Pea	96472	115766	1200
6	Green gram	185	185	1000
7	Black gram	11514	9211	800
8	Tobacco	5415	8664	1600
9	Soybean	14183	21275	1500
<b>B</b>	<b><i>Rabi</i></b>			
1	Wheat	21500	60200	2800
2	Gram	280	336	1200
3	Maize	46449	255470	5500
<b>C</b>	<b><i>Summer</i></b>			
1	Groundnut	6945	15279	2200
2	Bajara	6735	23573	3500
3	Sesamum	50	20	400
4	Green gram	497	547	1100
5	Fruits	27885	1001072	35900
6	Vegetables	58906	1093884	18570

### 2.5. Weather data (2017-18)

Month	Rainfall (mm)	Temperature 0 C		Relative Humidity (%)	
		Maximum	Minimum	Maximum	Minimum
April'17	0	34.45	21.54	59.64	28.70
May'17	0	39.76	25.40	51.80	31.70
June'17	128.3	35.63	24.93	83.54	63.40
July'17	311.8	30.60	25.67	87.50	70.31
Aug'17	240.5	32.29	24.92	85.32	62.07
Sept'17	58.5	33.58	22.60	61.37	39.78
Oct'17	0	36.14	18.09	45.40	21.04
Nov.'17	0	32.26	16.64	42.15	22.15
Dec.'17	8	29.18	15.96	56.35	25.70
Jan.'18	0	29.00	13.00	56.57	26.08
Feb.'18	0	32.00	15.00	52.00	24.80
March.'18	0	37.00	20.00	40.00	22.00

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

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

Statistical Report Govt.of Gujarat (2014-15)

## 2.7. Details of Operational area / Villages

SI 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, Navapura, Ambapura Vagetha Deroli Amalpur Fajalpura	<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	INM IWM IPM Water Mgt.  ICM INM IPM IWM  ICM



					<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 <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 <b>Groundnut</b> 1.Use of local seeds 2.No use of micronutrients 3. Improper weed management	INM IWM IPM   ICM IPM IDM IWM  ICM INM IWM  ICM IPM
2.	Naswadi	Naswadi	Dhamasiya Payakui Kolamba Akona	<b>Kharif</b> Cotton Paddy Castor  <b>Rabi</b> Wheat Gram  <b>Summer</b> Greengram Groundnut	<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>Greengram</b> 1. Use of local seeds 2. Use of higher seed rate 3. Improper water management 4. Improper pest and disease management <b>Groundnut</b> 1.Use of local seeds 2.No use of micronutrients 3. Improper weed management	ICM SRI INM IPM  INM IWM ICM  ICM INM IPM
3.	Kawant	Kawant	Khatiyawat Baladgam Mudamore Kherka Karajwant Raypur Piplada Goddha Raipur Shihada	<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	INM IWM IPM Water Mgt.  ICM INM IPM IWM ICM INM

					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	IWM IPM  ICM INM IWM
4.	Pavijetpur	Pavijetpur	Ranbhunghati Butiyapura Kallarani Haripura Shithol	<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
5	Bodeli	Bodeli	Kapdiya Nana Butiyapura Ranbunghati MotaButiyapura Navapura Kathmandva Khodiya Vaniyadi Pitha tandalja	<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>Banana</b>	INM IWM IPM Water Mgt.    ICM INM IPM IWM   ICM

[illegible]

**2.8. Priority thrust areas:**

<b>Crop/Enterprise</b>	<b>Thrust area</b>
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
Urd bean	Varietal evaluation Integrated Pest & Disease Management
Soybean	Varietal evaluation Integrated Pest & Disease Management
Cucurbits	Integrated Pest & Disease Management Integrated Nutrient management
Banana	Integrated Nutrient Management Integrated Weed management Water Management
Vegetables	Integrated Pest & Disease Management Integrated Nutrient management Nursery 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

#### 3.1. A. Details of target and achievements of mandatory activities

OFT				FLD			
1				2			
Number of OFTs		Number of farmers		Number of FLDs		Number of farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
08	08	52	52	17	17	750	745

Training				Extension Programmes			
3				4			
Number of Courses		Number of Participants		Number of Programmes		Number of participants	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
62	70	1800	2004	500	468	45000	48797

Seed Production (Qtl.)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
20	10.55	80000	103969

### 3.1. B. Operational areas details during 2017-18

S.No.	Major crops & enterprises being practiced in cluster villages	Prioritized problems in these crops/ enterprise	Extent of area (Ha/No.) affected by the problem in the district	Names of Cluster Villages identified for intervention	Intervention (OFT, FLD, Training, extension activity etc.)*
1	Soybean	<ul style="list-style-type: none"> <li>• Unavailability of HYVs seed ,</li> <li>• Seed sheltering of local varieties at harvesting stage</li> <li>• Less adoption of INM and IWM approach</li> </ul>	50 ha	Tava, Kanalva,Chimli, Nani Amrol, Moti Kanas Ta, Kwant ,Dist. Chhotaudpeur	FLD, Training, Extension Activity
2	Blackgram	<ul style="list-style-type: none"> <li>• Low productivity due to Yellow Vein Mosaic Virus (YVMV)</li> <li>• Non use of improved varieties</li> <li>• No use of IPM and INM modules.</li> <li>• No use of chemical weed control.</li> </ul>	30 ha	Rangpur, Motisadhli, Ta, Kwant ,Dist. Chhotaudpeur	OFT,FLD, Training, Extension Activity
3	Greengram	<ul style="list-style-type: none"> <li>• Low productivity due to Yellow Vein Mosaic Virus (YVMV)</li> <li>• Non use of improved varieties</li> <li>• No use of IPM and INM modules.</li> <li>• No use of chemical weed control.</li> </ul>	40 ha	Kanas,Ta.Chhotaudpur Shihada,Ta,,Kawant Bhagwanpura Ta, Bodeli Dist. Chhotaudpeur	OFT,FLD, Training, Extension Activity
4	Groundnut	<ul style="list-style-type: none"> <li>• Unavailability of certified seed.</li> <li>• Imbalance use of fertilizer,</li> <li>• No use of IPM and IDM modules.</li> <li>• No use of chemical weed management practices.</li> </ul>	16 ha	Khatmandva, Garoal Ta,Bodeli ,Dist. Chhotaudpeur	OFT,FLD, Training, Extension Activity
5	Pigeon pea	<ul style="list-style-type: none"> <li>• Wilt and Sterility Mosaic in Local Variety</li> <li>• Less adoption of IPM and INM module.</li> </ul>	20 ha	Bhagnvanpura, Ta,Bodeli ,Dist. Chhotaudpeur Raghunathpura, Gordhanpura Ta,Sankheda ,Dist. Chhotaudpeur	FLD, Training, Extension Activity

6	Cotton	<ul style="list-style-type: none"> <li>• Low productivity</li> <li>• No use of IPM modules for Pink ball worm and sucking pest.</li> <li>• No use of INM</li> <li>• No use of MIS and fertigation</li> </ul>	8 ha	Pitha Ta. Bodeli, Dist. Chhotaudpur	OFT,FLD, Training, Extension Activity
7	Maize	<ul style="list-style-type: none"> <li>• No use of IPM and IDM modules for pest and disease management</li> </ul>	8 ha	Vaniyadri, Ta. Bodeli, Dist. Chhotaudpur	OFT,FLD, Training, Extension Activity
8	Brinjal	<ul style="list-style-type: none"> <li>• Unavailability of quality seedlings/ planting materials for transplanting</li> <li>• Poor nursery management</li> </ul>	5 ha	Dhorliya, Vaniyadri, Bhorda, Ta. Bodeli, Dist. Chhotaudpur	FLD, Training, Extension Activity
9	Tomato	<ul style="list-style-type: none"> <li>• Improper Fertilizer management</li> <li>• No use of MIS and fertigation</li> <li>• Poor nursery management</li> </ul>	5 ha	Khodiya, Ta. Bodeli, Dist. Chhotaudpur	FLD, Training, Extension Activity
10	Chilli	<ul style="list-style-type: none"> <li>• Improper Fertilizer management</li> <li>• No use of MIS and fertigation</li> <li>• Improper planting distance</li> </ul>	5 ha	Vaniyadri, Ta. Bodeli, Dist. Chhotaudpur	FLD, Training, Extension Activity
11	Okra	<ul style="list-style-type: none"> <li>• Unavailability of quality seed.</li> <li>• Improper fertilizer management</li> </ul>	5 ha	Sithol, Butiyapura, Ta. Jetpurpavi	FLD, Training, Extension Activity
12	Cowpea	<ul style="list-style-type: none"> <li>• Unavailability of quality seed</li> <li>• Poor pest management</li> </ul>	5 ha	Kalarani, Ta. Jetpurpavi	OFT,FLD, Training, Extension Activity
13	Sorghum	<ul style="list-style-type: none"> <li>• No use of improved variety of fodder</li> </ul>	5 ha	Vaniyadri, Ta. Bodeli, Dist. Chhotaudpur	FLD, Training, Extension Activity
14	Oat	<ul style="list-style-type: none"> <li>• No use of improved variety of fodder</li> </ul>	2.5 ha	Amalpur, Ta. Sankheda, Dist. Chhotaudpur	FLD, Training, Extension Activity
15	Backyard Poultry	<ul style="list-style-type: none"> <li>• Low body weight</li> <li>• Less eggs production</li> <li>• More age at first egg production</li> <li>• Higher mortality of chicks</li> </ul>	10 Nos	Kanalva, Ta. Kawant	FLD, Training, Extension Activity

16	Buffalo +Mineral Mixture	<ul style="list-style-type: none"> <li>• Problem of heat detection</li> <li>• Repeat breeding problem</li> <li>• Problem of anoestrus and silent heat</li> <li>• Long calving interval</li> <li>• Low milk yield</li> </ul>	20 Nos.	Sundarpura, Ta.Sankheda	FLD, Training, Extension Activity
17	Kitchen Gardening	<ul style="list-style-type: none"> <li>• The farm women of this area are growing only two or three vegetable crops of local variety in their backyard in traditional ways.</li> <li>• More house hold expenditure on the purchase of vegetables from the market</li> <li>• Poor health and nutritional status of farm families</li> </ul>	100 Nos	Visadi, , Pitha,Sundarpura, Ta. Bodeli	FLD, Training, Extension Activity
18	Cotton picking bags	<ul style="list-style-type: none"> <li>• Decrease working efficiency</li> <li>• Musculoskeletal problems in farm women</li> </ul>	50Nos.	Timbi-Deroli, Sundarpura, Ta.Sankheda	FLD, Training, Extension Activity
19	Revolving Stool and Stand	<ul style="list-style-type: none"> <li>• Drudgery involved in farm women during milking</li> <li>• No. use of stool/stand for milking.</li> </ul>	10 Nos.	Pitha,NanabutiyaPura, Visadi, Dholivav Ta.Bodeli	OFT, Training, Extension Activity
20	Harvesting Mittens	<ul style="list-style-type: none"> <li>• Drudgery involved in farm women during harvesting of soybean crop.</li> </ul>	10 Nos.	Tava, Kanlava, Ta Kawant . Dist. Chhotaudpur	OFT, Training, Extension Activity

### 3.2. Technology Assessment and Refinement

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

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Others	TOTAL
Varietal Evaluation	1				1					2
Integrated Crop Management		1								1
Integrated Farming System					1					1
Drudgery Reduction			1						1	2
<b>Total</b>	<b>1</b>	<b>1</b>	<b>1</b>		<b>2</b>				<b>1</b>	<b>6</b>



**A3. Abstract on the number of technologies assessed in respect of livestock enterprises**

Thematic areas	Cattle	Poultry	Piggery	Rabbitry	Fisheries	TOTAL
Nutrition Management	1	1	0	0	0	2

**B. Achievements on technologies Assessed and Refined****B.1. Technologies Assessed under various Crops**

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha (Per trail covering all the Technological Options)
Varietal Evaluation	Black gram	Assessment of different varieties of Blackgram under un irrigated/ rainfed condition	03	03	1.2 ha
	Okra	Assessment of Variety Okra	03	03	1.2 ha
Integrated Crop Management	Cotton	Assessments of varieties of Maize under inter cropping of Bt cotton.	03	03	1.2 ha
Integrated Farming System	Okra	Assessment of method of planting in Okra	03	03	1.2 ha
Drudgery Reduction	Milking Stand	Assessment on Use of revolving stool and stand for milking	10	10	-
	Harvesting Mittens	Assessment on use of soybean harvesting mittens.	10	10	-
Total			32	32	

**B.3. Technologies assessed under Livestock and other enterprises**

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Production and management	Buffalo.	Assessment of ovsynch protocol in Buffalo.	10	10
Production and management	poultry	Assessment of three way cross breed in back yard poultry	10	10
Total			20	20

## C1.Results of Technologies Assessed

### 1. Results of On Farm Trial – Agronomy -1

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trial s	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Blackgram	Rainfed	Low productivity	Assessment of Blackgram under rainfed condition.	3	Assessment of Blackgram variety.	Plant Population and number of pods/plant.  Number of branch per plant.	Plant infected due to YVM at 30, 45, 60 DAS.	Trials continue...			

Contd...

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha)	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice)	G B Pant Uni. Of Agriculture Technology, Pantnagar	5.00	q/ha	7800	1.43
Technology option 2 Pant Urd-31		6.80	q/ha	16800	1.97
Technology option 3 Pant Urd-40		6.30	q/ha	14300	1.83

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

<b>Title</b>	:	Assessment of different varieties of Blackgram under un irrigated/ rainfed condition
<b>Problem diagnose/defined</b>	:	<ul style="list-style-type: none"> <li>Low productivity</li> <li>No use of improved varieties.</li> </ul>
<b>Details of technologies selected for assessment /refinement</b>	:	<b>Treatments</b> T <sub>1</sub> : Farmers practices (Market available seed) T <sub>2</sub> : To be assessed : Pant Urd-31 T <sub>3</sub> : To be assessed : Pant Urd-40
<b>Source of technology</b>	:	G.B.Pant University, Panthnagar
<b>Production system</b>	:	Rain fed Condition & Varietal assessment
<b>Thematic area</b>	:	ICM
<b>No. of Trials</b>	:	03
<b>Plot size and total area (ha)</b>	:	0.4 x 3 =1.2 ha
<b>Spacing</b>	:	45 cm
Performance indicator 1. Indicator - I 2. Indicator - II 3. Indicator - III	: : : :	<b>Technical Observation:(Indicator -I)</b> <ul style="list-style-type: none"> <li>No. of Plant infected due to YVM at 30, 45, 60 DAS.</li> <li>Plant Population and number of pods/plant.</li> <li>Number of branch per plant.</li> <li>Suitability of variety for area specific cultivation.</li> </ul> <b>Economic Indicator:(Indicator - II)</b> <ul style="list-style-type: none"> <li>Yield of each variety</li> <li>Benefit cost ratio</li> </ul> <b>Farmer Reflection:(Indicator – III)</b> <ul style="list-style-type: none"> <li>Seed quality as per market demand.</li> <li>Keeping quality of Seed.</li> </ul>

## 2.0 Results of On Farm Trial – Agronomy -2

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technol ogy Assess ed	Paramete rs of assessm ent	Data on the paramet er	Results of assessm ent	Feedback from the farmer	Any refinement needed	Justificatio n for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Cotton: Maize	Rainfe d	Low producti vity	Assessment of varieties of Maize under intercropping of BT Cotton	3	Suitab ility of Maize variet y	Maturit y Days No. of cobs/pl ant	Crop equiva lent yield B:C Ratio	Trials continu e...	Trials continue ...	-	-

Contd..

Technology Assessed	Source of Technology	LER	Yield (kg/ha)		Net Return (Profit) in Rs./ unit	BC Ratio
13	14	15	16		17	18
			Cotton:	Maize:		
Farmers practices: Bt Cotton + Maize (cv.Rasi-4794) 1:1	AAU, Anand	1.30	1650	2200	68150	2.79
To be assessed : Bt Cotton + Maize (cv.GAWMH-2)1:1		1.27	2200	1900	66600	2.75

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

<b>Title</b>	:	Assessment of varieties of Maize under intercropping of Bt cotton.
<b>Problem diagnose/defined</b>	:	<ul style="list-style-type: none"> <li>• Low productivity</li> <li>• Non use of improved varieties</li> </ul>
<b>Details of technologies selected for assessment /refinement</b>	:	<b>Treatments</b> T <sub>1</sub> : Farmers practices: BT Cotton + Maize (Local Seed) 1:1 T <sub>2</sub> : To be assessed :BT Cotton + Maize (cv.GAWMH-1)1:1
<b>Source of technology</b>	:	AAU,Anand
<b>Production system</b>	:	Rain fed/ Un irrigated
<b>Thematic area</b>	:	Cotton base cropping system
<b>No. of Trials</b>	:	3
<b>Plot size and total area (ha)</b>	:	0.4 x 3 = 1.2 ha
<b>Spacing</b>	:	120 x 30 cm
Performance indicator  1. Indicator - I 2. Indicator - II 3. Indicator - III	: : : :	<b>Technical Observation:(Indicator -I)</b> <ul style="list-style-type: none"> <li>▪ Check suitability of each variety of maize in inter cropping system.</li> <li>▪ Days of maturity.</li> <li>▪ No. of cob/plant.</li> </ul> <b>Economic Indicator:(Indicator - II)</b> <ul style="list-style-type: none"> <li>▪ Crop equivalent Yield.</li> <li>▪ LER of each treatment.</li> <li>▪ Benefit cost ratio</li> </ul> <b>Farmer Reflection:(Indicator – III)</b> <ul style="list-style-type: none"> <li>• Suitability of domestic (food) purpose.</li> </ul>

### 3.0 Results of On Farm Trial – Animal Science -1

Crop/ enterprise	Problem Diagnosed	Title of OFT	No. of trials*	Technology refined	Parameters	Data on the parameter	Results of Assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9
Buffalo	Problem of heat detection Repeat breeding problem Problem of anoestrus and silent heat Long calving interval Low milk yield	Assessment of ovsynch protocol in buffalo	10	Treatments T <sub>1</sub> : Farmers practice (NO specific treatment)	Heat induction and conception rate	Out of 10 animals one showed poor estrous	In anoestrus buffaloes, during winter seasons, The percent estrus induction 70% and conception rate 50%(out of 10 animals five conceived)	Satisfied and understand the importance of ovsynch protocol and feed and fodder management
				T <sub>2</sub> : Ovsynch protocol Detail of ovsynch protocol Day -0 inj. .recepta 2.5 ml Day -7 inj. Lutalyse 5.0 ml Day-9 inj. .recepta 2.5 ml Day-10 morning insemination and evening insemination	Heat induction and conception rate	Out of 10 animals 7 showed estrous cycle and 5animals conceived.		

Technology Assessed	*Production per unit (ltr/day)	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
T <sub>1</sub> : Farmers practice (NO specific treatment)	Out of 10 animals one showed poor estrous	-	-
T <sub>2</sub> : Ovsynch protocol Detail of ovsynch protocol Day -0 inj. .recepta 2.5 ml Day -7 inj. Lutalyse 5.0 ml Day-9 inj. .recepta 2.5 ml Day-10 morning insemination and evening insemination	Out of 10 animals 7 showed estrous cycle and 5 animals conceived.	-	-

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

<b>Title</b>	<b>Assessment of ovsynch protocol in buffalo</b>
<b>Problem diagnose/defined</b>	<ul style="list-style-type: none"> <li>• Problem of heat detection ,Repeat breeding problem, Problem of anoestrus and silent heat</li> <li>• Long calving interval, Low milk yield</li> </ul>
<b>Details of technologies selected for assessment /refinement</b>	<b>Treatments</b> $T_1$ : Farmers practice (No specific treatment) $T_2$ : Ovsynch protocol Detail of ovsynch protocol Day -0 inj. .recepta 2.5 ml Day -7 inj. Lutalyse 5.0 ml Day-9 inj. .recepta 2.5 ml Day-10 morning insemination and evening insemination
<b>Source of technology</b>	AAU,Anand & NDRI, Karnal
<b>Production system &amp; Thematic Area</b>	Animal production & semi-intensive system
<b>Thematic area</b>	Animal production & management
<b>Performance of the Technology with performance indicators</b>	Heat induction and conception rate
<b>Feedback of technology</b>	Satisfied and understand the importance of ovsynch protocol and feed and fodder management.

#### 4.0 Results of On Farm Trial – Animal Science -2

Animal	Problem Diagnosed	Title of OFT	No. of trials*	Technology refined	Parameters	Data on the parameter	Results of Assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9
Poultry	<ul style="list-style-type: none"> <li>•Low body weight</li> <li>•Less eggs production</li> <li>•More age at first egg production</li> <li>•Higher mortality of chicks</li> </ul>	Assessment of three way cross breed in back yard poultry	10	<b>Treatments</b> T <sub>1</sub> : Farmers practice – Local native (desi) birds rearing under back yard.	Body weight (gm) 20 weeks  egg production (no.egg)	850 (M) 796 (F)  43 egg /year	Fast growth rate with average adult body weight of 20 week of age 1450 gm. (M) and 1252 gm (F), Higher egg production, which is four time higher the local native.	<ul style="list-style-type: none"> <li>• Attractive multi color feather patterns as rural people like coloured birds.</li> <li>• Good adaptability in backyard / free range.</li> <li>• fast growth rate and higher egg production as compared to local native.</li> </ul>
				T <sub>2</sub> : Triple cross birds under backyard. (Recom. AAU,Anand)	Body weight (gm) 20 weeks  egg production (no.egg) upto 40 weeks	1450 (M) 1252 (f)  59 egg (190 per year)		

Technology Assessed	*Production per unit (ltr/day)	Net Return (Profit) in Rs. / unit	BC Ratio
11	12	13	14
T <sub>1</sub> : Farmers practice – Local native (desi) birds rearing under back yard.	Body weight (g) at 20 week 850 (M) and 796 (F) egg production 43 eggs/year	-	-
T <sub>2</sub> : Triple cross birds under backyard. (Recom. AAU)	Body weight (g) at 08 week 362, 20 week 1450 (M) 1252 (F) and 40 week 1484 (F) egg production 59 eggs up to 40 weeks Age at first egg production 160 days	9773	3.04



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

<b>Title</b>	<b>Assessment of three way cross breed in back yard poultry</b>
<b>Problem diagnose/defined</b>	<ul style="list-style-type: none"> <li>• Low body weight</li> <li>• Less eggs production</li> <li>• More age at first egg production</li> <li>• Higher mortality of chicks</li> </ul>
<b>Details of technologies selected for assessment /refinement</b>	<b>Treatments</b> T <sub>1</sub> : Farmers practice – Local native (desi) birds rearing under back yard. T <sub>2</sub> : Triple cross birds under backyard. (Recom. AAU)
<b>Source of technology</b>	AAU, Anand
<b>Production system &amp; Thematic Area</b>	Poultry management
<b>Thematic area</b>	Poultry Management
<b>Performance of the Technology with performance indicators</b>	Increase egg production and fast growth rate
<b>Feedback, of technology</b>	<ul style="list-style-type: none"> <li>• Attractive multi color feather patterns as rural people like coloured birds.</li> <li>• Good adaptability in backyard / free range.</li> <li>• Fast growth rate and higher egg production as compared to local native.</li> </ul>

## Results of On Farm Trial – Home Science -1

### 5.0 Results of On Farm Table 1 :- Work output of milking animal with traditional and improved method

Name of Activity	Parameter of observation	Traditional method	Improved method	% change due to technology
Milking animal	Time required for milking (min/animal)	5.54	5.24	8.47%
	Drudgery Score	7	6	14.29%

**Table 2: Perception of farmwomen about localized postural discomfort while milking animal**

Level of Localized discomfort	No. of Farm women rated their perception									
	Neck		Shoulder joint		Low back		Upper leg/thigh		Ankles/feet	
	T	I	T	I	T	I	T	I	T	I
No discomfort (0)										
Some discomfort (1)										
Minor discomfort (2)		10		10		2		9		10
Major discomfort (3)	10		10		2	8	2	1	3	
Severe discomfort (4)					7		8		7	
Very severe discomfort (5)					1					
<b>Critically index</b>	<b>6</b>	<b>4</b>	<b>6</b>	<b>4</b>	<b>7.8</b>	<b>3.4</b>	<b>7.6</b>	<b>4.2</b>	<b>7.4</b>	<b>4</b>

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

Title	:	Assessment on Use of revolving stool and stand milking.
Problem diagnose/defined	:	Drudgery involved in farm women during milking No. use of stool/stand for milking.
Details of technologies selected for assessment /refinement	:	T1 – Traditional method T2 – Technology Assessed - Revolving stool& Stand for milking
Source of technology	:	AICRP- Home Science ,MPUAT
Production system & Thematic Area	:	Drudgery reduction
Thematic area	:	Drudgery reduction
No. of Trials	:	10
Performance indicator	:	<ol style="list-style-type: none"> <li>1. Time requirement for milking activity</li> <li>2. Reduction in drudgery (work posture squatting, Muscular skeletal problems.)</li> </ol>

## 6.0 Results of On Farm Trial – Home Science -2

**Table 1 :- Work output of soybean harvesting with traditional and improved method**

Name of Activity	Parameter of observation	Traditional method	Improved method	% change due to technology
Cutting soyabean plants with sickle	Work done / unit time (sqmt/hr)	161.71	180.67	11.72
	Work done / unit time (kg/hr)	192.0	200.4	4.38

**Table 2: Perception of farmwomen about localized postural discomfort while performing soybean harvesting**

Level of Localized discomfort	No. of Farm women rated their perception																	
	A		B		C		D		E		F		G		H		I	
	T	I	T	I	T	I	T	I	T	I	T	I	T	I	T	I	T	I
No discomfort (0)																		
Some discomfort (1)						4												
Minor discomfort (2)	4	4	2	2		6					3	3	3	3	6	6		7
Major discomfort (3)	6	6	3	3	3		6	6	6	6	7	7	7	7	4	4	7	3
Severe discomfort (4)			5	5	7		4	4	4	4							3	
Very severe discomfort (5)																		
<b>Critically index</b>	<b>5.2</b>	<b>5.2</b>	<b>6.6</b>	<b>6.6</b>	<b>7.4</b>	<b>3.2</b>	<b>6.8</b>	<b>6.8</b>	<b>6.8</b>	<b>6.8</b>	<b>5.4</b>	<b>5.4</b>	<b>5.4</b>	<b>5.4</b>	<b>4.8</b>	<b>4.8</b>	<b>6.6</b>	<b>4.6</b>

**T** - Traditional method, **I**- Improved method

Description of parameters: **A**- Discomfort of Neck, **B**- Discomfort of Back, **C**- discomfort of Fingers, **D**- Discomfort of Left shoulder/Neck, **E**- discomfort of Right shoulder/Neck, **F**- Discomfort of Left Leg, **G**- Discomfort of Right leg, **H**- Discomfort of Feet, **I**- Discomfort of Whole body

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

Title	:	Assessment on use of soybean harvesting mittens.
Problem diagnose/defined	:	Drudgery involved in farm women during harvesting of soybean crop.
Details of technologies selected for assessment /refinement	:	T1 – Traditional method  T2 – To be Assessed–Use of Soybean harvesting mittens.
Source of technology	:	VNMKU, Parbhani
Production system & Thematic Area	:	Drudgery reduction
Thematic area	:	Drudgery reduction
No. of Trials	:	10
Performance indicator	:	1. Work output : Work done/ Unit (Kg/hr) 2. Work output : Work done/ Unit (sq.mt/hr) 3. Drudgery score

## 7.0 Results of On Farm Trial – Horticulture-1

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technol ogy Assess ed	Parameter s of assessme nt	Data on the parame ter	Results of assessm ent	Feedback from the farmer	Any refinement needed	Justificatio n for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Okra	Irrigate ed	Low producti vity	Assessment of Variety in Okra	3	Varietal	No. of Plant infected due to YVM at 30, 45, 60 DAP  Plant Population	Trials conti nue ...	Trials continu e...	Trials continue ...	-	-

Contd..

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha)	Net Return (Profit) in Rs./ unit	BC Ratio
13	14	15	16	17	18
Treatments	AAU	Trials continue...			
T <sub>1</sub> : Farmers practice- Local Hyb. Variety					
T <sub>2</sub> : Guj. Hyb. Okra-5					

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

Title	:	Assessment of Variety in Okra
Problem diagnose/defined	:	Low yield Use of YVM susceptible varieties. Poor Knowledge of improved cultivation practices Improper use of fertilizer and pesticides.
Details of technologies selected for assessment /refinement	:	Treatments T <sub>1</sub> : Farmers practice- Local Hyb. Variety T <sub>2</sub> : Guj. Hyb. Okra-5
Source of technology	:	AAU,Anand
Production system & Thematic Area	:	Irrigated/ Sole vegetable
Thematic area	:	ICM
No. of Trials	:	03
Plot size and total area (ha)	:	1.20 ha (0.40 x3)
Spacing	:	45 x 20 cm
Performance indicator Indicator - I Indicator - II Indicator - III	:	<b>Technical Observation:-</b> No. of Plant infected due to YVM at 30, 45, 60 DAP Plant Population Suitability of variety for area specific cultivation. <b>Economic Indicator:-</b> Yield of variety Benefit cost ratio <b>Farmer Reflection:-</b> Fruit quality as per market demand. Keeping quality of fruits.

### 8.0 Results of On Farm Trial – Horticulture-2

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technolog y Assessed	Paramete rs of assessm ent	Data on the paramet er	Results of assessm ent	Feedback from the farmer	Any refinement needed	Justificatio n for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Okra	Irrigated	Low producti vity	Assessment of method of planting in Okra	3	Plant Geometry	Plant Population per unit area. No. of fruits per plant	Trials contin ue...	Trials contin ue...	Trials continue ...	-	-

Contd..

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha)	Net Return (Profit) in Rs./ unit	BC Ratio
13	14	15	16	17	18
Treatments	AAU	Trials continue...			
T <sub>1</sub> : Farmers practice- (60-90 x 30cm)					
T <sub>2</sub> : Recommended 45x 20 cm (Recom. AAU)					



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

Title	:	Assessment of method of planting in Okra
Problem diagnose/defined	:	Low yield Use of YVM susceptible varieties. Poor Knowledge of improved cultivation practices Improper use of fertilizer and pesticides.
Details of technologies selected for assessment /refinement	:	Treatments T <sub>1</sub> : Farmers practice- (60-90 x 30cm) T <sub>2</sub> : Recommended 45x 20 cm (Recom. AAU)
Source of technology	:	AAU ,Anand
Production system	:	Irrigated/ Sole vegetable
Thematic area	:	ICM
Performance of the Technology with performance indicators	:	Yield
No. of Trials	:	03
Plot size and total area (ha)	:	1.20 ha
Performance indicator Indicator - I Indicator - II Indicator - III	:	<b>Technical Observation:-</b> Plant Population per unit area. No. of fruits per plant. <b>Economic Indicator:-</b> Yield B:C ratio <b>Farmer Reflection:-</b> Easy in practicing inter culturing, picking and spraying of insecticides. Quality of fruits as per market need.

### 3.3. FRONTLINE DEMONSTRATION

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

List of technologies demonstrated during previous year and popularized during 2016-17 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	FLD, Exposure visit of demo field, Organized Field day, through training programme	45	720	1070
2	Wheat	INM	GW-496	FLD, Exposure visit of demo field, Organized Field day, through training programme	15	122	210
3	Greengram	Varietal evaluation	New variety greengram cv. Meha	FLD, Exposure visit of demo field, Organized Field day, through training programme, Providing the seed of the variety.	28	418	280
4	Pigeon pea	ICM	New variety Pigeon pea cv.Vaishali	FLD, Exposure visit of demo field, Organized Field day, through training programme, Providing the seed of the variety.	28	410	880
5	Chickpea	ICM	New variety Chickpea cv.GG-2	FLD, Exposure visit of demo field, Organized Field day, through training programme	15	125	95
6	Groundnut	IWM	Weed Management through chemical herbicide	FLD, Exposure visit of demo field, Organized Field day, through training programme	14	250	25
7	Chilli	INM	Bio-fertilizer and micro-nutrient	FLD, Exposure visit of demo field, Organized Field day, through training programme	10	75	48
8	Tomato	INM	Bio-fertilizer and micro-nutrient	FLD, Exposure visit of demo field, Organized Field day, through training programme	17	159	56
9	Fodder Crop	Fodder Production	Lucerne	FLD, Exposure visit of demo field, Organized Field day, through training programme	30	145	85
10	Feed management	Feed management	Bypass fat	FLD, Exposure visit of demo field, Organized Field day, through training programme	10	50	50
11	Nutritional gardening	Recommended Seeds	monthly Savings	FLD, Exposure visit of demo field, Organized Field day, through training programme	10	113	10

B. Details of FLDs implemented during 2017-18 (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	Maize	IPM	Integrated Pest Management	Rabi-2017	8.0	8.0	3	17	20	

**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					
Maize	Rabi	irrigated	Medium black	L	M	H	Soybean	10/01/18	21/4/18	--	---

**Technical Feedback on the demonstrated technologies**

S. No	Feed Back
Maize	<ul style="list-style-type: none"> <li>Farmers were convinced to use bio-pesticides and chemical pesticides for management of pests in Maize.</li> <li>By using bio and chemical pesticides in proper sequence, expenses on pesticides can be reduced</li> </ul>

**Farmers' reactions on specific technologies**

S. No	Feed Back
Maize	Use of carbofuran for stem borer management( During 30-45 DAS) in maize has given good results

**Extension and Training activities under FLD**

Sl.No.	Activity- Soybean	No. of activities organized	Date	Number of participants	Remarks
1	Field days	1	23/3/2018	43	
2	Farmers Training	3	8/12/2017,18-21/12/2017,15/3/2018	47	

## 2. FLD – Oilseed

### b. 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	Soybean	ICM	Varietal (RVS 2001-04)	Kharif-2017	50	50	125	-	125	
2	Cotton	IPM	IPM	Kharif-2017	8	8	5	15	20	

### 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					
Soybean	Kharif-17	Rainfed	Medium black	L	M	H	cotton	4/7/2017	6/10/2017	749	34
Cotton	Kharif-17	irrigated	Medium black	L	M	H	Cotton	10/7/2017	3/3/2018	749	34

### Technical Feedback on the demonstrated technologies

S. No	Feed Back
Soybean	Test weight found higher as compare to NRC-37 ( 20% high test weight) It is needed to work more on develop of pest resistance/tolerance for the variety.
Cotton	<ul style="list-style-type: none"> <li>• Pheromone traps, bio-pesticides has minimized the infestation of pink boll worm and good quality cotton was harvested</li> <li>• There is need to develop pink boll worm pest resistant varieties of cotton.</li> </ul>

### Farmers' reactions on specific technologies

S. No	Feed Back
Soybean	Seed shattering problem is less in this variety. Variety gives stable performance in water logged and dry condition
Cotton	Use of Pheromone trap and bio-pesticides reduced no. of chemical pesticides sprays, which has minimized cultivation cost. It is safer for beneficial insects like beetles.

### Extension and Training activities under FLD

Sl.No.	Activity- Soybean	No. of activities organized	Date	Number of participants	Remarks
1	Field days	2	23/9/2017 & 26/9/2017	143	-
2	Farmers Training	13	7,13,17,19-21/6/2017,17/7/2017,5,30/8/2017,16/9/2017,23/10/2017	238	-

Sl.No.	Activity- Cotton	No. of activities organized	Date	Number of participants	Remarks
1	Field days	1	15/2/2018	41	-
2	Farmers Training	4	18/8/2017, 21-24/8/2017, 12/9/2017,25/10/2017	39	-

### 3 FLD – Pulses Crop

#### c. 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	Black gram	ICM	Varietal, INM, IPM	Kharif-2018	20	30	75	0	75	-
2	Pigeon pea	ICM	Varietal, INM, IPM	Kharif-2018	20	20	17	31	48	-
3	Green gram	ICM	Varietal, INM, IPM	Summer-2017	40	40	75	25	100	--

#### 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					
Black gram	Kharif-2018	Rainfed	Medium black	L	M	H	Maize	1/07/2017	1/10/2018	749	34
Pigeon pea	Kharif-2018	Irrigated	Medium black	L	M	H	Pigeon pea	1/07/2017	30/03/2018	749	34
Green gram	Summer-2017	Irrigated	Medium black	L	M	H	Maize	15/02/2017	10/06/2017	--	--

#### Technical Feedback on the demonstrated technologies

S. No	Feed Back
Black gram	Adoption of IWM & INM resulted into better weed management and Plant growth
Pigeon pea	Less sterility mosaic as compare to BDN-2 variety.
Green gram	INM increase growth of plant and size of seed.

Farmers' reactions on specific technologies

S. No	Feed Back
Black gram	YVM infestation not found in this variety and Mature earlier as compare to Local variety
Pigeon pea	Wilt problem is less as compare to Vaishali variety and INM also increase the growth and yield of plant.
Green gram	YVM resistance variety. Bold seed size resulted in higher Market rate.

Extension and Training activities under FLD

Sl. No.	Activity- Black gram	No. of activities organized	Date	Number of participants	Remarks
1	Field days	2	13/09/2017,19/09/2017	109	-
2	Farmers Training	1	22-23/6/2017	75	
3	Media coverage	1	06/11/2017	-	-
4	Training for extension functionaries				

Sl. No.	Activity- Pigeon pea	No. of activities organized	Date	Number of participants	Remarks
1	Field days	2	10/01/2018, 5/02/2018	92	
2	Farmers Training	2	28-29/6/2017,22-23/11/2017	72	
3	Media coverage	0	0	0	
4	Training for extension functionaries	0	0	0	

Sl. No.	Activity- Green gram	No. of activities organized	Date	Number of participants	Remarks
1	Field days	4	20/5/2017,23/5/2017,24/5/2017 and 26/5/2017	210	
2	Farmers Training	1	20/2/2017 to 23/2/2017	100	
3	Media coverage	0	0	0	
4	Training for extension functionaries	0	0	0	

#### 4. FLD – Other crops

##### d. 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	Tomato	INM	INM	<i>Kharif-17</i>	5	5	01	16	17	
2	Chilli	INM	INM	<i>Kharif-17</i>	5	5	07	07	14	
3	Brinjal	Varietal demonstration	Varietal demonstration	<i>Kharif-17</i>	5	5	07	04	11	

##### 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					
Tomato	<i>Kharif-17</i>	Irrigated	Sandy Loam	L	M	H	Maize	15-31/8/2017	30-3-18	749	34
Chilli	<i>Kharif-17</i>	Irrigated	Sandy Loam	L	M	H	Wheat	15-31/07/2017	1-3-18	749	34
Brinjal	<i>Kharif-17</i>	irrigated	Sandy Loam	L	M	H	Maize	01-15/09/2017	1-4-18	749	34

##### Technical Feedback on the demonstrated technologies

S. No	Feed Back
Tomato	Problem of leaf minor and virus should be given more weightage in research programme.
Chilli	Cultivars having tolerance /resistance to leaf curl
Brinjal	It is needed to evolve varieties having resistance/tolerance to fruit and shoot borer

##### Farmers' reactions on specific technologies

S. No	Feed Back
Tomato	More number of picking and fruit quality is improved due to application of micronutrients.
Chilli	Less field mortality after deeping treatment of seedlings and better quality in fruits
Brinjal	The variety gives good yield, Higher market prices due to market preference, Low infestation of sucking pests

**Extension and Training activities under FLD**

<b>Sl.No.</b>	<b>Activity- Tomato</b>	<b>No. of activities organized</b>	<b>Date</b>	<b>Number of participants</b>	<b>Remarks</b>
1	Field days	01	06/3/18	30	
2	Farmers Training	01	01-04/11/17,8-11/08/17	38	

<b>Sl.No.</b>	<b>Activity- Chilli</b>	<b>No. of activities organized</b>	<b>Date</b>	<b>Number of participants</b>	<b>Remarks</b>
1	Field days	01	21/3/18	43	
2	Farmers Training	02	10-13/01/18,25/09/17	54	

<b>Sl.No.</b>	<b>Activity- Brinjal</b>	<b>No. of activities organized</b>	<b>Date</b>	<b>Number of participants</b>	<b>Remarks</b>
1	Field days	01	26/03/18	43	
2	Farmers Training	01	09/09/17	11	



## 5. FLD – Fodder Crops

### e. 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	Sorghum (F)	Fodder production	Varietal demonstration	Rabi-2017	5	5	7	13	20	
2	Oat (F)	Fodder production	Varietal demonstration	Rabi-2017	5	2.5	25	0	25	
3	Lucerne (F)	Fodder production	Varietal demonstration	Rabi-2016	5	5	9	16	25	

### Details of farming situation

Name 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					
Sorghum (F)	Rabi-2017	Irrigated	Medium Black	Crop Standing							
Oat (F)	Rabi-2017	Irrigated	Medium Black	L	M	H	Paddy	15-12-17	-	-	-
Lucerne (F)	Rabi-2016	Irrigated	Medium Black	L	M	H	Paddy	12-12-16	-	-	-

### Technical Feedback on the demonstrated technologies

S. No	Feed Back
Oat (F)	Farmers were convinced to adopt Oat variety JHO-822
Lucerne (F)	Farmers were convinced to adopt Anand Lucerne -2 cultivar.

### Farmers' reactions on specific technologies

S. No	Feed Back
Oat (F)	This Variety gave higher green fodder yield as compare to local variety Milk Production has increase due to introduction of oat as green fodder
Lucerne (F)	Leaf size of Anand Lucerne -2 is big as compared to local verity. Milk Production has increase by feeding Lucerne as green fodder

# **Extension and Training activities under FLD**

<b>Sl.No.</b>	<b>Activity- Sorghum (F)</b>	<b>No. of activities organized</b>	<b>Date</b>	<b>Number of participants</b>	<b>Remarks</b>
1	Field days	01	23-03-18	37	--
2	Farmers Training	01	18-11-17	20	--
<b>Sl.No.</b>	<b>Activity- Oat (F)</b>	<b>No. of activities organized</b>	<b>Date</b>	<b>Number of participants</b>	<b>Remarks</b>
1	Field days	01	12-03-18	41	--
2	Farmers Training	01	09-12-17	25	--
<b>Sl.No.</b>	<b>Activity- Lucerne (F)</b>	<b>No. of activities organized</b>	<b>Date</b>	<b>Number of participants</b>	<b>Remarks</b>
1	Field days	01	26-06-17	47	
2	Farmers Training	01	6 to 9-12-16	25	

## 6. FLD – Livestock

### f. 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	Buffalo	Animal Nutrition	Mineral Mixture+ Common salt	Rabi-17	20 Animal	20 Animal	-	20	20	---

### Technical Feedback on the demonstrated technologies

S. No	Feed Back
1. Buffalo	Farmers were convinced to adopt supplementary feeding of mineral mixture.

### Farmers' reactions on specific technologies

S. No	Feed Back
1. Buffalo	Milk yield and fat percentage has increased and reduced inter calving period.

### Extension and Training activities under FLD

Sl.No.	Activity- Buffalo	No. of activities organized	Date	Number of participants	Remarks
1	Field days	01	23-2-2018	43	--
2	Farmers Training	02	5 to 8-11-2017 6 to 9-12-17	50	--

**7. FLD – Other Enterprise**  
**Details of Implementation**

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Nos.		No. of farmers/ demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ST	Others	Total	
1	Cotton Picking Bags	Drudgery reduction	Cotton Picking Bags	<i>Kharif-17</i>	20	20	0	20	20	--
2	Kitchen gardening	Nutritional Mang.	Kitchen gardening	<i>Kharif-17</i>	50	50	39	11	50	--
3	Kitchen gardening	Nutritional Mang.	Kitchen gardening	<i>Rabi-18</i>	50	50	18	32	50	--

**Technical Feedback on the demonstrated technologies**

S. No	Feed Back
Cotton Picking Bags	<ul style="list-style-type: none"> <li>Farm women convinced to use Cotton picking bags because of saving time, and physical energy.</li> <li>Use of Cotton picking bags also increases the working efficiency.</li> </ul>
Kitchen gardening	Farm women are ready to adopt kitchen garden because of variety of vegetables available for their food. Farm women save the expenses as against vegetables purchases.

**Farmers' reactions on specific technologies**

S. No	Feed Back
Cotton Picking Bags	<ul style="list-style-type: none"> <li>Easy to wear, equal distribution of load</li> <li>Higher carrying capacity to improve harvesting efficiency.</li> </ul>
Kitchen gardening	Farm women are ready to adopt kitchen garden because of variety of vegetables available for their food. Farm women save the expenses as against vegetables purchases.

**Extension and Training activities under FLD**

Sl.No.	Activity- Cotton Picking Bags	No. of activities organized	Date	Number of participants	Remarks
1	Field days	02	25-1-18, 29-1-18	89	--
2	Farmers Training	01	01-01-2018	20	--

Sl.No.	Activity- Kitchen gardening	No. of activities organized	Date	Number of participants	Remarks
1	Field days	02	9-3-18 12-3-18	82	--
2	Farmers Training	03	28-7-17,31-7-17,14-11-17	95	--

## C. Performance of Frontline demonstrations

### Frontline demonstrations on cereals 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										
Maize	IPM	Integrated Pest Management	Pvt.hy Cultivars.	20	8	74.0	62.5	69.5	60.5	15	26500	86875	60375	3.27	29650	75625	45975	2.55

### 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										
Soybean	ICM	Variety+ INM	RVS 2001-04	125	50	22	13	18	15	14	19661	47873	28210	2.43	18225	39000	20775	2.14
Cotton	IPM	IPM	Ankur-3244,3028	20	8	24.5	21.5	23.0	20.0	13.04	34500	110400	75900	3.2	35500	96000	60500	2.70
Groundnut	ICM	Variety+ INM	GG-2	40	15	20	17	18	16	16	34750	74400	29250	2.17	34750	64000	29250	1.84

### 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										
Blackgarm	ICM	Variety+ INM,IPM,IWM	PU-31	75	30	7.60	5.30	6.80	5.20	30	17675	34000	16325	1.92	17350	26000	8650	1.50
Pigonpea	ICM	Variety+ INM,IPM,IWM	AGT-2	48	20	16.0	8.00	14.0	12.0	14	30400	75600	45200	2.48	28500	64800	36300	2.27
Greengram	ICM	Variety+ INM,IPM,IWM	GAM-5	100	40	12.60	7.80	9.90	8.55	15	23525	44550	21025	1.89	22850	34200	11350	1.49

## FLD on Other crops

Category & Crop	Thema tic Area	Name of the technolog y	No. of Farmers	Area (ha)	Yield (q/ha)			% Change in Yield			Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)				
					Demo				Check			Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
					High	Low	Avera ge												
Cowpea	ICM	COWPU-1	08	5	Crop standing														
Tomato	INM	INM	17	05	360	276	318	285	11.57			62010	111300	49290	1.79	67300	99750	32450	1.48
Chilli	INM	INM	20	05	387	255	316	298	06.04			531150	1106000	574850	2.08	532210	1043000	510790	1.95
Brinjal	ICM	GAOB-2	12	5	315	268	291	270	07.7			77988	116400	38412	1.49	75750	108000	32400	1.42
Fodder Crops																			
Sorghum (F)	Fodder producti on	Varietal (COFS-29)	20	5	5	Crop standing													
Oat (F)	Fodder producti on	Varietal (JHO-822)	25	2.5	560	480	491	436	12.62	-	-	17180	49100	31920	2.86	16880	43600	26720	2.58
Lucerne (F)	Fodder producti on	Varietal (Anand-2)	25	5.0	775	630	735	675	8.80	-	-	24250	73500	49250	3.03	24150	67000	43350	2.79

\* 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 major parameter			Economics of demonstration (Rs.)				Economics of check (Rs.)			
					Demo	Check				Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Buffalo	Animal nutrition	Supplementary feeding of mineral mixture	20	20	6.09	5.40	12.92	-	-	119	243.60	124.60	2.04	113	216	103	1.91

### FLD on Other enterprises

Category	Name of the technology demonstrated	No. of Farmer	No. of units	Major parameters (output/man/hr)		% change in major parameter	Other parameter		Economics of demonstration (Rs.) or Rs./unit				Economics of check (Rs.) or Rs./unit			
				Demo (harvested cotton kg/hr)	Check (harvested cotton kg/hr)		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Cotton Picking Bags	Drudgery reduction	20	20	5.5	4.13	21.21	-	-	-	-	-	-	-	-	-	-

### 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		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demonstration	Check		Average rate (Rs./Kg)		Gross return (Rs.)							
								Demo	Check	Demo	Check	Before FLD	After FLD	Gross Cost	Gross Return	Net Return	BCR (R/C)
Kitchen Gardening	Nutritional Mang.	Kitchen Gardening	50	50	54.5	13.5	-	-	-	23	18	243.0	1253.5	-	-	-	-
Kitchen Gardening	Nutritional Mang.	Kitchen Gardening	50	50	87.1	32.7	-	-	-	17	12	392.4	1480.7	-	-	-	-

### 3.4. Training Programmes

#### 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>I Crop Production</b>										
Weed Management	2	0	0	0	23	0	23	23	0	23
Seed production	1	0	0	0	23	0	23	23	0	23
Integrated Crop Management	4	46	0	46	49	0	49	95	0	95
Integrated nutrient management	1	0	0	0	45	0	45	45	0	45
<b>Total</b>	<b>8</b>	<b>46</b>	<b>0</b>	<b>46</b>	<b>140</b>	<b>0</b>	<b>140</b>	<b>186</b>	<b>0</b>	<b>186</b>
<b>II Horticulture</b>										
Off-season vegetables	1	16	0	16	1	0	1	17	0	17
Protective cultivation	1	13	0	13	7	0	7	20	0	20
<b>Total</b>	<b>2</b>	<b>29</b>	<b>0</b>	<b>29</b>	<b>8</b>	<b>0</b>	<b>8</b>	<b>37</b>	<b>0</b>	<b>37</b>
<b>IV Livestock Production and Management</b>										
Dairy Management	1	23	0	23	0	0	0	23	0	23
Poultry Management	1	0	0	0	25	0	25	25	0	25
Animal Nutrition Management	1	23	0	23	0	0	0	23	0	23
Disease Management	1	0	0	0	5	12	17	5	12	17
Feed & fodder technology	2	0	0	0	69	0	69	69	0	69
<b>Total</b>	<b>6</b>	<b>46</b>	<b>0</b>	<b>46</b>	<b>99</b>	<b>12</b>	<b>111</b>	<b>145</b>	<b>12</b>	<b>157</b>
<b>V Home Science/Women empowerment</b>										
Household food security by kitchen gardening and nutrition gardening	4	0	85	85	0	42	42	0	127	127
Value addition	3	30	34	64	0	8	8	30	42	72
Location specific drudgery reduction technologies	1	0	20	20	0	0	0	0	20	20
<b>Total</b>	<b>8</b>	<b>30</b>	<b>139</b>	<b>169</b>	<b>0</b>	<b>50</b>	<b>50</b>	<b>30</b>	<b>189</b>	<b>219</b>
<b>VII Plant Protection</b>										
Integrated Pest Management	3	0	0	0	100	0	100	100	0	100
Integrated Disease Management	1	0	0	0	20	0	20	20	0	20
Bio-control of pests and diseases	1	20	0	20	10	0	10	30	0	30
<b>Total</b>	<b>5</b>	<b>20</b>	<b>0</b>	<b>20</b>	<b>130</b>	<b>0</b>	<b>130</b>	<b>150</b>	<b>0</b>	<b>150</b>
<b>X Capacity Building and Group Dynamics</b>										
Mobilization of social capital	1	0	0	0	25	0	25	25	0	25
Entrepreneurial development of farmers/youths	1	0	0	0	22	0	22	22	0	22
<b>Total</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>47</b>	<b>0</b>	<b>47</b>	<b>47</b>	<b>0</b>	<b>47</b>
<b>GRAND TOTAL</b>	<b>31</b>	<b>171</b>	<b>139</b>	<b>310</b>	<b>424</b>	<b>62</b>	<b>486</b>	<b>595</b>	<b>201</b>	<b>796</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>I Crop Production</b>										
Weed Management	2	25	0	25	34	6	40	59	6	65
Integrated nutrient management	2	4	0	4	48	0	48	52	0	52
<b>Total</b>	<b>4</b>	<b>29</b>	<b>0</b>	<b>29</b>	<b>82</b>	<b>6</b>	<b>88</b>	<b>111</b>	<b>6</b>	<b>117</b>
<b>II Horticulture</b>				0			0	0	0	0
Production of low value and high volume crops	2	22	0	22	24	0	24	46	0	46
Protective cultivation	1	36	0	36	1	0	1	37	0	37
<b>Total</b>	<b>3</b>	<b>58</b>	<b>0</b>	<b>116</b>	<b>25</b>	<b>12</b>	<b>201</b>	<b>305</b>	<b>12</b>	<b>317</b>
<b>IV Livestock Production and Management</b>										
Dairy Management	2	9	19	28	31	63	94	40	82	122
Animal Nutrition Management	1	3	26	29	0	0	0	3	26	29
Disease Management	1			0	14	14	28	14	14	28
Others (pl specify) Goat Farming	1	0	0	0	17	16	33	17	16	33
<b>Total</b>	<b>5</b>	<b>12</b>	<b>45</b>	<b>57</b>	<b>62</b>	<b>93</b>	<b>155</b>	<b>74</b>	<b>138</b>	<b>212</b>
<b>V Home Science/Women empowerment</b>				0			0	0	0	0
Value addition	5		32	32		70	70	0	102	102
<b>Total</b>	<b>5</b>		<b>32</b>	<b>32</b>		<b>70</b>	<b>70</b>	<b>0</b>	<b>102</b>	<b>102</b>
<b>VII Plant Protection</b>				0			0	0	0	0
Integrated Pest Management	2	31	19	50	16	8	24	47	27	74
Integrated Disease Management	2	0	16	16	30	8	38	30	24	54
<b>Total</b>	<b>4</b>	<b>31</b>	<b>35</b>	<b>66</b>	<b>46</b>	<b>16</b>	<b>62</b>	<b>77</b>	<b>51</b>	<b>128</b>
<b>X Capacity Building and Group Dynamics</b>				0			0	0	0	0
Mobilization of social capital	4	40	61	101	67	16	83	107	77	184
Entrepreneurial development of farmers/youths	1	0	0	0	40	0	40	40	0	40
<b>Total</b>	<b>5</b>	<b>40</b>	<b>61</b>	<b>101</b>	<b>107</b>	<b>16</b>	<b>123</b>	<b>147</b>	<b>77</b>	<b>224</b>
<b>GRAND TOTAL</b>	<b>26</b>	<b>170</b>	<b>173</b>	<b>343</b>	<b>322</b>	<b>201</b>	<b>523</b>	<b>492</b>	<b>374</b>	<b>866</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>I Crop Production</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>
Weed Management	4	25	0	25	57	6	63	82	6	88
Seed production	1	0	0	0	23	0	23	23	0	23
Integrated Crop Management	4	46	0	46	49	0	49	95	0	95
Integrated nutrient management	3	4	0	4	93	0	93	97	0	97
<b>Total</b>	<b>12</b>	<b>75</b>	<b>0</b>	<b>75</b>	<b>222</b>	<b>6</b>	<b>228</b>	<b>297</b>	<b>6</b>	<b>303</b>

Production of low value and high volume crops	2	22	0	22	24	0	24	46	0	46
Off-season vegetables	1	16	0	16	1	0	1	17	0	17
Protective cultivation	2	49	0	49	8	0	8	57	0	57
<b>GT (a-g)</b>	<b>5</b>	<b>87</b>	<b>0</b>	<b>87</b>	<b>33</b>	<b>0</b>	<b>33</b>	<b>120</b>	<b>0</b>	<b>120</b>
<b>IV Livestock Production and Management</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>
Dairy Management	3	32	19	51	31	63	94	63	82	145
Poultry Management	1	0	0	0	25	0	25	25	0	25
Animal Nutrition Management	2	26	26	52	0	0	0	26	26	52
Disease Management	2	0	0	0	19	26	45	19	26	45
Feed & fodder technology	2	0	0	0	69	0	69	69	0	69
Others (pl specify)	1	0	0	0	17	16	33	17	16	33
<b>Total</b>	<b>11</b>	<b>58</b>	<b>45</b>	<b>103</b>	<b>161</b>	<b>105</b>	<b>266</b>	<b>219</b>	<b>150</b>	<b>369</b>
<b>V Home Science/Women empowerment</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>
Household food security by kitchen gardening and nutrition gardening	4	0	85	85	0	42	42	0	127	127
Value addition	8	30	66	96	0	78	78	30	144	174
Location specific drudgery reduction technologies	1	0	20	20	0	0	0	0	20	20
<b>Total</b>	<b>13</b>	<b>30</b>	<b>139</b>	<b>169</b>	<b>0</b>	<b>50</b>	<b>50</b>	<b>30</b>	<b>189</b>	<b>219</b>
<b>VII Plant Protection</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>
Integrated Pest Management	5	31	19	50	116	8	124	147	27	174
Integrated Disease Management	3	0	16	16	50	8	58	50	24	74
Bio-control of pests and diseases	1	20	0	20	10	0	10	30	0	30
<b>Total</b>	<b>9</b>	<b>51</b>	<b>35</b>	<b>86</b>	<b>176</b>	<b>16</b>	<b>192</b>	<b>227</b>	<b>51</b>	<b>278</b>
<b>X Capacity Building and Group Dynamics</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>
Mobilization of social capital	5	40	61	101	92	16	108	132	77	209
Entrepreneurial development of farmers/youths	2	0	0	0	62	0	62	62	0	62
<b>Total</b>	<b>7</b>	<b>40</b>	<b>61</b>	<b>101</b>	<b>154</b>	<b>16</b>	<b>170</b>	<b>194</b>	<b>77</b>	<b>271</b>
<b>GRAND TOTAL</b>	<b>57</b>	<b>341</b>	<b>312</b>	<b>653</b>	<b>746</b>	<b>263</b>	<b>1009</b>	<b>1087</b>	<b>575</b>	<b>1662</b>

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	01	24	3	27	0	0	0	24	3	27

### Sponsored training programmes

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
<b>Crop production and management</b>										
Increasing production and productivity of crops	2	30	0	30	30	0	0	60	0	30
Commercial production of vegetables	1	34	0	34	0	0	0	34	0	34
Processing and value addition	04	0	121	121	0	0	0	0	121	121
Livestock production and management	3	0	23	23	23	31	51	23	54	77
Capacity Building and Group Dynamics	1	30	0	30	0	0	0	30	0	30
<b>GRAND TOTAL</b>	<b>11</b>	<b>94</b>	<b>144</b>	<b>238</b>	<b>53</b>	<b>31</b>	<b>51</b>	<b>147</b>	<b>175</b>	<b>292</b>

### 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
Nursery, grafting etc.	01	23	0	23	0	0	0	23	0	23

### 3.5. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	97	11119	12	11131
Diagnostic visits	07	27	0	27
Field Day	24	1123	0	1123
Group discussions	67	1056	0	1056
Film Show	164	3090	0	3090
Self -help groups	03	80	0	80
Exhibition	03	28260	30	28290
Scientists' visit to farmers field	43	315	0	315
Plant/animal health camps	05	461	0	461
Farmers' seminar/workshop	05	1811	0	1811
Method Demonstrations	03	16	0	16
Celebration of important days	23	731	0	731
Others (Lecture Delivered)	18	1020	10	1030
Farmers Visit to KVK	01	412	0	412
<b>Total</b>	<b>463</b>	<b>49521</b>	<b>52</b>	<b>49573</b>

### Details of other extension programmes

Particulars	Number
Extension Literature	17
Newspaper coverage	09
Popular articles	05
Animal health camps (Number of animals treated)	3718
Others (Soil Sample)	475
<b>Total</b>	<b>4224</b>

### 3.6. 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	GR-11	-	0.72	2160	05
Oilseeds	Soybean	NRC-37		1.25	6375	01
Pulses	Greengram	GAM-5		6.08	72900	32
Fodder crop seeds	Oat	JHO-822		2.50	12500	25
<b>Total</b>				<b>10.55</b>	<b>93935</b>	<b>63</b>

#### Production of planting materials by the KVK

Crop	Name of the crop	Name of the variety	Name of the hybrid	Number	Value (Rs.)	Number of farmers
Vegetable seedlings	Vegetable	F1 HYVs		102300	15345	100
Fruits	Lime Drumstick Jamun	K Lime PKM-1 Paras		396	3960	9
<b>Total</b>				<b>103696</b>	<b>20305</b>	<b>109</b>

#### Production of livestock materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	No. of Farmers
<b>Dairy animals</b>				
Others (Goat)	Shirohi	10	31100	07
<b>Poultry</b>				
Chicks	TC	05	2450	02
<b>Total</b>		<b>15</b>	<b>33550</b>	<b>09</b>

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

A. KVK News Letter ((Date of start, Periodicity, number of copies distributed etc.) June -2012, Half Yearly -150

B. Literature developed/published

Item	Title	Number
Research papers	<ul style="list-style-type: none"> <li>Credit need of the farmers in biknaer region of rajasthan</li> <li>Growth in format credit to agriculture over period of time in Bikaner region of Rajasthan</li> <li>Impect of baroda doodh utpadak sahkari sansth ltd. in adoption of improved ani. hus. in chpur dist.</li> <li>5. Association between independent verities with extent of adoption of improve animal</li> </ul>	04
Technical reports	ZEARC, Agrescco ,Annual Progress Report,Annual Action Plan	
News letters	-	02
Popular articles	<ul style="list-style-type: none"> <li>Javik Kethiti dwara priyavarn anukul tikau utpadan</li> <li>Ghar ke khali sthan me murgi and bakriपालन adivasi Kendra</li> <li>Backyard poultry and groary farming enhanced livelihood of tribal farmer</li> </ul>	03
Extension literature		17
<b>TOTAL</b>		<b>24</b>

**D. Success Stories / Case studies, if any (two or three pages write-up on each case with suitable action photographs. The Success Stories / Case Studies need not be restricted to the reporting period).**

The Broad outline for the case study may be

### **Success Story : Integrated Nutrient Management in vegetables**

#### **Situation Analysis**

Krishi Vigyan Kendra, Vadodara established in the year 1995, after then Vadodara district was bifurcated in two parts and separated to new district Chhotaudepur in the year 2013. KVK, Vadodara working in Vadodara as well as in Chhotaudepur district. Vadodara and Chhotaudepur fall in Agro-climatic zone-III (as per Gujarat agro-climatic zones).

The Vadodara district is one of the major areas of the state cultivating fruits and vegetables. The geographical area of the district is 7.5 lakh ha. The average rainfall of the district is about 800–900 mm per annum. The district is composed largely of tribal communities. Soils of the district in general can be classified as medium black to heavy black, and rocky with low innate fertility. Among the horticultural crops the vegetable crops like chilli, tomato, okra, brinjal, cabbage, cauliflower and wine crops cover area of approximately 42,328 ha with production of 7, 85,645 MT. and the productivity of vegetable crops is around 18.56 t/ha in the district. Fruit crops like banana, mango, papaya, guava and pomegranate covers the area of 22000 ha.

On the bases of PRA survey and benchmark survey of selected operational villages done by KVK, the identified problems in vegetable cultivation are as under:

1. Lack of knowledge in cultivation practices of vegetables.
2. Injudicious use of fertilizers and no use of micro nutrients
3. No use of bio fertilizer and bio pesticides
4. Poor nursery management
5. Unavailability of quality seedlings/ planting materials for transplanting
6. Poor water management and no use of MIS.
7. Improper planting distance

#### **Technology, Implementation and Support**

In order to address the identified problems, strategy was developed by the KVK experts and discussed with scientists of SAU before actual implementation. Prime importance was given on knowledge improvement for production technologies, integrated nutrient management, and use of micro irrigation system for vegetable cultivation.

#### **Strategy developed**

Intensive training to vegetable growers on important aspects of production technologies of Chilli and tomato. Develop vegetable seedling nursery on instructional farm and supply the healthy seedlings of HYVs at appropriate time. Impart training on nursery raising for quality seedlings of chilli and tomato. Motivate the farmer for use of bio fertilizers and micro nutrients with demonstration for less field mortality and quality production. Create awareness amongst vegetable growers about post-harvest technologies through conducting training and demonstrations.

## Uptake, Spread and Benefits

Demonstrations were laid out at farmers' fields to make them aware about the use of bio fertilizers and micro nutrients and to assess the use of combination of macro and micro nutrients to increase the yield and to improve quality of final product. KVK conducts various extension activities in demonstrated areas like field days, field visits, farmer shibirs etc. were carried out to create more awareness among the vegetable growers and for the spread of the technology. The use of bio fertilizers for seedling treatment and drenching of PSB gives good plant stand in field condition with less seedling mortality after transplanting. Application of micronutrients resulted in better quality fruits and increased number of pickings which helped them to fetch higher market prices. Technology assessment was done in tomato crop with combined use of foliar spray of urea and micro nutrients, which has given higher yield with more number of fruit per plant and improved quality of fruits. The data shows that said treatment has increased the yield by 11 % with production of 298 qt/ha which has given net returns of Rs. 89400/ha as compared to farmers' practices which has given yield of 268qt/ha with Rs. 80400/ha as net return. After demonstration and awareness programmes on INM the average income of growers has increased ranging from 9 -15% i.e. upto Rs. 38500/ha. The technology is adopted by growers in 150 ha of surrounding villages. Now the farmers are using the bio fertilizers not only in vegetables but in grain crops which has minimized the chemical fertilizer application also and with the use of micro nutrients they are getting more yield and better fruit quality. KVK also demonstrated and popularized IPM module in vegetables for reducing cost of cultivation and increase the net profit. Mobility of the farmers increased (Sell of produce/purchase of inputs etc.) and also observed change in entrepreneurial behavior because of daily market contact.



## 6. LINKAGES

### A. Functional linkage with different organizations

Name of organization	Nature of linkage
Anand Agricultural University, Anand	For technical guidance and arranging extension activities, Arrangement of RAWE programme for Students
Model farm, Anand Agricultural University, Vadodara	For technical guidance
District Rural Development Agency, Vadodara	For arranging In-service training programme
State Department of Agriculture, and Dept. of Agriculture, District Panchayat, Chhotaudepur & Vadodara	For arranging In-service training programme and extension activities under ATMA, RKVY, NFS Scheme
State Dept. of Horticulture, Chhotaudepur & Vadodara	For arranging training , Seminar & Exposure tour
Dept. of Animal Husbandry, Chhotaudepur & Vadodara	For arranging training, Animal Health Camp and Vaccination camp
Central ware housing Corporation	PHT in food grain trg
APMCs, Chhotaudepur & Vadodara	For daily market rate and inform to farmers.
District Watershed Development Unit, Chhotaudepur & Vadodara	For training programme and tour
Main Research Station ( Cotton), Surat, Navsari Agricultural University	For technical know-how, educational tour
Lead Bank and (NABARD), Chhotaudepur & Vadodara	For Farm Science Club and extension activities
Bank Of Baroda/State Bank of India	For technical guidance for Self Help Groups and Farm Science Club
Jan Shikshan Sanstha, Bodeli	For arranging vocational training programme
Cohesion Foundation, Bodeli	For arranging the kitchen gardening programme for farm women
GGRC	For arranging the training programme of drip irrigation
GSFC	For arranging training programme.
SSPA, Vadodara	For arranging training programme.
Forest Dept, Chhotaudepur & Vadodara	For arranging training programme.
Baroda Swarojgar Vikas Sansthan, Chhotaudepur & Vadodara	For arranging income generation activities programme

**B. List special programmes undertaken by the KVK and operational now, which have been financed by State Govt./Other Agencies**

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
-	-	-	-

**C. Details of linkage with ATMA**

a) Is ATMA implemented in your district Yes

If yes, role of KVK in preparation of SREP of the district? - YES (KVK is one of Member of SREP committee)

**Coordination activities between KVK and ATMA**

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	Other remarks (if any)
01	Meetings	AGB Meeting, Convergence meeting FSI Meeting DFAC Meeting	07	06	
02	Training programmes	Sponsor Training	07	08	
03	Extension Programmes	Extension Programmes			
	KisanMela	KisanMela	07	02	
	Exhibition	Exhibition	06	02	
	Others (Lecture Delivered)	Others (Lecture Delivered)	07	07	
	Award Verification	Award Verification	06	-	

**D. Give details of programmes implemented under National Horticultural Mission**

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

**E. Nature of linkage with National Fisheries Development Board**

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

**F. Details of linkage with RKVY**

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



## 7. Convergence with other agencies and departments:

### 8. Innovator Farmer's Meet

Sr.No.	Particulars	Details
1	Have you conducted Farm Innovators meet in your district?	Yes
	Brief report in this regard	ATMA has organized Farm Innovators meet & KVK scientists facilitate the meeting in both the district.

### 9. Farmers Field School (FFS)

S. No	Thematic area	Title of the FFS	Budget proposed in Rs.	Brief report
-	-	-	-	-

### 10.1. Technical Feedback of the farmers about the technologies demonstrated and assessed:

S. No	Feed Back
Soybean	Seed shattering problem is less in this variety. Variety gives stable performance in water logged and dry condition
Cotton	Use of Pheromone trap and bio-pesticides reduced no. of chemical pesticides sprays, which has minimized cultivation cost. It is safer for beneficial insects like beetles.
Groundnut	INM increase yield and IDM control stem rot.
Black gram	YVM infestation not found in this variety and Mature earlier as compare to Local variety
Pigeon pea	Wilt problem is less as compare to Vaishali variety and INM also increase the growth and yield of plant.
Green gram	YVM resistance variety and Market rate more due to bold seed size.
Tomato	More number of picking and fruit quality is improved due to application of micronutrients.
Chilli	Less field mortality after deeping treatment of seedlings and better quality in fruits
Brinjal	The variety gives good yield, Higher market prices due to market preference, Low infestation of sucking pests
Oat (F)	This Variety gave higher green fodder yield as compare to local variety Milk Production has increase due to introduction of oat as green fodder
Lucerne (F)	Leaf size of Anand Lucerne -2 big as compared to local verity. Milk Production has increase by feeding of Lucerne as green fodder
Buffalo	Milk yield and fat percentage has increased and reduced inter calving period.
Cotton Picking Bags	<ul style="list-style-type: none"><li>Farm women convinced to use Cotton picking bags because of saving time, and physical energy.</li><li>Use of Cotton picking bags also increases the working efficiency.</li></ul>
Kitchen gardening	Farm women are ready to adopt kitchen garden because of variety of vegetables available for their food. Farm women save the expenses as against vegetables purchases.

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

**Technical Feedback on the demonstrated technologies**

<b>S. No</b>	<b>Feed Back</b>
Soybean	Test weight found higher as compare to NRC-37 ( 20% high test weight) It is needed to work more on develop of pest resistance/tolerance for the variety.
Cotton	<ul style="list-style-type: none"> <li>• Pheromone traps, bio-pesticides has minimized the infestation of pink boll worm and good quality cotton was harvested</li> <li>• There is need to develop pink boll worm pest resistant varieties of cotton.</li> </ul>
Groundnut	Use of weedicide found good weed control efficiency.
Black gram	Better weed management found due to adoption IWM and Plant growth found better due to adoption INM.
Pigeon pea	Less sterility mosaic as compare to BDN-2 variety.
Green gram	INM increase growth of plant and size of seed.
Tomato	Problem of leaf minor and virus should be given more weightage in research programme.
Chilli	Cultivars having tolerance /resistance to leaf curl
Brinjal	It is needed to evolve varieties having resistance/tolerance to fruit and shoot borer
Oat (F)	Good fodder crop for introduction in this area
Lucerne (F)	If released fodder crop for biannually than reduce the cost of cultivation and increase production
Buffalo	Good supplementary feed for dairy animals to increase milk and fat percentage and reduce inter calving period.
Cotton Picking Bags	<ul style="list-style-type: none"> <li>• Easy to wear, equal distribution of load</li> <li>• Higher carrying capacity to improve harvesting efficiency.</li> </ul>
Kitchen gardening	<p>Farm women are ready to adopt kitchen garden because of variety of vegetables available for their food.</p> <p>Farm women save the expenses as against vegetables purchases.</p>

**11. Technology Week celebration during 2017-18                      -    No**

**12. Interventions on drought mitigation (if the KVK included in this special programme) No**

### 13. IMPACT

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

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Impact of front line demonstrations on adoption of mungbean production technology by the farmers of Chhotaudepur district of Gujarat State	150	53.82%	-	-
Role of Baroda Dugdh Utpadak Sahakari Sangh Ltd.(Baroda dairy) in the adoption of Improved Animal Husbandry Practices in Chhotaudepur district of Gujarat	144	78.11%	-	-

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

#### **TECHNICAL PROGRAMME:**

#### **Impact of front line demonstrations on adoption of mungbean production technology by the farmers of Chhotaudepur district of Gujarat State**

##### **INTRODUCTION**

The total production of pulses in the world was 14.76 billion tonnes from the area of 14.25 billion hectares in the year 2014-15 while in India total pulses production was 19.82 million tonnes from the area of 26.57 million hectares in the year 2014-15(Agricultural Statistics at a Glance, 2015-16. Directorate of Economics and Statistics, Ministry of Agriculture, Govt. of India (Website <http://www.dacnet.nic.in/eands>). Whereas in Gujarat, the total pulses production was 6.27 Lakh tonnes from the area of 7.03 Lakh hectares with the productivity of 892 kg/ha. The mungbean production in Gujarat was 0.72 Lakh tonnes from the area of 1.41 Lakh hectares with the productivity of 511 kg/ha in the year 2014-15. In Vadodara-Chhotaudepur district Green gram mainly grown in summer season and its area is 1800 ha.

The latest concept in this series is "Front Line Demonstration" which is a new concept of field demonstration evolved by the ICAR with the inception of the technology mission on oilseed and pulses crops in mid nineteen eighty.

The field demonstrations conducted under the close supervision of the scientists of the National Agricultural Research System are called Front Line Demonstration because the technologies are being demonstrated for the first time by the scientists themselves at farmer's field before, it is fed into the main extension system of the state department of agriculture to test the feasibility, suitability and potentiality of evolved variety and /or technology.

The Front Line Demonstration is an important method of transferring the latest package of practices in totality to farmers. By which, farmers learn latest technologies of oilseeds and pulses production under real farming situation at his own field, which may lead to higher adoption. Further, these demonstrations are designed carefully where provisions are made for speedy dissemination of demonstrated technology among farming community through organization of other supportive extension activities, such as field days and farmers convention.

The main objective of the Front Line Demonstration is to demonstrate newly released crop production and protection technologies and management practices at the farmers' field under different agro-climatic regions and farming situations. While demonstrating the technologies at the farmer's field, the scientists are required to study, the factors contributing to higher crop production, field constraints of production and thereby generating production factor and feed-back information. Front Line Demonstrations are conducted in a block of two to four hectares of land in order to have better impact of the demonstrated technology on the farmers and field level extension functionaries with full package of

practices. Presently, production of mungbean is slow down due to several factors while demand of pulses specially mungbean was increased and the price of mungbean is too high to purchase a person belongs to average income groups. Front Line Demonstration Programme was launched in 1991 by the ICAR. This programme had completed 20 years'. Hence, it was felt to know the impact of latest package of practices of mungbean which were demonstrated at farmer's field with close supervision of scientist. Keeping in view the importance of the study and low productivity of mungbean, it was considered worthwhile to find out how much this programme had helped the mungbean growers to bring about change in their knowledge, adoption of mungbean production technologies and increase the farm productivity and what are the factors which impede in enhancing the mungbean production.

### OBJECTIVES:

The specific objectives designed for this investigation are as follows:

1. To measure and compare the knowledge level of beneficiary and non-beneficiary farmers of front line demonstrations regarding improved mungbean production technology.
2. To assess the adoption gap of improved mungbean production technology among beneficiary and non-beneficiary farmers of front line demonstrations.

### NAME OF INVESTIGATORS:

B.L.Dhayal , Ag. Scientist (Extension Education)

B.M.Mehta, Senior Scientist and Head

### RESEARCH METHODOLOGY

Locale of the study and selection of respondents

#### Locale of the study:

After bifurcation of Vadodara district KVK Vadodara located in Chhotaudepur district and FLDs were laid down in Chhotaudepur district area. Therefore Chhotaudepur district selected purposively for the present study.

#### Selection of Talukas

All six Taluka (*Sankheda, Bodeli, Naswadi, Kawant, PaviJetpur, and Chhotaudepur*) of district were selected, where KVK had conducted FLDs during last five years i.e. from 2012-13 to 2016-17.

#### Selection of villages

KVK conduct the FLD on mungbean in 35 villages during last five years. Out of these 12 villages were selected on the basis of number of beneficiary (equal & more than 7 FLD). Twelve another villages from nearby area of FLD villages resembled similar socio economic status were selected randomly and named as non-beneficiaries. Hence, total 24 villages were included in the study (Table 1)

Table 1. List of selected FLD and non-FLD villages			
S.No.	Name of Taluka	FLD villages	Non- FLD villages
1.	Chhotaudepur	MotiDumaali	Dhandhoda
		Gungavada	Moti Kanas
		Nani Kanas	
2.	Bodeli	Bhagwanpura	Ranbhun
			Nanabutyapura
3.	Sankheda	Navapura	Saradiya
			Raipur
4.	Naswadi	Dhamsiya	Kolamba
		Akona	Chametha
5.	Kawant	Raypur	Karajwat
		Sihada	
		Kanalwa	Dhanpari
		Dhanpur	
6.	Jetpur Pavi	Kalarani	Haripura
			Kosum

#### Selection of Respondents

A list of beneficiary and non-beneficiary farmers was prepared from selected villages. Out of these 75 beneficiary respondents from FLD villages and 75 from non FLD villages were selected by proporanately sampling techniques (Table 2).

Table 2. Village wise selected beneficiary and non-beneficiary farmers

S.No.	FLD villages	No. of selected beneficiary farmers(N <sub>1</sub> =75)	Non-FLD villages	No. of selected non- beneficiary farmers(N <sub>2</sub> =75)
1.	MotiDumaali	5	Dhandhoda	9
2.	Gungavada	3	Moti Kanas	8
3.	Nani Kanas	10	Ranbhun	5
4.	Bhagwanpura	8	Nanabutiyaपुरा	3
5.	Navapura	6	Saradiya	5
6.	Dhamsiya	4	Raipur	6
7.	Akona	9	Kolamba	9
8.	Raypur	10	Chametha	6
9.	Sihada	8	Kanlwa	7
10.	Karajwant	5	Dhanpari	7
11.	Dhanpur	4	Haripura	4
12.	Kalarani	3	Kosum	6

## RESULTS AND DISCUSSION

1. Measurement and comparison of knowledge level of beneficiary and non-beneficiary farmers of front line demonstrations regarding improved mungbean production technology.

### (A) Knowledge level of beneficiary farmers about improved mungbean production technology

Table 1. Knowledge level of beneficiary farmers about improved mungbean production technology N=75			
Sr.No.	Knowledge Level	No. of respondent	Per cent
1.	Low (Scores below 47.17)	11	14.66
2.	Medium (Scores between 47.17 to 59.65)	45	60.00
3.	High (Scores above 59.65)	19	25.33
	Total	75	100
X= 53.41 (Scores), $\sigma$ = 6.24 (Scores)			

The data in Table 1 reveals that majority of beneficiary farmers (60.00 per cent) had medium knowledge, whereas 25.33 per cent and 14.66 per cent beneficiary farmers were having high and low knowledge level about improved mungbean production technology, respectively.

### (B) knowledge level of non-beneficiary farmers about improved mungbean production technology

Table 2. Knowledge level of non-beneficiary farmers about improved mungbean production technology

N=75			
Sr.No.	Knowledge Level	No. of respondent	Per cent
4.	Low (Scores below 37.1)	17	22.66
5.	Medium (Scores between 37.1 to 43.44)	42	56.00
6.	High (Scores above 43.44)	16	21.33
	Total	75	100
X= 40.27 (Scores), $\sigma$ = 3.17 (Scores)			

The data in Table 2 indicates that the majority of non-beneficiary farmers (56.00 per cent) had medium knowledge level, where as 22.66 and 21.33 per cent non-beneficiary farmers were having low and high

knowledge level about improved mungbean production technology.

**(C) Practice wise knowledge level of beneficiary and non-beneficiary farmers about improved mungbean production technology**

The knowledge level of beneficiary and non-beneficiary farmers with regards to improved mungbean production technology was measured in terms of MPS. The total numbers of 10 practices were included to assess the knowledge level of respondents as given in Table 3.

Table 3. Practice wise knowledge level of beneficiary and non- beneficiary farmers about improved mungbean production technology					
Sr.No.	Package of Practice	Beneficiary (n <sub>1</sub> -75)		Non-beneficiary(n <sub>2</sub> -75)	
		MPS	Rank	MPS	Rank
1.	High yielding varieties	83.41	I	24.13	X
2.	Field preparation	76.23	II	67.00	I
3.	Time of sowing	70.37	III	58.66	II
4.	Seed rate & Recommended spacing	64.13	IV	51.27	III
5.	Fertilizer application	55.96	V	39.75	V
6.	Seed treatment	54.94	VI	39.46	VI
7.	Weed management	52.34	VII	28.85	VII
8.	Irrigation Management	40.68	VIII	44.26	IV
9.	Plant protection measures	35.12	IX	27.78	VIII
10.	Harvesting/threshing & Storage	35.00	X	25.18	IX
	Overall	56.82		40.63	

The data in table 3 indicates that knowledge of beneficiary farmers like “High yielding varieties”, “Field preparation”, “Time of sowing”, “Seed rate & Recommended spacing”, “Fertilizer application”, “Seed treatment”, “Weed management”, “Irrigation Management”, “Plant protection measures” Harvesting/threshing & Storage were found to be 83.41, 76.23, 70.37, 64.13, 55.96, 54.94, 52.34, 40.68, 35.12 and 35.00 MPS, and ranks were assigned I to X, respectively.

In case of non-beneficiary farmers 67.00, 58.66, 51.27, 44.26, 39.75, 39.46, 28.85, 27.78, 25.18 and 24.13 MPS of knowledge were reported with regard to “Field preparation”, “Time of sowing”, “Seed rate & Recommended spacing”, Irrigation Management”, “Fertilizer application”, Seed treatment”, “Weed management”, “Plant protection measures” Harvesting/threshing & Storage and “High yielding varieties, and ranks were assigned in descending order from I to X, respectively.

**(D) Comparison of knowledge level between beneficiary and non-beneficiary farmers regarding improved mungbean production technology.**

Table 4. Comparison of knowledge level between beneficiary and non-beneficiary farmers regarding improved mungbean production technology.						'Z' Value
S.No.	Package of Practice	Beneficiary (n <sub>1</sub> -75)		Non-beneficiary(n <sub>2</sub> -75)		
		Mean	SD	Mean	SD	
1.	High yielding varieties	7.04	1.48	5.09	0.92	9.58**
2.	Field preparation	10.01	0.87	8.09	1.02	12.30**
3.	Seed treatment	5.42	1.29	3.92	0.77	8.42**
4.	Time of sowing	2.93	0.91	1.91	0.88	6.47**
5.	Seed rate & Recommended spacing	7.92	1.62	5.61	1.19	9.84**
6.	Fertilizer application	5.88	1.77	4.03	1.01	7.71**
7.	Irrigation Management	9.11	1.66	7.02	1.52	7.88**
8.	Weed management	2.80	0.83	2.23	0.37	5.74**
9.	Plant protection measures	3.34	1.22	2.26	0.89	5.93**
10.	Harvesting/threshing & Storage	3.29	1.19	2.01	0.83	5.89**
	Overall	5.77	1.16	4.22	0.94	7.98**

**\*\* Significant at 0.01 level of probability**

Conclusion that there is a significant difference in knowledge level of beneficiary and non-beneficiary respondents regarding to all ten practices of mungbean cultivation. In other words, there is no similarity between the level of knowledge of beneficiary and non-beneficiary farmers regarding mungbean production technology.

The higher knowledge level of improved mungbean production technology among the beneficiary in comparison of non-beneficiary respondents, might be due to the reason that the FLDs were conducted on the fields of beneficiary farmers only by the KVK, Vadodara and they have also been provided necessary guidance, literature and training by the KVK scientists and SMS. Whereas, the FLDs were not conducted on the field of non-beneficiary farmers might have not been provided any type of guidance and training by the SMSs. This might have resulted in higher level of knowledge of beneficiary farmers in comparison to non-beneficiary farmers.

It might be concluded that the beneficiary farmers were having higher overall and practice wise knowledge about improved mungbean production technology. Whereas non-beneficiary were having less knowledge about it. This might be due to the fact that beneficiary farmers were might have learned about improved mungbean production technology through on-off trainings, group meeting, field days, farmers fairs, exposure tours and literature provided by KVK scientists under FLD. Whereas non-beneficiary farmers were dependent on private or other sources for the same.

## **2 Adoption gap of improved mungbean production technology among beneficiary and non-beneficiary farmers of front line demonstrations**

The data in table 5 depicts that the highest adoption gap (57.20 per cent) among beneficiary farmers was found about cultivation practices “Plant protection measures” of improved mungbean production technology, whereas the highest adoption gap (90.84 per cent) among non-beneficiary farmers was found about practice “High yielding varieties” of improved mungbean production technology.

S.No.	Package of Practices	Beneficiary (n <sub>1</sub> -75)			Non-beneficiary(n <sub>2</sub> -75)		
		Adoption (MPS)	Adoption Gap	Rank	Adoption (MPS)	Adoption Gap	Rank
1.	Plant protection measures	42.80	57.20	I	9.46	90.54	II
2.	Organic manure and Fertilizer Management	44.00	56.00	II	28.66	71.34	VIII
3.	Weed management	45.88	54.12	III	11.33	88.67	III
4.	Time of sowing	50.22	49.78	V	17.55	82.45	V
5.	Field preparation	56.66	43.34	VI	16.22	83.78	IV
6.	Harvesting/threshing & Storage	60.00	40.00	VII	23.33	76.67	VII
7.	High yielding varieties	60.66	39.34	VIII	9.16	90.84	I
8.	Seed rate & Recommended spacing	64.00	36.00	IX	29.11	70.89	IX
9.	Seed treatment	48.95	51.05	IV	18.66	81.94	VI
10.	Irrigation Management	65.00	35.00	X	30.00	70.00	X
	Overall	53.82	46.18		18.16	81.90	

MPS=Mean per cent score

The second highest adoption gap (56.00 per cent) among beneficiary farmers was found about cultivation practices “organic manure and fertilizer management” while, among non-beneficiary farmers, the second highest adoption gap (90.54 per cent) was observed in practice “plant production measures” of improved mungbean production technology. The third ranked was awarded to the adoption gap among beneficiary and non-beneficiary farmers about cultivation practices “Weed management “ of improved mungbean production technology with 54.12 and 88.67 per cent, respectively.

Fourth rank was assigned to the adoption gap (51.05 per cent) among beneficiary farmers was found about cultivation practice “Seed treatment” whereas, the adoption gap (83.78 per cent) in non-beneficiary farmers was found about practice “Field Preparation” of improved mungbean production technology. The fifth rank was awarded to the adoption gap (49.78 and 82.45 per cent) among the beneficiary and non-beneficiary farmers, respectively were found about cultivation practice “Time of

sowing” of improved mungbean production technology.

The sixth rank was awarded to the adoption gap (43.34 per cent) among beneficiary farmers was found about cultivation practices “Field preparation” while the adoption gap (81.94 per cent) in non-beneficiary farmers was found about “Seed treatment” of improved mungbean production technology.

The seventh rank was assigned to the adoption gap 40.00 and 76.67 per cent) among beneficiary farmers and non-beneficiary farmers, respectively were found about practices “Harvesting/threshing & Storage” of improved mungbean production technology. The eighth rank was awarded to the adoption gap (39.34 per cent) among beneficiary farmers were observed in practice “High yielding varieties” of improved mungbean production technology while in non beneficiary farmers have gap in "Organic manure and fertilizer management(71.34 per cent).

The lowest rank was assigned to the adoption gap (35.00 and 70.00 per cent) among beneficiary farmers and non-beneficiary farmers respectively were observed in practice “Irrigation Management” of improved mungbean production technology.

### **Discussion**

The beneficiary farmers were having lesser adoption gap in comparison to non- beneficiary farmers about all the cultivation practices of mungbean. This might be due to the facts that the beneficiary farmers might have gained the more exposure and improved their knowledge and skill through these training, demonstrations, field days which encouraged for lowering down of adoption gap.

It might also be concluded that highest adoption gap was found about plant protection measures among beneficiary farmers which might be due to the facts that plant protection practices are complex practices and complexes practices increased the adoption gap and simple cultivation practices reduced the adoption gap.

### **CONCLUSION**

The above study showed that majority of beneficiary (85.00 per cent) mungbean growers had medium to high knowledge level and non- beneficiary (78.66 per cent) mungbean growers had low to medium level of knowledge about recommended mungbean production technology. In case of adoption gap beneficiary (46.18 percent) of mungbean growers had minimize the adoption gap of mungbean production technology whereas in non-beneficiary (81.90 per cent) mungbean growers had maximize the mungbean production technology. It was found that significant difference in knowledge and adoption gap in beneficiary and non-beneficiary mungbean growers. It can be interpreted that there was positive impact of FLDs conducted by KVK, Vadodara on mungbean production technology. FLDs is the most important tools of extension for newly released crop production ,protection and management technologies in the farmers field in different agro climatic conditions of country. FLDs is playing the most important role in minimize the adoption gap of improved technology resulting in increasing their yield and profit with social status.

## **TECHNICAL PROGRAMME: 2**

### **Role of Baroda Dugdh Utpadak Sahakari Sangh Ltd.(Baroda dairy) in the adoption of Improved Animal Husbandry Practices in Chhotaudepur district of Gujarat**

#### **Objectives:**

1. To assess the knowledge level about improved animal husbandry practices of members and non members.
2. To judge adoption level of Adoption of technology by members and non-members about improved animal husbandry practices.

#### **Locale of the research**

The present study was confined with Co-operative Dairy comprised of 16 milk unions in Gujarat State. Out of 16 milk unions of Co-operative Dairy, one milk union i.e. Baroda Cooperative dairy which covers two districts i.e.Vadodara and Chhotaudepur), was purposively selected for the study

#### **‘Selection of sample**

- (a) Selection of milk collection routes

Baroda dairy consists of 86 milk collection and procurement routes ,out of this route 27 route in Chhotaudepur district. twelve routes were selected randomly for the present investigation.



(b) Selection of dairy co-operative societies

For selection of dairy co-operative societies, a comprehensive list of all the dairy co-operative societies was prepared from the identified milk collection routes. Two dairy co-operative societies were selected randomly from each selected milk collection routes. Thus, total 24 dairy co-operative societies have been taken for the present study.

(c) Selection of respondents

Three members were selected randomly from each selected dairy co-operative societies, there by making a sample of 72 members as the study group. A control group of 72 non-members (3 cattle owner respondents from each dairy co-operative society's area) were selected randomly for the comparative study (Table 1).

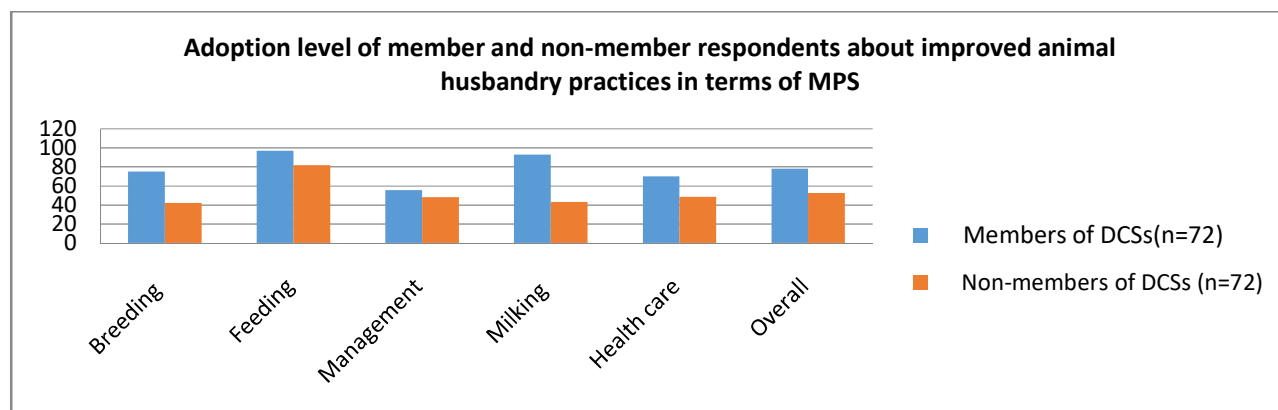
**TABLE 1: SELECTION OF DAIRY CO-OPERATIVE SOCIETIES WITH RESPONDENTS UNDER STUDY**

		MEMBERS OF DCSSs			NON-MEMBERS OF DCSSs	
S. NO	TALUKA	SELECTED ROUTES	SELECTED DCSS	No. of responders	No. of respondents	TOTAL
1.	SANKHEDA	SANKHEDA	(I) SUNDARPURA	3	3	6
			(II) AMBAPURA	3	3	6
2.		GOLA GAMDI	(I) BAHADARPUR	3	3	6
			(II) MANJROL	3	3	6
3.	BODELI	NANABUTIYAPURA	(I) BUTIYAPURA	3	3	6
			(II) RANBHUN GHATI	3	3	6
4.		KATHMANDWA	(I)KATHMANDWA	3	3	6
			(II) NAVAPURA	3	3	6
5.	JETPUR PAVI	KALARANI	(I) KALARANI	3	3	6
			(II) AMBALAG	3	3	6
6.		SITHOL	MOTAKATWA	3	3	6
			(II) SITHOL	3	3	6
7.	KAWANT	RAYPUR	(I) RAYPUR	3	3	6
			(II) KANLWA	3	3	6
8.		PIPLADA	(I) PIPLADA	3	3	6
			(II) KARAJWANT	3	3	6
9.	NASWADI	AKONA	(I) AKONA	3	3	6
			(II) POTHALIPURA	3	3	6
10.		KOLAMBA	(I) KOLAMBA	3	3	6
			(II) PALASANI	3	3	6
11.	CHHOTAUDEPUR	DHANDHODA	(I) DHANDHODA	3	3	6
			(II) MOTI SADLI	3	3	6
12.		PUNIYAVANT	(I) PUNIYAVANT	3	3	6
			(II)SIMAL FALIYA	3	3	6
TOTAL				72	72	144

**Table 9: To Judge Adoption level of member and non-member respondents about improved animal husbandry practices in terms of MPS**

**(N=144)**

S. No.	Improved practices	Members of DCSs (n=72)		Non-members of DCSs (n=72)	
		MPS	Rank	MPS	Rank
1.	Breeding	74.93	III	42.00	V
2.	Feeding	97.00	I	82.00	I
3.	Management	55.63	V	48.00	III
4.	Milking	93.00	II	43.00	IV
5.	Health care	70.00	IV	48.50	II
Overall		78.11		52.70	



**Table 10: Comparison of to judge adoption level between member and non-member respondents about improved animal husbandry practices**

S. No	Improved practices	Members of DCSs (n=72)		Non-members of DCSs (n=72)		'Z' value
		Mean	+ SD	Mean	+ SD	
1.	Breeding	8.94	1.64	5.14	1.92	12.72**
2.	Feeding	12.65	0.79	10.69	1.07	11.76**
3.	Management	9.76	1.15	8.34	0.84	8.33**
4.	Milking	3.74	0.67	1.75	0.63	18.87**
5.	Health care	6.32	1.14	4.36	1.32	9.15**

## SUMMARY AND CONCLUSION

1. Member respondents had more knowledge than non-member respondents about all improved animal husbandry practices.
2. Member respondents had higher adoption than non-member respondents about all improved animal husbandry practices.

*The results on services of veterinary and inputs indicate that majority of the respondents satisfied with timely, qualitative supply of concentrated feed, mineral mixture, bypass fat and bypass protein and veterinary services, respectively. The opinion regarding price of inputs indicate that 54.17, 62.50 and 63.33 per cent respondents agree with that the price was reasonable for concentrated feed, mineral mixture, bypass fat and bypass protein and veterinary services respectively. More than three fourth of respondents believe that the price for their produce paid by co-operative was reasonable. It is also seen that requirement of finance from the members was partially fulfilled by co-operative societies*

## Recommendations

- Since majority of the respondents had medium knowledge level about improved animal husbandry practices. Thus, efforts be made to bring about change in knowledge of respondents from low to medium and medium to high levels.
- More number of AI centre established
- Improvement of local breed in cross breed so it more adaptability in local climate
- It is recommended that the supply of improved perennial grasses and seed of fodder crops along with veterinary and vaccination facilities should be made available at the door step of the dairy farmers at subsidized rates so more number of non member join the dairy.
- It is recommended that dairy union should arrange timely supply of balanced cattle feed through dairy co-operative societies for animals at cheaper and subsidized rate.
- There should provision of subsidy and low interest rate loans for cattle purchasing and development by Bank to non member.
- The milk producers are required to increase their knowledge about improved animal husbandry practices in health care practices. Hence, it is suggested that frequent training should be organized on the need base aspects.

**B. Cases of large scale adoption**  
(Please furnish detailed information for each case)

**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 varieties namely "Meha(2011-12) & GAM-5(2015-16)" were 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 & GAM-5" varieties and get feedback. Farmers were highly satisfied with the performance of the "Meha & GAM-5" varieties.

**Outcomes:** - For providing quality seeds at appropriate time to the farmers, a unit of about 2.5 ha land for producing seeds of " Meha(2011-12) & GAM-5(2015-16)" variety was developed on instructional farm. Result of that during last Seven years KVK produce more than 16500 kg (Table-1) of seed and distributed among the farmers. The coverage of area is approximately 850 ha. under YVMV resistance varieties " Meha(2011-12) & GAM-5(2015-16)".

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

Sr	Particulate	2011-12 2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
1	Total Seed Production (kg)	1950	1478	1490	5122	1868	4558
2	Total Beneficiaries	86	57	77	326	220	360
3	Area Covered (ha.)	97.5	82.11	82.78	284	100	230
4	No. of Village Covered	26	24	25	33	40	23

**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 1100 ha. of land have been covered under "Meha & GAM-5" varieties of Greengram during last five year (2011-12 to 2017-18).

**14. Kisan Mobile Advisory Services**

Month	No. of SMS sent	No. of farmers to which SMS was sent	No. of feedback / query on SMS sent
July	06	11119	
August	01	11119	
September	02	11119	
October	15	11119	
November	10	11119	
December	02	11119	
March	02	11119	

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	Total
Vadodara	Text only	13	07	08	0	08	02	38
	<b>Total farmers Benefitted</b>	<b>11119</b>	<b>11119</b>	<b>11119</b>	<b>0</b>	<b>11119</b>	<b>11119</b>	<b>11119</b>

## 15. PERFORMANCE OF INFRASTRUCTURE IN KVK

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

Sl. No.	Demo Unit	Year of establishment	Area (ha)	Details of production			Amount (Rs.)	
				Variety	Produce	Qty.	Cost of inputs	Gross income
01	Vermicompost Unit	2016-17	0.05	-	Compost	6	2000	3000
02	Goatry Unit	2016-17	0.05	Shirohi	Breed	10	6000	31100
03	Poultry Unit	2016-17	0.05	TC	Chicks	05	-	2450
04	Vegetable & Nursery Unit	2010-11	0.10	F1 Hyb	Seedling	102696	8000	19305

### B. 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									
Paddy	14-08-2017	10-11-2017	3.29	GR-11	Grain	62.78	75024	107150	
Wheat	29-11-2017	26-3-18	2.39	GW-451-496	Grain	59.57	55458	97840	
Pulses									
Greengram	16-03-2017	06-06-2017	2.0	GAM-5	Seed	607.5	41858	72900	
Pigeonpea	15-10-2017	11-3-18	0.87	Vaishali	Grain	8.13	15203	32210	
Oilseeds									
Soybean	8-7-2017	3-11-2017	3.6	NRC-37	Grain	26.25	22895	62080	
Fibers									
Cotton	10-6-2017	4-12-2017	0.36	BT II	Fiber	3.38	11805	13390	
						767.61	222243	385570	

**E. Utilization of hostel facilities**

Accommodation available (No. of beds):

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
April 2017	0	0	
May 2017	30	02	
June 2017	300	15	
July 2017	207	12	
August 2017	45	08	
September 2017	175	14	
October 2017	0	0	
November 2017	95	23	
December 2017	132	17	
January 2018	93	13	
February 2018	73	05	
March 2018	17	01	

**16. FINANCIAL PERFORMANCE****A. Details of KVK Bank accounts**

Bank account	Name of the bank	Location	Branch code	Account Name	Account Number	MICR Number	IFSC Number
With Host Institute	State Bank of India	Sankheda	3497	Mangalbharti Krishi Vigyan Kendra	10683587608	391002514	SBIN0003497
With KVK							

**B. Utilization of KVK funds during the year 2017-18 (Rs. in lakh)**

S. No.	Particulars	Sanctioned	Released	Expenditure
<b>A</b>	<b>Recurring Contingencies</b>			
1	<b>Pay &amp; Allowances</b>	12210000	12210000	11885442
2	<b>Traveling allowances</b>	80000	80000	73266
3	<b>Contingencies</b>			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance	455000	455000	252473
B	POL, repair of vehicles, tractor and equipments			191781
C	Meals/refreshment for trainees	652000	652000	176736
D	Training material			100579
E	Frontline demonstration except oilseeds and pulses			170970
F	On farm testing			40564
G	Training of extension functionaries			0
H	Maintenance of buildings			163000
I	Establishment of Soil, Plant & Water Testing Laboratory			0
J	Library			0
	<b>Total Recurring</b>	<b>13397000</b>	<b>13397000</b>	<b>12170614</b>
<b>B</b>	<b>Non-Recurring Contingencies</b>			
1	<b>Works</b>	0	0	0
2	<b>Equipments including SWTL &amp; Furniture</b>	0	0	0
3	<b>Vehicle</b> (Four wheeler/Two wheeler, please specify)	0	0	0
4	<b>Library</b>	0	0	0
	<b>Total Non Recurring</b>	0	0	0
<b>C</b>	<b>REVOLVING FUND</b>	0	0	0
	<b>GRAND TOTAL (A+B+C)</b>	<b>13397000</b>	<b>13397000</b>	<b>13054811</b>

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

<b>3Year</b>	<b>Opening balance as on 1<sup>st</sup> April</b>	<b>Income during the year</b>	<b>Expenditure during the year</b>	<b>Net balance in hand as on 1<sup>st</sup> April of each year</b>
April 2015 to March 2016	979753.00	91556.00	709787.00	1161522.00
April 2016 to March 2017	1161522.00	792018.00	768751.00	1184788.50
April 2017 to March 2018	1184788.50	555562.00	531494.00	1208986.00

**17. Details of HRD activities attended by KVK staff during year**

<b>Name of the staff</b>	<b>Designation</b>	<b>Title of the training programme</b>	<b>Institute where attended</b>	<b>Dates</b>
C.R.Patel	SMS (Agronomy)	National Workshop Empowering farmers of Tribal area & Poster Presentation )	ICAR, New Delhi	7-8 June-2017
Dr. B.M.Mehta	Sr. Scientist & Head	Zonal Workshop of KVKs of Raj. & Guj.	JAU, Junagadh	10-12 June-2017
Dr.B.M.Mehta	Sr. Scientist & Head	Regional Workshop of Skill Development in Agril.	SIAM- Jaipur	18-Aug-2017
Dr.B.M.Mehta	Sr. Scientist & Head	Technical Group meeting for Vadodara Manthan	Collector Office, Vadodara	23 Aug-2017
Dr.B.M.Mehta V.V.Shah	Sr. Scientist & Head	Training at EAT Module of PFMS	Gujarat Vidhiyapith, Ahmadabad	28-29 Oct-2017
Dr.B.M.Mehta	Sr. Scientist & Head	National conference on improving income of farmers through Agri. & Aqua. Through Development Innervations. (Poster Presentation )	ICAR,CIFA, Bhuneswar	5-7 Jan-2018
J.P.Meena	SMS (Ani. Sci.)	Training on forage crops	IGFRI,Jhansi, UP	15-29 Jan-2018
C.R.Patel & V. D.Patel	SMS (Agronomy) SMS (Plant. Prot)	Workshop cum Training on CFLDs Oilseed and Pulses- KVKs of Gujarat at NAU, Navsari	NAU, Navsari	29-30 January-2018
B.L.Dhayal	SMS (Extension)	CAFT Training prog. On Innovation in Agri. Ext. for Tech. application and stakeholders at	IARI New Delhi	5-to 25-Jan-18
B.L.Dhayal	SMS (Extension)	Agresco Report Presentation	EEI,AAU, Anand	8-9-Feb-2018
Vinay D. Patel	SMS (Plant. Prot)	Training on PRA tools and Tech.	EEI,AAU, Anand	22- to 1 March-18

## 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	57	1087	575	1662
Rural youths	0	0	0	0
Extension functionaries	1	24	3	27
Sponsored Training	11	147	175	292
Vocational Training	1	23	0	23
<b>Total</b>	<b>70</b>	<b>1281</b>	<b>753</b>	<b>2004</b>

### 2. Frontline demonstrations

Enterprise	No. of Farmers	Area(ha)	Units/Animals
Oilseeds	185	110	185
Pulses	223	90	223
Cereals	20	8	20
Vegetables	0	0	0
Other crops	147	40.5	147
Hybrid crops	0	0	0
<b>Total</b>	<b>575</b>	<b>248.5</b>	<b>575</b>
Livestock & Fisheries	20	0	20
Other enterprises	150	0	150
<b>Total</b>	<b>170</b>	<b>0</b>	<b>170</b>
<b>Grand Total</b>	<b>745</b>	<b>248.5</b>	<b>745</b>

### 3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
<b>Technology Assessed</b>			
Crops	4	12	12
Livestock	2	20	20
Various enterprises	2	20	20
<b>Total</b>	<b>8</b>	<b>52</b>	<b>52</b>
<b>Technology Refined</b>			
Crops	00	0	0
Livestock	0	0	0
Various enterprises	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Grand Total</b>	<b>8</b>	<b>52</b>	<b>52</b>

### 4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	463	44573
Other extension activities	5	4224
<b>Total</b>	<b>468</b>	<b>48797</b>

## 5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						Total
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	
Vadodara	Text only	13	7	8	-	8	2	38
	<b>Total farmers Benefitted</b>	<b>11119</b>	<b>11119</b>	<b>11119</b>		<b>11119</b>	<b>11119</b>	<b>11119</b>

## 6. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	10.55	93935
Planting material (No.)	103696	20305
Bio-Products (kg)		
Livestock Production (No.)	15	33550
Fishery production (No.)		

## 7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil	475	
Water	10	
Plant	0	
<b>Total</b>	<b>485</b>	

## 8. HRD and Publications

Sr. No.	Category	Number
1	Workshops	04
2	Conferences	01
3	Meetings	05
4	Trainings for KVK officials	05
5	Visits of KVK officials	0
6	Book published	0
7	Training Manual	17
8	Book chapters	0
9	Research papers	04
10	Lead papers	0
11	Seminar papers	0
12	Extension folder	0
13	Proceedings	0
14	Award & recognition	0
15	Ongoing research projects	0