

ICAR-ATARI, Pune
DETAILS OF ANNUAL PROGRESS REPORT OF KVK-DANG DURING 2019-20
(1st April, 2019 to 31st March, 2020)

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)
Krishi Vigyan Kendra, Navsari Agricultural University, Ahwa road, Waghai, Ta: Waghai, District: Dang, Gujarat-394 730	Office 02631-246239	FAX ---	kvkwaghai@nau.in	http://dangs.kvk6.in

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







Address	Telephone		E mail	Website address
	Office	FAX		
Navsari Agricultural University, Eru Char Rasta, Dandi Road, Navsari, Gujarat, 396 450	02637-282823 02637-282026	02637-284254 02637282706	dee@nau.in	www.nau.in




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

Name	Telephone / Contact		
	Office	Mobile	Email
Dr. G. G. Chauhan	02631-246239	9427176916	kvkwaghai@nau.in

1.4. Year of sanction: 1984-85

1.5. Staff Position (as on March 31, 2020)

Sr. No.	Sanctioned post	Name of the incumbent	Discipline	Pay Scale If Temporary, pl. indicate the consolidated amount paid (Rs./month)	Grade Pay	Present basic (Rs.)	Date of joining	Permanent /Temporary	Category (SC/ST/OBC/ Others)	Mobile No.	Email id	Please attach recent photograph
1.	Senior Scientist & Head	Dr. G. G. Chauhan	Extension Education	131400-217100	-	-	26-08-2019	Temporary	Gen.	9427176916	ggchauhan@nau.in	
2.	Scientist (1)	Mr. J. B. Dobariya	Extension Education	57700-182400	-	-	20.08.2015	Temporary	Gen.	9724761097	jigneshdobariya739@gmail.com	
3.	Scientist (2)	Dr. P. P. Javiya	Crop Production	57700-182400	-	-	27-08-2019	Temporary	Gen.	9925689822	drppjaviya@nau.in	
4.	Scientist (3)	Mr. H. A. Prajapati	Horticulture	57700-182400	-	-	13.02.2017	Temporary	OBC	9429430999	prajapatiharshad20@gmail.com	
5.	Scientist (4)	Dr. S. A. Patel	Vet. Public Health	57700-182400	-	-	27-08-2019	Temporary	ST	9913439987	drsagarpatel10@nau.in	
6.	Scientist (5)	Mr. B. M. Vahunia	Crop Protection	57700-182400	-	-	28-08-2019	Temporary	ST	8141802632	bipinmv94@nau.in	
7.	Scientist (6)	Vacant	Home Science	-	-	-	-	-	-	-	-	-

8.	Programme Assistant	Mr. K. V. Patel	--	38090 FIX	-	-	24-09-2015	Temporary	ST	9687788642	kashyappvpatel2@gmail.com	
9.	Computer Programmer	Vacant	-	-	--	--	-	-	-	-	--	
10.	Farm Manager	Mr. R. S. Patel	--	38090 FIX	-	-	08-03-2019	Temporary	ST	9904410078	Patelrs6996@gmail.com	
11.	Accountant / superintendent	Vacant	-	-	-	-	-	-	-	-	-	-
12.	Stenographer	Vacant	-	-	-	-	-	-	-	-	-	-
13.	Driver (1)	Vacant	-	-	-	-	-	-	-	-	-	-
14.	Driver (2)	Vacant	-	-	-	-	-	-	-	-	-	-
15.	Supporting staff (1)	Mr. D. N. Parmar		14800-47100	-	-	01.08.2011	Temporary	ST	6356862156	-	
16.	Supporting staff (2)	Vacant	-	-	-	-	-	-	-	-	-	-

1.6. Total land with KVK (in ha):

S. No.	Item	Area (ha)
1.	Under Buildings	0.97
2.	Under Demonstration Units	-
3.	Under Crops	2.80
4.	Horticulture	0.83
5.	Pond	----
6.	Others if any (West land, Non-Cultivable land)	1.0
Total		5.60

1.7. Infrastructural Development:

A) Buildings

Sr. No.	Name of building	Source of funding	Stage					
			Completion Year	Complete Plinth area (Sq.m)	Expenditure (Rs.)	Starting year	Incomplete Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR	1990	200.73	0.93	--	--	--
2.	Farmers Hostel	ICAR	2005	278.00	12.00	--	--	--
3.	Staff Quarters (5)	--	--	--	--	--	--	--
	B-Type(2)	ICAR	1994			--	--	--
	C-Type(1)	ICAR	}	197.04	343696	--	--	--
	A-Type(1)	ICAR		--	--	--	--	--
	E-Type(1)	ICAR		--	--	--	--	--
	Total			197.04	343696	--	--	--
	RCC approach road		2005	82.00	2.21	--	--	--
	RCC Sump		2005	40000 lit cap	0.76	--	--	--
4.	Demonstration Units	----	--	--	--	--	--	--
5.	Fencing	----	--	--	--	--	--	--
6.	Rain Water harvesting system	----	--	--	--	--	--	--
7.	Threshing floor	ICAR	2012	84	2.00	--	--	--
8.	Farm Godown	ICAR	2011	12	3.00	--	--	--

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Mobile soil testing Van	2009	2630000	12191 (31-03-2020)	Working
Motorcycle Hero Honda Splendor	2011	50755	32112 (31-03-2020)	Working
Mahindra Bolero	2019	686240	14244 (31-03-2020)	Working

C) Equipments & AV aids

Name of the equipment/ Implements	Year of purchase	Cost (Rs.)	Present status
Camera (Sony-Digital)	05.01.2001	27100/-	Working
Digital camera	03.01.2009	19038/-	Working
Generator set (Honda)	26.03.2010	49600/-	Working
EPBAX system	24.02.2011	49868/-	Working
Plough (Heavy duty)	18.02.2011	19000/-	Working
Rotavator	14.03.2011	63400/-	Working
Vivitek Multimedia DLP projector	14.03.2011	99990/-	Working
Winnowing fan	27.02.2011	6900/-	Working
Power sprayer	04.02.2011	24150/-	Working
Power tiller	24.03.2011	148785/-	Working
Cultivator	03.03.2011	20700/-	Working
Two-way-leveler	03.03.2011	12600/-	Working

Thresher	17.02.2011	18000/-	Working
Seed cum fertilizer drill	17.02.2011	36100/-	Working
Scale (Weighing)	18.02.2011	6000/-	Working
PROTON Impact	28.03.2011	35600/-	Working
Trailer (For Power tiller)	28.03.2011	26500/-	Working
Submersible pump ISIV-6	07.03.2014	18,750/-	Working
Digital mini lab	23.11.2015	75000/-	Working
Tractor	04.12.2015	581228/-	Working
Paddy winnowing fane	29-02-2016	42200/-	Working
Rotary power tiller	18-03-2016	98500/-	Working
Desk top computer (Lenova)	21-03-2016	38775/-	Working
HP printer	28-03-2016	10999/-	Working
Tractor Trailer	29-03-2016	117000/-	Working
M.B.Plough	20-02-2017	30500/-	Working
Roklith cooler	23-02-2017	79000/-	Working
Lenovo computer (All in one)	07-03-2017	46199/-	Working
Laser printer	07-03-2017	25800/-	Working
Voltas AC	08-03-2017	72000/-	Working
Photocopier machine	10-03-2017	150000/-	Working
Mridaparishak soil testing kit	15-03-2017	90300/-	Working
Multicrop thresher	16-03-2017	210000/-	Working
Kiosk thin client based free standing type model	23-03-2017	90250/-	Working
Stabilizer	27-09-2017	8260/-	Working
V-ditcher, Ridzer, Burd former	19-02-2018	60000/-	Working
Lawn mover	17-03-2018	31500/-	Working
Paddy threshing table (2 peace)	29-09-2018	14000/-	Working
H P Laptop	11-03-2019	44715/-	Working
H P Printer	15-03-2019	14450/-	Working
Reaper	27-03-2019	97211/-	Working
Brush Cutter	27-03-2019	17813/-	Working
Submersible pump 7.5 HP	27-03-2019	29488/-	Working
Projector	27-03-2019	48500/-	Working
U P S inventor	29-03-2019	48000/-	Working
Disc harrow	27-03-2019	101115/-	Working
Air conditional	26-03-2019	116670/-	Working
Mini tractor (VST-Mitsubishi-Shakti)	28-03-2019	335699/-	Working
All in one printer (HP -1005 Laser jet pro MFP)	28-03-2019	17480/-	Working
All in one printer (HP - Laser jet pro MFP)	28-03-2019	28700/-	Working
All in one Computer (No. 4)	28-03-2019	227534/-	Working
Revolving Chair (No. 2)	29-03-2019	9000/-	Working
Bolero SLE 7 setter (Mahindra & Mahindra)	11-07-2019	686249/-	Working

1.8. Details SAC meeting conducted in the year 2020

Date	Name of Participants	Designation of Participants	Salient Recommendations	Action taken
23-01-2020	Dr. G. R. Patel	Director of Ext., NAU, Navasari	<ol style="list-style-type: none"> Impact should be analyzed for training and extension activities conducted in adopted villages Prepare the farmer's database for dial out conference and voice/ text messages for transfer of technology on large scale. In FLD on Turmeric "Gujarat Navsari Turmeric -2" could be conducted in Adaptive Trial Scheme. On the basis of trainings & FLDs on Kitchen Garden, quantify the adaptation rate by participants. More emphasis should be given to value addition in mushroom. For organic management of Tea Mosquito Bug in cashew nut, work should be initiated by Department of entomology, College of Agriculture, NAU, Waghai. 	<ol style="list-style-type: none"> We had collected data of 5270 famers and upload in the m-kisan portal, The farmer of 5270 recorded and saved successfully. Up to 31 December 2019 we had given the advise to 11429 regarding different new innovative technology though SMS portal FLD was conducted for GNT 2 variety with 8 beneficiaries. In the year, 2019-20 total 80 Nos. kitchen garden demonstrations were conducted in adopted villages and another 75 women prepare kitchen garden by their own efforts. One vocational training was conducted on mushroom cultivation and value addition of Mushroom topic was covered in this training programme of KVK. Experiment on organic management of Tea mosquito bug is being undertaken at ARS, Paria, so this experiment is not planned at College of Agriculture, NAU, Waghai.
	Dr. J. J. Pastagiya	I/c Principal college of Agri, NAU, Navasari		
	Dr. Amol Bhalerao	Scientist (AE) ICAR-ATARI		
	Shri. M. M. Patel	Project Director ATMA-Dang		
	Dr. H. E. Patil	Ass. Research scientist, HMRS-Waghai		
	Dr. G. G. Chouhan	Senior scientist & head, KVK, Waghai		
	Dr. S. N. Saravaisa	Asso. Pro/Head ASPEE, Navasari		
	Dr. A. P. Patel	Asso. pro/Agronomy, CAW, Waghai		
	Sunilbhai U. Patel	DAO, Ahwa, Dang.		
	Tusharbhaji M. Gamit	Assistant Director of Horti, Ahwa, Dang		
	Dr. Mahaveer Choudhari	Principal, Polytechnic, NAU, Waghai.		
	Bendubhai M. Gayakawad	Progressive Farmer		
	Bharatiben C. Patel	Pramukh, shakhi mandal, Waghai		
	Dr. Diwya G. Chaudhari	Veterinary officer		
	Jayesh K. Mokashi	Pragatishil khedut, Bhavadi		
	Payujyabhai M. Bhoje	Khapri mandal pramukh		
	Baliben L. Gavit	Pragatishil khedut		
	Dr. Sagar A. Patel	Scientist KVK, Waghai		
	Mr. Bipinchandra M. Vahunia	Scientist KVK, Waghai		
	Dr. P. P. Javiya	Scientist KVK, Waghai		
	Mr. R. S. Patel	Farm Manager		
	Mr. K. V. Patel	Programme Assistant		
	Mr. H. A. Prajapati	Scientist KVK, Waghai		
	Mr. J. B. Dobarriya	Scientist KVK, Waghai		
	Mr. K. G. Birari	Farmer		
	Santilal M. Thorat	Skill person		
	Shubhash S. Padhiyar	Skill person		
Smita R. Tumbda	Skill person			
Sanjay G. Bhoje	Skill person			
Denish Parmar	Skill person			
Ajaybhai V. Gaykwad	Skill person			

2. DETAILS OF DISTRICT

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

Sr. No.	Farming system/enterprise
1.	Agriculture farming systems
2.	Agri - Horti farming systems
3.	Agri - Horti -Dairy farming systems
4.	Agri - Forestry farming systems

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

a) Soil type

Sr. No.	Agro-climatic Zone	Characteristics
1.	South Gujarat Heavy Rainfall Zone-I Agro Ecological Situation-I	Dang district comes under South Gujarat Heavy Rainfall Zone-I, Agro Ecological Situation-I having total 172366 ha land. Out of that, 53.74% is occupied with forest and only 33.80% of land comes under cultivation and cultivable fallow. The district has remote forest area and characterized mainly by tribal. The cropping pattern of the district is single rainfed crops. The major crops in <i>kharif</i> are Paddy, Finger millet, Little millet, Sorghum, Black gram <i>etc.</i> Some more information regarding the district is given below.

b) Topography

Sr. No.	Agro ecological situation	Characteristics
1.	Location	73'.29' to 73'.51' longitude and 20'.39' to 21'.50' latitude. An elevation 105 to 1317 mtrs. MSL
2.	Agro climatic zone	South Gujarat Heavy Rainfall Zone-I, Agro Ecological Situation-I
3.	Soil	Laterite, hilly, undulating with slopes of 20 to 40 percent, shallow to medium in depth
4.	Rainfall	1800-2000 mm with average rainy days of 85-95
5.	Irrigation	18 percent
6.	Rivers	Ambica, Khapri, Purna, Gira

2.3 Soil Types

Sr. No.	Soil type	Characteristics	Area in ha
1.	Lateritic, hilly, undulating with the slopes of 20 to 40 per cent, light to medium texture soil and others	Shallow to medium in depth, low to moderately fertile, medium to high in slope, normal to slightly acidic pH, moderate temperature because of thick forest cover, area under irrigation (10,500 ha.)	56,300

2.4. Area, Production and Productivity of major crops cultivated in the district (2018-19)

Sr. No.	Crop	Area (ha)	Production (MT.)	Productivity (Kg/ha)
1.	Paddy	20400	89760	4400
2.	Nagli	7800	12480	1600
3.	Sorghum	850	850	1000
4.	Maize	2280	1938	850
5.	Other cereal	-	-	-
6.	Pigeon Pea	3050	3965	1300
7.	Black Gram	5000	4500	900
8.	Ground nut	3050	3965	1300
9.	Niger	1500	525	350
10.	Soybean	2710	1897	700
11.	Vari	6200	8990	1450
12.	Other pulses	34	89760	-
13.	Vegetables	5341	-	-
	Kharif Total	58284		
14.	Wheat	175	385	2200
15.	Gram	3900	5070	1300
16.	Sugarcane	375	24455	65214
17.	Other pulses	1777	-	-
	Rabi-Total	6227		

Area, Production and Productivity of Horticultural crops cultivated in the district (2018-19)

Sr. No.	Crop	Area (ha)	Production (MT.)	Productivity (t/ha)
A.	Fruit Crops			
1.	Mango	4980	34063	6.84
2.	Sapota	27	300	11.08
3.	Banana	26	1031	41.0
4.	Pomegranate	12	90.12	7.51
5.	Cashew nut	1360	1496	1.60
6.	Custard Apple	106	850	8.0
7.	Amla	24	137	6.19
8.	Others	106	721	7.41
	Total	6641	38688.12	
B.	Vegetable crops			
1.	Okra	1300	18954	14.59
2.	Brinjal	650	11603	17.82
3.	Onion	95	2032	21.41
4.	Tomato	373	8254	22.15
5.	Cowpea	132	1119	8.54
6.	Cucurbitaceous	816	11293	13.60
7.	Others	1538	32882	21.41
	Total	4904	86137	
C.	Spices			
	Turmeric	239	5425	22.70
	Total	239	5425	

Source: District Agriculture and horticulture department.

2.5. Weather data (2019-20)

Month	Rainfall (mm)	Temperature (0 C)		Mean Relative Humidity (%)	Rainy Days (Nos.)
		Maximum	Minimum		
Jan- 2019	0.0	31.0	9.0	62.55	0
Feb-2019	0.0	32.2	11.9	63.55	0
March-2019	0.0	35.1	14.4	58.75	0
April-2019	0.0	39.1	20.3	61.85	0
May-2019	0.0	38.2	23.5	67.80	0
June-2019	320.0	36.3	26.7	79.70	8
July-2019	1384.0	30.2	24.9	86.85	21
August-2019	1480.0	29.0	24.3	89.40	21
Sep.-2019	924.0	30.2	24.3	88.7	23
Oct.-2019	119.0	32.2	22.1	81.2	5
Nov-2019	37.0	32.1	18.7	78.15	1
Dec- 2019	00	30.8	14.6	75.00	0
Jan-2020	00	29.03	11.84	--	00
Feb-2020	00	33.3	12.50	--	00
March-2020	00	34.2	15.10	--	00
Total	4264	-	-	-	79

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

Category	Population	Productivity
Cow	78160	800 to 2200 lit/cow
Buffalo	24767	1200 to lit
Goats	29567	300 lit
Sheep	6	-
Pigs	462	--
Camel	11	--
Donkey	6	--
Horse	32	-
Rabbits	109	--
<i>Desi</i>	153189	62 eggs/year
<i>Improved</i>	1715	188 Egg/Annum
Ducks	538	150 Egg/Annum
Turkey and others	-	--
Category		Productivity
Fish	--	--

Source: District Animal husbandry department.

2.7. Details of Operational area / Villages

Taluka	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
Ahwa Subir Waghai	Ahwa	Divan Tembruan Gadhavi Jamlapada	Cereals: Paddy, Finger millet, little millet Pulses: Gram, Black gram, Pigeon pea	<ul style="list-style-type: none"> ❖ Use of traditional varieties ❖ Poor quality of seed ❖ Improper use of fertilizers ❖ Lack of awareness about plant protection measures ❖ Scarcity of fodder ❖ Repeat Breeding and Anoestrus ❖ Less interest in dairy business 	<ul style="list-style-type: none"> ➤ Promoting Animal husbandry/ horticultural crops ➤ Use of recommended varieties ➤ Promotion of scientific package of practices ➤ Create awareness about plant protection measures ➤ Scientific feeding management ➤ Awareness about dairy enterprise ➤ Artificial Insemination
	Subir	Bardipada Bibupada Vahutiya	Oilseeds: Groundnut, Niger Vegetables: Okra		
	Waghai	Borpada Dokpatal Kosmal Uga	Fruit crops: Mango, Custard apple Floriculture: Rose and Marigold Others: Tuber crops Animal Husbandry		

2.8. Priority thrust areas:

Crop/Enterprise	Thrust area
Rice	Integrated Nutrient Management
	Introduction of newly released varieties
	Water management
	Integrated Pest and Disease Management
Finger millet/ Little millet	Introduction of newly released varieties
	Integrated Nutrient Management
Pulses	Soil moisture conservation
	Integrated Pest and Disease Management
Oilseeds (Groundnut)	Soil moisture conservation
	Integrated Pest and Disease Management
Okra	Integrated Nutrient Management
	Integrated Pest and Disease Management
	Marketing
Watermelon	Integrated Nutrient Management
	Integrated Pest and Disease Management
Mango	Integrated Pest and Disease Management
	Integrated Nutrient Management
Animal husbandry	Introduction of new fodder varieties
	Livestock health care

The Major thrust areas are as under:

- Increase productivity of the major field crops, fruits and vegetables by introduction of new technologies
- Increasing milk production by dissemination of latest technology
- Management of Natural Resources (Soil and water conservation)
- Empowerment of tribal women for sustaining livelihood
- Popularization of suitable farming system
- Value addition in farm produce
- Protected cultivation and high-tech agriculture
- Integrated farming system
- Farm mechanization
- Introduction of new crops like sunflower, bajra, strawberry, tuber crops, pine apple, etc.

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
8	8	112	112	21	21	698	742

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
68	69	1685	2943	148	506	9633	34552

Seed Production (Qtl.)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
87	94.4	3000	4275

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
00	00	00	00

3.1. B. Operational areas details during 2019-20

Sr. 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.)*
			Crop	Area (ha)		
1.	Cereals: Paddy, Finger millet, little millet Pulses: Gram, Black gram, Tur Oilseeds: Groundnut, Niger Vegetables: Okra, Brinjal Fruit crops: Mango, Cashew nut, Custard apple Floriculture: Rose and Marigold Others: Tuber crops Animal Husbandry	<ul style="list-style-type: none"> ❖ Use of traditional varieties ❖ Poor quality of seed ❖ Lack of awareness related with organic crop package & practices ❖ Lack of awareness about plant protection measures ❖ Scarcity of fodder ❖ Repeat Breeding & Anoestrus ❖ Less interest in dairy business 	Paddy	135	Divan Tembruan Gadhavi Jamlapada Bardipada Bibupada Vahutiya Borpada Dokpatal Kosmal Uga	On campus training, Off campus training, Sponsored training, Vocational training, In-service training, Lecture delivered, Field visit, FLD visit, OFT visit, Scientist visit to farmer field, Farmer visit to KVK, Diagnostic visit, Exposure visit, Kisan Gosthi, Animal camps, Field day, Farmer fair, Farmer scientist interaction, Farmers meeting, TV-Film show, Exhibition, Farm School, Soil health campaign, Celebration of importance day, Swachata Jagruti, Soil sample analyzed, Plant health clinic diagnostic services, SMS portal, Telephone helpline
2.			Finger millet	78		
3.			Vari	69		
4.			Sorghum	15		
5.			Maize	10		
6.			Black Gram	15		
7.			Pigeon Pea	20		
8.			Soybean	15		
9.			Ground nut	5		
10.			Kharif Total	362		
11.			Gram	38		
12.			Wheat	10		
13.			Okra	12		
14.			Brinjal	10		
15.			Mango	20		
16.			Cashew nut	6		
	Rabi-Total	96				

* Support with problem-cause and interventions diagram

3.2. Technology Assessment

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

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management										
Varietal Evaluation					1			1		2
Integrated Pest Management										
Integrated Crop Management	1		1							2
Integrated Disease Management	1		1							2
Small Scale Income Generation Enterprises										
Weed Management										
Resource Conservation Technology										
Farm Machineries										
Integrated Farming System										
Seed / Plant production										
Value addition										
Drudgery Reduction										
Storage Technique										
Mushroom cultivation										
Total	2		2		1			1		6

A2. Abstract on the number of technologies assessed in respect of livestock enterprises

Thematic areas	Cattle	Poultry	Piggery	Rabbitry	Fisheries	TOTAL
Evaluation of Breeds						
Nutrition Management	2					2
Disease of Management						
Value Addition						
Production and Management						
Feed and Fodder						
Small Scale income generating enterprises						
Total	2					2

B. Achievements on technologies Assessed

B.1. Technologies Assessed under various Crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	No. of farmers	Area in ha (Per trial covering all the Technological Options)
Integrated Nutrient Management					
Varietal Evaluation	Tomato	Varietal assessment of Tomato in the Dangs	10	10	0.66
	Turmeric	Varietal assessment of turmeric during <i>Kharif</i> season in the Dangs, variety GNT1	10	10	0.72
Integrated Pest Management					
Integrated Crop Management	Finger millet	Sowing method in finger millet	10	10	1.0
	Pigeon pea	Spacing management in pigeon pea	10	10	1.0
Integrated Disease Management	Finger millet	Control of blast disease of Finger millet in the Dangs	6	6	0.4
Integrated Disease Management	Gram	Control of wilt in gram	6	6	0.4
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
Farm Machineries					
Integrated Farming System					
Seed / Plant production					
Post Harvest Technology / Value addition					
Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
Total			52	52	4.18

B.2. 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
Evaluation of breeds				
Nutrition management	Crossbred cattle	Effect of supplementing mineral mixture and concentrate on body growth performance in calves	10	30
Disease management				
Value addition				
Production and management				
Feed and fodder	Crossbred cattle	Effect of concurrent use of mineral mixture deworming in growth rate of calves	10	30
Small scale income generating enterprises				
Total			20	60

C1.Results of Technologies Assessed

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	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
Finger millet	Rain fed	Random throwing of seedlings	Sowing method in finger millet	10	T ₁ : Farmers Practices (Random throwing) T ₂ : 30 x 10 cm T ₃ : 22.5 x 7.5 cm	Yield (Q/ha)	T ₁ : 10.06 Qt T ₂ : 12.18 Qt T ₃ : 14.10 Qt	Treatment T ₃ (22.5 x 7.5 cm) was better than T ₁ (Random throwing)	Sowing with proper method is good than throwing seedling	No	NA
Pigeon pea	Rain fed	Low yield of pigeon pea	Spacing management in pigeon pea	10	T ₁ : Farmers Practices (Random sowing) T ₂ : 45 x 15 cm T ₃ : 60 x 20 cm	Yield (Q/ha)	T ₁ :9.13 Qt T ₂ :10.56 Qt T ₃ : 11.82 Qt	Treatment T ₃ (60 x 20 cm) was better than T ₁ (Broadcasting)	More weed infestation found in T ₁ which ultimately reduce yield	No	NA
Turmeric	Rain fed	Low yield of turmeric in <i>Kharif</i>	Varietal assessment of turmeric during <i>Kharif</i> season in the Dangs	10	T ₁ . Farmers practices (Salem Variety) T ₂ . Gujarat Navsari Turmeric -1	Yield (Q/ha)	1st year : T ₁ :135.1 Qt T ₂ :189.2 Qt 2nd year: T ₁ :145.50 Qt T ₂ :180.00 Qt	Treatment T ₂ (Gujarat Navsari Turmeric -1) was better than T ₁ (Farmers practices)	GNT 1 variety give higher production then Salem	No	NA

Tomato	Irrigated	Low yield of Farmers adopted hybrid variety	Varietal assessment of Tomato in the Dangs	10	T ₁ : Farmers practices (Hybrid variety- <i>Vaishali</i>) T ₂ : Gujarat Tomato-7 T ₃ : Arka Rakshak	Yield (Q/ha)	T ₁ :308 Qt T ₂ :224 Qt T ₃ : 467 Qt	T ₃ treatment is best among T ₁ and T ₂	Arka rakshak gave higher yield than private company variety	No	NA
Finger millet	Rain fed	Low yield of Finger millet	Control of blast disease of Finger millet in the Dangs	06	T ₁ : Farmers practice T ₂ :Spray of <i>Pseudomonas</i> sp. @ 60ml/10litre of water T ₃ : Seed treatment <i>Trichoderma harzianum</i> @5 g/kg seed	Yield (Q/ha)	T ₁ : 9.75 Qt T ₂ : 13.90 Qt T ₃ : 13.65 Qt	T ₂ treatment is best than T ₁ and T ₃	Need high yielding blast disease resistant variety in Finger millet	No	NA
Gram	Rain fed	Low yield of Gram and high mortality after germination	Control of wilt in gram	06	T ₁ : Farmers practice T ₂ :Seed treatment with <i>Trichoderma viride</i> @ 5 g/kg of seed	Yield (Q/ha)	1 st year: T ₁ : 9.25 Qt T ₂ : 10.58 Qt 2nd year: T ₁ : 9.26 Qt T ₂ : 10.50 Qt	T ₂ treatment is best than T ₁	Good quality and uniformity	No	NA
Cross bred cattle	NA	Parasitic infestation & mineral imbalance Lower body growth rate	Effect of concurrent use of mineral mixture and deworming on growth rate of calves	10	T ₁ - Farmer's practice T ₂ -Mineral mixture powder @25 gm/calf/day T ₃ - Mineral mixture powder @25 gm/calf/day + Bol. Albendazole (7.5 mg/kg B. weight, Oral) on day 5, 35, 80 th after birth	Weight of calf (Kg/calf)	1 st year : T ₁ :60.kg/calf T ₂ :63.8 kg/calf T ₃ :65.9 kg/calf 2 nd year : T ₁ :60.20 kg/calf T ₂ :63.5 kg/calf T ₃ :65.5kg/calf	T ₃ treatment is best among T ₁ and T ₂	Feeding of mineral mixture along with deworming resulted in to better body growth performance	No	NA
Cross bred cattle	NA	Lack of knowledge about mineral mixture and concentrate feeding technology. Lower body growth due to improper feeding	Effect of supplementing mineral mixture and concentrate on body growth performance in calves	10	T ₁ -Framer's practice (n=10) T ₂ -Feeding of 15 gm mineral mixture + deworming (Bol. Fenbendazole (7.5 mg/kg B. weight, Oral) (n=10) T ₃ -Feeding of 15 gm mineral mixture + deworming (Bol. Fenbendazole (7.5 mg/kg B. weight, Oral) + Concentrate feeding @ 1% body weight (n=10)	Weight of calf (Kg/calf)	1 st year : T ₁ :60.3 kg/calf T ₂ :61.2 kg/calf T ₃ :62.1 kg/calf	T ₃ treatment is best among T ₁ and T ₂	Feeding of mineral mixture along with Concentrate feed resulted in to better body growth performance	No	NA

Contd...

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. /ha unit	B:C Ratio
13	14	15	16	17	18
T ₁ : Farmers Practices (Random throwing) T ₂ : 30 x 10 cm T ₃ : 22.5 x 7.5 cm	Hill Millet Research Station, NAU, Waghai (2018) Regional Research Station, TNAU, Paiyur (2016)	T ₁ : 10.06 Qt T ₂ : 12.18 Qt T ₃ : 14.10 Qt	Qt/ha	T ₁ : 18168 T ₂ : 24104 T ₃ : 29480	T ₁ :2.82 T ₂ :3.41 T ₃ :3.95
T ₁ : Farmers Practices (Random sowing) T ₂ : 45 x 15 cm T ₃ : 60 x 20 cm	NAU, Navsari 2016	T ₁ :9.13 Qt T ₂ :10.56 Qt T ₃ : 11.82 Qt	Qt/ha	T ₁ : 16520 T ₂ : 22240 T ₃ : 27280	T ₁ :1.83 T ₂ :2.11 T ₃ : 2.36
T ₁ : Farmers practices (Salem variety) T ₂ : Gujarat Navsari Turmeric -1	NAU, Navsari (2016)	1st year : T ₁ :135.1 Qt T ₂ :189.2 Qt 2nd year: T ₁ :145.50 Qt T ₂ :180.00 Qt	Qt/ha	1st year : T ₁ : 30490 T ₂ : 131460 2nd year: T ₁ : 23760 T ₂ : 59700	1st year : T ₁ :1.25 T ₂ :2.14 2nd year: T ₁ :1.19 T ₂ :1.49
T ₁ : Farmers practices (Hybrid variety-Vaishali) T ₂ : Gujarat Tomato-7 T ₃ : Arka Rakshak	Navsari Agricultural University, Navsari (2017-18) ICAR-IIHR, Bangalore, (2013)	T ₁ :308 Qt T ₂ :224 Qt T ₃ : 467 Qt	Qt/ha	T ₁ :102600 T ₂ : 61300 T ₃ : 210100	T ₁ :2.24 T ₂ : 1.86 T ₃ : 3.99
T ₁ : Farmers practice T ₂ : Spray of <i>Pseudomonas</i> sp. @ 60ml/10litre of water T ₃ : Seed treatment <i>Trichoderma harzianum</i> @5 g/kg seed	NAU, Navsari (2011-12)	T ₁ : 9.75 Qt T ₂ : 13.90 Qt T ₃ : 13.65 Qt	Qt/ha	T ₁ : 10,241 T ₂ : 19,529 T ₃ : 15,706	T ₁ :2.08 T ₂ :2.94 T ₃ : 2.55
T ₁ : Farmers practice T ₂ : Seed treatment with <i>Trichoderma viride</i> @ 5 g/kg of seed	NAU, Navsari (2010)	1st year: T ₁ : 9.25 Qt T ₂ : 10.58 Qt 2nd year: T ₁ : 9.26 Qt T ₂ : 10.50 Qt	Qt/ha	1st year: T ₁ : 1125 T ₂ : 3250 2nd year: T ₁ : 21,997 T ₂ : 30,111	1st year: T ₁ :1.03 T ₂ :1.09 2nd year: T ₁ :2.62 T ₂ :3.09
T ₁ : Farmer's practice T ₂ : Mineral mixture powder @25 gm/calf/day T ₃ : Mineral mixture powder @25 gm/calf/day + Bol. Albendazole (7.5 mg/kg B. weight, Oral) on day 5, 35, 80 th after birth	NAU, Navsari (2011)	1st year : T ₁ :60.kg/calf T ₂ :63.8 kg/calf T ₃ :65.9 kg/calf 2nd year : T ₁ :60.20 kg/calf T ₂ :63.5 kg/calf T ₃ :65.5kg/calf	Kg/Calf	1st year : T ₁ : 800 T ₂ : 1100 T ₃ : 1400 2nd year : T ₁ : 1000 T ₂ : 1200 T ₃ : 1500	1st year : T ₁ :1.36 T ₂ : 1.44 T ₃ :1.53 2nd year : T ₁ :1.36 T ₂ : 1.46 T ₃ : 1.51
T ₁ : Framer's practice (n=10) T ₂ : Feeding of 15 gm mineral mixture + deworming (Bol. Fenbendazole (7.5 mg/kg B. weight, Oral) (n=10) T ₃ : Feeding of 15 gm mineral mixture + deworming (Bol. Fenbendazole (7.5 mg/kg B. weight, Oral) + Concentrate feeding @ 1% body weight (n=10)	NAU, Navsari (2011)	T ₁ :60.3 kg/calf T ₂ :61.2 kg/calf T ₃ :62.1 kg/calf	Kg/Calf	T ₁ :1200 T ₂ :1800 T ₃ :2200	T ₁ :1.50 T ₂ :1.69 T ₃ :1.78

C2. Details of each On Farm Trial for assessment to be furnished in the following format separately as per the following details

OFT: 1

Title: Sowing method in finger millet

Problem Definition: Finger millet is a main staple food for tribal farmers of Dang district and also it emerging as a important nutritive cereal crop due to its high nutrient content. In Dang district, finger millet is normally grown on poor and marginal soils. Finger millet requires healthy seedlings and specific spacing for its growth and development. Most of the farmers followed random throwing of seedlings which reduce the number of productive tillers and ultimately its reduce the crop yield.

Details of technologies selected for assessment:

Treatment:

T₁: Farmers Practices (Random throwing)

T₂: 30 x 10 cm

T₃: 22.5 x 7.5 cm

Input: Seed, Novel organic fertilizer, PSB and *Azotobacter*

Source of technology: HMRS, NAU, Waghai

Production system and thematic area: Rainfed & ICM

Performance of the technology with performance indicators:

Sr. No.	Year	No. of trial	Area (ha)	Yield(Q/ha)		
				T ₁ Farmer practices (Random throwing)	T ₂ 30 x10 cm (Recommended)	T ₃ 22.5 X 7.5 cm (Recommended)
1.	2019-20	10	1.0	10.06	12.18	14.10

Farmers Feedback, matrix scoring of various technology parameters done through farmer's participation/ other scoring techniques:

Farmers Feedback

1. Farmers are impressed by recommended practices.

Final recommendation for micro level situation (Conclusion):

On the basis of average data, treatment T₃ (22.5 X 7.5 cm) gave 14.10 Q/ha yield as compared with T₁ i.e. farmer practices (10.06 Q/ha) with net return (Rs. 29480/-) 3.95 BC Ratio.

Constraints identified and feedback for research: Nil

Process of farmer's participation and their reaction:

1. Field day, Method demonstration, OFT visit *etc.*
2. Farmers are ready to adopt this technology

Title: Spacing management in pigeon pea

Problem Definition: In dang district, productivity of pigeon pea is low because of improper cultivation of land and random sowing method followed by farmers. Due to this severe wilt problem in seedlings and weed problems which ultimately affect the growth and yield of pigeon pea. Pigeon pea requires well cultivated land and specific spacing for its growth and development. Improper cultivation with random sowing reduces the plant population and ultimately it's reducing the crop yield.

Details of technologies selected for assessment:**Treatment:**T₁: Farmers Practices (Random sowing)T₂: 45 x 15 cmT₃: 60 x 20 cm**Input:** Seed, Novel organic fertilizer, *Rhizobium***Source of technology:** Pulse Research Station, NAU, Navsari (2016)**Production system and thematic area:** Rainfed & ICM**Performance of the technology with performance indicators:**

Sr. No.	Year	No of trial	Area (ha)	Yield(Q/ha)		
				T ₁ Farmer practices (Random sowing)	T ₂ 45 x 15 cm (Recommended)	T ₃ 60 x 20 cm (Recommended)
1.	2019-20	10	1	9.13	10.56	11.82

Farmers Feedback, matrix scoring of various technology parameters done through farmer's participation/ other scoring techniques:**Farmers Feedback**

1. Farmers are impressed by recommended practices.
2. It is easy for farmers to remove weed in 60 cm x 20 cm sowing of pigeon pea rather than farmer practices.
3. Higher yield in recommended practices due to easy weeding and less competition of nutrients and fertilizer between plants.

Final recommendation for micro level situation:

On the basis of average data, treatment T₃ (60 x 20 cm) gave 11.82Q/ha yield as compared with T₁ i.e. farmer practices (9.13 Q/ha) with net return (Rs. 27280) having 2.36 BC Ratio.

Constraints identified and feedback for research: Nil**Process of farmer's participation and their reaction:**

1. Field day, Method demonstration, OFT visit *etc.*
2. Farmers are ready to adopt this technology

OFT: 3

Title: Varietal assessment of Turmeric during Kharif season in the Dangs (2017-18 & 2018-19)

Problem Definition

Poverty, low yield, traditional farming practices, No plant protection measures due to lack of knowledge, High incidence of rhizome rot

Details of technologies selected for assessment

Turmeric (*Curcuma longa* L) is one of the most valuable and important spices all over the world, belongs to the family Zingiberaceae. It is an important spices crop grown in certain pockets of the Dangs district especially during *Kharif* season due to which farmers gets better returns. In the Dangs, it is grown in an about 235 ha area and production is about 5405 M.T (Annual Progress report, 2016-17). In Dangs mostly Salem variety of Turmeric is grown with low yield potential of 130 to 140 q/ha , so the OFT has been framed for comparing “Gujarat Navsari Turmeric 1” variety which is having average yield potential of 230 to 330 q/ha.

Treatment: T₁. Farmers practices (Salem variety)
T₂. Gujarat Navsari Turmeric -1

Source of Technology: NAU, Navsari (2016)

Production system and thematic area: irrigated & varietal evaluation

Performance of the Technology with performance indicators:

Sr. No.	Year	No of trial	Area (ha)	Yield(Q/ha)	
				Farmers practices (Salem)	Gujarat Navsari Turmeric 1
1.	2017-18	10	2.0	135.1	189.20
2.	2018-19	10	0.72	145.50	180.00

Feedback, matrix scoring of various technology parameters done through farmer's participation/ other scoring Technique: GNT 1 variety give higher production then local variety

Final recommendation for micro level situation: On the basis of average data, treatment T₂ (GNT 1) gave 180/ha yield as compared with T₁ i.e. farmer practices (145.50 Q/ha) with net return (Rs. 59700) having 1.49 BC Ratio.

Constrains identified and feedback for research: Nil

Process of farmer's participation and their action:

1. Field day, Method demonstration, OFT visit *etc.*
2. Farmers are ready to adopt this technology.

Title: Varietal assessment of Tomato in the Dangs

Problem definition: Low yield of Farmers adopted hybrid variety (due to lack of knowledge about proper scientific cultivation method)

Details of Technologies selected for assessment: In the Dangs district, mostly hybrid variety of tomato (private company) is grown with low yield potential due to lack of knowledge about proper seedling preparation and lack of knowledge about new released variety of State Agricultural Universities and Government Institutions. Tomato variety GT-7 (280.0 q/ha) performed well under South, Middle and North Gujarat regions. This variety showed less damage by fruit borer, whitefly as well as leaf miner. Tomato variety “Arka Rakshak” is a First F1 hybrid with triple disease resistance to Tomato Leaf Curl Virus, Bacterial Wilt and Early blight. Fruits square round, large (90-100g), deep red colored and firm. Suitable for fresh market and processing. So OFT has been framed for comparing farmer adopted private company variety to “GT-7” and “Arka Rakshak” variety.

reatment:

T₁: Farmers practices (Hybrid varietie-vaishali)

T₂: Gujarat Tomato-7

T₃: Arka Rakshak

Source of Technology: IIHR , Banglore and Navsari Agricultural University, Navsari

Production system and thematic area: irrigated & varietal Assessment

Performance of the Technology with performance indicators:

Sr. No.	Year	No of trial	Area (ha)	Yield(Q/ha)		
				T ₁ : Farmers practices (Hybrid varietie-vaishali)	T ₂ : Gujarat Tomato-7	T ₃ : Arka Rakshak
1.	2019-20	10	0.6	308.00	224.00	467.00

Feedback, matrix scoring of various technology parameters done through farmer’s participation/ other scoring Technique: - Arka rakshak gave higher yield than farmer’s practices

Final recommendation for micro level situation: On the basis of average data, treatment T₃ (Arka Rakshak) gave 467 Q/ha yield as compared with T₁ i.e. farmer practices (308.00 Q/ha) with net return (Rs. 210100) having 3.99 BC Ratio.

Constrains identified and feedback for research: Water scarcity

Process of farmer’s participation and their action:

1. Field day, Method demonstration, OFT visit *etc.*
2. Farmers are ready to adopt this technology

Title: Control of blast disease of Finger millet in the Dangs**Problem Definition:** Low yield of Finger millet**Details of technologies selected for assessment:**

Finger millet (*Elusine corcana*) is a cereal crop widely grown during *Kharif* season in dang district. Locally it is known as Nagli or Ragi. Finger millet is infected by blast disease. Occasional outbreak of this disease causing losses to farmer.

TreatmentT₁: Farmers practiceT₂: Spray of *Pseudomonas* sp. @ 60ml/10litre of waterT₃: Seed treatment *Trichoderma harzianum*@5 g/kg seed**Source of technology:** NAU, Navsari (2011-12)**Production system and thematic area:** Rainfed & Integrated Disease Management**Performance of the Technology with performance indicators**

Sr. No.	Year	No of trial	Area (ha)	Yield (Q/ha)		
				Farmers practice	Spray of <i>Pseudomonas</i> sp.@60ml/10litre of water	Seed treatment <i>Trichoderma harzianum</i> @5 g/kg seed
1.	<i>Kharif</i> -2019	06	1.8	9.75	13.90	13.65

Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: Need high yielding blast disease resistant variety**Final recommendation for micro level situation**

From the above table, treatment T₂ (Spray of *Pseudomonas* sp.@ 60ml/10litre of water) in finger millet recorded highest average yield (13.90 q/ha) than treatment T₁ (farmers practices) with net return (Rs. 19529/-) having 2.94 BC Ratio.

Constraints identified and feedback for research: Nil**Process of farmer's participation and their reaction:** Field day, Method demonstration, OFT visit etc.

Title: Control of wilt in gram

Problem Definition: Low yield of Gram and high mortality after germination

Details of technologies selected for assessment:

Gram is a pulse crop grown during *Rabi* season in dang district. Gram is infected by wilt, sclerotium rot disease causing occasional outbreak and economical loss to farmers. In view of losses caused by wilt disease in dang, we proposed the OFT to reduce disease incidence and increase yield.

Treatment

T₁: Farmers practice

T₂: Seed Treatment of *Trichoderma viride* @ 5 g/kg of seed

Source of technology: NAU, Navsari (2010)

Production system and thematic area: Rainfed & Integrated Disease Management

Performance of the Technology with performance indicators

Sr. No.	Year	No of trial	Area (ha)	Yield (Q/ha)	
				Farmers practice	Seed Treatment with <i>Trichoderma viride</i> @ 5 g/kg of seed
1.	<i>Rabi</i> -2019	6	2.4	9.25	10.58
2	<i>Rabi</i> -2020	6	2.4	9.26	10.50

Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: Good Quality & uniformity of product

Final recommendation for micro level situation

From the above table, treatment T₂ (*Trichoderma viride* @ 5 g/kg of seed) in gram recorded highest average yield (10.50 q/ha) than treatment T₁ (farmers practices) with net return (Rs. 30111/-) having 3.09 BC Ratio.

Constraints identified and feedback for research: Nil

Process of farmer's participation and their reaction: Field day, Method demonstration, OFT visit *etc*

Title: Effect of concurrent use of mineral mixture and deworming on growth rate of calves**Problem Definition:**

Parasitic infestation & mineral imbalance & Lower body growth rate

Details of technologies selected for assessment:

Milk production is growing at a much faster pace compared to many other agricultural commodities and is being increasingly viewed as a source of food and an effective instrument for improving livelihood. Dairy production is mainly based on proper scientific feeding of animals. The young calves are the fate of tomorrow's Indian dairy industry. Their scientific feeding, housing, watering and overall management is a key to make them more productive. The calves are to be fed with good quality roughages along with green fodder belonging to legumes or cereals as per the availability.

Parasitic load & mineral imbalance are known to directly affect the health of calves. The dang district is a hilly area with heavy rainfall. Animal living in such area became prone to parasitic infection due to ingestion of infected grasses around stagnant water while grazing. A few years ago, people were using local breeds & traditional husbandry practices, but now a day they are rearing crossbred cows. These valuable animals are highly productive but due to particular geographical location such animals become infected with parasites which directly affect their health and ultimately affect the body growth rate.

Moreover, in spite of high rain, there is water scarcity during summer season due to particular geographical condition. So, green fodder is not available during summer, hence these animals undergo mineral imbalance & improper feeding. The socio- economic status of farmers is not very good so, they could not feed their growing calves with mineral supplements and deworming drugs. Such growing calves undergo negative energy balance due to malnutrition & high parasitic infestation. So, to overcome these problems of parasitic infestation & mineral imbalance in growing calves we have identified following problems and proposed on farm testing programme.

Source of technology: NAU, Navsari (2011)

Production system and thematic area: Feeding management

Details of technologies selected for assessment:**Treatments:**

T₁ - Farmer's practice

T₂ - Mineral mixture powder @25 gm/calf/day

T₃ - Mineral mixture powder @25 gm/calf/day + Bol. Albendazole (7.5 mg/kg B. weight, Oral) on day 5, 35, 80th after birth.

Detail of OFT Programme :

- ✓ No. of Villages : 10
- ✓ No. of animals : total 30 calves (10 calves in each group)

Parameters to be evaluated/ recorded: Body weight gain (kg / day) and general body condition

Performance of the Technology with performance indicators

Result:**Table 7.1: Effect of concurrent use of mineral mixture and deworming on body weight of calves (2017-18)**

Average Body Weight (Kg)	T ₁ (n = 10)	T ₂ (n = 10)	T ₃ (n = 10)
First Month	17.8 kg	18.7 kg	19.9 kg
Second Month	24.1 kg	25.2 kg	26.3 kg
Third Month	32.2 kg	33.6 kg	33.8 kg
Forth Month	40.3 kg	42.5 kg	43.6 kg
Fifth Month	48.5 kg	50.0 kg	51.6 kg
Sixth Month	60.0 kg	63.8 kg	65.9 kg

Table-7.2: Economic Impact

Cost of cultivation (Rs)			Av. Gross return (Rs)			Av. Net return (Rs)			B:C		
D		LC	D		LC	D		LC	D		LC
T ₃	T ₂	T ₁	T ₃	T ₂	T ₁	T ₃	T ₂	T ₁	T ₃	T ₂	T ₁
2600	2500	2200	4000	3600	3000	1400	1100	800	1.53	1.44	1.36

Table 7.3: Effect of concurrent use of mineral mixture and deworming on body weight of calves (2018-19)

Average Body Weight (Kg)	T ₁ (n = 10)	T ₂ (n = 10)	T ₃ (n = 10)
First Month	17.0 kg	18.9 kg	19.6 kg
Second Month	23.5 kg	25.5 kg	26.0 kg
Third Month	32.5 kg	34.3 kg	34.5 kg
Forth Month	40.0 kg	43.5 kg	44.0 kg
Fifth Month	47.5 kg	50.8 kg	52.0 kg
Sixth Month	60.2 kg	63.5 kg	65.5 kg

Table 7.4: Economic Impact

Cost of cultivation (Rs)			Av. Gross return (Rs)			Av. Net return (Rs)			B:C		
D		LC	D		LC	D		LC	D		LC
T ₃	T ₂	T ₁	T ₃	T ₂	T ₁	T ₃	T ₂	T ₁	T ₃	T ₂	T ₁
2700	2600	2200	4100	3800	3200	1500	1200	1000	1.51	1.46	1.36

Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: Feeding of mineral mixture along with deworming resulted in to better body growth performance.

Final recommendation for micro level situation: T₃ treatment is best among T₁ and T₂

Constraints identified and feedback for research: Nil

Process of farmer's participation and their reaction: Diagnostic visit, Method demonstration, OFT visits *etc.*

Title: - Effect of supplementing mineral mixture and concentrate on body growth performance in calves.

Problem Definition:

Lack of knowledge about mineral mixture and concentrate feeding technology & Lower body growth due to improper feeding.

Details of technologies selected for assessment:

Milk production is growing at a much faster pace compared to many other agricultural commodities and is being increasingly viewed as a source of food and an effective instrument for improving livelihood. Major share of milk produced in India is by small and marginal farmers with mixed crop-livestock production system as the dominant system. Increasing demand for milk offers possibility of scope to improve their income. Dairy production is mainly based on proper scientific feeding of animals. The growing calves are to be fed with good quality roughages with green fodder belonging to legumes or cereals as per the availability. Looking to the productivity of crossbred cattle such food resources are not sufficient to meet the nutrient requirement of growing calves. Hence we have to add more nutritious food in to the diet of such animals to reach the maximum body growth and to maintain the normal body condition. Concentrate feeding is very common to overcome nutrient deficit. Which we can only fed on a dry matter basis, as it is not a natural food for ruminants. Now a day, mineral mixture feeding technology is recommended for cattle. Dang district of Gujarat is a heavy rainfall area having about 10,000 crossbred cattle population and still the figure is increasing very rapidly. The farmers in Dangs district are feeding mineral mixture and concentrate along with deworming to only lactating animals. The growing calves are the future of dairy industry of tomorrow. So, complete awareness regarding animal nutrition in the Dangs is necessary. The growing calves are to be regularly dewormed and fed with the 15 gm of mineral mixture supplementation along with the concentrate at the rate of 1% body weight on daily ration basis. Hence, we have proposed this on farm testing by our KVK to fulfill the nutritional demand of growing calves.

Source of technology: NAU, Navsari (2011)

Production system and thematic area: Feeding management

Details of technologies selected for assessment:

Treatments:

T₁-Framer's practice (n=10)

T₂-Feeding of 15 gm mineral mixture + deworming (Bol. Fenbendazole (7.5 mg/kg B. weight, Oral) (n=10)

T₃-Feeding of 15 gm mineral mixture + deworming (Bol. Fenbendazole (7.5 mg/kg B. weight, Oral) + Concentrate feeding @ 1% body weight (n=10)

Detail of OFT Programme :

- ✓ No. of Villages : 5
- ✓ No. of animals : 30 (6 growing calves was selected from each village)

Parameters to be evaluated/ recorded: Body weight (kg)

Performance of the Technology with performance indicators

Result:

Table 8.1: Effect of supplementing mineral mixture and concentrate on body growth performance in calves (2018-19)

Average Body Weight (Kg)	T ₁ (n = 10)	T ₂ (n = 10)	T ₃ (n = 10)
First Month	17.5 kg	17.9 kg	18.6 kg
Second Month	23.7 kg	24.4 kg	25.5 kg
Third Month	33.5 kg	34.2 kg	34.9 kg
Forth Month	41.8 kg	42.7 kg	43.3 kg
Fifth Month	49.2 kg	50.3 kg	50.9 kg
Sixth Month	60.3 kg	61.2 kg	62.1 kg

Table-8.2: Economic Impact

Cost of cultivation (Rs)			Av. Gross return (Rs)			Av. Net return (Rs)			B:C		
D		LC	D		LC	D		LC	D		LC
T ₃	T ₂	T ₁	T ₃	T ₂	T ₁	T ₃	T ₂	T ₁	T ₃	T ₂	T ₁
2800	2600	2400	5000	4400	3600	2200	1800	1200	1.78	1.69	1.50

2nd year result: Awaited (2019-20)

Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques: Feeding of mineral mixture along with Concentrate feed resulted in to better body growth performance.

Final recommendation for micro level situation: T₃ treatment is best among T₁ and T₂

Constraints identified and feedback for research: Nil

Process of farmer's participation and their reaction: Diagnostic visit, Method demonstration, OFT visit etc

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 2019-20 and recommended for large scale adoption in the district

Sr. No	Crop/ Enterprise	Thematic Area	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
					No. of villages	No. of farmers	Area (ha)
1.	Paddy	Integrated crop management	GNR 6	FLD, Training, Field Days, Farmers meeting, Exposure visit to KVK farm, Mass media	12	40	8
2.	Finger millet	Integrated crop management	GNN 8		5	25	05
3.	Gram	Integrated crop management	GG 5		8	25	05
4.	Mango graft	Integrated crop management	NOLF & Biofertilizer (<i>Azotobactor</i> , PSB, KMS)		15	70	12
5.	Gram	IDM	<i>Trichoderma viride</i>		5	20	8
6.	Mango	IPM	<i>Methyl eugenol trap</i>				
7.	Cross breed cattle	Fodder management	CSV 21 F		20	60	60

B. Details of FLDs implemented during 2019-20 (under ICAR-KVK-Budget)

S N	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	
I	Oilseed crops									
1.	--	--	--	--	--	--	--	--	--	-
II	Pulse crops									
2.	Gram	ICM	GG 5	Rabi, 2020	5	5	25	--	25	--
3.	Pigeon pea	ICM	GNP 2	Kharif, 2019	5	5	25	--	25	--
III	Cereal crops									
4.	Paddy	ICM	GNR 6	Kharif, 2019	5	5	25	--	25	--
5.	Finger millet	ICM	GNN 8	Kharif, 2019	5	5	25	--	25	--
6.	Little millet	ICM	GV 3	Kharif, 2019	5	5	25	--	25	--
IV	Horticultural crops									
7.	Bottle gourd	ICM	GABH 1	Kharif, 2019-20	1	0.66	10	--	10	--
8.	Mango graft	ICM	Sonpari	Kharif, 2019-20	1	1	20	--	20	--

9.	Indian bean	ICM	GNIB 22	Rabi-2019-20	5	5	50	--	50	--
V	Plant Protection									
10.	Ground nut	IDM	<i>Trichoderma</i>	Summer 2019-20	2	2	5	--	5	--
11.	Paddy	IPM	Pheromone trap	Kharif, 2019	2	2	5		5	
12.	Finger millet	IDM	<i>Pseudomonas fluorescense</i>	Kharif, 2019	4	4	8	--	8	--
13.	Okra	IPM	Azadirachtin	Rabi, 2019-20	2	1	5	--	5	
14.	Gram	IDM	<i>Trichodarma viride</i>	Rabi, 2019-20	2	2	10	--	10	
15.	Mango	IPM	Methyl eugenol trap	Summer, 2019-20	2.0	2	5	--	5	
FLDs under other schemes (Other than KVK-ICAR Budget): Adaptive Trial (Phase-II), CFLD-Pulses, Mega seed TSP										
I	Oilseed									
--	-	-	-	-	-	-	-	-	-	-
II	Pulse crops									
16.	Green gram	ICM	GM 6	Summer 2019-20	20	20	50	--	50	Adaptive trial
17.	Green gram	ICM	GM 6	Summer 2019-20	2.4	2.4	24	--	24	TSP Mega seed
18.	Gram	ICM	GG 5	Rabi, 2020	20	20	50	--	50	CFLDs pulses
II	Cereal crops									
--	--	--	--	--	--	--	--	--	--	--
III	Horticultural crops									
19.	Turmeric	Varietal evaluation	GNT 2	Kharif, 2019-20	0.16	0.16	8	--	8	Adaptive trial
IV	Plant Protection									
20.	Mango	IPM	Methyl eugenol trap	Summer,2020	50	50	250	--	250	Adaptive trial
21.	Cucurbitaceous crop	IPM	Cue lure Trap	Rabi, 2019-20	14	14	70		70	Adaptive trial

Details of farming situation during 2019-20 (under ICAR-KVK-Budget)

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Oilseed crops											
-	-	-	-	-	-	-	-	-	-	-	-
Pulse crops											
Gram	Rabi 2019-20	Rain fed	Lateritic black Hilly	H	M	H	Paddy, Ragi	15-25/11/2019	20-28/02/2020	00	00
Pigeon pea	Kharif, 2019	Rain fed	Lateritic black Hilly	H	M	H	Gram	10-20/07/2019	05-20/02/2020	4264	79
Cereal crops											
Paddy	Kharif, 2019	Rain fed	Lateritic black Hilly	H	M	H	Green gram	15-25/07/2019	01-10/11/2019	4264	79
Finger millet	Kharif, 2019	Rain fed	Lateritic black Hilly	H	M	H	Gram,	25-31/07/2019	05-20/11/2019	4264	79
Little millet	Kharif, 2019	Rain fed	Lateritic black Hilly	H	M	H	Gram, Green gram	25-31/07/2019	05-20/11/2019	4264	79
Horticultural crops											
Bottle gourd	Kharif, 2019	Irrigated	Lateritic black Hilly	H	M	H	Paddy, Ragi	15-25/07/2019	20-31/01/2020	4264	79
Mango graft	Kharif, 2019	Irrigated	Lateritic black Hilly	H	M	H	Paddy	15-25/07/2019	---	4264	79
Indian bean	Rabi-2019-20	Irrigated	Lateritic black Hilly	H	M	H	Paddy	15-25/10/2019	20-31/01/2020	00	00
Plant Protection											
Ground nut	Summer-2020	Irrigated	Lateritic black Hilly	H	M	H	Gram	15-29/02/2020	15-30/05/2020	00	00
Paddy	Kharif, 2019	Rain fed	Lateritic black Hilly	H	M	H	Gram, Green gram	15-25/07/2019	01-10/11/2019	4264	79
Finger millet	Kharif, 2019	Rain fed	Lateritic black Hilly	H	M	H	Paddy, Ragi	25-31/07/2019	05-20/11/2019	4264	79
Okra	Rabi 2019-20	Irrigated	Lateritic black Hilly	H	M	H	Paddy	15-25/10/2019	15-25/02/2020	00	00
Gram	Rabi 2019-20	Irrigated	Lateritic black Hilly	H	M	H	Paddy	15-25/11/2019	20-28/02/2020	00	00
Mango	Summer-2020	Rain fed	Lateritic black Hilly	H	M	H	Mango	---	---	00	00

FLDs under other schemes (Other than KVK-ICAR Budget): Adaptive Trial (Phase-II), CFLD-Pulses, Mega seed TSP											
Oilseed crops											
-	-	-	-	-	-	-	-	-	-	-	-
Pulse crops											
Green gram	Summer -2020	Irrigated	Lateritic black Hilly	H	M	H	Garm	15-29/02/2020	---	00	00
Green gram	Summer 2020	Irrigated	Lateritic black Hilly	H	M	H	Garm	01-05/03/2020	---	00	00
Gram	Rabi 2019-20	Rainfed	Lateritic black Hilly	H	M	H	Paddy, Ragi	01-15/11/2019	15-25/02/2020	00	00
Cereal crops											
--	--	--	--	--	--	--	--	--	--	--	--
Horticultural crops											
Turmeric	Kharif-2019	Irrigated	Lateritic black Hilly	H	M	H	Gram	01-15/07/2019	15-25-/03/2020	4264	79
Plant Protection											
Mango	Summer-2020	Rainfed	Lateritic black Hilly	H	M	H	Mango	---	---	00	00
Cucurbitaceous crop	Rabi 2019-20	Irrigated	Lateritic black Hilly	H	M	H	Paddy	15-30/10/2019	15-30/03/2020	00	00

Technical Feedback on the demonstrated technologies

Sr. No.	Discipline	Feed Back
1.	Crop Production	Need to develop long duration and high yielding variety of finger millet.
2.	Horticulture	Gujarat Navsari Turmeric 1 variety is infected by leaf blotch disease in moderate rate.
3.		Require Government sector resistant variety of okra against YVM virus and suitable for Dang district.
4.	Plant Protection	Need to develop traps for pests of rice, pulses, mango & cashew nut. (Rice: Gundhi bug; Pulse: Mites; Mango: Hopper; Cashew nut: TMB)
5.		Need to develop false smut resistant variety in rice.
6.		Tolerant/resistant variety of cashew nut against tea mosquito bug.
7.	Animal Science	To develop area specific mineral mixture for Dang district.
8.	Home Science	Work efficiency increase with time saving and low labour cost occurs due to use of twin wheel hoe.
9.	Extension Education	Need to develop proper post harvest chain from farm to market.

Farmers' reactions on specific technologies

Sr. No.	Discipline	Farmers Feedback on the demonstrated technologies:
1.	Crop Production	List of recommended weedicides for organic farming.
2.		GNN 8 is good variety of finger millet for higher yield & early maturity.
3.		GNP 2 is excellent variety of pigeon pea both for seed & vegetable purpose.
4.		GNR 6 excellent short duration variety of paddy but susceptible to lodging.
5.	Horticulture	Need to develop proper marketing channel for Turmeric.
6.		Problem of yellow vein mosaic virus was reported in okra.
7.	Plant Protection	Require trap similar as Nauroji fruit fly trap for Tea mosquito bug in cashew.
8.		GG 5 variety of gram gave excellent yield under conserve moisture & resistant to wilt.
9.	Animal Science	Feeding mineral mixture and timely deworming leads to better health and body growth in cross breeds calves.
10.		Feeding bypass fat along with mineral mixture in cross breed cattle resulted increase milk production and better health.
11.	Home Science	After demonstration, farm women started growing 6 to 8 types of vegetables in scientific way in their backyard by using waste water.
12.		Through Kitchen garden farmers get fresh and organic vegetables at low cost.
13.		Reduce physical fatigue and hazard due to use of Twin wheel hoe.

Extension and Training activities under FLD

Sr. No.	Activity	No. of activities organized	Date	Number of participants	Remarks
1.	Field days	10	08-04-2019, 09-09-2019, 10-09-2019, 21-09-2019, 15-10-2019, 20-11-2019, 05-11-2019, 15-01-2020, 08-01-2020, 02-03-2020	243	No any
2.	Farmers Training	66	From different date of the year	2765	No any
3.	Media coverage	24	From different date of the year	--	No any
4.	Training for extension functionaries	06	8,10-03-2020, 18,19-01-2020, 14,15-03-2020, 26,27-02-2020, 18,19-11-2019, 28,29-11-2019	260	No any
				3268	

C. Performance of Frontline demonstrations

A. 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										
--	---	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

* Economics to be worked out based on total cost of production per unit area and not on critical inputs alone. ** BCR= GROSS RETURN/GROSS COST

B. 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										
Gram	ICM	New variety	GG 5	25	5	12.35	9.05	10.93	8.16	33.95	15500	50278	34778	3.24	13800	37536	23736	2.7
Pigeon pea	ICM	New variety	GNP 2	25	5	12.85	11.30	11.20	9.31	28.57	20000	47880	27880	2.39	18000	37240	19240	2.07

* Economics to be worked out based on total cost of production per unit area and not on critical inputs alone. ** BCR= GROSS RETURN/GROSS COST

C. FLDs on Other crops:

Category & Crop	Thematic Area	Name of the technology	Variety/ Input	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)
						H	L	Av.										
Cereal crops																		
Paddy	ICM	New variety	GNR 6	25	5	30.70	28.90	29.79	24.74	20.41	27500	56601	29101	2.06	25500	47006	21506	1.84
Finger millet	ICM	New variety	GNN 8	25	5	14.30	12.35	13.43	9.91	35.52	10000	30218	20218	3.02	8000	22298	14298	2.79
Little millet	ICM	New variety	GV 3	25	5	11.50	10.40	10.84	8.02	35.16	10000	24390	14390	2.44	8000	18045	10045	2.26
Horticultural crops																		
Bottle gourd	ICM	New variety	GABH 1	10	0.66	130	170	148	119	25.47	40900	103600	62700	2.53	43500	65450	21950	1.50
Mango graft	ICM	New variety	Sonpari	20	1.0	Survival rate of graft on farmers field is 30-35 %												
Indian bean	ICM	New variety	GNIB 22	50	5.0	28.00	42.00	35.90	25.64	41.75	40840	107700	66860	2.64	43940	94868	50928	2.16
Mango (2018-19)	INM	Biofertilizer	NOVEL, Azatobactor, PSB, KMS	20	2	58.4	50	54.33	52.99	2.54	42770	108650	65880	2.54	43800	105970	62170	2.42
Plant Protection																		
Paddy	IPM	Pheromone trap	Local/Hybrid varieties	5	2	30	27	28.75	25.8	11.55	27060	53895	26835	1.99	25396	49150	23754	1.93
Finger millet	IDM	<i>Pseudomonas fluorescence</i>	Local varieties	8	4	15	13	13.75	9.85	39.80	10001	29329	19542	2.9	9481	19475	9994	2.05
Okra	IPM	<i>Azadirachtin</i>	Hybrid varieties	5	1	98	94	96	84.96	12.99	41300	170840	129540	4.14	40400	127000	86600	3.14
Gram	IDM	<i>Trichoderma</i>	Local varieties	10	4	10.65	9.6	10.19	8.6	18.48	14669	45451	30782	3.09	14331	35323	20992	2.46
Mango	IPM	<i>Fruit fly trap</i>	Mixed	05	02	Result awaited												
Mango (2018-19)	IPM	<i>Fruit fly trap</i>	Mixed	80	50	66	60	64.48	60.1	7.33	50000	90773	40773	1.81	--	--	--	--

Groundnut (2018-19)	IDM	Trichoderma	Local varieties	10	4	21	18.5	19.3	17.3	11.59	26600	60900	34300	2.29	24551	54080	29528	2.2
Gram (2018-19)	IDM	Trichoderma	Local varieties	10	4	12.50	8.00	10.70	9.75	10.28	33500	37650	4150	1.12	33000	34125	1125	1.03

* Economics to be worked out based on total cost of production per unit area and not on critical inputs alone. ** BCR= GROSS RETURN/GROSS COST

D. FLDs under other schemes (Other than KVK-ICAR Budget):

Category & Crop	Thematic Area	Name of the technology	Variety	No. of Farmers	Area (ha)	Yield (q/ha)			Check	% Change in Yield	Economics of demonstration* (Rs./ha)			
						Demo					Gross Cost	Gross Return	Net Return	BCR** (R/C)
						High	Low	Ave.						
Oilseed														
--	--	--	--	-	--	--	--	--	--	--	--	--	--	--
Pulse crops														
Green gram- Adaptive trial	ICM	New variety	GM 6	50	20	Result Awaited								
Green gram-TSP Mega seed	ICM	New variety	GM 6	24	2.4	Result Awaited								
Cereal crop														
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Horticultural crops														
Turmeic	ICM	New variety	GNT 2	08	0.16	240	190	216	176	22.95	97700	216000	118300	2.21
Plant Protection														
Mango	IPM	Methyl eugenol trap		5	20									
Cucurbitaceous crop	IPM	Cue lure Trap		70	14	103	91	96.02	74.04	22.95	52145	192057	139912	3.7

* Economics to be worked out based on 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 lit/cow/day		% change in major parameter	Other parameter		Economics of demonstration* (Rs.)				Economics of check (Rs.)			
					Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR** (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Dairy cow (KVK regular)																	
1.	Fodder management	Introduction of new variety of Fodder Sorghum " CSV 21 F"	20	20	371 (q/ha)	310 (q/ha)	19.68	--	--	28000	94047	66047	3.35	31000	78591	47591	2.5
2.	Nutrition management	Feeding of bypass fat	30	30	Result Awaited												
3.	Nutrition management	Feeding of Mineral mixture	30	30	Result Awaited												
4.	Nutrition management	Feeding of Bypass protein	30	30	Result Awaited												
Dairy cow (Adaptive trial)																	

1.	Nutrition management	Feeding of bypass fat	20	20	Result Awaited
2.	Nutrition management	Feeding of Mineral mixture	30	30	Result Awaited

* Economics to be worked out based on total cost of production per unit area and not on critical inputs alone. ** BCR= GROSS RETURN/GROSS COST

FLD on Fisheries: Nil

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No. of units	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.)				Economics of check (Rs.)			
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
--	---	--	--	--	---	--	--	---	--	--	--	--	--	--	--	--	--

* Economics to be worked out based on total cost of production per unit area and not on critical inputs alone. ** BCR= GROSS RETURN/GROSS COST

FLD on Women Empowerment

Category	Name of technology	No. of demonstrations	Name of observations	Demonstration	Check
Home science	Resource conservation technology (Solar cooker)	05	Fuel expenses Rs/Unit/Year	2625.00	8200

FLD on Farm Implements and Machinery

Name of the implement	Crop	Technology demonstrated	No. of Farmer/farm women	Area (ha)	Major parameters	Filed observation (output/man hour)		% change in major parameter	Labor reduction (man days)				Cost reduction (Rs./ha or Rs./Unit etc.)			
						Demo	Check		Land preparation	Sowing	Weeding	Total	Land preparation	Labour	Irrigation	Total
Hand weeder (KVK regular)	Kitchen garden, pulses	Drudgery reduction technology	25	1	Labour requirement man hour/ha	82	114	39.02	--	--	--	--	--	980	--	980

* Labour cost calculated @ 180 Rs/Day as per NAU labour wages

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		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Home science	Nutrition garden-kharif	Organic kitchen garden	25	25	96.2	--	-	--	--	1100	4200	3100	3.81	--	--	--	--
Home science	Nutrition garden-Rabi	Organic kitchen garden	25	25	96.9	25.00	287.60	--	--	680	2500	2700	3.67	--	--	--	--
Home science	Nutrition garden-Rabi-Adaptive trial	Organic kitchen garden	30	30	120.00	35.00	242.86	--	--	2180	3900	1720	1.78	--	--	--	--

Note: Remove the Enterprises/crops which have not been shown

E. Performance of Cluster Frontline Demonstrations (CFLD)

CFLD 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										
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.** BCR= GROSS RETURN/GROSS COST

CFLD 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										
Gram	ICM	New variety	GG 5	50	20.00	11.63	9.73	10.85	8.27	31.20	15500	49910	34410	3.22	13800	38042	24242	2.76

** Economics to be worked out based total cost of production per unit area and not on critical inputs alone.** BCR= GROSS RETURN/GROSS COST

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
I Crop Production	-	-	-	-	-	-	-	-	-	-
Weed Management	-	-	-	-	-	-	-	-	-	-
Resource Conservation Technologies	-	-	-	-	-	-	-	-	-	-
Cropping Systems	1	-	-	-	50	11	61	50	11	61
Crop Diversification	-	-	-	-	-	-	-	-	-	-
Integrated Farming	-	-	-	-	-	-	-	-	-	-
Micro Irrigation/irrigation	-	-	-	-	-	-	-	-	-	-
Seed production	-	-	-	-	-	-	-	-	-	-
Nursery management	-	-	-	-	-	-	-	-	-	-
Integrated Crop Management	4	-	-	-	134	50	184	134	50	184
Soil & water conservation	-	-	-	-	-	-	-	-	-	-
Integrated nutrient management	-	-	-	-	-	-	-	-	-	-
Production of organic inputs	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Organic farming	3	-	-	-	141	84	225	141	84	225
Total	8	-	-	-	325	145	470	325	145	470
II Horticulture	-	-	-	-	-	-	-	-	-	-
a) Vegetable Crops	-	-	-	-	-	-	-	-	-	-
Production of low value and high volume crops	3	-	-	-	115	07	122	115	07	122
Off-season vegetables	-	-	-	-	-	-	-	-	-	-
Nursery raising	1	-	-	-	5	35	40	5	35	40
Exotic vegetables	-	-	-	-	-	-	-	-	-	-
Export potential vegetables	-	-	-	-	-	-	-	-	-	-
Grading and standardization	-	-	-	-	-	-	-	-	-	-
Protective cultivation	-	-	-	-	-	-	-	-	-	-
Others (pl specify) Organic farming	1	-	-	-	16	37	53	16	37	53
Total (a)	5	-	-	-	136	79	215	136	79	215
b) Fruits	-	-	-	-	-	-	-	-	-	-
Training and Pruning	-	-	-	-	-	-	-	-	-	-
Layout and Management of Orchards	-	-	-	-	-	-	-	-	-	-
Cultivation of Fruit	1	-	-	-	38	26	64	38	26	64
Management of young plants/orchards	-	-	-	-	-	-	-	-	-	-
Rejuvenation of old orchards	-	-	-	-	-	-	-	-	-	-
Export potential fruits	-	-	-	-	-	-	-	-	-	-
Micro irrigation systems of orchards	-	-	-	-	-	-	-	-	-	-
Plant propagation techniques	1	-	-	-	18	02	20	18	02	20
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (b)	2	-	-	-	56	28	84	56	28	84
c) Ornamental Plants	-	-	-	-	-	-	-	-	-	-
Nursery Management	-	-	-	-	-	-	-	-	-	-
Management of potted plants	-	-	-	-	-	-	-	-	-	-
Export potential of ornamental plants	-	-	-	-	-	-	-	-	-	-
Propagation techniques of Ornamental Plants	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (c)	-	-	-	-	-	-	-	-	-	-

d) Plantation crops	-	-	-	-	-	-	-	-	-	-
Production and Management technology	-	-	-	-	-	-	-	-	-	-
Processing and value addition	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (d)	-	-	-	-	-	-	-	-	-	-
e) Tuber crops	-	-	-	-	-	-	-	-	-	-
Production and Management technology	-	-	-	-	-	-	-	-	-	-
Processing and value addition	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (e)	-	-	-	-	-	-	-	-	-	-
f) Spices	-	-	-	-	-	-	-	-	-	-
Production and Management technology	-	-	-	-	-	-	-	-	-	-
Processing and value addition	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (f)	-	-	-	-	-	-	-	-	-	-
g) Medicinal and Aromatic Plants	-	-	-	-	-	-	-	-	-	-
Nursery management	-	-	-	-	-	-	-	-	-	-
Production and management technology	-	-	-	-	-	-	-	-	-	-
Post harvest technology and value addition	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (g)	-	-	-	-	-	-	-	-	-	-
GT (a-g)	07	-	-	-	192	107	299	192	107	299
III Soil Health and Fertility Management	-	-	-	-	-	-	-	-	-	-
Soil fertility management	-	-	-	-	-	-	-	-	-	-
Integrated water management	-	-	-	-	-	-	-	-	-	-
Integrated Nutrient Management	-	-	-	-	-	-	-	-	-	-
Production and use of organic inputs	-	-	-	-	-	-	-	-	-	-
Management of Problematic soils	-	-	-	-	-	-	-	-	-	-
Micro nutrient deficiency in crops	-	-	-	-	-	-	-	-	-	-
Nutrient Use Efficiency	-	-	-	-	-	-	-	-	-	-
Balance use of fertilizers	-	-	-	-	-	-	-	-	-	-
Soil and Water Testing	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
IV Livestock Production and Management	-	-	-	-	-	-	-	-	-	-
Dairy Management	2	-	-	-	36	41	77	36	41	77
Poultry Management	-	-	-	-	-	-	-	-	-	-
Piggery Management	-	-	-	-	-	-	-	-	-	-
Rabbit Management	-	-	-	-	-	-	-	-	-	-
Animal Nutrition Management	2	-	-	-	46	36	82	46	36	82
Disease Management	1	-	-	-	15	35	50	15	35	50
Feed & fodder technology	-	-	-	-	-	-	-	-	-	-
Production of quality animal products	1	-	-	-	12	18	30	12	18	30
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	6	-	-	-	109	130	239	109	130	239
V Home Science/Women empowerment	-	-	-	-	-	-	-	-	-	-

Household food security by kitchen gardening and nutrition gardening	4	-	-	-	11	145	156	11	145	156
Design and development of low/minimum cost diet	-	-	-	-	-	-	-	-	-	-
Designing and development for high nutrient efficiency diet	1	-	-	-	49	7	56	49	7	56
Minimization of nutrient loss in processing	-	-	-	-	-	-	-	-	-	-
Processing and cooking	-	-	-	-	-	-	-	-	-	-
Gender mainstreaming through SHGs	-	-	-	-	-	-	-	-	-	-
Storage loss minimization techniques	-	-	-	-	-	-	-	-	-	-
Value addition	2	-	-	-	01	66	67	01	66	67
Women empowerment	-	-	-	-	-	-	-	-	-	-
Location specific drudgery reduction technologies	-	-	-	-	-	-	-	-	-	-
Rural Crafts	-	-	-	-	-	-	-	-	-	-
Women and child care	-	-	-	-	-	-	-	-	-	-
Others (pl specify) Capacity Building and Group Dynamics	-	-	-	-	-	-	-	-	-	-
Total	7	-	-	-	61	218	279	61	218	279
VI Agril. Engineering	-	-	-	-	-	-	-	-	-	-
Farm Machinery and its maintenance	-	-	-	-	-	-	-	-	-	-
Installation and maintenance of micro irrigation systems	-	-	-	-	-	-	-	-	-	-
Use of Plastics in farming practices	-	-	-	-	-	-	-	-	-	-
Production of small tools and implements	-	-	-	-	-	-	-	-	-	-
Repair and maintenance of farm machinery and implements	-	-	-	-	-	-	-	-	-	-
Small scale processing and value addition	-	-	-	-	-	-	-	-	-	-
Post Harvest Technology	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
VII Plant Protection	-	-	-	-	-	-	-	-	-	-
Integrated Pest Management	2	-	-	-	38	81	119	38	81	119
Integrated Disease Management	2	-	-	-	62	26	88	62	26	88
Bio-control of pests and diseases	1	-	-	-	40	00	40	40	00	40
Production of bio control agents and bio pesticides	1	-	-	-	25	05	30	25	05	30
Others (pl specify) Organic farming	1	-	-	-	25	33	58	25	33	58
Total	7	-	-	-	190	145	335	190	145	335
VIII Fisheries	-	-	-	-	-	-	-	-	-	-
Integrated fish farming	-	-	-	-	-	-	-	-	-	-
Carp breeding and hatchery management	-	-	-	-	-	-	-	-	-	-
Carp fry and fingerling rearing	-	-	-	-	-	-	-	-	-	-
Composite fish culture	-	-	-	-	-	-	-	-	-	-
Hatchery management and culture of freshwater prawn	-	-	-	-	-	-	-	-	-	-
Breeding and culture of ornamental fishes	-	-	-	-	-	-	-	-	-	-
Portable plastic carp hatchery	-	-	-	-	-	-	-	-	-	-

Pen culture of fish and prawn	-	-	-	-	-	-	-	-	-	-
Shrimp farming	-	-	-	-	-	-	-	-	-	-
Edible oyster farming	-	-	-	-	-	-	-	-	-	-
Pearl culture	-	-	-	-	-	-	-	-	-	-
Fish processing and value addition	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
IX Production of Inputs at site	-	-	-	-	-	-	-	-	-	-
Seed Production	-	-	-	-	-	-	-	-	-	-
Planting material production	-	-	-	-	-	-	-	-	-	-
Bio-agents production	-	-	-	-	-	-	-	-	-	-
Bio-pesticides production	-	-	-	-	-	-	-	-	-	-
Bio-fertilizer production	-	-	-	-	-	-	-	-	-	-
Vermi-compost production	-	-	-	-	-	-	-	-	-	-
Organic manures production	-	-	-	-	-	-	-	-	-	-
Production of fry and fingerlings	-	-	-	-	-	-	-	-	-	-
Production of Bee-colonies and wax sheets	-	-	-	-	-	-	-	-	-	-
Small tools and implements	-	-	-	-	-	-	-	-	-	-
Production of livestock feed and fodder	-	-	-	-	-	-	-	-	-	-
Production of Fish feed	-	-	-	-	-	-	-	-	-	-
Mushroom Production	-	-	-	-	-	-	-	-	-	-
Apiculture	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
X Capacity Building and Group Dynamics	-	-	-	-	-	-	-	-	-	-
Leadership development	-	-	-	-	-	-	-	-	-	-
Group dynamics	-	-	-	-	-	-	-	-	-	-
Formation and Management of SHGs	-	-	-	-	-	-	-	-	-	-
Mobilization of social capital	-	-	-	-	-	-	-	-	-	-
Entrepreneurial development of farmers/youths	-	-	-	-	-	-	-	-	-	-
WTO and IPR issues	-	-	-	-	-	-	-	-	-	-
Others (pl specify) Storage loss minimization techniques	1	-	-	-	00	25	25	00	25	25
Capacity building for ICT application	4	-	-	-	77	97	174	77	97	174
Integrated Farming Systems	-	-	-	-	-	-	-	-	-	-
Total	5				77	122	199	77	122	199
XI Agro-forestry	-	-	-	-	-	-	-	-	-	-
Production technologies	-	-	-	-	-	-	-	-	-	-
Nursery management	-	-	-	-	-	-	-	-	-	-
Integrated Farming Systems	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
GRAND TOTAL	40	-	-	-	954	867	1821	954	867	1821

Farmers' Training including sponsored training programmes (off campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production	-	-	-	-	-	-	-	-	-	-
Weed Management	-	-	-	-	-	-	-	-	-	-
Resource Conservation Technologies	1	-	-	-	08	12	20	08	12	20
Cropping Systems	-	-	-	-	-	-	-	-	-	-
Crop Diversification	-	-	-	-	-	-	-	-	-	-
Integrated Farming	-	-	-	-	-	-	-	-	-	-
Micro Irrigation/irrigation	-	-	-	-	-	-	-	-	-	-
Seed production	-	-	-	-	-	-	-	-	-	-
Nursery management	-	-	-	-	-	-	-	-	-	-
Integrated Crop Management	-	-	-	-	-	-	-	-	-	-
Soil & water conservation	1	-	-	-	23	02	25	23	02	25
Integrated nutrient management	-	-	-	-	-	-	-	-	-	-
Production of organic inputs	-	-	-	-	-	-	-	-	-	-
Others (pl specify) Organic farming	1	-	-	-	27	06	33	27	06	33
Total	3	-	-	-	58	20	78	58	20	78
II Horticulture	-	-	-	-	-	-	-	-	-	-
a) Vegetable Crops	-	-	-	-	-	-	-	-	-	-
Production of low value and high value crops	1	-	-	-	31	00	31	31	00	31
Off-season vegetables	-	-	-	-	-	-	-	-	-	-
Nursery raising	1	-	-	-	17	08	25	17	08	25
Exotic vegetables	-	-	-	-	-	-	-	-	-	-
Export potential vegetables	1	-	-	-	80	07	87	80	07	87
Grading and standardization	-	-	-	-	-	-	-	-	-	-
Protective cultivation	-	-	-	-	-	-	-	-	-	-
Others (pl specify) Organic farming	-	-	-	-	-	-	-	-	-	-
Total (a)	3	-	-	-	128	15	143	128	15	143
b) Fruits	-	-	-	-	-	-	-	-	-	-
Training and Pruning	-	-	-	-	-	-	-	-	-	-
Layout and Management of Orchards	-	-	-	-	-	-	-	-	-	-
Cultivation of Fruit	1	-	-	-	15	35	50	15	35	50
Management of young plants/orchards	-	-	-	-	-	-	-	-	-	-
Rejuvenation of old orchards	-	-	-	-	-	-	-	-	-	-
Export potential fruits	-	-	-	-	-	-	-	-	-	-
Micro irrigation systems of orchards	-	-	-	-	-	-	-	-	-	-
Plant propagation techniques	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (b)	1	-	-	-	15	35	50	15	35	50
c) Ornamental Plants	-	-	-	-	-	-	-	-	-	-
Nursery Management	-	-	-	-	-	-	-	-	-	-
Management of potted plants	-	-	-	-	-	-	-	-	-	-
Export potential of ornamental plants	-	-	-	-	-	-	-	-	-	-
Propagation techniques of Ornamental Plants	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (c)	-	-	-	-	-	-	-	-	-	-

d) Plantation crops										
Production and Management technology	-	-	-	-	-	-	-	-	-	-
Processing and value addition	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (d)	-	-	-	-	-	-	-	-	-	-
e) Tuber crops	-	-	-	-	-	-	-	-	-	-
Production and Management technology	-	-	-	-	-	-	-	-	-	-
Processing and value addition	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (e)	-	-	-	-	-	-	-	-	-	-
f) Spices	-	-	-	-	-	-	-	-	-	-
Production and Management technology	-	-	-	-	-	-	-	-	-	-
Processing and value addition	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (f)	-	-	-	-	-	-	-	-	-	-
g) Medicinal and Aromatic Plants	-	-	-	-	-	-	-	-	-	-
Nursery management	-	-	-	-	-	-	-	-	-	-
Production and management technology	-	-	-	-	-	-	-	-	-	-
Post harvest technology and value addition	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (g)	-	-	-	-	-	-	-	-	-	-
GT (a-g)	4	-	-	-	143	50	193	143	50	193
III Soil Health and Fertility Management	-	-	-	-	-	-	-	-	-	-
Soil fertility management	-	-	-	-	-	-	-	-	-	-
Integrated water management	-	-	-	-	-	-	-	-	-	-
Integrated Nutrient Management	-	-	-	-	-	-	-	-	-	-
Production and use of organic inputs	-	-	-	-	-	-	-	-	-	-
Management of Problematic soils	-	-	-	-	-	-	-	-	-	-
Micro nutrient deficiency in crops	-	-	-	-	-	-	-	-	-	-
Nutrient Use Efficiency	-	-	-	-	-	-	-	-	-	-
Balance use of fertilizers	-	-	-	-	-	-	-	-	-	-
Soil and Water Testing	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
IV Livestock Production and Management	-	-	-	-	-	-	-	-	-	-
Dairy Management	1	-	-	-	00	44	44	00	44	44
Poultry Management	-	-	-	-	-	-	-	-	-	-
Piggery Management	-	-	-	-	-	-	-	-	-	-
Rabbit Management	-	-	-	-	-	-	-	-	-	-
Animal Nutrition Management	-	-	-	-	-	-	-	-	-	-
Disease Management	1	-	-	-	36	30	66	36	30	66
Feed & fodder technology	-	-	-	-	-	-	-	-	-	-
Production of quality animal products	-	-	-	-	-	-	-	-	-	-
Others (pl specify) vaccination and deworming	1	-	-	-	07	45	52	07	45	52
Total	3	-	-	-	43	119	162	43	119	162

V Home Science/Women empowerment		-	-	-						
Household food security by kitchen gardening and nutrition gardening	1	-	-	-	18	12	30	18	12	30
Design and development of low/minimum cost diet	1	-	-	-	00	44	44	00	44	44
Designing and development for high nutrient efficiency diet	-	-	-	-	-	-	-	-	-	-
Minimization of nutrient loss in processing	-	-	-	-	-	-	-	-	-	-
Processing and cooking	-	-	-	-	-	-	-	-	-	-
Gender mainstreaming through SHGs	-	-	-	-	-	-	-	-	-	-
Storage loss minimization techniques	-	-	-	-	-	-	-	-	-	-
Value addition	-	-	-	-	-	-	-	-	-	-
Women empowerment	-	-	-	-	-	-	-	-	-	-
Location specific drudgery reduction technologies	-	-	-	-	-	-	-	-	-	-
Rural Crafts	-	-	-	-	-	-	-	-	-	-
Women and child care	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	2	-	-	-	18	56	74	18	56	74
VI Agril. Engineering	-	-	-	-	-	-	-	-	-	-
Farm Machinery and its maintenance	-	-	-	-	-	-	-	-	-	-
Installation and maintenance of micro irrigation systems	-	-	-	-	-	-	-	-	-	-
Use of Plastics in farming practices	-	-	-	-	-	-	-	-	-	-
Production of small tools and implements	-	-	-	-	-	-	-	-	-	-
Repair and maintenance of farm machinery and implements	-	-	-	-	-	-	-	-	-	-
Small scale processing and value addition	-	-	-	-	-	-	-	-	-	-
Post Harvest Technology	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
VII Plant Protection	-	-	-	-	-	-	-	-	-	-
Integrated Pest Management	2	-	-	-	32	29	61	32	29	61
Integrated Disease Management	1	-	-	-	13	32	45	13	32	45
Bio-control of pests and diseases	1	-	-	-	40	00	40	40	00	40
Production of bio control agents and bio pesticides	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	4				85	61	146	85	61	146
VIII Fisheries	-	-	-	-	-	-	-	-	-	-
Integrated fish farming	-	-	-	-	-	-	-	-	-	-
Carp breeding and hatchery management	-	-	-	-	-	-	-	-	-	-
Carp fry and fingerling rearing	-	-	-	-	-	-	-	-	-	-
Composite fish culture	-	-	-	-	-	-	-	-	-	-
Hatchery management and culture of freshwater prawn	-	-	-	-	-	-	-	-	-	-
Breeding and culture of ornamental fishes	-	-	-	-	-	-	-	-	-	-

Portable plastic carp hatchery										
Pen culture of fish and prawn	-	-	-	-	-	-	-	-	-	-
Shrimp farming	-	-	-	-	-	-	-	-	-	-
Edible oyster farming	-	-	-	-	-	-	-	-	-	-
Pearl culture	-	-	-	-	-	-	-	-	-	-
Fish processing and value addition	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
IX Production of Inputs at site	-	-	-	-	-	-	-	-	-	-
Seed Production	-	-	-	-	-	-	-	-	-	-
Planting material production	-	-	-	-	-	-	-	-	-	-
Bio-agents production	-	-	-	-	-	-	-	-	-	-
Bio-pesticides production	-	-	-	-	-	-	-	-	-	-
Bio-fertilizer production	-	-	-	-	-	-	-	-	-	-
Vermi-compost production	-	-	-	-	-	-	-	-	-	-
Organic manures production	-	-	-	-	-	-	-	-	-	-
Production of fry and fingerlings	-	-	-	-	-	-	-	-	-	-
Production of Bee-colonies and wax sheets	-	-	-	-	-	-	-	-	-	-
Small tools and implements	-	-	-	-	-	-	-	-	-	-
Production of livestock feed and fodder	-	-	-	-	-	-	-	-	-	-
Production of Fish feed	-	-	-	-	-	-	-	-	-	-
Mushroom Production	-	-	-	-	-	-	-	-	-	-
Apiculture	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
X Capacity Building and Group Dynamics	-	-	-	-	-	-	-	-	-	-
Leadership development	-	-	-	-	-	-	-	-	-	-
Group dynamics	-	-	-	-	-	-	-	-	-	-
Formation and Management of SHGs	-	-	-	-	-	-	-	-	-	-
Mobilization of social capital	-	-	-	-	-	-	-	-	-	-
Entrepreneurial development of farmers/youths	1	-	-	-	24	02	26	24	02	26
WTO and IPR issues	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	1				12	21	33	12	21	33
Total	2				36	23	59	36	23	59
XI Agro-forestry	-	-	-	-	-	-	-	-	-	-
Production technologies	-	-	-	-	-	-	-	-	-	-
Nursery management	-	-	-	-	-	-	-	-	-	-
Integrated Farming Systems	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
GRAND TOTAL	18	-	-	-	383	329	712	383	329	712

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

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production	-	-	-	-	-	-	-	-	-	-
Weed Management	-	-	-	-	-	-	-	-	-	-
Resource Conservation Technologies	1	-	-	-	08	12	20	08	12	20
Cropping Systems	1	-	-	-	50	11	61	50	11	61
Crop Diversification	-	-	-	-	-	-	-	-	-	-
Integrated Farming	-	-	-	-	-	-	-	-	-	-
Micro Irrigation/irrigation	-	-	-	-	-	-	-	-	-	-
Seed production	-	-	-	-	-	-	-	-	-	-
Nursery management	-	-	-	-	-	-	-	-	-	-
Integrated Crop Management	4	-	-	-	134	50	184	134	50	184
Soil & water conservatioin	1	-	-	-	23	02	25	23	02	25
Integrated nutrient management	-	-	-	-	-	-	-	-	-	-
Production of organic inputs	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Organic farming	4	-	-	-	168	90	258	168	90	258
Total	11	-	-	-	383	165	548	383	165	548
II Horticulture	-	-	-	-	-	-	-	-	-	-
a) Vegetable Crops	-	-	-	-	-	-	-	-	-	-
Production of low value and high volume crops	4	-	-	-	146	07	153	146	07	153
Off-season vegetables	-	-	-	-	-	-	-	-	-	-
Nursery raising	2	-	-	-	22	43	65	22	43	65
Exotic vegetables	-	-	-	-	-	-	-	-	-	-
Export potential vegetables	1	-	-	-	80	07	87	80	07	87
Grading and standardization	-	-	-	-	-	-	-	-	-	-
Protective cultivation	-	-	-	-	-	-	-	-	-	-
Others (pl specify) Organic farming	1	-	-	-	16	37	53	16	37	53
Total (a)	8	-	-	-	264	94	358	264	94	358
b) Fruits	-	-	-	-	-	-	-	-	-	-
Training and Pruning	-	-	-	-	-	-	-	-	-	-
Layout and Management of Orchards	-	-	-	-	-	-	-	-	-	-
Cultivation of Fruit	2	-	-	-	53	61	114	53	61	114
Management of young plants/orchards	-	-	-	-	-	-	-	-	-	-
Rejuvenation of old orchards	-	-	-	-	-	-	-	-	-	-
Export potential fruits	-	-	-	-	-	-	-	-	-	-
Micro irrigation systems of orchards	-	-	-	-	-	-	-	-	-	-
Plant propagation techniques	1	-	-	-	18	02	20	18	02	20
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (b)	3	-	-	-	71	63	134	71	63	134
c) Ornamental Plants	-	-	-	-	-	-	-	-	-	-
Nursery Management	-	-	-	-	-	-	-	-	-	-
Management of potted plants	-	-	-	-	-	-	-	-	-	-
Export potential of ornamental plants	-	-	-	-	-	-	-	-	-	-
Propagation techniques of Ornamental Plants	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-

Total (c)	-	-	-	-	-	-	-	-	-	-
d) Plantation crops	-	-	-	-	-	-	-	-	-	-
Production and Management technology	-	-	-	-	-	-	-	-	-	-
Processing and value addition	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (d)	-	-	-	-	-	-	-	-	-	-
e) Tuber crops	-	-	-	-	-	-	-	-	-	-
Production and Management technology	-	-	-	-	-	-	-	-	-	-
Processing and value addition	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (e)	-	-	-	-	-	-	-	-	-	-
f) Spices	-	-	-	-	-	-	-	-	-	-
Production and Management technology	-	-	-	-	-	-	-	-	-	-
Processing and value addition	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (f)	-	-	-	-	-	-	-	-	-	-
g) Medicinal and Aromatic Plants	-	-	-	-	-	-	-	-	-	-
Nursery management	-	-	-	-	-	-	-	-	-	-
Production and management technology	-	-	-	-	-	-	-	-	-	-
Post harvest technology and value addition	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total (g)	-	-	-	-	-	-	-	-	-	-
GT (a-g)	11	-	-	-	335	157	492	335	157	492
III Soil Health and Fertility Management	-	-	-	-	-	-	-	-	-	-
Soil fertility management	-	-	-	-	-	-	-	-	-	-
Integrated water management	-	-	-	-	-	-	-	-	-	-
Integrated Nutrient Management	-	-	-	-	-	-	-	-	-	-
Production and use of organic inputs	-	-	-	-	-	-	-	-	-	-
Management of Problematic soils	-	-	-	-	-	-	-	-	-	-
Micro nutrient deficiency in crops	-	-	-	-	-	-	-	-	-	-
Nutrient Use Efficiency	-	-	-	-	-	-	-	-	-	-
Balance use of fertilizers	-	-	-	-	-	-	-	-	-	-
Soil and Water Testing	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
IV Livestock Production and Management	-	-	-	-	-	-	-	-	-	-
Dairy Management	3	-	-	-	36	85	121	36	85	121
Poultry Management	-	-	-	-	-	-	-	-	-	-
Piggery Management	-	-	-	-	-	-	-	-	-	-
Rabbit Management	-	-	-	-	-	-	-	-	-	-
Animal Nutrition Management	2	-	-	-	46	36	82	46	36	82
Disease Management	2	-	-	-	51	65	116	51	65	116
Feed & fodder technology	-	-	-	-	-	-	-	-	-	-
Production of quality animal products	1	-	-	-	12	18	30	12	18	30
Others (pl specify)	1	-	-	-	07	45	52	07	45	52
Total	9	-	-	-	152	249	401	152	249	401
V Home Science/Women		-	-	-						

empowerment										
Household food security by kitchen gardening and nutrition gardening	5	-	-	-	29	157	186	29	157	186
Design and development of low/minimum cost diet	1	-	-	-	00	44	44	00	44	44
Designing and development for high nutrient efficiency diet	1	-	-	-	49	07	56	49	07	56
Minimization of nutrient loss in processing	-	-	-	-	-	-	-	-	-	-
Processing and cooking	-	-	-	-	-	-	-	-	-	-
Gender mainstreaming through SHGs	-	-	-	-	-	-	-	-	-	-
Storage loss minimization techniques	-	-	-	-	-	-	-	-	-	-
Value addition	2	-	-	-	01	66	67	01	66	67
Women empowerment	-	-	-	-	-	-	-	-	-	-
Location specific drudgery reduction technologies	-	-	-	-	-	-	-	-	-	-
Rural Crafts	-	-	-	-	-	-	-	-	-	-
Women and child care	1	-	-	-	-	-	-	-	-	-
Others (pl specify) Capacity Building and Group Dynamics	-	-	-	-	-	-	-	-	-	-
Total	09	-	-	-	79	274	353	79	274	353
VI Agril. Engineering	-	-	-	-	-	-	-	-	-	-
Farm Machinery and its maintenance	-	-	-	-	-	-	-	-	-	-
Installation and maintenance of micro irrigation systems	-	-	-	-	-	-	-	-	-	-
Use of Plastics in farming practices	-	-	-	-	-	-	-	-	-	-
Production of small tools and implements	-	-	-	-	-	-	-	-	-	-
Repair and maintenance of farm machinery and implements	-	-	-	-	-	-	-	-	-	-
Small scale processing and value addition	-	-	-	-	-	-	-	-	-	-
Post Harvest Technology	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
VII Plant Protection	-	-	-	-	-	-	-	-	-	-
Integrated Pest Management	4	-	-	-	70	110	180	70	110	180
Integrated Disease Management	3	-	-	-	75	58	133	75	58	133
Bio-control of pests and diseases	2	-	-	-	80	00	80	80	00	80
Production of bio control agents and bio pesticides	1	-	-	-	25	05	30	25	05	30
Others (pl specify) Organic farming	1	-	-	-	25	33	58	25	33	58
Total	11	-	-	-	275	206	481	275	206	481
VIII Fisheries	-	-	-	-	-	-	-	-	-	-
Integrated fish farming	-	-	-	-	-	-	-	-	-	-
Carp breeding and hatchery management	-	-	-	-	-	-	-	-	-	-
Carp fry and fingerling rearing	-	-	-	-	-	-	-	-	-	-
Composite fish culture	-	-	-	-	-	-	-	-	-	-
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes	-	-	-	-	-	-	-	-	-	-

Portable plastic carp hatchery	-	-	-	-	-	-	-	-	-	-
Pen culture of fish and prawn	-	-	-	-	-	-	-	-	-	-
Shrimp farming	-	-	-	-	-	-	-	-	-	-
Edible oyster farming	-	-	-	-	-	-	-	-	-	-
Pearl culture	-	-	-	-	-	-	-	-	-	-
Fish processing and value addition	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
IX Production of Inputs at site	-	-	-	-	-	-	-	-	-	-
Seed Production	-	-	-	-	-	-	-	-	-	-
Planting material production	-	-	-	-	-	-	-	-	-	-
Bio-agents production	-	-	-	-	-	-	-	-	-	-
Bio-pesticides production	-	-	-	-	-	-	-	-	-	-
Bio-fertilizer production	-	-	-	-	-	-	-	-	-	-
Vermi-compost production	-	-	-	-	-	-	-	-	-	-
Organic manures production	-	-	-	-	-	-	-	-	-	-
Production of fry and fingerlings	-	-	-	-	-	-	-	-	-	-
Production of Bee-colonies and wax sheets	-	-	-	-	-	-	-	-	-	-
Small tools and implements	-	-	-	-	-	-	-	-	-	-
Production of livestock feed and fodder	-	-	-	-	-	-	-	-	-	-
Production of Fish feed	-	-	-	-	-	-	-	-	-	-
Mushroom Production	-	-	-	-	-	-	-	-	-	-
Apiculture	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
X Capacity Building and Group Dynamics	-	-	-	-	-	-	-	-	-	-
Leadership development	-	-	-	-	-	-	-	-	-	-
Group dynamics	-	-	-	-	-	-	-	-	-	-
Formation and Management of SHGs	-	-	-	-	-	-	-	-	-	-
Mobilization of social capital	-	-	-	-	-	-	-	-	-	-
Entrepreneurial development of farmers/youths	1	-	-	-	24	02	26	24	02	26
WTO and IPR issues	-	-	-	-	-	-	-	-	-	-
Others (pl specify) Storage loss minimization techniques	2	-	-	-	12	46	58	12	46	58
Capacity building for ICT application	4	-	-	-	77	97	174	77	97	174
Integrated Farming Systems		-	-	-						
Total	7	-	-	-	113	145	258	113	145	258
XI Agro-forestry	-	-	-	-	-	-	-	-	-	-
Production technologies	-	-	-	-	-	-	-	-	-	-
Nursery management	-	-	-	-	-	-	-	-	-	-
Integrated Farming Systems	-	-	-	-	-	-	-	-	-	-
Others (pl specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
GRAND TOTAL	58	-	-	-	1337	1196	2533	1337	1196	2533

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	-	-	-	-	-	-	-	-	-	-
Integrated Pest Management	-	-	-	-	-	-	-	-	-	-
Integrated Nutrient management	-	-	-	-	-	-	-	-	-	-
Rejuvenation of old orchards	1	-	-	-	25	00	25	25	00	25
Protected cultivation technology	-	-	-	-	-	-	-	-	-	-
Production and use of organic inputs	1	-	-	-	22	02	24	22	02	24
Care and maintenance of farm machinery and implements	-	-	-	-	-	-	-	-	-	-
Gender mainstreaming through SHGs	-	-	-	-	-	-	-	-	-	-
Formation and Management of SHGs	-	-	-	-	-	-	-	-	-	-
Women and Child care	-	-	-	-	-	-	-	-	-	-
Low cost and nutrient efficient diet designing	1	-	-	-	13	72	85	13	72	85
Group Dynamics and farmers organization	-	-	-	-	-	-	-	-	-	-
Information networking among farmers	1	-	-	-	20	60	80	20	60	80
Capacity building for ICT application	-	-	-	-	-	-	-	-	-	-
Management in farm animals	1	-	-	-	20	02	22	20	02	22
Livestock feed and fodder production	-	-	-	-	-	-	-	-	-	-
Household food security	-	-	-	-	-	-	-	-	-	-
Any other (pl.specify) Organic farming	1	-	-	-	20	04	24	20	04	24
TOTAL	6	-	-	-	120	140	260	120	140	260

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	-	-	-	-	-	-	-	-	-	-
Integrated Pest Management	-	-	-	-	-	-	-	-	-	-
Integrated Nutrient management	-	-	-	-	-	-	-	-	-	-
Rejuvenation of old orchards	-	-	-	-	-	-	-	-	-	-
Protected cultivation technology	-	-	-	-	-	-	-	-	-	-
Production and use of organic inputs	-	-	-	-	-	-	-	-	-	-
Care and maintenance of farm machinery and implements	-	-	-	-	-	-	-	-	-	-
Gender mainstreaming through SHGs	-	-	-	-	-	-	-	-	-	-
Formation and Management of SHGs	-	-	-	-	-	-	-	-	-	-
Women and Child care	-	-	-	-	-	-	-	-	-	-
Low cost and nutrient efficient diet designing	-	-	-	-	-	-	-	-	-	-
Group Dynamics and farmers organization	-	-	-	-	-	-	-	-	-	-
Information networking among farmers	-	-	-	-	-	-	-	-	-	-
Capacity building for ICT application	-	-	-	-	-	-	-	-	-	-
Management in farm animals	-	-	-	-	-	-	-	-	-	-
Livestock feed and fodder production	-	-	-	-	-	-	-	-	-	-
Household food security	-	-	-	-	-	-	-	-	-	-
Any other (pl.specify)	-	-	-	-	-	-	-	-	-	-
TOTAL	00	00	00	00	00	00	00	00	00	00

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	-	-	-	-	-	-	-	-	-	-
Integrated Pest Management	-	-	-	-	-	-	-	-	-	-
Integrated Nutrient management	-	-	-	-	-	-	-	-	-	-
Rejuvenation of old orchards	1	-	-	-	25	00	25	25	00	25
Protected cultivation technology	-	-	-	-	-	-	-	-	-	-
Production and use of organic inputs	1	-	-	-	22	02	24	22	02	24
Care and maintenance of farm machinery and implements	-	-	-	-	-	-	-	-	-	-
Gender mainstreaming through SHGs	-	-	-	-	-	-	-	-	-	-
Formation and Management of SHGs	-	-	-	-	-	-	-	-	-	-
Women and Child care	-	-	-	-	-	-	-	-	-	-
Low cost and nutrient efficient diet designing	1	-	-	-	13	72	85	13	72	85
Group Dynamics and farmers organization	-	-	-	-	-	-	-	-	-	-
Information networking among farmers	1	-	-	-	20	60	80	20	60	80
Capacity building for ICT application	-	-	-	-	-	-	-	-	-	-
Management in farm animals	1	-	-	-	20	02	22	20	02	22
Livestock feed and fodder production	-	-	-	-	-	-	-	-	-	-
Household food security	-	-	-	-	-	-	-	-	-	-
Any other (pl.specify) Organic farming	1	-	-	-	20	04	24	20	04	24
TOTAL	6	-	-	-	120	140	260	120	140	260

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
Cropping Systems	3	-	-	-	90	49	139	90	49	139
Organic farming	2	-	-	-	32	96	128	32	96	128
Nursery Management	1	-	-	-	05	35	40	05	35	40
Commercial production of vegetables	1	-	-	-	40	00	40	40	00	40
Integrated Pest Management	1	-	-	-	31	35	66	31	35	66
Integrated Disease Management	1	-	-	-	25	33	58	25	33	58
Bio-control of pests and diseases	1	-	-	-	40	00	40	40	00	40
Dairy Management	3	-	-	-	52	77	129	52	77	129
Disease Management	1	-	-	-	40	21	61	40	21	61
Gender mainstreaming through SHGs	-	-	-	-	-	-	-	-	-	-
Capacity Building and Group Dynamics	-	-	-	-	-	-	-	-	-	-
Low cost and nutrient efficient diet designing	-	-	-	-	-	-	-	-	-	-
Integrated Farming Systems	-	-	-	-	-	-	-	-	-	-
Capacity building for ICT application	2	-	-	-	59	51	111	59	51	111
Production and use of organic inputs	-	-	-	-	-	-	-	-	-	-
Production and Management technology	1	-	-	-	00	38	38	00	38	38
Commercial fruit production	1	-	-	-	38	26	64	38	26	64
GRAND TOTAL	18	-	-	-	452	461	914	452	461	914

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
Crop production and management	-	-	-	-	-	-	-	-	-	-
Commercial floriculture	-	-	-	-	-	-	-	-	-	-
Commercial fruit production	-	-	-	-	-	-	-	-	-	-
Commercial vegetable production	-	-	-	-	-	-	-	-	-	-
Integrated crop management	-	-	-	-	-	-	-	-	-	-
Organic farming	-	-	-	-	-	-	-	-	-	-
Others (pl. specify) Azolla	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
Post harvest technology and value addition	-	-	-	-	-	-	-	-	-	-
Value addition	2	-	-	-	00	63	63	00	63	63
Others (pl. specify)	-	-	-	-	-	-	-	-	-	-
Total	2	-	-	-	00	63	63	00	63	63
Livestock and fisheries	-	-	-	-	-	-	-	-	-	-
Dairy farming	-	-	-	-	-	-	-	-	-	-
Composite fish culture	-	-	-	-	-	-	-	-	-	-
Sheep and goat rearing	-	-	-	-	-	-	-	-	-	-
Piggery	-	-	-	-	-	-	-	-	-	-
Poultry farming	1	-	-	-	00	30	30	00	30	30
Others (pl. specify)	-	-	-	-	-	-	-	-	-	-
Total	1	-	-	-	00	30	30	00	30	30
Income generation activities	-	-	-	-	-	-	-	-	-	-
Vermicomposting	-	-	-	-	-	-	-	-	-	-
Production of bio-agents, bio-pesticides, bio-fertilizers etc.	1	-	-	-	16	11	27	16	11	27
Repair and maintenance of farm machinery and implements	-	-	-	-	-	-	-	-	-	-
Rural Crafts	-	-	-	-	-	-	-	-	-	-
Seed production	-	-	-	-	-	-	-	-	-	-
Sericulture	-	-	-	-	-	-	-	-	-	-
Mushroom cultivation	1	-	-	-	01	29	30	01	29	30
Nursery, grafting etc.	-	-	-	-	-	-	-	-	-	-
Tailoring, stitching, embroidery, dyeing etc.	-	-	-	-	-	-	-	-	-	-
Agril. para-workers, para-vet training	-	-	-	-	-	-	-	-	-	-
Others (pl. specify)	-	-	-	-	-	-	-	-	-	-
Total	2	-	-	-	17	40	57	17	40	57
Agricultural Extension	-	-	-	-	-	-	-	-	-	-
Capacity building and group dynamics	-	-	-	-	-	-	-	-	-	-
Others (pl. specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
Grand Total	5	-	-	-	17	133	150	17	133	150

Details of trainings organized under ASCI

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
--	--	--	--	--	--	--	--	--	--	--

3.5. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	-	-	-	-
Diagnostic visits	32	139	06	145
Field Day	10	243	10	253
Group discussions	03	130	05	135
KisanGhoshi	10	572	23	595
Film Show	20	987	39	1026
Self -help groups	01	16	01	17
Kisan Mela	06	5198	207	5405
Exhibition	04	2638	105	2743
Scientists' visit to farmers field	46	263	11	274
Plant/animal health camps	01	27	02	29
Farmers' seminar/workshop	08	980	39	1019
Method Demonstrations	45	3534	141	3675
Celebration of important days	22	4145	165	4310
Exposure visits	07	318	13	331
Lecture delivered	108	9904	396	10300
Field visit	45	318	12	330
FLD visit	28	114	05	119
OFT visit	14	74	03	77
Farmer visit to KVK	27	179	07	186
Farmer Scientist interaction	16	151	06	157
BRS/MRS/MSW placment	02	07	01	8
Farm School	07	226	09	235
Soil test Campaigns	-	-	-	-
Soil health Campaigns	-	-	-	-
Mahila Mandal conveners meet	-	-	-	-
Survey	20	694	28	722
Swachata Abhiyan	23	2055	82	2137
PPV & FRA 2001 Programme	01	312	12	324
Total	506	33224	1328	34552

Details of other extension programmes

Particulars	Number	Remarks
Newspaper coverage	24	Aranyak news paper, Surat, Sandesh
Popular articles	2	-
Radio Talks	0	-
TV Talks	0	-
Animal health camps (Number of animals treated)	1	-
Others (pl. specify in Remark column)	281	Soil sample analyses
Others (pl. specify in Remark column)	65	Plant health clinic diagnostic services
Others (pl. specify in Remark column)	6	Success story
Others (pl. specify in Remark column)	5	Research Paper
Total	384	

3.6. Production of seed/ planting material and bio-products

Production of Seeds by the KVKs

Crop	Name of the crop	Variety/Hybrid	Name of the hybrid	Quantity of seed (q)	Value (Rs)	Number of farmers
Pulses	Green gram	GM 6	-	12.00	129000	210
Pulses	Gram	GG 5	-	22.00	165000	362
Pulses	Paddy	GNR 6	-	53.20	163800	192
Cereals	Finger millet	GN 5	-	7.20	35750	140
Cereals	Turmeric	GNT 1	-	6.50	15000	3
Millets	Turmeric	GNT 2	-	6.75	10000	8
Spices	Mango	Kesar & others	-	42.25	52000	--
Total				149.90	570550	915

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 crops	Brinjal	-	GNRB 1	850	850	18
Vegetable crops	Chilli	-	Arka khyati	1775	1775	34
Vegetable crops	Tomato	-	Arka Rakshak, GT-7	1650	1650	28
Total				4275	4275	80

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity	Value (Rs.)	No. of Farmers
		Kg		
-	-	-	-	-

Production of livestock materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	No. of Farmers
-	-	-	-	-

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

A. KVK News Letter ((Date of start, Periodicity, number of copies distributed etc.)- Nil

B. Literature developed/published

Item	Title	Published in /Submitted to	Number
Research papers	Effect of integrated nutrient management on growth and yield parameters of <i>kharif</i> little millet under little millet-green gram cropping sequence	IJPAB	01
	Effect of direct application of recommended fertilizer levels on growth and yield parameters of <i>Rabi</i> green gram under little millet-green gram cropping sequence	IJPAB	01
	Residual Effect of Integrated Nutrient Management in Little Millet on Growth and Yield Parameters of <i>Rabi</i> -green Gram under Little Millet-green Gram Cropping Sequence	Agricultural Science Digest	01
	Effect of integrated nutrient management on grain yield, quality and nutrient content and uptake of little millet under little millet-green gram cropping sequence	Crop Research	01
	Impact of front line demonstration of INM in watermelon	Bioinfolet 15 (3-4): 278-279 2018	01
Technical reports	Annual Action Plan 2020-21	ATARI, Pune	01
	Annual Progress report 2019-20	ATARI, Pune	01
	Scientific Advisory commits meeting report	ATARI, Pune	01

	ZREAC	ATARI, Pune	01
News coverage	"Pashu Rog Niyatran ane krutrim savardhan ange karyashala yojai"	Sandesh news paper	01
	"Krishi Vigyan kendra waghai khate pradhanmantri kisan mandhan yojna, jalshakti abhiyan ane swachchh bharat abhiyan karyakram yojayo"	Sandesh	01
	"Waghai Vigyan kendra khate vruKsharopan abhiyan ane kisan Goshti Yojai"	-	01
	"Ahwa khate National Food Security- Poshan Adharit Kitchen Garden Seminar "	Divya Bhaskar	01
	"Ahwa khate yojayo Kitchen garden Seminar"	Satya de Dainik	01
	Waghai Krishi Vigyan Kendra khate swachchh bharat abhiyanni ujavani karai	DD Girnar News	01
	Waghai Krishi Vigyan Kendra khate vishv anna divasani ujavani : khedutone margadarshan	Sandesh newapaper	01
	Krishi Vigyan Kendra waghai khate khatarani upyogitaange jagruti karyakram temaj dhatri matao mate kitchan garden prashikshan talim yojai	Sandesh newapaper	01
	"Pashu Rog Niyatran ane krutrim savardhan ange karyashala yojai"	Upphokta samachar	01
	Waghai Krishi Vigyan Kendra khate khatarani upayogita anengo jagruti karyakram	-	01
	Krishi Vigyan Kendra waghai khate jagruti karyakram yojayo	ETV Bharat	01
	Waghai Krushi Vignan Kendra Khate Satarkata Jagruti Saptahni Ujavani	Sandesh newapaper page no 8, Navsari-Dang avruti	01
	Waghaima Rastriy Krushi Divasni Ujavani Karvama Avi	Krushi Bhaskar, Saputara	01
	Vaghai Krushi Vignan Kendra, Drara Rastriy Krushi Divasni Ujavani	Vatsalyanews	01
	Waghai krushi vigan kendra khate World soil day ni Ullasbher ujavani	-	01
	Waghai Krushi Vignan Kendra Khate Kuposhan mukt Karyakram Yojayo	Sandesh newapaper page no 10, Navsari-Dang avruti	01
Technical bulletins	--	--	
Popular articles	"Kandmul pakono raja- suran"	Krushigovidhya	01
	Kitnashak davaona upayog ange khedutoma peavartati ketlik gersamaj	Krishi Prabhat	01
	Bordomishran ane bordopest kai rite banavva?	Krishi Prabhat	01
	Agamchetina Pagla lo to pashupalanama Akhuvarsh Avak	Agro sandesh	01
	Krimiyani kongo hemrejik fivar- aek jivlen rog	Krushigovidhya	01
	Dudh ane dudhni pedasona mapadans ane tene banavavani rit	Krushigovidhya	01
Extension literature	Dudhjany rogo ane tene atkavava matena soneri suchno	183/2019-20 KVK Waghai	01
	Jaivik khatar	184/2019-20 KVK Waghai	01
	Pratisancharit rogo ane tene felata atkavavana upayo	185/2019-20 KVK Waghai	01
	Sendriy khetima falmakhinu vyavsthapan	186/2019-20 KVK Waghai	01
	Suranani vaigynik kheti padhdhti	187/2019-20 KVK Waghai	01
	Gay adharit pravahe sendrey khaatar	188/2019-20 KVK Waghai	01
TOTAL			37

C. Details of Electronic Media Produced

S. No.	Type of media (CD / VCD / DVD/ Audio-Cassette) and Video Clippings developed	Title of the programme	Number
-	-	-	-

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). At this point please give titles of the success stories/ case studies. Detailed case study documents may be given at the end as an Annexure.

Success story-1

Popularizing line sowing and high yielding pigeon pea variety

Dr. P. P. Javiya, J. B. Dobariya, H. A. Prajapati, Dr. S. A. Patel, B. M. Vahuniya & Dr. G. G. Chauhan

1. Situation analysis/ Problem:

Pigeon pea, a *kharif* season crop, is also commonly known as Red gram, Arhar or Tur. It is the IInd important pulse crop after the gram and a major *kharif* crop in the country. India ranks 1st in area and production in the world with 80% and 67% of world's acreage and production respectively. Pigeon pea grows well in warm tropical and subtropical climate. The crop prefers a fairly moist and warm climate during the period of its vegetative growth during the flowering and repining stages of its growth, its requires bright sunny weather for the setting of fruits

In dang district, productivity of pigeon pea is low because of improper cultivation of land and random sowing method followed by farmers. Due to this severe wilt problem in seedlings and weed problems which ultimately affect the growth and yield of pigeon pea. Pigeon pea requires well cultivated land and specific spacing for its growth and development. Improper cultivation with random sowing reduces the plant population and ultimately it's reducing the crop yield. Most of the farmers were broadcasting the pigeon pea seed, so that required more quantity of seed than recommended seed rate, which ultimately increase the seed cost. Most of the farmers are tribal and resource poor, so that they have not knowledge regarding scientific cultivation practices of pigeon pea.

2. Plan, implement and support:

The team of KVK scientists had made survey of the village to identify the adoption gap and technological needs of farmers as well as their socio economic status. The development plan of village for various TOT activities has been prepared. Among various technological gaps, the KVK scientists have worked out the gap regarding method of sowing, seed rate, spacing and fertilizer application in pigeon pea by the farmers. The Scientist, Dr. P. P. Javiya (Crop production) decided to intervene on this point and given demonstration of pigeon pea to the farmers. The farmers have been given training on pigeon pea package of practices. The team of KVK scientist made frequent visits of the farmer's field and guided them accordingly for various operations.

Gadhvi, Divantemrun and Jamlapada are tribal dominated villages situated about 30 km away from Krishi Vigyan Kendra, Waghai, Dist. Dangs head quarter. The farmers of these villages are recourse poor with undulating, fragmented land. Majority of the farmers are marginal farmers. The farmers used their own farm saved seeds. Then the Krishi Vigyan Kendra intervened and trained the farmers of these villages about the land selection, sources of seed, seed rate, spacing, rouging, judicious use of fertilizer, harvesting and post-harvest handling of seeds and also provides seed, biofertilizer and novel organic fertilizer to farmers.

3. Output:

Economics:

Details of Technology	No. of Farmers /Demos	Area (ha)	Yield (q/ha)			Check	% Increase in yield
			Demo				
			Highest	Lowest	Average		
Pigeon pea (GNP-2)	25	5	1320	1020	1210	913	33

Details	No. of Farmers /demos	Area (ha)	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
			Gross Cost	Gross Return	Net Return	CBR	Gross Cost	Gross Return	Net Return	CBR
Pigeon pea (GNP-2)	25	5	14000	36300	22300	2.6	12000	27390	15390	2.3

In farmer's method the farmers were able to harvest average of 913 kg/ha of pigeon pea as against 1210 kg/ha in demonstration with an increase of 33 per cent. The net benefit incurred was Rs. 22300 per hectare in demonstration plot of pigeon pea.



Off campus training



FLD visit



On campus training



Farm school

4. Outcome

As a result of intervention, the seed rate has been reduced to 15 kg/ ha in line sowing method of pigeon pea. Further due to line sowing, the application of fertilizers, weeding and other interculturing operations were become easy for the farmers which in turn saved labour charges and increased family income which ultimately improved the standard of living of the farm family. Farmers also extra income from intercropping of short duration pulse crop in between tow row of pigeon pea.

5. Impact

By implementing this, farmers become aware about the importance and benefits of newly released variety of pigeon pea and its production and productivity. Cost of seeds was decreased in demonstration plots up to the tune of 20-30 per cent. Net return of pigeon pea in demonstrated plots was Rs. 22300/ ha and cost benefit ratio is 2.6, whereas, in control plot was Rs. 15390/ ha and cost benefit ratio is 2.3.

Success Story-2

High yielding Indian bean variety “GNIB 22”

H. A. Prajapati, J. B. Dobariya, B. M. Vahuniya, Dr. S. A. Patel, Dr. P. P. Javiya & Dr. G. G. Chauhan

Introduction:

South Gujarat is main Indian bean (*Dolichos lablab* L.) growing region of our state. About 42000 hectares (Anon., 2016) area is covered by Indian bean in Valsad, Navsari, Dangs, Surat, Tapi, Narmada and Bharuch districts of South Gujarat. It is mostly sown in late *Kharif* or *Rabi*. It is cultivated for grain as well as vegetable purposes. For vegetable purpose katargam local, desi variety and GNIB-21 varieties are popular.

In the Dang district, people adopted Indian bean farming as just for backyard farming. Generally farmers adopted old or local variety of Indian bean, but not included in commercial cultivation. Dang people always use this Indian bean in *sabji*, *ubadiya* etc. Navsari Agricultural University produced Indian bean variety named “GNIB 22”. The new variety “GNIB 22” is early, determinate and erect type with good market & cooking quality and yield, hence it is highly acceptable to the farmers and consumers. Its green pod fetches similar price to that of surti papadi good character.

1. Situation analysis/ Problem:

Borpada, Chinchod, Koshmal, Chikar, Dokpatal, Moti-Dabdar, Ambapada, Kakarda, Godadiya, Vankan, Bhongadiya, Kalibel, Uga (Chichpada), Divdiyavan are tribal dominated villages. The farmers of these villages are resource poor with undulating, fragmented land. Majority of the farmers are marginal farmers. The farmers have used the old and desi Indian bean seed.

Farmers of the cluster villages were using old variety of Indian bean with low yield, high seed rate and commercial cultivation of Indian bean was not adopted by them. These increase the cost of production of Indian bean. Further due to random sowing, weeding and other interculturing operations were become difficult and it increase labour charges. Farmers of these villages were facing very poor economic condition and very hard to run her family satisfactorily.

2. Plan, implement and support:

The team of KVK scientists had made survey of the village to identify the adoption gap and technological needs of farmers as well as their socio economic status. The development plan of village for various TOT activities has been prepared. Among various technological gaps, the KVK scientists have worked out the gap regarding method of sowing, seed rate and application of new variety in Indian bean by the farmers. The Scientist (Horticulture) decided to intervene on this point and given demonstration of new variety of Indian bean “GNIB 22” to the farmers of Dang district. The farmers have been given training on Indian bean package of practices. The team of KVK scientist made frequent visits of the farmers’ field and guided them accordingly for various critical operations.

The Krishi Vigyan Kendra intervened and trained the farmers of these villages about the land selection, sources of seed, selection of variety, seed rate, and rouging, judicious use of fertilizer, harvesting and post harvest handling of seeds and also provides seed, biofertilizer and novel organic nutrient to farmers.



Input Distribution



Training

3. Output:

Economics:

Details of Technology	No. of Farmers /Demos	Area (ha)	Yield (q/ha)				% Increase in yield
			Demonstration			Check	
			Highest	Lowest	Average		
Indian bean GNIB 22	50	5.0	42	28	35.90	25.64	41.75

Details	No. of Farmers /demos	Area (ha)	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
			Gross Cost	Gross Return	Net Return	CBR	Gross Cost	Gross Return	Net Return	CBR
Indian bean GNIB 22	50	5.0	40840	107700	66860	2.64	43940	94868	50928	2.16

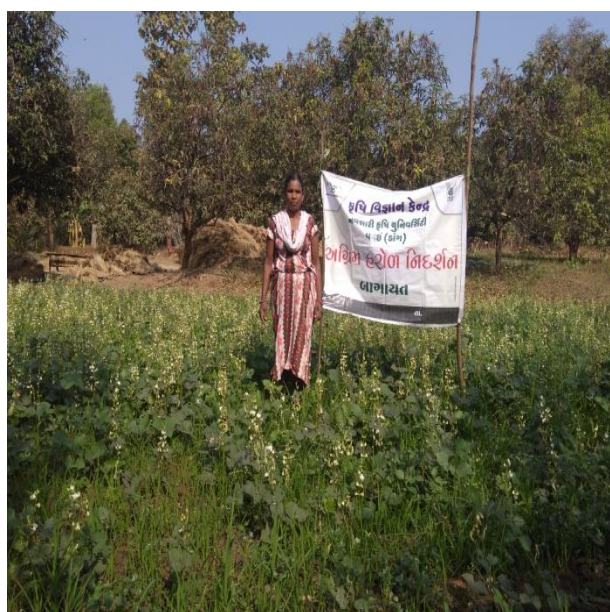
In farmer's variety, the farmers were able to harvest average of 25.64 q/ha of Indian bean as against 35.90 q/ha in demonstration with an increase of 41.75 per cent. The net benefit incurred was Rs. 66860 per hectare in demonstration plot of Indian bean.

4. Outcome

By implementing this, farmers become aware about the importance and benefits of newly released variety of Indian bean "GNIB 22" and its production and productivity. Cost of cultivation was decreased in demonstration plots. Net return of Indian bean, in demonstrated plots was Rs. 66860/ ha and cost benefit ratio is 2.64, whereas, in control plot was Rs. 50928/ ha and cost benefit ratio is 2.16.

5. Impact

As a result of intervention, the Production and commercial cultivation of Indian bean has been increased and farmers adopted the line sowing method in Indian bean cultivation. Further due to line sowing, the application of fertilizers, weeding and other interculturing operations were become easy for the farmers which in turn saved labour charges and increased family income which ultimately improved the standard of living of the farm family.



Demonstration plot



Line Sowing

Success story-3

Title – Mushroom cultivation a source of additional income and women empowerment for tribals in Dang District

B. M. Vahunia, Dr. S. A. Patel, Dr. P. P. Javiya, J. B. Dobariya, H. A. Prajapati, & Dr. G. G. Chauhan

Name – Gangoda Jagrutiben Kiranbhai

Village – Kosmal, **Ta.** – Waghai, **Dist.** - Dang (Gujarat)

Mo. - 94281 19322



1. Situation Analysis/ Problem Statement:

Profile		
Age	32	Before contact with KVK, Waghai, she was not actively participating in farming only her husband was doing most part of farming. Economic condition are not strengthening after lot of work.
Education	Up to College Third Year	
Land Holding	1 Hectare	
Farming Experience	08 year	
Crop grown	Nagli, Paddy, Uradbean, Pigeonpea	
Animal own	04	

Jagrutiben Gangoda is a farmer of village Kosmal, Taluka- Waghai, District- Dangs in Gujarat. Jagrutiben complete her education up to TY in Degree and having 1 Hactare of land. Somehow, she was earning his livelihood by practising rainfed farming in her land. She was growing local and old varieties of Paddy, vari and Tur during *Kharif* season. Under such situation, she needed some additional or supplementary income to increase income, food & Nutritional security of her family. Therefore, she was in search of some alternate sources of income.

By the some sources, she contact KVK imparting knowledge and Vocational Training for Mushroom cultivation. She got knowledge about scientific cultivation of Mushroom and also get Book of Mushroom in Gujarati language as well as one folder in Dangi local language by SMS of KVK. She prepared a small shed of 5*5mt. Information was made available to her for purchasing spawn and preparation of cylinder for Mushroom Production by the training conduct by KVK as well as line department too. Due to adoption of scientific methods of mushroom cultivation, her constant efforts, hard work and timely support from KVK, she was able to increase her income.

The success of Mushroom cultivation in resource poor area is a unique example to generate extra income and women empowerment.

2. Plan, implementation and Support

The team of KVK scientist had made survey of the village to identify adoption gap and Technology needs of farmers as well as their social economic status. The development plan of village for various activity has been prepared. Among various technology gaps, the KVK Scientist have worked out following activities-

- Vocational Training on Mushroom Production
- Give Extra motivation to market her mushroom in large scale
- Providing literature in local language
- Technical Guidance for maintaining the unit
- Advisory service
- Follow-up visit



3. Output

After training she got mushroom spawn and carried out cultivation on her own and with KVK intervention. Install Mushroom cylinder on small room with scientific method and was able to generate extra income from this farming.



4. Outcome

Mushroom cultivation has benefited the farmer to earn additional income from farm waste and use of periphery space in house. labours required only in initial days. She can carry out Mushroom cultivation without disturbing her daily routine.



5. Economic Impact

Sr. No.	Particulars/Items	Before KVK Intervention	After KVK Intervention
1.	Mushroom Cultivation	Only few lady of her village	Mushroom Production adopted by majority of women
2.	Mushroom Production	4-5 Cutting	6-7 Cutting and Marketed @Rs. 200/kg
3.	Technology Intervention	Hot water immersion for sterilization of paddy straw	Use of chemicals in starting only for sterilization (saves time, valuable wood and get healthy or diseases free mushroom)
4.	Economy	6700 income on Investment of 2200 only	8500 income on investment of 2200 only

Success Story-4

Title: Dairy Farming-A boon for tribal women

Dr. S. A. Patel, Dr. P. P. Javiya, J. B. Dobariya, H. A. Prajapati, B. M. Vahuniya & Dr. G. G. Chauhan

1. Situation Analysis/Problem Statement

Manjulaben Maheshbhai Gamit is a woman farmer of Village Biliaamba, Taluka Shubir, District Dangs in Gujarat, educated up to 8th standard and having 1.5 Acre of land. Her husband is also a farmer. They have two children a son and a daughter. Somehow, they were earning their livelihood by practicing rain fed agriculture in their land. She was growing local and old varieties of Paddy, Vari and Ragi during *Kharif* season. She had two bullocks and two cows of local origin. These animals were a burden rather than a source of income due to the meagre productivity; however the bullocks were used for the agricultural operations. Under such situation, it was difficult to sustain house hold food and nutritional security of her family. Therefore, she was in search of some alternate sources of income.



Manjulaben Maheshbhai Gamit

Village: Biliaamba, Taluka-Shubir, District Dangs - (Gujarat)

Age: 32 years , Education: 8th Standard , Size of Land holding: 1.5 Acre

2. Plan, Implement and Support

By some sources, she came to know about some welfare schemes for tribal. First of all she visited a co-operative dairy in a nearby village and she also decided to extended & good mange co-operative dairy in her village. But for that she has to convince her villagers. Meanwhile her village, Biliaamba was care by KVK of the district. A series of animal husbandry activities like meetings, trainings, kisan gosthis, field visits, farm school, visit to a dairy co-operative has been started by KVK scientists. Manjulaben and other interested farmers had purchased one HF cross-bred cow worth Rs. 32,000/- by receiving loan with 50% subsidy.

As cross bred cow was a new enterprise for them, they often faced so many troubles for proper guidance. In the beginning she was not able to maintain the proper health of her animals. She started to visit the KVK in order to get the guidance for maintaining the dairy animals. Animal scientist of KVK was impressed to see her keen interest in dairy farming. It was found that the farmers of this village were rearing the animals with traditional method, imbalance in use of feeds and fodder as well as facing the chronic problem of anoestrus, repeat breeder and poor growth. The Scientist of KVK started a series of activities i.e. training, demonstration, film show etc to deal with the existing problems and observed a positive impact.



3. Output

At present, Manjulaben has adopted scientific concepts to rear her animals as per the suggestions given by KVK scientists. She has extended her farm and today she owned 3 milking HF crossbred cows, 3 heifers, 1-buffalo and 2 calves. She has constructed a pakka house with manger and water tank. She uses proper concentrate feed, green and dry fodder, mineral mixture, timely vaccination, de-worming and diagnosis as per the guidance provide by the scientists of KVK through training, demonstrations and very frequent farm and home visits. She is a purchase chaff cutter for cutting fodder & regularly use this instrument. As result, a strong competition between various farm women to get more and more milk production developed.

4. Outcome

Due to adoption of improved practice, her constant efforts and hard work and timely support from KVK, ATMA Dang & other line departments and Vasudhara dairy she could achieve very impressive growth in dairy farming as per the below table.

5. Impact of KVK

Sr. No.	Particulars/ Items	Before KVK intervention	After KVK intervention
1.	Animals own	1-Desi cows 3- Desi Bullocks	4- HF cows, 3-Heifers, 2 - Calves , 1- Buffalo, 2- Bullocks
2.	Vaccination & De-worming	Not proper	Regular
3.	Milk production (day)	Initial 1.5 lit/day	Average-21 lit/cow/day Average-6 lit/Buffalo/day She could sold milk of about 27 lit/day i.e. highest income up to Rs. 27,000/- per month
4.	Highest milk production per animal per day	2.0 lit/day	Up to 22 lit/day/animal
5.	Anoestrus and repeat breeder problems	Yes	No
6.	Inter-calving interval	More than 2 yrs	12-16 months
7.	Service period	Average-170 days	90-95 days
8.	No. of service per conception rate	7-8	1-2
9.	Growth of calves and heifers	Poor	Good
10.	Age of first calving	5-6 yrs	30-48 months
11.	Economics enhancement Income per month(Net profit)	Not good	Rs.12,000-15,000 per month
	Income through selling of self reared HF animals	Nil	Planned in future
12.	Modern assets in the house because of dairy farming	Nil	Freeze – 1, TV – 1, Telephone - 1 Motorcycle - 1
13.	Bank loan	-----	Paying regularly
14.	C.B. Ratio		1: 1.58

For the success of dairy farming in tribal areas she believes that it is due to intensive guidance provide by the Scientist of KVK. In addition to this, humble support made by Vasudhara dairy as well as state government to provide subsidy for purchasing the cross bred cows and proper marketing facility, respectively.

She feels that having good genetic potential and dairy characters of HF cross bred animals plays an important key role in dairy business. She also emphasized that after starting the dairy farming she needs not to go anywhere for earning employment as well as she could make herself away from the money lender's clutch to satisfy her needs. Now she can easily manage her all needs and able to think in advance for the sake of better education to her children due to dairy farming.

This impressive result of dairy farming turned Manjulaben Maheshbhai Gamit & her husband from poor farmer to a happy progressive dairy farmer. The success of dairy farming in resource poor areas is a unique example to generate the employment as well as empower the tribal economy in the country.

Success Story-5

Honey bee production by scientific and technical methods

J. B. Dobariya, B. M. Vahuniya, Dr. S. A. Patel, Dr. P. P. Javiya, H. A. Prajapati, & Dr. G. G. Chauhan

Dalubhai Pecheryabhai Gamit is a farmer of village Nishanna, Tal: Shubir, Dist: Dang, Gujarat. He is married and his date of birth is 04-05-1970. His Formal education is 10th-standard. He is more interested in the agriculture and honey bee production. So he has decided to do business of hone be production. He have not any types of knowledge about hone be production. But the information of scientific honey bee production is taken in the farmer fair organized by krushi vigyan Kendra, waghai, dang. Now he is strongly decided to do something in honey bee production. He has started his business by input available in his farming.

1. Resources owned by Farmer:

- (i) Land (ha): 3.95 ha
- (ii) Water bodies with irrigation capacity: Bore well
- (iii) Animal Resources including fish and Poultry: 4 cattle (2 HF cows + 2 Calves)
- (iv) Farm Machinery: Honey extract machine, Queen Protector Machine, Bee protection dress, Queen Capacitor and Honey bee box



2. Area

- (i) Field Crops: Paddy, Pigeon pea, Black gram, Finger millet, Little millet
- (ii) Horticultural Crops: Cashew nut, Mango, Onion, Garlic, Tomato, Brinjal
- (iii) Agroforestry/Apiculture/ Sericulture: Bamboo, Tick wood, Honey bee unit
- (iv) Dairy/Poultry/Fisheries/Duckaries/Piggaries(specifyunit): 4 Cattle (2 HF cows + 2 Calves)

3. New Technologies developed:

- Creation of Rani Honey Bee & innovation of stingless bee
- Bee keeping in pot

4. New Technologies adopted in Farming (List only)

- Organic farming
- Cultivation of tomato in net house
- Cashew nut plantation
- Adopted drip irrigation
- Adopted crossbred dairy animals
- Design own honey bee box

5. Activity and year wise income, cost benefit ratio, gross and net income for previous five years

➤ **Field crops**

Sr. No.	Year	Crop	Area (ha)	Production (kg)	Income (Rs.)	Cost of cultivation (Rs.)	Benefit (Rs.)
1.	2015	Paddy	1.15	4200 (Rs 13/Kg)	54600/-	26000/-	28600/-
		Finger millet	1.0	990 (Rs 15/Kg)	14850/-	5000/-	9850/-
2.	2016	Finger millet	1.15	1050 (Rs 15/Kg)	15750/-	6000/-	9750/-
		Black gram	1.00	680(Rs 35/Kg)	23800/-	7000/-	16800
3.	2017	Finger millet	1.15	1050 (Rs 15/Kg)	15750/-	6000/-	9750/-
		Little millet	1.00	1100 (Rs 15/Kg)	16500/-	6500/-	10000/-
4.	2018	Paddy	1.15	4660 (Rs 15/Kg)	70000/-	25000/-	45000/-
		Pigeon pea	0.50	540 (Rs 40/Kg)	21600/-	4500/-	17100/-
5.	2019	Paddy	1.15	5020 (Rs 15/Kg)	75300/-	23000/-	52300/-
		Pigeon pea	0.50	560 (Rs 45/Kg)	25200/-	5000/-	20200/-

➤ **Horticulture crops**

Sr. No.	Year	Crop	Area (ha)	Production (kg)	Income (Rs.)	Cost of cultivation (Rs.)	Benefit (Rs.)
1.	2015	Onion	0.20	3649(Rs. 10/Kg)	36490/-	15000/-	21490/-
		Garlic	0.25	2500(Rs. 35/Kg)	87500 /-	20000/-	67500/-
2.	2016	Tomato	0.50	7500 (Rs. 5 /Kg)	37500/-	25000/-	12500/-
		Brinjal	0.40	2000 (Rs. 4 /Kg)	8000/-	3000/-	5000/-
3.	2017	Cashew nut	0.10	120(140 per kg)	16800/-	5500/-	11300/-
		Mango	0.05	135 (Rs. 21/ kg)	2835/-	1600/-	1235/-
4.	2018	Cashewnut,	0.10	133.33(Rs.150/ kg)	20000/-	5400/-	14600/-
		Mango	0.05	140 (Rs. 22.5/kg)	3150/-	1500/-	1650/-
5.	2019	Cashewnut	0.10	140 (Rs.150/kg)	21000/-	5300/-	15700/-
		Mango	0.05	180 (Rs. 22.5/kg)	4050/-	1400/-	2650/-

➤ **Livestock**

Sr. No.	Year	No of Animal	Milk production	Income (Rs.)	Cost (Rs.)	Net benefit (Rs.)
1.	2015	1 (HF Cows)	1200 liter	Rs. 23 per liter (27600)	15000/-	12600/-
2.	2016	1 (HF Cows)	1350 liter	Rs. 24 per liter (32400)	14000/-	18400/-
3.	2017	2 (HF Cows)	2500 liter	Rs. 25 per liter (62500)	36500/-	26000/-
4.	2018	2 (HF Cows)	2700 liter	Rs. 25 per liter (67500)	37000/-	30500/-
5.	2019	2 (HF Cows)	2900 liter	Rs. 25 per liter (72500)	40000/-	32500/-

➤ **Apiculture**

Sr. No.	Year	Crop	Area	Production (kg)	Income (Rs.)	Cost of cultivation (Rs.)	Benefit (Rs.)
1.	2015	Honey bee	70 box	85 (Rs 1000 per kg)	85000/-	25000/-	60000/-
2.	2016	Honey bee	70 box	90 (Rs 1000 per kg)	90000/-	25000/-	65000/-
3.	2017	Honey bee	70 box	92 (Rs 1000 per kg)	92000/-	20000/-	72000/-
4.	2018	Honey bee	70 box	100 (Rs 1000 per kg)	100000/-	30000/-	70000/-
5.	2019	Honey bee	70 box	130 (Rs 1000 per kg)	130000/-	35000/-	95000/-



6. Productivity Levels achieved in major income generating activity during the last five years. Apiculture (Honey production)

Year	Gross income in lakh	Expenses Income lakh	Net profit Income in lakh
1.	0.85	0.25	0.60
2.	0.90	0.25	0.65
3.	0.92	0.20	0.72
4.	1.00	0.30	0.70
5.	1.30	0.35	0.95

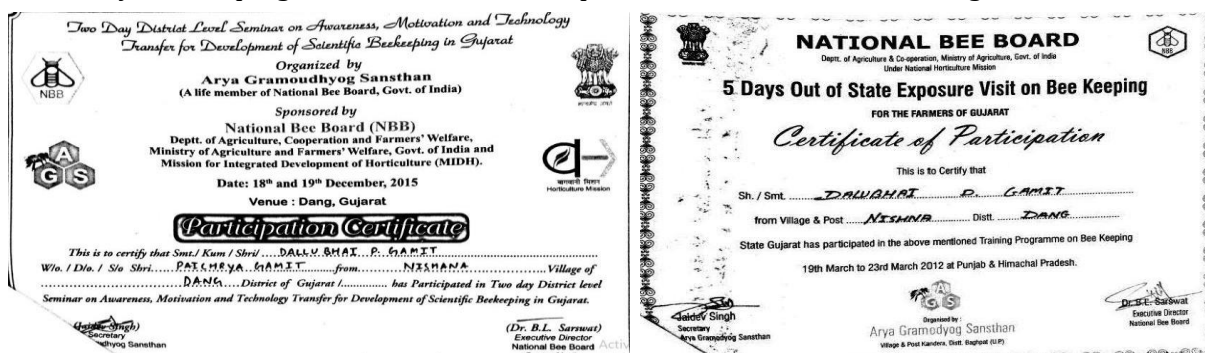
Bee keeping could be able to increase their annual income by Rs. 25000 over and above Rs. 14500 earned by crop production, Horticulture & Animal husbandry during 2018-19. In per cent terms it was about 172 % higher than that of crop production, Horticulture & Animal husbandry. Honey bee keeping activity helped to increase employment by 92 man days (52.79%) for small farmers.

7. Any spread effect on Fellow Farmers

Presently, Dalubhai trains the local tribal's to cultivate honey and has not only attended seminars in Karnataka, Maharashtra, but also in other state. He was associated with NGOs. He wants to conduct more research, if some assistance is provided to him. He also established self-employment centre for tribal farmer at his village Nishanna. He trained more than 250 farmers for scientific bee keeping. Giving knowledge about various government schemes and benefited to them.

8. Innovative interventions inducted in the system of production and management and effects

- Creation of Rani Honey Bee & innovation of stingless bee
- Bee keeping in pot
- Honey bee keeping also double the farmer income
- Honey bee keeping also increase 30-40 % production in sweet corn, mango and cashew nut



9. The contribution of the farmers in terms of

- New package of practices/ managements strategies: Integrated farming approach along with apiculture.
- Saving or resources/ inputs: Pot culture technique instead of wooden boxes for apiculture
- Breaking technology transfer barriers: Knowledge about different eight types of honey bee survived in Dang region & Unawareness about apiculture in farmers
- Prevention of outbreak of diseases and pests: Yes
- Bringing about radical change in management packages/ in contributing record production from land, water or animals
- Recognition received at the Block/District/State level and other sources
- Taken best ATMA Farmers Award

10. Extent of publicity of his/her innovations/contributions/ success story

Anything is possible with the help of hard work and strong will power. This is the message sent to us by farmer in Dangs –**Dalubhai Pecharyabhai Gamit**, who has set an example for us to learn from Dalubhai, a resident of Nishanna village near Ahwa in Dangs is an ordinary farmer in the district, but what makes him special is his in-depth expertise in honey farming. Through intensive research for more than five years, Dalubhai has successfully developed a season cycle that can boost the production of honey with the same number of honey bees.

If the bee-hives are kept in different farmer during different season, it can help boost the production of honey by 30-40%. I have also found a technique that can help the honey-bees survive longer.

Another important innovation that Dalubhai has come up with is the creation of Rani Honey Bee the only bee that can deliver larva within 16 days. In a bee-hive no female bee other than Rani, can deliver larva and if she dies, the entire been-hive gets destroyed. He has attained so many straggle to develop this techniques.

- Out of 8 honey bee of dang district he was produce hones from 3 honey bee
- By the hard work, interest and knowledge, he was found and established honey bee box and honey pot so easily honey is collected
- The box is arranged in crop like maize so the production is increase 30 to 40 percent
- The production is also increase 30 to 40 per cent in crop like mango and cashew nut
- He was trained and gives information to farmers in various training and awareness programme

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

F. Give details of indigenous technology practiced by the farmers in the KVK operational area which can be considered for technology development (in detail with suitable photographs) (ITK)

ITK technology: 01

Sr. No.	Particular	Detail
1.	Name of integration of indigenous technical knowledge (ITK) and traditional Practices (TP).	Value addition in Ragi.
2.	Description of ITK/TP	Value addition in Ragi for daily consumption.
3.	Name of framer/village from where the information collected	Bhartiben Patel Village-Waghai, Ta: Waghai, Dist: Dang
4.	Method of preparation/use of ITK/TP, if any	Prepare a special flour and papad by a special method.
5.	Dose/rate/amount/time of use of ITK/TP,	Use in diet and commercial selling
6.	Benefits/effect of ITK/TP on yield/production/control of disease-pest/saving of inputs etc	Ragi is best food for weight control, diabetes and a cooling the body.
7.	Whether farmers adopting at present? Yes/No If yes, from how many years?	Yes Since last 15-17 years
8.	Any other supportive information	Many SHGs prepare papadi, biscuit and other value added products from ragi flour

ITK technology: 02

Sr. No.	Particular	Detail
1.	Name of integration of indigenous technical knowledge (ITK) and traditional Practices (TP).	Value addition in Bamboo sprouts (pickle)
2.	Description of ITK/TP	The main nutrients in bamboo shoots are protein, carbohydrates, amino acids, minerals, fat, sugar, fiber, and inorganic salts. The shoots have a good profile of minerals, consisting mainly of potassium (K), calcium (Ca), manganese, zinc, chromium, copper, iron (Fe), lower amounts of phosphorus (P) and selenium
3.	Name of framer/village from where the information collected	Bhartiben Patel Village-Waghai, Ta: Waghai, Dist: Dang
4.	Method of preparation/use of ITK/TP, if any	Prepare pickle from newly emerged bamboo sprouts.
5.	Dose/rate/amount/time of use of ITK/TP,	Use in regular diet.
6.	Benefits/effect of ITK/TP on yield/production/control of disease-pest/saving of inputs etc	Bamboo spouts pickle used by village people in their regular diet.
7.	Whether farmers adopting at present? Yes/No If yes, from how many years?	Yes Since last 30 year
8.	Any other supportive information	No

ITK technology: 03

Sr. No.	Particular	Detail
1.	Name of integration of indigenous technical knowledge (ITK) and traditional Practices (TP).	Rice variety:- <i>Lal -kada</i>
2.	Description of ITK/TP	Red seeded varieties
3.	Name of framer/village from where the information collected	Kishorbhai Gavit, Village- Mokhamal, Ta: subir, Dist: Dang
4.	Method of preparation/use of ITK/TP, if any	For local and sometime urban consumption
5.	Dose/rate/amount/time of use of ITK/TP,	It's indigenous variety of the Dang district and many people use this variety for consumption.
6.	Benefits/effect of ITK/TP on yield/production/control of disease-pest/saving of inputs etc	Its increase Haemoglobin, maintain sugar, insulin and vitamin-B complex
7.	Whether farmers adopting at present? Yes/No If yes, from how many years?	Yes Since last 30 to 40 years
8.	Any other supportive information	Highly demanded in urban area

ITK technology: 04

Sr. No.	Particular	Detail
1.	Name of integration of indigenous technical knowledge (ITK) and traditional Practices (TP).	Rice variety :- <i>Futiya</i>
2.	Description of ITK/TP	Small seeded, red & white color seed (90-100 days variety)
3.	Name of framer/village from where the information collected	Sureshbhai Chaurya Village – Koshmal, Ta: Waghai, Dist: Dang
4.	Method of preparation/use of ITK/TP, if any	Consumption of <i>Futiya</i> rice is a Good for pregnant woman.
5.	Dose/rate/amount/time of use of ITK/TP,	Showing season is <i>kharif</i>
6.	Benefits/effect of ITK/TP on yield/production/control of disease-pest/saving of inputs etc	Good nutritional quality
7.	Whether farmers adopting at present? Yes/No If yes, from how many years?	Yes since last 30 to 35 years
8.	Any other supportive information	The genetic material in the dang district is limited, so cultivation of <i>Futiya</i> rice is restricts to the some farmers only.

ITK technology: 05

Sr. No.	Particular	Detail
1.	Name of integration of indigenous technical knowledge (ITK) and traditional Practices (TP).	Rice:-variety :- Ambamor
2.	Description of ITK/TP	Round seeded, scented variety, more sweetness (120 days variety)
3.	Name of framer/village from where the information collected	Kishorbhai Gavit, Village – Mokhamal, Ta: Ahwa, Dist: Dang

4.	Method of preparation/use of ITK/TP, if any	Cooked rice is used in daily diet
5.	Dose/rate/amount/time of use of ITK/TP,	Showing season is <i>khariif</i>
6.	Benefits/effect of ITK/TP on yield/production/control of disease-pest/saving of inputs etc	Highly demanded in urban area due to its scented & nutritive value
7.	Whether farmers adopting at present? Yes/No If yes, from how many years?	Yes Since last 35 years
8.	Any other supportive information	Due to scented variety, at the time of cooking the pleasant smell come from cooked rice.

ITK technology: 06

Sr. No.	Particular	Detail
1.	Name of integration of indigenous technical knowledge (ITK) and traditional Practices (TP).	Rice:-variety :-Bangalo
2.	Description of ITK/TP	Scented, sweet and soft for eating (130-140 days variety)
3.	Name of framer/village from where the information collected	Nileshbhai Gayakvad Village -Dagdiamba, Ta: Waghai, Dist: Dang
4.	Method of preparation/use of ITK/TP, if any	For local consumption
5.	Dose/rate/amount/time of use of ITK/TP,	Showing season is <i>khariif</i>
6.	Benefits/effect of ITK/TP on yield/production/control of disease-pest/saving of inputs etc	Good quality for consumption
7.	Whether farmers adopting at present? Yes/No If yes, from how many years?	Yes Since last 35 to 40 years
8.	Any other supportive information	Bungalo is a scented and sweet variety of rice. When rice is cooked its smell is pleasant and same as Basmati Rice. Mostly grown in Dang and Valsad District .

5.1. Indicate the specific training need analysis tools/methodology followed for

A. Practicing Farmers

- a) Organic farming
- b) Use of mulching with drip irrigation in mulching
- c) Organic protection measure

B. Rural Youth

- a) Farm mechanization
- b) Use of various Agri apps
- c) Bee keeping
- d) Mushroom production

C. In-service personnel

- a) Use of bank credit in Agriculture
- b) Organic farming
- c) Pont for doubling farmer's income

5.2. Indicate the methodology for identifying OFTs/FLDs

For OFT:

- i) PRA (√)
- ii) Problem identified from Matrix

- iii) Field level observations (√)
- iv) Farmer group discussions
- v) Others if any

For FLD:

- i) New variety/technology (√)
- ii) Poor yield at farmer's level (√)
- iii) Existing cropping system (√)
- iv) Others if any

5.3. Field activities

- i. Name of villages identified/adopted with block name (from which year) -
- ii. No. of farm families selected per village :
- iii. No. of survey/PRA conducted :
- iv. No. of technologies taken to the adopted villages
- v. Name of the technologies found suitable by the farmers of the adopted villages:
- vi. Impact (production, income, employment, area/technological- horizontal/vertical)
- vii. Constraints if any in the continued application of these improved technologies

5.4. No. and Name of villages adopted for Doubling Farmers Income. Indicate whether benchmark surveys of the villages are done or not: Yes, Done

No. of villages: 02

Name of villages: Borpada & Dokpatal

6. Linkage

A. Functional linkage with different organizations

Name of organization	Nature of linkage
Navsari Agricultural University	Provides technical experts for various disciplines as well as practical training to the trainees during educational tour. Teaching at Agricultural college & politechnique of NAU, Waghai.
NAIP, ICAR	Technical support
Agricultural department, District Panchayat , Ahwa Dept. of Horticulture, Ahwa	Helps in organizing in service training for VLWs, khedut shibir and conducting sponsored training programme by receiving the grant from DAO Ahwa.
ATMA, Dangs	Technical support, joint organization of farmers fair.
FTC, Dangs, and Tapi	Technical support
Forest dept., South Dangs, Ahwa.	Helps in organizing van mahotsav, farmers training.
District Information Department, Ahwa.	Publish the activities in news papers.
Veterinary college, NAU, Navsari, Department of Ani. Husb., Ahwa Vasudhara dairy, Waghai	Organization of programme jointly- animal treatment camp, khedut shibir, calf rally etc.
Mahila samakhya,Ahwa.	They depute the SHG for training in the KVK.
District Watershed Development Agency, Ahwa	Training & technical advice.
Lotus foundation, Waghai, World vision, Waghai Rowadan trust, Ahwa, ICDs, AKRS (Agakhan)	Training & field demonstration.
Bhimrao Ambedkar Trust	Training & technical advice.
Naheru Yuva Kendra, Ahwa, Dang	Training & technical advice
Collectorate and District Development Officer, Dang	Election related activities, Krishi Mahotsava and other Government programmes.

NB: The nature of linkage should be indicated in terms of joint diagnostic survey, joint implementation, participation in meeting, contribution received for infrastructural development, conducting training programmes and demonstration or any other

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

Sr. No.	Name of Scheme	Budget Head	Grant Sanction (Rs.)	Expenditure made up to 31 march 2020 (Rs.)
1.	Strengthening of testing of university technologies through FLDs. Adaptive Trial Phase-II.	12306-D	2,00,000/-	2,00,000/-
2.	Mega Seed Project-TSP	2068-B	23,060/-	23,060/-
3.	Cluster Front Line Demonstration (CFLD) on pulses funded under NFSM 2017-18	2105-B	1,80,000/-	1,12,775/-
4.	Atmosphere and climate research modelling observing systems and services (ACROSS)	2121-02	4,88,000/-	0.00/-
5.	Paramparagat Krishi Vikas Yojana (PKVY)	2125-03	3,30,000/-	25,634/-
6.	Implementation of Animal Dieses Campaign	2128-04	15,000/-	0.00/-
7.	Fertilizer Application Awarness Campaign	2129-03	50,000/-	0.00/-
8.	Tree Plantation Campaign	2130-04	10,000/-	0.00/-
9.	Microbial-based Agricultural Waste Management using Vermicomposting under (SAP)	2132-04	22,700/-	0.00/-
10.	Sankal se Siddhi Programme, Waghai	18120-06	91,299/-	91,299/-

C. Details of linkage with ATMA

a) Is ATMA implemented in your district: Yes/No = Yes

Coordination activities between KVK and ATMA

S.N.	Action point	Dang	
		Activity	Participate
1.	Monthly interface meeting of PC, KVK and PD, ATMA	14	84
2.	Join visit to village by PC, KVK and ATMA	9	124
3.	Extension Activity		
	1. Field day	-	-
	2. Kisan Mela	2	1286
	3. Kisan gothi	8	909
	4. farm school organized	2	52
	5. Farmers training	5	301
	a) Within district	2	1404
	b) Within state	3	280
	c) Inter state	2	2
	6. Training		
	a) Within district	12	1066
	b) Within state	--	--
c) Inter state	2	59	

	7. BAFA related activities	-	-
4.	Other		
	Farmers-Scientists Intn.	2	140
	Demonstration(Agri. + Allied)	4	960
	capacity building	1	60
5.	Present/Absent	Yes	Yes

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: Activities may be specified under DAESI, YCMOU study centres and others

KVK Name	Name of scheme	Name of Agency (Central/state)	Funds received (Rs.)	Activities organized	Operational Area	Remarks
KVK-Waghai	ATMA	State		68	Dang	-
	MNREGA	-	-	-	-	-
	NHM	State	-	-	Dang	-
	RKVY	State	-	-	Dang	-
	DRDA	State	-	1	Dang	-
	Zila Panchyat	State	-	-	Dang	-
	Seed Village	State	-	-	Dang	-
	NAIP	-	-	-	-	-
	Climate Change	-	-	-	-	-
	Others (Plz. Specify)	Sevadham	-	2	-	-
	DAO	State	-	6	Dang	-
	ADHO	State	-	8	Dang	-

8. Innovator Farmer's Meet

Sr. No.	Particulars	Details
1.	Are you planning for conducting Farm Innovators meet in your district?	Yes
2.	If Yes likely month of the meet	Dec., 2020
3.	Brief action plan in this regard	Arrange innovative farmers meet with farmers of Ahwa taluka

9. Farmers Field School (FFS)

Sr. No	Thematic area	Title of the FFS	Budget proposed in Rs.	Brief report
1.	Income generation	Package of practices of groundnut	-	-
2.	Income generation	Package of practices of Nagali	-	-
3.	Income generation	Package of practices of Blackgram	-	-
4.	Income generation	Scientific cultivation of Okra	-	-
5.	Income generation	Scientific cultivation and pest management in okra	-	-
6.	Income generation	Scientific cultivation of Okra	-	-
7.	Income generation	Pashupalan farm school	-	-

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

Sr. No.	Discipline	Farmers Feedback on the demonstrated technologies:
1.	Crop Production	List of recommended weedicides for organic farming
2.		GNN 8 is good variety of finger millet for higher yield & early maturity
3.		GNP 2 is excellent variety of pigeon pea both for seed & vegetable purpose
4.		GNR 6 excellent short duration variety of paddy but susceptible to lodging
5.	Horticulture	Need to develop proper marketing channel for Turmeric.
6.		Problem of yellow vein mosaic virus was reported in okra.
7.	Plant Protection	Require trap similar as Nauroji fruit fly trap for Tea mosquito bug in cashew
8.		GG 5 variety of gram gave excellent yield under conserve moisture & resistant to wilt
9.	Animal Science	Feeding mineral mixture and timely deworming leads to better health and body growth in cross breeds calves
10.		Feeding bypass fat along with mineral mixture in cross breed cattle resulted increase milk production and better health
11.	Home Science	After demonstration, farm women started growing 6 to 8 types of vegetables in scientific way in their backyard by using waste water
12.		Through Kitchen garden farmers get fresh and organic vegetables at low cost
13.		Reduce physical fatigue and hazard due to use of Twin wheel hoe

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

Sr. No.	Discipline	Feed Back
1.	Crop Production	Need to develop long duration and high yielding variety of finger millet
2.	Horticulture	Navsari Turmeric 1 variety is not infected by Rhizome rot disease.
3.		Require resistant variety of okra against YVM virus.
4.	Plant Protection	Need to develop traps for pests of rice, pulses, mango & cashew nut. (Rice: Gundhi bug; Pulse: Mites; Mango: Hopper; Cashew nut: TMB)
5.		Development of false smut resistant variety in rice.
6.		Tolerant/resistant variety of cashew nut against tea mosquito bug.
7.		Pest disease control measures for organic farming.
8.	Animal Science	Measures must be taken for conservation of local Dangi cattle breed as there is meager number of animals available in its own breeding track of Dangi cattle.
9.	Home Science	Due to use of Twin wheel hoe Labour cost reduce and Time saving and also increase work efficiency
10.	Extension Education	Need to develop proper post harvest chain from farm to market.

11. Technology Week celebration during 2019-20: Yes/No, If Yes

Period of observing Technology Week: From 15-02-2020 to 19-02-2020

Total number of farmers visited : 1871

Total number of agencies involved : 20

Number of demonstrations visited by the farmers within KVK campus: 05

Other Details

Name of KVK	Types of Activities	No. of Activities	Number of Farmers
Dang	Gosthies	1	120
	Lectures organized	37	1871
	Exhibition	2	1286
	Film show	2	1012
	Fair	4	1559
	Farm Visit	4	1559
	Diagnostic Practicals	50	50
	Supply of Literature (No.)	1	1871
	Supply of Seed (q)	0	0
	Supply of Planting materials (No.)	0	0
	Bio Product supply (Kg)	0	0
	Bio Fertilizers (q)	0	0
	Supply of fingerlings	0	0
	Supply of Livestock specimen (No.)	0	0
	Total number of farmers visited the technology week	101	1871
	Number of organizations participated	20	20

Detail of Technology Week celebration during 2019-20

Sr. No.	Day/ Date	Thematic area	Topic / Technology covered	No. of participants		
				M	F	T
1.	First 15/02/2020 Saturday	Seminar cum Pradhan Mantri Fasal Bima Yojana	<ul style="list-style-type: none"> ➤ Pradhan Mantri Fasal Bima Yojana ➤ Bank loan yojana ➤ Pashu Dhiran ane Pashu Bima Yojana ➤ Organic production of <i>Safed musli</i> ➤ Crop loan Yojana ➤ Pulse production by organic farming ➤ Doubling farmers income ➤ Seals management of organgnic farm produce ➤ SRI technology of Paddy ➤ Organic farming in cereal crops ➤ State & Central Government Schemes for the farmers 	87	33	120

2.	2 nd day 16/02/2020 Sunday	Seminar cum Paramparagat Krishi Vikas Yojana	<ul style="list-style-type: none"> ➤ Paramparagat Krishi Vikas Yojana ➤ Sales management of organic farm produce ➤ Plant Protection in organic farming ➤ Doubling farmers income ➤ Making of <i>Jeevamrut</i> and <i>Panchagavya</i> ➤ Structure and function of ATMA ➤ Demand of organic produce in megacity 	102	51	153
3.	3 rd day 17/02/2020 Monday	Farmer fair cum Sankalpe se sidhi Programme, Exhibition, Lectures, Method Demonstration	<ul style="list-style-type: none"> ➤ Cash studies vediography of Ashokbhai, Ramchandrabhai Patel, Purshotambhai Patel and Apna Bakeri ➤ Importance of green manuring in Organic farming ➤ Environmental protection through organic farming ➤ Organic farming in fruit crops ➤ Different methods of preparation of bio fertilizer ➤ Main elements of Organic farming ➤ Organic farm produces and marketing management ➤ Encouragement of organic farming in dry land areas ➤ Farmers feedback towards organic farming ➤ Doubling farmers income 	420	280	700
4.	4 th day 18/02/2020 Tuesday	Farmer fair cum Sankalp Se Siddhi programme, Exhibition, Lectures, Method Demonstration, TV & Film show, Kishan Gosthi	<ul style="list-style-type: none"> ➤ Cash studies vediography of Manoharbhai (Surat-Kamrej), Valjibhai Marad (Marad-Kach), Nareshbhai (Anand) ➤ Information of Submission on Agriculture Mechanisation ➤ Honee bee production and pest control in vegetable crop ➤ Scientific farming in 	357	229	586

			<ul style="list-style-type: none"> ➤ mashroom crops ➤ “Shree” methods in Paddy ➤ Scientific crop production and its importance ➤ Organic farm produces and marketing management ➤ Processing and value addition of turmeric and its marketing ➤ Importance of Farm mechanisation 			
5.	5 th day 19/02/2020 Thursday	Training cum awareness programme on Protection of plant varieties and Farmers rights Act 2001, Exhibition, Lectures, Method Demonstration, TV & Film show, Kishan Gosthi	<ul style="list-style-type: none"> ➤ Cash studies vedigraphy of Manoharbai (Surat-Kamrej), Valjibhai Marad (Marad-Kach), Nareshbai (Anand) ➤ Information of Submission on Agriculture Mechanisation ➤ Honee bee production and pest control in vegetable crop ➤ Scientific farming in mashroom crops ➤ “Shree” methods in Paddy ➤ Scientific crop production and its importance ➤ Organic farm produces and marketing 	206	106	312
Total				1172	699	1871

12. Interventions on drought mitigation (if the KVK included in this special programme)

A. Introduction of alternate crops/varieties

State	Crops/cultivars	Area (ha)	Number of beneficiaries
-	-	-	-

B. Major area coverage under alternate crops/varieties

Crops	Area (ha)	Number of beneficiaries
Oilseeds	-	-
Pulses	-	-
Cereals	-	-
Vegetable crops	-	-
Tuber crops	-	-
Total	-	-

C. Farmers-scientists interaction on livestock management

State	Livestock components	Number of interactions	No. of participants
-	-	-	-

D. Animal health camps organized

State	Number of camps	No. of animals	No. of farmers
Gujarat	01	27	27
Total	01	27	27

E. Seed distribution in drought hit states

State	Crops	Quantity (qtl)	Coverage of area (ha)	Number of farmers
-	-	-	-	-

F. Large scale adoption of resource conservation technologies

State	Crops/cultivars and gist of resource conservation technologies introduced	Area (ha)	Number of farmers
-	-	-	-

G. Awareness campaign

State	Meetings		Gosthies		Field days		Farmers fair		Exhibition		Film show	
	No.	No. of farmers	No.	No. of farmers	No.	No. of farmers	No.	No. of farmers	No.	No. of farmers	No.	No. of farmers
-	-	-	-	-	-	-	-	-	-	-	-	-

13. Impact

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

1. Title: Impact of training in adopted villages of KVK-Dang (Concluded)

Investigator : Mr. J.B.Dobariya, Scientist (Extension Education)
: Dr. D.B.Bhoi, Scientist (Veterinary Science)
: Dr. Hement sharma, (Senior scientist and head)

Background:

KVK is the Farm Science Center with multidisciplinary aims to transfer the latest technology to farmers in the district. The mandates of KVKs are conducting on farm testing, organizing training, front line demonstrations (FLDs) and to work as knowledge resource for overall agricultural and rural development through its various research and transfer of technology mechanisms. The transfer of modern agricultural practices to the farmers with pre-conceived thought of traditional farming calls for a well developed and organized training programmes for the farmers. Training is a critical input for quick transfer of technology and a way to improve their agriculture and to uplift their socio economic condition. Keeping this fact in view, many Krishi Vigyan Kendras have been started all over the country. The past studies clearly indicated that training is an important medium to impart the latest technical knowhow to the farmers. Other extension activities carried out by the KVK was also important in TOT. Keeping this in view, it was felt worthwhile to study "The impact of KVK activities in adopted villages of KVK-Dang".

Objectives:

- 1 To study the profile of the respondents.
- 2 To know the impact of training in adopted villages of KVK-Dang.
- 3 To ascertain the relationship between dependent and independent variables

Methodology:

The present study was conducted in dang district of Gujarat. For the purpose of this study, 20 Villages of Waghai, Ahwa and Subir taluka were selected of which 10 adopted village and 10 non adopted village was selected purposively from dang district to conduct the study by following the random sampling methods. A total sample of 200 respondents, 10 from each village was selected at Purposive and Random sampling, PRA method were be used. The information of each respondents was collected with the help of pre tested, structured interview schedule by personal interview. The collected data were analyzed and interpreted in the light of the objectives with appropriate statistical tools like percentage, rank, mean and standard deviation. The impact of KVK activities in adopted villages have shown by comparing the tables. The resultant changes occurred due to main training carried out by the Scientist of KVKs.

Findings:

The outcome of the present study has been presented here after applying the appropriate statistical analysis. The results have been described under the following sub heads in the light of the objectives of the study.

1 Socio-economic and personal characteristics of the respondents

The data regarding socio-economic and personal characteristics of respondents were analyzed and presented in the following sequence.

1.1 Age

The respondents were asked to indicate their age in completed year. Age refers as the number of years completed by an individual at the time of collection of information. The data in this regards were grouped into three categories viz; (i) Young age (up to 35 years), (ii) Middle age (36 to 50 years) and (iii) Old age (Above 50 years). The data collected about their age are presented in table 1.

Table 1: Distribution of respondents according to their age (n= 200)

Sr.No.	Age groups	Category of farmers			
		Beneficiary(n=100)		Non beneficiary(n=100)	
		Number	Per cent	Number	Per cent
1	Young age	30	30	23	23
2	Middle age	52	52	45	45
3	Old age	18	18	32	32
	Total	100	100	100	100

The data in Table 1 revealed that 52.00 per cent of beneficiary and 45.00 per cent of non beneficiary farmers belonged to middle age group, whereas 18.00 per cent of beneficiary and 32.00 per cent of non beneficiary farmers belonged to old age group. Thus, only 30.00 per cent of beneficiary farmers and only 23.00 percent of non beneficiary farmers could be observed under young age category.

1.2 Education

Education plays an important role in bringing out desirable changes in human behavior in the form of knowledge, skill and attitude. Education is valued as means of increasing level of knowledge and information. Keeping this in view, the level of education of the respondents was studied. The data in this regards was collected and grouped as; Illiterate, Primary level of education (1st to 7th standard), Secondary and Higher secondary level of education (8th to 12th standard) including diploma and College level of education (above 12th standard). The data in this regards are presented in table 2.

Table 2: Distribution of respondents according to their education (n= 200)

Sr.No.	Level of education	Category of farmers			
		Beneficiary(n=100)		Non beneficiary(n=100)	
		Number	Per cent	Number	Per cent
1	Illiterate	00	00.00	05	05.00
2	Primary level of education	100	100.00	95	95.00
3	Secondary and Higher secondary level of education	00	00.00	00	00.00
4	College level of education and above	00	00.00	00	00.00
	Total	100	100	100	100

It is seen from Table 2 that 100.00 per cent of beneficiary and 100.00 per cent of non beneficiary farmers had educated up to primary level.

1.3 Land holding

In present study the information was collected from the respondents. Press Information Bureau Government of India Ministry of Agriculture & Farmers Welfare the operational holdings are categorized in five size classes. They all were grouped into five categories, viz.; (i) Marginal farmer (Below 1.00 ha) (ii) Small farmer (1.1 ha to 2.00 ha), (iii) Semi medium (2.1 ha to 4.0 ha), Medium (4.1 ha to 10.00 ha) and Large (10.00 ha and above) the classified data are presented in table 3.

Table 3: Distribution of respondents according to their land holding (n= 200)

Sr.No.	Land holding	Category of farmers			
		Beneficiary (n=100)		Non beneficiary (n=100)	
		Number	Per cent	Number	Per cent
1	Marginal farmer (Below 1.00 ha)	40	40	47	47
2	Small farmer (1.1 ha to 2.00 ha),	33	33	28	28
3	Semi medium (2.1 ha to 4.0 ha)	17	17	20	20
4	Medium (4.1 ha to 10.00 ha)	09	09	05	05
5	Large (10.00 ha and above)	01	01	00	00
	Total	100	100	100	100

It is observed from Table 3 that nearly two third beneficiary farmers (73.00%) and (75.00 %) possessed Small and marginal land holding, followed by semi medium to Medium land holding (26.00%) and

(25.00%) respectively, Thus, in case of beneficiary farmers only (01.00%) respondents had large land holding, and No any large holder farmer found in non adopted village.

1.4 Family type: Joint/Nuclear

Each type of family has their respective advantages and disadvantages. However type of family determines the progressiveness of the family in the society. It is the common phenomenon that joint families are more progressive and relatively resource each. Moreover the number of the joint family system is better involved in development activities for income generation. Distribution of the type of the respondents were analyzed and presented in table below.

Table 4: Distribution of respondents according to their family Type (n= 200)

Sr.No.	Family Type	Category of farmers			
		Beneficiary (n=100)		Non beneficiary(n=100)	
		Number	Per cent	Number	Per cent
1	Joint	39	39	57	57
2	Nuclear	61	61	43	43
	Total	100	100	100	100

The data furnished in Table 4 indicated that near half of the beneficiary and non beneficiary farmers (39.00 % and 57.00%, respectively) had joint family type whereas, 61.00 per cent of beneficiary and 43.00 per cent of non beneficiary farmers belonged to Nuclear family Type.

1.5 Family size

This referred to the total number of members in the respondents' family consisting of husband, wife, children and other dependent. The size of family was measured on the basis of total number of family members of respondents. It was measured with the help of SES scale developed by Venkatarmaiah (1983). They all were grouped into three categories, viz.; (i) Small size of family (Up to 5 members) (ii) Medium size of family (6 to 8 members) and iii) Large size of family (Above 8 members). The classified data are presented in table 5.

Table 5: Distribution of respondents according to their family size (n= 200)

Sr.No.	Family size	Category of farmers			
		Beneficiary (n=100)		Non beneficiary(n=100)	
		Number	Per cent	Number	Per cent
1	Small size of family (Up to 5 members)	42	42	41	41
2	Medium size of family (6 to 8 members)	47	47	47	47
3	Large size of family(Above 8 members)	11	11	12	12
	Total	100	100	100	100

The data furnished in Table 5 indicated that near half of the beneficiary and non beneficiary farmers (47.00 % and 47.00%, respectively) had medium family size whereas, 42.00 per cent of beneficiary and 41.00 per cent of non beneficiary farmers belonged to small family size. Thus, 11.00 per cent of beneficiary and 12.00 per cent of non beneficiary farmers belonged to large family size.

1.6 Social participation

Social participate denotes the evolvment of an individual in various social, religious, Political, educational as well as cultural groups, organization and institutions. The individual who have generally involved in social participation, they are definitely resourceful, highly advanced and empowered. Maximum cases it is seen that individuals having less/ negligible level or high participation due to social participation. The extent of social participation tells about the progressiveness and social standing of a person in the society. A man with greater exposure is supposed to be more up to date and more enthusiastic about new innovations.

Table 6: Distribution of respondents according to their Social participation n=200

Sr.No	Organization	Level of Participation						Level of Participation					
		Beneficiary(n=100)						Non beneficiary(n=100)					
		Regularly Participate		Occasionally Participate		Not Participate		Regularly Participate		Occasionally Participate		Not Participate	
		F	%	F	%	F	%	F	%	F	%	F	%
1	Co-operative society	76	76.00	23	23.00	1	1.00	26	26.00	52	52.00	22	22.00
2	Panchayat	50	50.00	48	48.00	2	2.00	16	16.00	75	75.00	9	9.00
3	Social Organization	40	40.00	46	46.00	14	14.00	5	5.00	51	51.00	44	44.00
4	Cultural	36	36.00	43	43.00	21	21.00	6	6.00	34	34.00	60	60.00

	Organization												
5	Religious Organization	38	38.00	32	32.00	30	30.00	8	8.00	27	27.00	65	65.00
6	Educational Organization	38	38.00	34	34.00	28	28.00	3	3.00	44	44.00	53	53.00
7	Any other (Specify)	26	26.00	52	52.00	22	22.00	2	2.00	46	46.00	52	52.00

As observed from the table majority of the respondents were regularly participated in Co-operative society (76.00 %) and Panchayat (50.00%) in the adopted village while in non adopted village were regularly participated in Co-operative society (26.00 %) and Panchayat (16.00%) that shows so many differences compared to adopted village.

As observed from the table majority of the respondents were occasionally participated in Panchayat (48.00 %) and Social Organization (46.00%) in the adopted village while in non adopted village were occasionally participated in Panchayat (75.00%) and Social Organization (51.00 %).

As per the observed from the table majority of the respondents were not Participated in Religious Organization (30.00 %) and educational organization (28.00%) in the adopted village while in non adopted village majority of the respondent were not participated in cultural organization (60.00%), religious organization (65.00 %) and Educational Organization (53.00 %) respectively. The result showed that more number of the non beneficial farmers has very less participated in the social activities.

1.7 Cosmo politeness

Cosmo politeness is the degree to which an individual is oriented to outside of the immediate social system. It also otherwise indicate the frequency of visit made by the individuals to the nearby town or urban area to accelerate their exposure and develop competency in managing all the farm activities. The responses collected have been analyzed and presented in the table below.

Table 7: Cosmopolite behavior of the respondents n=200

Sr.No	Organization	Level of Participation						Level of Participation					
		Beneficiary(n=100)						Non beneficiary(n=100)					
		Regularly		Occasionally		Never		Regularly		Occasionally		Never	
		F	%	F	%	F	%	F	%	F	%	F	%
1	Post office	40	40.00	59	59.00	01	01.00	10	10.00	75	75.00	15	15.00
2	Primary Health Center	32	32.00	67	67.00	01	01.00	14	14.00	72	72.00	14	14.00
3	Block head quarter	22	22.00	73	73.00	05	05.00	9	9.00	67	67.00	24	24.00
4	Credit institution	17	17.00	61	61.00	22	22.00	2	2.00	53	53.00	45	45.00
6	District headquarter	21	21.00	61	61.00	18	18.00	3	3.00	65	65.00	32	32.00
7	Government officials	13	13.00	69	69.00	18	18.00	0	0.00	76	76.00	24	24.00
8	Any other (Specify)	12	12.00	61	61.00	27	27.00	0	0.00	54	54.00	46	46.00

The data in the table revealed that majority (40.00 %) of the respondent had regularly visited to the Post office and Primary Health Center (32.00 %). Majority of the respondent had occasionally visited to other organizations as mentioned in the table. And percentage of never visit of organization is higher in non adopted village as compared to adopted village. Hence, it can be concluded that the responding attaining KVK training programmes had better cosmopolite behavior.

1.8: Media Exposure

Source of information are an important criterion which determine the literacy level. Exposure to the latest developments and use in day to day activities. Attempt was therefore made in the study to assess the extent of exposure of the respondent to various source of information. Information collected on a 3 point scale consisting of "regularly" Occasionally, and 'never' with the corresponding score of 3, 2, and 1.

Table 8: Extent of exposure of various media**n=200**

Sr.No	Organization	Contact Pattern						Contact Pattern					
		Beneficiary(n=100)						Non beneficiary(n=100)					
		Regularly		Occasionally		Never		Regularly		Occasionally		Never	
		F	%	F	%	F	%	F	%	F	%	F	%
1	News paper	46	46.00	30	30.00	24	24.00	6	6.00	25	25.00	69	69.00
2	Farm broadcast	18	18.00	64	64.00	18	18.00	1	1.00	22	22.00	77	77.00
3	Farm telecast	17	17.00	36	36.00	47	47.00	1	1.00	13	13.00	86	86.00
4	Farm periodicals	19	19.00	43	43.00	38	38.00	0	0.00	11	11.00	89	89.00
5	Technical bulletins	18	18.00	38	38.00	44	44.00	1	1.00	8	8.00	91	91.00
6	Exposure visit	15	15.00	43	43.00	42	42.00	0	0.00	15	15.00	85	85.00
7	Meeting/Training	26	26.00	66	66.00	8	08.00	1	1.00	25	25.00	74	74.00
8	Farmer fair/Exhibition	23	23.00	66	66.00	11	11.00	1	1.00	33	33.00	66	66.00
9	Mobile	25	25.00	50	50.00	25	25.00	14	14.00	24	24.00	62	62.00
10	Internet	14	14.00	45	45.00	41	41.00	5	5.00	19	19.00	76	76.00
11	Any other (Specify)	11	11.00	50	50.00	39	39.00	0	0.00	26	26.00	74	74.00

As observed from the data in the table, Majority of (46.00 %) of the respondents had regularly contact to News paper followed by attaining Meeting/Training (26.00 %) in adopted village. In case of non adopted village Majority of (14.00 %) of the respondent had regularly contact to mobile that is less as compared to adopted village. The table itself concluded that the farmers of adopted village were regularly contact of various mass media that help them to increase farm production.

1.9 Housing Pattern

The type of residential houses indicates the status of an individual in the society. The person having more income usually resides in a better house. Data collected on of housing pattern have been analyzed and presented in the table below.

Table 9: Distribution of housing pattern of the respondent**n=200**

Sr.No	Category	Beneficiary(n=100)		Non beneficiary(n=100)	
		Frequency	Percentage	Frequency	Percentage
1	Hut	00.00	00.00	00.00	00.00
2	Thatched	20.00	20.00	50.00	50.00
3	Semipucca	49.00	49.00	46.00	46.00
4	Pucca	31.00	31.00	04.00	04.00
	TOTAL	100	100	100	100

It is observed from the table that in adopted village that No single person in the study area had hut type of house. Majority of the respondents had Semipucca type of house (49.00 %) followed by Pucca type (31.00 %)

In case of non adopted village it is observed from the table that No single person in the study area had hut type of house. Majority of the respondents had Thatched type of house (50.00 %) followed by Semipucca type (46.00 %)

1.10 Possession of farm power

Possession of farm implements the progressiveness of a farmer and involvement in scientific farming. It is the assumption that farmer using more implements in farm operation usually go for commercial farming. Possession of farm implements by the sample respondents is appeared in the table.

Table: 10 Extent of possession of farm power**n=200**

Sr.No	Farm Power	Beneficiary(n=100)				Beneficiary(n=100)			
		Yes		No		Yes		No	
		F	%	F	%	F	%	F	%
1	Iron plough	95	95.00	5	5.00	97	97.00	03	03.00
2	Sprayer	62	62.00	38	38.00	26	26.00	74	74.00
3	Duster	46	46.00	54	54.00	2	2.00	98	98.00
4	Weeder	34	34.00	66	66.00	5	5.00	95	95.00
5	Seed drill	12	12.00	88	88.00	2	2.00	98	98.00
6	Tractor/Power tiller	16	16.00	84	84.00	23	23.00	77	77.00
7	Winnower	57	57.00	43	43.00	52	52.00	48	48.00
8	Pump set	41	41.00	59	59.00	24	24.00	76	76.00
9	Any other (Specify)	13	13.00	87	87.00	15	15.00	85	85.00

From the above calculated table, it is revealed that majority of the respondent was possess Iron plough, Sprayer, Winnower used in their farm operations, Considerer able percentage of the farmers had also duster and pumset, the table has a whole revealed that the beneficiary respondents had conscious about of the farm mechanization which me be due to labour scarcity, motivation from KVKs and extension functionaries.

1.11 Family Annual Income:

Income of the family influence decision making habit of an individuals and family. It also regulate for commercial farming and adoption of improved practices It is very difficult to assess the annual income of the farmers as there are not keeping any records. The aspiration and goals if an individual is more of less ascertained

on the basis of his average annual income. However, sufficient interaction made by the investigator to record the annual income as reflected in table.

Table: 11 Distribution of respondent according to annual income **n=200**

Sr.No.	Annual Income	Beneficiary(n=100)		Non beneficiary(n=100)	
		Frequency	Percentage	Frequency	Percentage
1	Upto : 25000	13.00	13.00	28.00	28.00
2	25000 to 50000	83.00	83.00	69.00	69.00
3	50000 to 1.0 lakh	03.00	03.00	03.00	03.00
4	1.1 lakh to 3.0 lakh	01.00	01.00	00.00	00.00
5	3.0 lakh to 5 lakh	00.00	00.00	00.00	00.00
6	Above 5.0 lakh	00.00	00.00	00.00	00.00
	Total	100.00	100.00	100.00	100.00

In the table 11 it should be clearly seen that in adopted village majority (83.00 %) farmers had income Rs. 25000 to 50,000/- and 13.00 per cent farmers had income upto Rs.25000/-, while in non adopted village 69.00 per cent farmer had income Rs. 25000 to 50000 and 28.00 per cent farmers income were up to Rs. 25000/-It is clearly seen that the farmers of adopted village had some more income as compared to non adopted village.

2. To know the impact of training in adopted villages of KVK-Dang.

KVK is an innovative science based institution which functions on the principal of collaborative participation of scientist, Subject matter expert, Extension workers and farmers. The main purpose of KVK is to impart learning through work experience to those who are engage in farming. Learning by doing is the main method of imparting skill training by KVK. Follow-up actions are also made through visit of the scientists, organizing ex-trainees meet discussing with the field functionaries etc. to assist the farmers in adoption of changes practice learned through training.

With this hypothesis, another objective was framed in the study to analyze the extent of knowledge gained and used of technologies by the farmers after undergoing training at KVK. Knowledge of various practices Crop production, Horticulture, Animal husbandry, Plant protection, Income generating capacity and Home Science were selected as variable

Attempt has been made for comparative analyses of the extent of gained in the knowledge through KVK training programme. The result obtain has been presented in table below.

Table 2.1 Comparative knowledge gained on farm activities **n=200**

Knowledge gained for training					
Sr.No.	Activities	Mean Score		Increase %	Gap %
		Adopted village	Non adopted village		
1	Crop production	2.28	1.56	54.24	30.35
2	Horticulture	2.08	1.29	78.35	34.52
3	Animal husbandry	2.52	1.55	75.47	37.51
4	Plant protection	2.48	1.61	63.27	34.31
5	Income generating capacity	2.24	1.46	59.85	31.56
6	Home Science	2.26	1.51	57.35	31.23
	Average	2.31	1.50	64.75	33.25

Comparative analyses of the data in the table reveal that there was significant gain in knowledge on all the aspect of the farm activities covered under the study. Comparatively more knowledge was gained on crop production, horticulture crops, animal husbandry, plant protection, income generating capacity and home Science. At the same time average gap percentage of 33.25 % indicated that the knowledge level was high, there was 64.75 % increase in knowledge as well as 33.25 % gap in knowledge level. Through KVK has made significant role impact on knowledge level of the respondent still more training programmes may be organized to abreast the respondents with knowledge and skills sufficiently for the improvement of the farming community.

Further KVKs have been designed to impart need based and skill oriented vocational training to various categories of farming communities. The main purpose is to influence to productivity to achieve the social justices for the neediest and deserving weaker section of the society. KVKs are also imparting training on the most important need of the client, their resources constants' and nature of eco system. It is therefore apprehended that significant improvements might have been made to the farmers after taking training from KVKs.

Attempt was therefore made in the study to assess the extent of development of the farmers at KVKs. Indicators such as technological, Economical, social, farm activities and infrastructural were selected as the variable to assess the extent of developments. Data collected from the respondent Only three point scale consisting of fully agree, partial agree, and disagree with the scoresponding score of 3,2 and 1 over the statements

had been analyzed and discussed in this action. The result of the analysis has been presented in the table below.

Table 2.2 Comparative analysis of various aspect of developments **n=200**

Knowledge gained for training					
Sr.No	Activities	Mean Score		Increase %	Gap %
		Adopted village	Non adopted village		
1.	Technological development	2.37	1.29	96.90	43.62
2.	Economical development	2.36	1.31	94.84	42.78
3.	Social development	2.50	1.24	117.04	45.38
4.	Farm activities development	2.34	1.29	95.40	43.15
5.	Infrastructural development	2.27	1.20	99.38	44.44
Average		2.37	1.27	100.71	43.87

Comparative analysis of the respondent mentioned in the table indicate that the development under various aspect were almost at par. KVK has imparted training programme for technological development which is turn increase production, productivity, income and brings improvements on economic status of the farmers. The economic development have also regulated for development of farm activities. Various aspects of social improvements could bring the coordination and cooperation among people for better planning and management of farm activities on communities' basis.

Further attempt have also been made to locate the extent of development of the respondent after receiving training from KVK. The selection made with comparatively higher mean score value have been presented herewith.

It is therefore suggested that KVK has to organize training programmes effectively to develop the knowledge and skill competency of the farmers for their improvement.

3. Relationship between the selected characteristic of beneficiary and non beneficiary farmers with their knowledge of improved agricultural technologies

Attempt was also made to analyze influence of socio economic variables in increasing knowledge level of the respondent. Result of the analysis done to find pearson's coefficient of correlation has been presented in table below.

Table 20:- Influence of Socio Economic variable on knowledge **n=200**

Sr. No.	Variable	(r - Value) for Crop production		(r - Value) for Horticulture		(r - Value) for Animal husbandry		(r - Value) for Plant protection		(r - Value) for Income generating capacity		(r - Value) for Home Science	
		Beneficiary (n=100)	Non Beneficiary (n=100)	Beneficiary (n=100)	Non Beneficiary (n=100)	Beneficiary (n=100)	Non Beneficiary (n=100)	Beneficiary (n=100)	Non Beneficiary (n=100)	Beneficiary (n=100)	Non Beneficiary (n=100)	Beneficiary (n=100)	Non Beneficiary (n=100)
1	Age	.144	-.028	.103	-.083	.095	-.053	-.052	.009	.147	-.069	.143	-.039
2	Education	-.037	.084	.008	.213*	.029	.040	.093	.201*	.059	.081	.080	.088
3	Land holding	-.011	-.142	-.004	-.146	.066	-.064	-.024	-.113	-.104	-.173	-.021	-.086
4	Family type	.026	-.292**	.028	-.279**	.123	-.163	-.302**	-.151	.106	-.245*	.052	-.244*
5	Family size	.175	-.342**	.186	-.232*	.092	-.249*	-.092	-.101	.177	-.374**	.126	-.256*
6	Social participation	.446*	.391**	.579*	.175	.364*	.211*	.387*	.153	.544*	.279**	.470*	.239*
7	Cosmopolitaness	.518*	.782**	.517*	.598**	.370*	.698**	.368*	.550**	.526*	.619**	.532*	.697**
8	Media Exposure	.371*	.285**	.531*	.080	.291**	-.019	.344*	.129	.501*	.176	.434*	.115

9	Housing Pattern	.575*	-.329**	.638*	-.247*	.470*	-.277**	.471*	-.095	.584**	-.353**	.539*	-.315**
10	Possession of farm power	.394*	.349**	.477*	-.013	.516*	.250*	.101	-.127	.532*	.379**	.539*	.268**
11	Family Annual Income	.370*	.206*	.190	.021	.176	.156	.254*	.104	.174	.085	.239*	.073

*. Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

As observed from the table Social participation, cosmopolitanness, media exposure, housing pattern, possession of farm power and family annual income had influenced significantly in increase level of the respondent towards knowledge. It is therefore suggested that KVK may utilize these socio economic variables while organizing training programme. While very less significant relationship was observed under non beneficiary farmer with their knowledge of improved agricultural technologies.

Conclusion

Majority of the farmer were in middle age group, had primary level of education, land holding up to 2.00 ha, Nuclear family, 6 to 8 family member, majority of the respondents were regularly participated in Co-operative society, Panchayat and Social Organization, majority of the respondent had regularly and occasionally visited to the Post office and Primary Health Center, Majority of beneficiary farmer had regularly contact to News paper followed by attending Meeting/Training, Majority of the respondents had Semipucca type of house, majority of the respondent was possess Iron plough, Sprayer, Winnowing used in their farm operations, majority of farmers had income Rs. 25000 to 50,000/- Comparatively more knowledge was gained on crop production, horticulture crops, animal husbandry, plant protection, income generating capacity and home Science than non adopted village. At the same time average gap percentage of 33.25 % indicated that the knowledge level was high, there was 64.75 % increase in knowledge as well as 33.25 % gap in knowledge level. KVK has imparted training programme for technological development which is turn increase production, productivity, income and brings improvements on economic status of the farmers. The economic development have also regulated for development of farm activities. Various aspects of social improvements could bring the coordination and cooperation among people for better planning and management of farm activities on community's basis. As observed from the research social participation, cosmopolitanness, media exposure, housing pattern, possession of farm power and family annual income had influenced significantly in increase level of knowledge of the respondent. It is therefore suggested that KVK may utilize these socio economic variables while organizing training programme. While very less significant relationship was observed under non beneficiary farmer with their knowledge of improved agricultural technologies. Through KVK has made significant role impact on knowledge level of the respondent still more training programmes may be organized to abreast the respondents with knowledge and skills sufficiently for the improvement of the farming community. Further KVKs have been designed to impart need based and skill oriented vocational training to various categories of farming communities. The main purpose is to influence to productivity to achieve the social justices for the neediest and deserving weaker section of the society. KVKs are also imparting training on the most important need of the client, their resources constants' and nature of eco system. It is therefore apprehended that significant improvements might have been made to the farmers after taking training from KVKs. It is therefore suggested that KVK has to organize training programmes effectively to develop the knowledge and skill competency of the farmers for their improvement.

B. Cases of large scale adoption- full cases may be given at the end as Annexure.

(Please furnish detailed information for each case any)

4) Title: Adoption of recommended technologies released for farming community in Paddy crop (Concluded)

Investigator Mr. J.B.Dobariya, Scientist (Extension Education)
Dr. Sagar Patel, Scientist (Animal Science)
Dr.G.G.Chauhan, (Senior Scientist & Head)

Background information

Average productivity of Paddy crops is low in dang district. It is mainly because of poor knowledge as well as adoption of scientific technology in cereal crop cultivation. A wide gap exists between the yield obtained and the potential yield. Well planned and comprehensive study to gather the desired information was felt necessary. The main objective in our agricultural strategies is to increase the total agricultural production as well as to push the efficiency various input used by rural community. The adoption of recommended technologies by the farmers is prime importance of the KVK. Present study was undertaken to assess the adoption of recommended technologies released for farming community in Paddy crop.

Objectives

- 1) To study the selected characteristics of the respondent
- 2) To assess the adoption of recommended technologies released for farming community in Paddy
- 3) Constraints in adoption of recommended technologies for the farming community
- 4) Suggestions from the farmers to overcome the constraints

Methodology

The present study was conducted in Dang district of the Gujarat state. For the purpose of this study, Out of three taluka, Waghai, Ahwa and Subir 05 village from each taluka was randomly selected. A total sample of 150 respondents, 10 from each village was selected at random for the study with the help of random sampling methods. Collection of data was accomplished by supplying the well-structured schedule from farmer. In order to ascertain adoption about improved agricultural technologies of Paddy crop, the respondent asked to give the account of package of practices they followed in Paddy cultivation. Adoption quotient of Paddy for each respondent calculated and they were classified into three categories of adoption wise, low, medium and high level of adoption.

Findings:

The outcome of the present study has been presented here after applying the appropriate statistical analysis. The results have been described under the following sub heads in the light of the objectives of the study.

1 Characteristic of the respondents

The data regarding socio-economic and personal characteristics of respondents were analyzed and presented in the following sequence.

1.1 Age

The respondents were asked to indicate their age in completed year. Age refers as the number of years completed by an individual at the time of collection of information. The data in this regards were grouped into three categories with the help of mean and standard deviation viz; (i) Young age (up to 38 years), (ii) Middle age (39 to 60 years) and (iii) Old age (Above 60 years). The data collected about their age are presented in table 1.

Table 1: Distribution of respondents according to their age

n= 150

Sr.No.	Age groups	Frequency	Percentage
1	Young age	30	20.0
2	Middle age	94	62.7
3	Old age	26	17.3
	Total	150	100
	Mean	49.94	
	SD	10.97	

It is clear from the data in the table 1 that less than Two third (62.70 per cent) of the respondents were in the middle age group. The respondents found in young and old age group were 20.00 per cent and 17.30 per cent, respectively.

1.2 Education

Education plays an important role in bringing out desirable changes in human behavior in the form of knowledge, skill and attitude. Education is valued as means of increasing level of knowledge and information. Keeping this in view, the level of education of the respondents was studied. The data in this regards was

collected and grouped as; Illiterate, Primary level of education (1st to 7th standard), Secondary and Higher secondary level of education (8th to 12th standard) including diploma and College level of education (above 12th standard). The data in this regards are presented in table 2.

Table 2: Distribution of respondents according to their education n= 150

Sr.No.	Level of education	Frequency	Percentage
1	Illiterate	26	17.3
2	Primary level of education	59	39.4
3	Secondary and Higher secondary level of education	50	33.3
4	College level of education and above	15	10.0
Total		150	100.00

It becomes clear from the data in table 2 that slightly more than one third (39.30 per cent) of the respondents were found to have Primary level of education. The respondents from Secondary and Higher secondary level of education and its above level were 33.30 and 10.0 per cent, respectively. 17.30 percent respondent was found illiterate.

1.3 Land holding

In present study the information was collected from the respondents. They all were grouped into three categories, viz.; (i) Small and marginal farmer (Up to 2 hectares) (ii) Medium farmer (Greater than 2 hectares and less than/equal to 5 hectares) and (iii) Big farmer (Above 5.00 hectares). The classified data are presented in table 3.

Table 3: Distribution of respondents according to their land holding (n= 150)

Sr.No.	Land holding	Frequency	Percentage
1	Small and marginal	32	21.3
2	Medium farmer	75	50.0
3	Big farmer	43	28.7
Total		150	100.00

The data presented in table 3 indicated that one half (50.00 per cent) of the respondents belonged to the medium farmers, while 28.70 and 21.00 per cent respondents belonged to the category of big farmer and small and marginal farmers respectively.

1.4 Social participation

Social participation was operationalized as the degree of involvement of respondents in the nearby social organizations. It was measured with the help of SES scale developed by Venkatarmaiah (1983). Later on, total score were obtained from the assigned score values.

Table 4: Distribution of respondents according to their Social participation n=150

Sr.No.	Social Participation	Category of farmers	
		Number	Per cent
1	No membership	66	44.0
2	Membership in one organization	60	40.0
3	Membership in more than one organization	24	16.0
Total		150	100

The data furnished in Table 4 indicated that near about less than one half of beneficiary farmers (44.00 %) had belonged to no membership in any organization, followed by member in one organization (40.00%) and membership in more than one organization (16.00 %) respectively.

1.5 Occupation

Occupation is operationalised as the vocation in which major share of time of the responden's spent for main source of income. The respondents are classified in to different categories of occupation such as On Farming, Farming + Animal Husbandry, Farming + Business, Farming + Service, Farming + Labour work and Farming + Animal Husbandry + Service

Table 5: Distribution of respondents according to their Occupation n=150

Sr.No.	Occupation	Category of farmers	
		Number	Per cent
1.	Farming only	10	6.7
2.	Farming + Animal Husbandry	79	52.7
3.	Farming + Business	06	4.0
4.	Farming + Service	01	0.7
5.	Farming + Labour work	51	34.0
6.	Farming + Animal Husbandry + Service	03	2.0
Total		150	100

It is cleared from the table 5 that majority (52.70 %) farmers had Farming + Animal Husbandry activities and (34.00 %) farmers had Farming + Labour work, thus the main occupation of the paddy grower are Farming + Animal Husbandry+ Labour work

1.6 Risk orientation

Risk orientation was operationally defined as the degree to which the respondent is oriented towards risk and uncertainty in facing problems in performance of economic activity.

Supe (1969) developed a scale for measuring risk orientation. The same was used in the present investigation. The scale contained 6 statements of which first and fifth are negatively keyed. They are arranged on a 5 point continuum of strongly agree, agree, UN decided, dis agree and strongly dis agree, with a scoring of 5, 4, 3, 2 and 1 for positive and reverse for negative. The possible range of scores was from 6-30. Based on the scores, the respondents were categorized into three groups by adopting Meand and SD.

Table 6: Distribution of respondents according to their level of Risk orientation n=150

Sr.No.	Level of Risk orientation	Category of Farmers	
		Number	Per cent
1	Low level of risk orientation (up to 18.14)	38	25.3
2	Medium level of risk orientation (18.14 to 22.09)	101	67.3
3	High level of risk orientation (Above 22.09)	11	7.3
	Total	150	100
	Mean	20.12	
	SD	1.97	

A glance at Table 6 revealed that majority of the respondent (67.30 %) had medium level of risk orientation, followed by high (25.30 %) and low (07.30%) level of risk orientation respectively.

1.7 Economic Motivation

Economic motivation scales assess the individual's success in term of profit maximization and the relative importance placed on economics end. Economic motivation of the beneficiaries was measured by using the scale which was developed by supe (1972) with due modification. There are six statements, which were weighted on a 5 point continuum of Strongly agree, Agree, Undecided, Disagree and strongly Disagree, with a scoring of 5, 4, 3, 2 and 1 for positive and reverse for negative. The possible range of scores was from 6-30. The score was computed by summing up the each response and categorized by using mean and standard deviation. The data in this regards were grouped into three categories with the help of mean and standard deviation viz; (i) Low (up to 19.31 score), (ii) Medium (19.31 to 22.20 Score) and (iii) High (Above 22.20Score). The data collected about their Economic motivation are presented in table 7.

Table 7: Distribution of respondents according to their level of economics motivation n=150

Sr.No.	Level of economic motivation	Frequency	Percentage
1	Low level of economic motivation	27	18.0
2	Medium level of economic motivation	107	71.3
3	High level of economic motivation	16	10.7
	Total	150	100
	Mean	20.76	
	SD	1.44	

It is clear from the data in the table 7 that less than three forth (71.30 per cent) of the respondents were in the middle level of economic motivation, followed by 18.00 per cent of them with low and 10.70 per cent of them were with high level of economic motivation respectively.

1.8 Scientific orientation

The scale was constructed to measure the degree to which farmers are oriented to use scientific methods in farming. It was developed by supe (1969) and was adopted with due modifications. The scale contents six statements. The scale contained 6 statements of which first and fifth are negatively keyed. They are arranged on a 5 point continuum of strongly agree, agree, UN decided, disagree and strongly disagree, with a scoring of 5, 4, 3, 2 and 1 for positive and reverse for negative. The possible range of scores was from 6-30. The

beneficiaries were grouped into three categories with the help of mean and standard deviation viz; (i) Low (up to 20.76 score), (ii) Medium (20.76 to 25.97 Score) and (iii) High (Above 25.97 Score). The data collected about their Economic motivation are presented in table 8.

Table 8: Distribution of respondents according to their level of scientific orientation n=150

Sr.No.	Level of scientific orientation	Frequency	Percentage
1	Low level of scientific orientation	16	10.7
2	Medium level of scientific orientation	97	64.7
3	High level of scientific orientation	37	24.7
	Total	150	100
	Mean	23.36	
	SD	2.60	

It is evidence in the Table 8 that slightly less than two third (64.70 per cent) of the respondent had medium level of scientific orientation, followed by 24.70 per cent of them with high and 10.70 per cent of them were with low level of scientific orientation. Thus it can be concluded that majority (64.70 per cent) of the respondent were with medium level of scientific orientation.

1.9 Attitude of farmers towards Paddy cultivation practices

The scale was constructed to measure the degree to which farmers are oriented to attitude towards Paddy cultivation practices. The scale contents fifteen statements. They are arranged on a 5 point continuum of strongly agree, agree, UN decided, disagree and strongly disagree, with a scoring of 5, 4, 3, 2 and 1 for positive and reverse for negative. The possible range of scores was from 15-75. The beneficiaries were grouped into three categories with the help of mean and standard deviation viz; (i) Low (up to 31.23 score), (ii) Medium (31.23 to 40.02 Score) and (iii) High (Above 40.02 Score). The data collected about Attitude of farmers towards Paddy cultivation practices are presented in table 8.

Table 9: Distribution of respondents according to their attitude towards Paddy cultivation practices n=150

Sr.No.	Level of scientific orientation	Frequency	Percentage
1	Low level of attitude	28	18.7
2	Medium level of attitude	102	68.0
3	High level of attitude	20	13.3
	Total	150	100
	Mean	35.63	
	SD	4.39	

It is evidence in the Table 9 that more than two third (68.00 per cent) of the respondent had medium level of attitude towards Paddy cultivation practices, followed by 18.70 per cent of them with low and 13.30 per cent of them were with high level of attitude towards Paddy cultivation practices. Thus it can be concluded that majority (68.00 per cent) of the respondent were with medium level of attitude towards Paddy cultivation practices.

PART - II

ADOPTION OF RECOMMENDED TECHNOLOGIES FOR THE FARMING COMMUNITY

1. Improved Variety

Table 1: Distribution of farmers according to use of improved variety of Paddy n=150

Sr.No	Variety	Frequency	Percentage
1	Deshi	46	30.7
2	Hybrid	73	48.7
3	University varieties	31	20.7
	Total	150	100

The recommended varieties for Paddy are IR 28, GR 7, GNR 6, Jaya, Gurjari, GNR 4, GNR 3 etc. The perusal of data in table-1 on this particular aspect reveals that almost 48.70 per cent of the farmers adopted hybrid varieties followed by Deshi (30.70 %) and university varieties (20.70 %) respectively due to non availability of the seeds in time and lack of knowledge about other improved varieties.

2. Method of Sowing:

Table 2: Distribution of farmers according to use of method of Sowing of Paddy crop n=150

Sr.No	Sowing method	Frequency	Percentage
1	Transplanting	140	93.3
2	Broadcasting	10	6.7
	Total	150	100

Planting of Paddy is done by direct sowing (Random Sowing) and Line sowing. Line sowing is beneficial over random sowing as it ensures uniform distribution of seedling, placement of seedling at proper depth, better plant stand, easy in cultural operations and also improved drainage. Line sowing by 20.0 cm between two row and 15 cm between two plants was recommended. Majority of the farmers (93.30 per cent) were using the recommended transplanting sowing method and 6.70 per cent used broadcasting or random throwing method

3. Time of sowing:

Table 3: Distribution of farmers according to time of sowing of Paddy crop n=150

Sr.No	Sowing time	Frequency	Percentage
1	June	05	3.3
2	July	95	63.3
3	August	50	33.3
	Total	150	100

The optimum times for planting Paddy is generally sown with a pre-plant irrigation and follow a regular Kharif crop, lies between June to August. Table 3 expressed that 63.30 per cent farmers were sown their crop on July month, 33.30 per cent in august month, while rest 03.03 percent have been sown in month of June.

4. At which distance did you sow the crop

Table 4: Distribution of farmers according to distance of sowing of Paddy crop n=150

Sr.No	Sowing method	Frequency	Percentage
1	Direct sowing (Random Sowing)	105	70.0
2	Line sowing (20 cm between two row)	45	30.0
	Total	150	100

Planting of Paddy is done by direct sowing (Random Sowing) and Line sowing (22.5 to 30 cm). Line sowing is beneficial over random sowing as it ensures uniform distribution of seedling, placement of seedling at proper depth, better plant stand, easy in cultural operations and also improved drainage. Line sowing by 20.00 cm between two rows was recommended. But majority of the farmers (70.00 per cent) were not using the recommended sowing method due to lack of knowledge and lack of sowing implements. 30.00 per cent farmers were using line sowing techniques

5. Intercropping:

Table 5: Distribution of farmers according to intercrop sown in the Paddy crop n=150

Sr.No	Crop of Inter cropping	Frequency	Percentage
1	Pigeon pea	55	36.7
2	Black gram	35	23.3
3	No any	60	40.0
	Total	150	100

As per the table 5 the data indicated that 40.00 per cent farmers had not sown any crop as a inter crop followed by 36.70 per cent and 23.30 per cent farmers used pigeon pea and black gram respectively

6. Manures and fertilizers application:

Table 6: Distribution of farmers according to manures and fertilizers use in the Paddy crop n=150

Sr.No	Manures and fertilizers use	Frequency	Percentage
1	As recommended	55	36.7
2	Below recommended	95	63.3
	Total	150	100

Application of the various fertilizers should be recommended only on the basis of soil test. However, in absence of soil fertility data, Rainfed as well as in irrigated situation as basal application are recommended on the basis of response obtained in trials. Only 36.70 per cent farmers followed the recommendation of balanced fertilizer application while 63.30 per cent farmers were not using balanced fertilizer application. The reason of not using recommended dose of balanced fertilizer application were mostly attributed by the farmers as a lack of knowledge behind using of any fertilizer in any cereal crop and high risk involved in Paddy, pulses crop treated as a secondary crop by the farmers.

7. Irrigation methods:

Table 7: Distribution of farmers according to Irrigation method use in the Paddy crop n=150

Sr.	Irrigation method	Frequency	Percentage
1	Flood irrigation	112	74.7
2	Bed irrigation System	38	25.3
3	Sprinkler irrigation System	00	0.0
4	Drip irrigation System	00	0.0
	Total	150	100

The majority of the Paddy grower (74.70 %) had adopted flood irrigation. 25.33 percent farmer were used bed irrigation method. No any farmers had adopted Sprinkler and drip irrigation system.

8. Weed control methods

Weed competes with crop plants for various production resources such as nutrients, moisture, sunlight and space. In field Paddy, crop suffers from a severe weed infestation which causes in drastic reduction in yield. Therefore, it is advisable to keep the field free from weeds by giving one hand weeding about 20-25 days after sowing of the crop. By using herbicides the field will be weed free up to 50 days of sowing and least damage of crop will take place.

Table 8: Distribution of farmers according to weed control methods use in the Paddy crop n=150

Sr.No	Weed control	Frequency	Percentage
1	Manual	88	58.7
2	As chemical recommended	15	10.0
3	by weed control machine	47	31.3
	Total	150	100

The data from table-8 reveals that 10 per cent farmers are adopting recommended weedicides as a chemical weed control, 58 percent farmers are applying manual weed management by Khurpi (a hand weeding small equipment) and majority of the farmers (31.30 per cent) applying Mechanical weed control method in paddy crop.

9. Plant protection

Table 9: Distribution of farmers according to Plant protection measures use in the Paddy crop n=150

Insect-pest and disease causing damage to Paddy crop is Rice stem borer, Gandhi bug and Rice hispa. Disease like Blast, Leaf blast, Neck blast, false smut, Bacterial leaf blight

Sr.No	Plant protection	Frequency	Percentage
1	As recommended	23	15.3
2	Below recommended	60	40.0
3	Nil	67	44.7
	Total	150	100

As regards plant protection measures the data revealed that 44.70% farmers had not used any plant protection measure.40.00 per cent farmers followed plant protection measures below recommended and

only 15.30 per cent farmer followed practices as per the recommendation by scientist. The high cost, non availability of effective fungicides, insecticides might have important reason. The lack of knowledge about pest control, IPM and IDM module in Paddy crop was the important reason behind this.

10. Harvesting

Table 10: Distribution of farmers according to harvesting in the Paddy crop

n=150

Sr.No	Plant protection	Frequency	Percentage
1	As recommended	135	90.0
2	Below recommended	15	10.0
	Total	150	100.00

As regards harvesting the data revealed that 90 per cent farmers followed harvesting as per the recommended and 10.00 per cent farmers followed harvesting below recommended in Paddy crop.

PART - III

CONSTRAINTS IN ADOPTION OF RECOMMENDED TECHNOLOGIES FOR THE FARMING COMMUNITY OF PADDY CROP

n =150

Sr. No.	Constraints	Most important	Important	Least important	Not important	Total Score	Rank
1.	Input supply constraints :						
(a)	Lack of availability of guaranteed and improved variety of crop	50 (33.33)	66 (44.00)	26 (17.33)	08 (05.34)	458	IV
(b)	Lack of compost and chemical fertilizer	69 (46.00)	65 (43.33)	15 (10.00)	01 (0.67)	502	III
(c)	Lack of availability of irrigation	98 (65.33)	47 (31.33)	03 (2.00)	02 (1.34)	541	I
(d)	Lack of supply of insecticides and pesticides in times	75 (50.00)	63 (42.00)	11 (7.33)	01 (0.67)	512	II
(e)	Lack of availability of skilled labour	17 (11.33)	49 (32.67)	62 (41.33)	22 (14.67)	361	V
2.	Economical constraints :					Total Score	Rank
(a)	Non-availability of credit	44 (29.33)	34 (22.67)	32 (21.33)	40 (26.67)	382	III
(b)	More cost of cultivation	39 (26.00)	60 (40.00)	39 (26.00)	12 (08.00)	426	II
(c)	High rates of labour wages	25 (16.67)	42 (28.00)	62 (41.33)	21 (14.00)	371	IV
(d)	Insufficient capital	64 (42.67)	61 (40.67)	21 (14.00)	04 (2.66)	485	I
(e)	Non-availability of finance by the co-operative societies in time	10 (6.67)	26 (17.33)	57 (38.00)	57 (38.00)	289	V
(f)	High rates of interest on the loans	05 (3.33)	26 (17.33)	65 (43.34)	54 (36.00)	282	VI
3.	Technological constraints :					Total Score	Rank
(a)	Lack of knowledge about time of planting and spacing	74 (49.33)	61 (40.67)	10 (06.67)	05 (3.33)	504	I
(b)	Lack of knowledge about availability of seedlings/grfts	39 (26.00)	88 (58.67)	15 (10.00)	08 (05.33)	458	III
(c)	Lack of knowledge about timely application of fertilizers	65 (43.33)	73 (48.67)	11 (7.33)	01 (0.67)	502	II
(d)	Lack of knowledge about export of the crops	23 (15.33)	46 (30.67)	61 (40.67)	20 (13.33)	372	IV

4.	Extension constraints :					Total Score	Rank
(a)	The visit of the extension personnel is not in time	56 (37.33)	70 (46.67)	23 (15.33)	01 (0.67)	481	I
(b)	The extension personal are lacking in the knowledge of the crop cultivation	11 (07.33)	23 (15.33)	31 (20.67)	85 (56.67)	260	VI
(c)	Result and method demonstrations are not conducted	44 (29.33)	75 (50.00)	28 (18.67)	03 (2.00)	460	II
(d)	The visit are not organized by the extension workers to the Agricultural Universities, Research Centres etc.	44 (29.33)	68 (45.33)	30 (20.00)	08 (5.33)	448	III
(e)	Audiovisual aids are not used by the extension workers	32 (21.33)	55 (36.67)	54 (36.00)	09 (6.00)	410	IV
(f)	Lack of availability of literature in local language	04 (2.67)	28 (18.67)	71 (47.33)	47 (31.33)	289	V
5.	Marketing constraints :					Total Score	Rank
(a)	Fluctuation in the prices of crops	117 (78.00)	31 (20.67)	01 (0.67)	01 (0.67)	564	I
(b)	The rates are not according to the grades of the crops	45 (30.00)	32 (21.33)	25 (16.67)	48 (32.00)	374	III
(c)	More cost of the packaging	15 (10.00)	22 (14.67)	40 (26.67)	73 (48.67)	279	IV
(d)	Middlemen takes more commission	61 (40.67)	35 (23.33)	32 (21.33)	22 (14.67)	435	II

PART - IV

SUGGESTIONS FROM THE FARMERS TO OVERCOME THE CONSTRAINTS

Sr. No.	Suggestions	Yes	No	Total Score	Rank
1.	The improved varieties of crop should be made available	148	02	298	II
2.	The seeds should be available in time with reasonable price	101	49	251	X
3.	The chemical fertilizers should be made available timely and as per the requirements	148	02	298	II
4.	The insecticides and pesticides should be made available in time and at cheaper rates	145	97	387	I
5.	The co-operative institutions and banks should provide loans in time	119	31	269	IX
6.	There is a necessity of nearby markets	137	13	287	VI
7.	Timely information about crop prices should be made available	139	11	289	IV
8.	The co-operative organizations should be established for marketing	138	12	288	V
9.	The crop processing industries should be established	94	56	244	XI
10.	The technical guidance should be made available in time	142	08	292	III
11.	The export of crops should be done through co-operatives	132	18	282	VII
12.	The availability of skilled labour at required time and reasonable wages	123	27	273	VIII

Conclusion

Majority of farmers had Middle age group, Primary level of education, Medium farmer, No membership in any social organization, main Occupation is Farming + Animal husbandry, Medium level of risk orientation, Medium level of economic motivation, Medium level of scientific orientation and Medium level of attitude towards Paddy crop.

In terms of adoption of various component technologies of the package of practices of the farmers were studied and it can be concluded that the adoption of recommended varieties has been 20.70 per cent. 93.30 percent farmer used transplanting method, choose June month as a sowing time, used direct sowing (Random Sowing), choose no any crop as a intercrop, used manure and fertilizer below recommended, having flood irrigation method and follow harvesting time as per the university recommendation. Most of the farmers were not using plant protection measures and weed management practices due to high cost involved in agrochemicals, lack of knowledge about losses in productivity due to weed problem in field Paddy. Therefore, for enhancing the production and productivity of Paddy, strategy should be made for getting the more and more recommended technologies adopted by the farmers.

The main constraints in adoption of recommended technologies for the farming community of Paddy crop is lack of availability of irrigation, insufficient capital, lack of knowledge about time of planting and spacing, the visit of the extension personnel is not in time and fluctuation in the prices of crops

The main suggestions from the farmers to overcome the constraints is The insecticides and pesticides should be made available in time and at cheaper rates, The chemical fertilizers should be made available timely and as per the requirements, The improved varieties of crop should be made available, Timely information about crop prices should be made available and The co-operative organizations should be established for marketing

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

1) Title: Training Needs of Farmers in Vegetables Cultivation

Investigator : Mr. J.B.Dobariya, Scientist (Extension Education)
Mr. H.A.Prajapati, Scientist (Horticulture)
Dr. Hemant sharma, Senior Scientist & Head

Background information:

Average productivity of vegetable crops is low in dang district. It is mainly because of poor knowledge as well as adoption of scientific technology in vegetable cultivation. A wide gap exists between the yield obtained and the potential yield. It has been proved through various impact studies that the production and productivity of vegetables can be increased many times by adopting scientific technologies including use of high yielding varieties. Information on knowledge gap and training needs will help to formulate the training courses in vegetable production technology. Well planned and comprehensive study to gather the desired information was felt necessary. Hence various important practices involved in vegetable production technology like improved variety, seed treatment, seed rate, sowing time, nursery raising, spacing, use of organic manures, management of fertilizers, irrigation, intercultural operations, weed control, disease and IPM, cropping system, harvesting, quality improvement, package of practices and marketing included in the study. Present study was undertaken to assess the knowledge gap and training needs of farmer involved in vegetable cultivation.

Objectives

- 1) To study the selected characteristics of the respondent
- 2) To study training needs of farmers in Okra, Brinjal and Onion cultivation
- 3) To study the relationship between training needs and characteristics of farmers

Methodology

The present study was conducted in Dang district of the Gujarat state. For the purpose of this study, Out of three taluka Waghai, Ahwa and Subir 42 village from each taluka was randomly selected. A total sample of 420 respondents, 10 from each village was selected at random for the study with the help of random sampling methods. Collection of data was accomplished by supplying the well-structured schedule from farmer. For the study of dependent variable, the tool consisted of 32 statements on training need of vegetable cultivation covering various aspect of nursery raising, field management; fertilizer management, plant protection and marketing management were used.

Findings

The outcome of the present study has been presented here after applying the appropriate statistical analysis. The results have been described under the following sub heads in the light of the objectives of the study.

1 Characteristic of the respondents

The data regarding socio-economic and personal characteristics of respondents were analyzed and presented in the following sequence.

1.1 Age

The respondents were asked to indicate their age in completed year. Age refers as the number of years completed by an individual at the time of collection of information. The data in this regards were grouped into

three categories with the help of mean and standard deviation viz; (i) Young age (below 37 years), (ii) Middle age (37 to 59 years) and (iii) Old age (Above 59 years). The data collected about their age are presented in table 1.

Table 1: Distribution of respondents according to their age (n= 420)

Sr.No.	Age groups	Frequency	Percentage
1	Young age	60	14.00
2	Middle age	287	69.00
3	Old age	73	17.00
	Total	420	100.00

It is clear from the data in the table 1 that less than three forth (69.00 per cent) of the respondents were in the middle age group. The respondents found in old and young age group were 17.00 per cent and 14.00 per cent, respectively.

1.2 Education

Education plays an important role in bringing out desirable changes in human behavior in the form of knowledge, skill and attitude. Education is valued as means of increasing level of knowledge and information. Keeping this in view, the level of education of the respondents was studied. The data in this regards was collected and grouped as; Illiterate, Primary level of education (1st to 7th standard), Secondary and Higher secondary level of education (8th to 12th standard) including diploma and College level of education (above 12th standard). The data in this regards are presented in table 2.

Table 2: Distribution of respondents according to their education (n= 420)

Sr.No.	Level of education	Frequency	Percentage
1	Illiterate	41	10.00
2	Primary level of education	199	47.00
3	Secondary and Higher secondary level of education	167	40.00
4	College level of education and above	13	3.00
	Total	420	100.00

It becomes clear from the data in table 2 that slightly less than one half (47.00 per cent) of the respondents were found to have Primary level of education. The respondents from Secondary and Higher secondary level of education and its above level were 40.00 and 3.00 per cent, respectively. 10.00 percent respondent was found illiterate.

1.3 Land holding

In present study the information was collected from the respondents. They all were grouped into three categories, viz.; (i) Small and marginal farmer (Up to 2 hectares) (ii) Medium farmer (Greater than 2 hectares and less than/equal to 5 hectares) and (iii) Big farmer (Above 5.00 hectares). The classified data are presented in table 3.

Table 3: Distribution of respondents according to their land holding (n= 420)

Sr.No.	Land holding	Frequency	Percentage
1	Small and marginal	214	51.00
2	Medium farmer	181	43.00
3	Big farmer	25	06.00
	Total	420	100.00

The data presented in table 3 indicated that 51.00 per cent of the respondents belonged to the Small and marginal farmer, while 43.00 and 06.00 per cent respondents belonged to the category of Medium farmer and big farmer respectively.

1.4 Social participation

It refers to the involvement of an individual in any formal as well as non formal social organization/institutions as a members or office bearer or distinctive feature (M.L.A, M.P.). It was measured by modified subrammanian's scale (1982).The scoring pattern is as follows.

1. No participation in any organization = 0
2. Membership of one organization in past = 1
3. Membership of one organization at present = 2
4. Office bearer in past = 3
5. Office bearer at present = 4
6. Distinctive feature = 5

The respondents were classified in to three categories on the basis of mean and standard.

Table 4: Distribution of respondents according to their social participation (n= 420)

Sr.No.	social participation	Category of farmers	
		Number	Per cent
1	Low = less than (X - SD)	18	4.00
2	Medium= (X - SD) to (X + SD)	329	79.00
3	High = more than (X + SD)	73	17.00
	Total	420	100.00
	Mean	3.54	
	SD	1.8436	

The data furnished in Table 4 indicated that greater than three fourth of the respondent (79.00%) had belonged to medium level of social participation followed by higher (17.00 per cent) and low (4.00 per cent) respectively.

1.5 Extension contact

It is operationally defined as the frequency of contact of respondents with extension personnel for acquiring information about package of practices of Okra, Brinjal and Onion. The responses of selected respondents were rated six point continuums, namely daily, weekly, fortnightly, monthly, six monthly and yearly with assigning score 6, 5, 4, 3, 2 and 1 respectively. The data in this regards were grouped into three categories with the help of mean and standard deviation viz; (i) Low (up to 19 score), (ii) Medium (19 to 35 Score) and (iii) High (Above 35 Score). The data collected about their Extension contact are presented in table 5.

Table 5: Distribution of respondents according to their Extension contact (n=420)

Sr.No.	Extension contact	Frequency	Percentage
1	Low	38	9.00
2	Medium	326	78.00
3	High	56	13.00
	Total	420	100.00
	Mean	30.00	
	SD	7.0631	

It is clear from the data in the Table 5 that more than three fourth (78.00 per cent) of the respondents were in the middle level of extension contact, followed by 13.00 per cent and 09.00 per cent has higher and lower level of extension contact respectively.

1.6 Utilization of different source of information

This variable refer to receive or get the latest agricultural information from various source like friends, neighbors, progressive farmers, relatives, village leaders, VEWs, Scientist of university, Input supplier, AEOs, Cooperative society, Magazine, radio/TV, etc. This was measured by knowing frequency of different sources of information used by the respondent in term of regularly, occasionally and need base by giving the score 2, 1 and 0 and score was worked out by summing scores of all the items to quantify this variable. The respondents were grouped into three categories viz. Low (below men score-0.5 SD), medium (mean score \pm 0.5 SD), and high (above mean score + 0.5 S.D).

Table 6: Distribution of respondents according to their information input behavior (n=420)

Sr.No.	Level of source of information	Number	Per cent
1	Low	44	10.00
2	Medium	323	77.00
3	High	53	13.00
	Total	420	100.00
	Mean	11.29	
	S.D	2.8197	

The result seen in Table 6 portrays that more than three fourth of beneficiary farmers (77.00%) had medium information input behavior, followed by high (13.00 %) and meager low category (10.00 %) respectively.

1.7 Economic motivation

Economic motivation was measured by scales assess the individual's success in term of profit maximization and the relative importance placed on economics end. Economic motivation of the beneficiaries was measured by using the scale which was developed by supe (1969) with due modification. The scale consisted of six statements out of which four statement were positive and remaining two statement were negative the response of the respondent were obtained against each statement in form of their agreement or disagreement on a five point continuum ranging from strongly agree, agree, undecided, disagree and strongly disagree. The positive statements were scored 5,4,3,2 and 1 and revised score was given to negative statement. The score was computed by summing up the each response and categorized by using mean and standard deviation. The data in this regards were grouped into three categories with the help of mean and standard deviation viz. The data collected about their Economic motivation are presented in table 8

Table 7: Distribution of respondents according to their level of economics motivation (n=420)

Sr.No.	Level of economic motivation	Number	Per cent
1	Low level of economic motivation	37	9.00
2	Medium level of economic motivation	274	65.00
3	High level of economic motivation	109	26.00
	Total	420	100
	Mean	15.05	
	S.D.	2.4338	

A critical perusal of the data furnished in Table 7 portrays that majority of the beneficiary farmers (65.00 %) had medium economic motivation, followed by high (26.00 %) and low (09.00 %) respectively.

2.0 Training need

The tool consisted of 32 statements on training needs of farmers in vegetable cultivation covering various aspects like Suitable varieties of Okra, Chilly and Onion, Seed treatment, Preparation of seed bed, Time of sowing, Selection of suitable weedicides, Technique of weedicide application, Land preparation, Time of transplanting, Transplanting technique, Spacing of transplanting, Depth of planting seedling, Irrigation at critical stages, Drainage to prevent water logging, Technique of weedicide application, Staking, pinching, Application of FYM and their quantity, Content of chemical fertilizers, Dose of chemical fertilizers, Methods of fertilizer's application, Time of fertilizer' application, Content of Bio- fertilizers application, Identification of diseases and their control measures, Identification of pests and their control measures, Proper handing techniques of sprayer / other plant protection equipments, Time of harvesting/picking, Storage of flowers, Grading of flowers, packing, Disposal of flowers, Market place, Market intelligence

The training needs of farmer in various aspects of vegetable cultivation technology were assessed with scale of 3 point continuum. I.e. most needed, somewhat needed and least needed with weight-age of 3, 2 and 1, respectively. Mean score of the training needs obtained for different aspects are presented in Table-8

Table-8 Distribution of the vegetable grower according to their Overall training needs with regard to vegetable production technology. (n=420)

Sr.No.	Training needs	Respondents	
		Number	Per cent
1	Low	57	13.00
2	Medium	302	72.00
3	High	61	15.00
	Total	420	100.00
	Mean	67.77	
	S.D.	7.038	

It is clear from the Table 8 that about two third of the vegetable grower (72.00 per cent) were fall under medium group. While 15.00 and 13.00 per cent of the vegetable grower were categorized under High and low groups of training needs, respectively.

Table-9 Distribution of the vegetable grower according to their item wise training needs about nursery raising. (n=420)

Sr.No.	Item	Most needed	Needed	Least needed	Total Score	Rank
1	Suitable varieties of Okra, Chilly and Onion	181 (43.09)	203 (48.34)	36 (08.57)	985	II
2	Seed treatment	126 (30.00)	230 (54.77)	64 (15.23)	902	IV
3	Preparation of seed bed	129 (30.71)	198 (47.15)	93 (22.14)	876	V
4	Time of sowing	105 (25.00)	191 (45.48)	124 (29.52)	821	VI
5	Selection of suitable weedicides	218 (51.90)	153 (36.43)	49 (11.67)	1009	I
6	Technique of weedicide application	153 (36.43)	201 (47.86)	66 (15.71)	927	III

From the data in Table 9 it was observed that nearly one half of the vegetable growers (51.90 per cent) were grouped in 'most needed' training while 34.43 per cent and 11.67 per cent of the vegetable grower were categorized under 'needed' and 'least needed' training group with regard to selection of suitable weedicides of Okra, Chilly and Onion respectively.

According to item wise training needs related to nursery raising hierarchy, selection of suitable weedicides, suitable varieties of Okra, Chilly and Onion, technique of weedicide application with ranked I, II and III respectively.

Table-10 Distribution of the vegetable grower according to their item wise training needs about field management. (n=420)

Sr.No.	Item	Most needed	Needed	Least needed	Total Score	Rank
1	Land preparation	77 (18.33)	153 (36.43)	190 (45.24)	727	IX
2	Time of transplanting	93 (22.14)	197 (46.90)	130 (30.96)	803	VII
3	Transplanting technique	131 (31.19)	173 (41.19)	116 (27.62)	855	III
4	Spacing of transplanting	125 (29.76)	183 (43.57)	112 (26.67)	853	IV
5	Depth of planting seedling	164 (39.04)	166 (39.52)	90 (21.44)	914	I
6	Irrigation at critical stages	102 (24.30)	223 (53.09)	95 (22.61)	847	V
7	Drainage to prevent water logging	91 (21.66)	163 (38.82)	166 (39.52)	765	VIII
8	Staking	105 (25.00)	179 (42.62)	136 (32.38)	809	VI
9	Pinching	162 (38.57)	144 (34.29)	114 (27.14)	888	II

Table 10 revealed that as regard to training needs for Irrigation at critical stages, more than one third (39.52 per cent) of the vegetable grower fall under 'needed' training followed by 39.04 per cent and 21.44 per cent of the vegetable grower under 'most needed' and 'least needed' training group, respectively.

Deducing the finding it can be said that nearly less than one half of the vegetable growers categorized under the most needed training groups for the items like Irrigation at critical stages, Pinching, and Drainage to prevent water logging. Whereas majority of them required less training pertaining to item land preparation, drainage to prevent water logging.

Table-11 Distribution of the vegetable grower according to their item wise training needs about fertilizer management (n=420)

Sr.No.	Item	Most needed	Needed	Least needed	Total Score	Rank
1	Application of FYM and their quantity	173 (41.19)	197 (46.91)	50 (11.90)	963	I
2	Content of chemical fertilizers	172 (40.95)	191 (45.48)	57 (13.57)	955	II
3	Dose of chemical fertilizers	179 (42.62)	164 (39.05)	77 (18.33)	942	IV
4	Methods of fertilizer's application	122 (29.05)	210 (50.00)	88 (20.95)	874	V
5	Time of fertilizer' application	118 (28.09)	215 (51.19)	87 (20.72)	871	VI
6	Content of Bio- fertilizers application	177 (42.14)	178 (42.38)	65 (15.48)	952	III

From data in Table 11 observed that less than half of the vegetable growers (46.91 per cent) were group in 'needed' while 41.19 per cent were categorized in to most needed and 11.90 per cent vegetable grower comes under least needed categories in item group of Application of FYM and their quantity.

In nutshell, majority of the vegetable growers belonged to most needed training with respect to Application of FYM and their quantity and dose of chemical fertilizers.

Table-12 Distribution of the vegetable grower according to their item wise training needs about Plant protection (n=420)

Sr.No.	Item	Most needed	Needed	Least needed	Total Score	Rank
1	Identification of diseases and their control measures	273 (65.00)	133 (31.67)	14 (3.33)	1099	I
2	Identification of pests and their control measures	255 (60.71)	146 (34.76)	19 (4.53)	1076	II
3	Proper handing techniques of sprayer / other plant protection equipments	193 (45.95)	157 (37.39)	70 (16.66)	963	III

The data presented in Table 12 regarding training needs of identification of diseases and their control measures of the vegetable grower (65.00 per cent) were group in "most needed" while 31.67 and 3.33 per cent of the vegetable grower were categorized under "needed" and "least needed" training need category, while as per the rank viz Identification of diseases and their control measure, Identification of pests and their control measures and Proper handing techniques of sprayer / other plant protection equipments comes under I,II and III ranks respectively.

Table-13 Distribution of the vegetable grower according to their item wise training needs about harvesting and market management (n=420)

Sr.No.	Item	Most needed	Needed	Least needed	Total Score	Rank
1	Time of harvesting/picking	112 (26.66)	163 (38.81)	145 (34.53)	807	VII
2	Storage of flowers	138 (32.86)	238 (56.67)	44 (10.47)	934	V
3	Grading of flowers	117 (27.85)	216 (51.44)	87 (20.71)	870	VI
4	Packing	260 (61.90)	94 (22.39)	66 (15.71)	1034	III
5	Disposal of flowers	151 (35.95)	229 (54.53)	40 (9.52)	951	IV
6	Market place	237 (56.42)	162 (38.58)	21 (5.00)	1056	II
7	Market intelligence	282 (67.14)	119 (28.34)	19 (4.52)	1103	I

The data presented in Table 13 regarding training need of Market intelligence of vegetable grower (67.14 per cent) were grouped in “most needed” training, while 28.34 and 4.52 per cent of the vegetable grower were categorized under “ needed” and “ least needed” training in item group of Market intelligence, respectively. This result shows that the vegetable grower gave highest emphasis on Market intelligence to get proper price for their product.

Table-14 Distribution of the vegetable grower according to their aspect wise training needs (n=420)

Sr.No.	Item	Mean	S.D	Category			Total score	Rank
				High	Medium	Low		
1	Nursery raising	13.20	2.51	60 (14.28)	297 (70.71)	63 (15.00)	838	III
2	Field management	18.00	2.80	78 (18.57)	308 (73.33)	34 (08.10)	884	I
3	Fertilizer management	13.16	2.49	100 (23.81)	240 (57.15)	80 (19.04)	860	II
4	Plant protection	7.54	1.33	84 (20.00)	227 (54.05)	109 (25.95)	815	V
5	Harvesting and market management	15.90	2.60	59 (14.04)	299 (71.20)	62 (14.76)	837	IV

From the in Table 14 observed that as regard to training needs of vegetable grower, Field management ranked first, followed by fertilizer management, nursery raising, harvesting and market management and plant protection with rank II, III, IV and V respectively.

To epitomized the result, it can be said that majority of the farmer were fall under medium level of training need category with regards to all the aspect covered under study.

3. Relationship between the selected characteristic of vegetable growers with training need.

In order to find out the relationship between the selected characteristics of vegetable grower and training need correlation was worked out the finding are presented in Table 16

Table 15:- Relationship between training needs and characteristics of farmers

Sr.No.	Variable	Correlation-coefficient (r - Value)
1	Age	0.053
2	Education	-0.186**
3	Land holding	-0.001
4	Social participation	0.001
5	Extension contact	-0.142**
6	Utilization of different source of information	-0.072
7	Economic motivation	0.185**

The analysis of data showed in the Table 15 that age, land holding, social participation and utilization of different source of information had no any relation with training need. While education and extension contact had negatively significant relation with training need. Only one parameter that is economic motivation had significant relation with training need.

Conclusion

Majority of the vegetable grower were found in the middle age group (69.00 %) having Primary level of education (47.00 %), Small and marginal (51.00 %), belonged to medium level of social participation (79.00 %) and extension contact (78.00 %) respectively. 77.00 per cent of them had low utilization of different sources of information and having medium level of economic motivation (65.00 %)

As regard to aspect viz training needs of vegetable grower, selection of suitable weedicides, depth of planting seeding, application of FYM and their quantity, identification of diseases and their control measures and market intelligence ranked first in all aspect wise statements of **training Needs in Vegetables Cultivation**. About three fourth of the vegetable growers (72.00 per cent) were categorized under “medium needed” group as far as overall training need is concerned.

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
April-2019	-	-	-
May-2019	03	3776	NA
June -2019	02	2607	NA
July -2019	01	1256	NA
August-2019	01	1235	NA
September -2019	01	1235	NA
October -2019	01	1320	NA
November -2019	-	-	-
December -2019	-	-	-
January - 2020	03	3941	NA
February - 2020	-	-	-
March- 2020	-	-	-

Name of KVK	Message Type	Type of Messages						Total
		Crop	Live stock	Weat her	Marke-ting	Aware-ness	Other enterp rise	
KVK, Dang	Text only	07	-	-	-	05	-	12
	Voice only	-	-	-	-	-	-	-
	Voice & Text both	-	-	-	-	-	-	-
Total Messages		07	-	-	-	05		12
Total farmers Benefitted		9019	-	-	-	6351		15370

15. Performance of infrastructure in KVK

A. Performance of demonstration units (other than instructional farm including value added products)

Sl. No.	Demo Unit	Year of establishment	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	
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B. Performance of instructional farm (Crops) including seed production

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production		
				Variety	Type of Produce	Kg
Pulses						
Gram	30/10/2019	05/02/2020	2.00	GG-5	Certif.	2200
Green gram	20/02/2019	27/05/2019	0.80	GM-9	Foundation	1300
Cereals						
Paddy	10/07/2019	20/10/2019	2.10	GNR-6	TF	5320
Paddy straw			2.10	GNR-6	-	4745
Finger millet	05/07/2019	10/11/2019	0.40	GN-5	Foundation	720
Finger millet						1490
Spices & Plantation crops						
Turmeric	15/07/2018	04/04/2019	0.25	GNT-1	Demo	650
				GNT-2		675
Fruits						
Mango			0.73	Kesar	Demo	980
				Langara	Demo	104
				Totapuri	Demo	427
				Desi	Demo	1136
				Vasibadami	Demo	420

				Rajapuri	Demo	598
				Sardar	Demo	160
				Dasheri	Demo	260
				Amrapali	Demo	140

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

Sr. No.	Name of the Product	Qty	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
-	-	-	-	-	-

D. Performance of instructional farm (livestock and fisheries production)

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
-	-	-	-	-	-	-	-

E. Utilization of hostel facilities

Accommodation available (No. of beds):

S. No.	Programme	No. of days
1.	-	Hostel facilities provided to Agriculture college, NAU, Waghai for students hostel purpose. Farmer hostel is also used by hill millet research station, NAU, Waghai, Dang.

F. Database management

S. No	Database target	Database created
-	-	-

G. Details on Rain Water Harvesting Structure and micro-irrigation system

Amount sanction (Rs.)	Expenditure (Rs.)	Details of infrastructure created / micro irrigation system etc.	Activities conducted					Quantity of water harvested in '000 litres	Area irrigated / utilization pattern
			No. of Training programmes	No. of Demonstrations	No. of plant materials produced	Visit by farmers (No.)	Visit by officials (No.)		
-	-	-	-	-	-	-	-	-	-

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	-	-	-	-	-	-	-
With KVK	Stat Bank of India	Waghai, Dangs	SBIN0014992	Programme coordinator, NAU, Waghai	10692111061	394002508	SBIN0014992

B. Utilization of KVK funds during the year 2019-20 (Rs. in lakh)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1.	Pay & Allowances	86.00	86.00	82.27
2.	Traveling allowances	1.00	1.00	0.61
3.	Contingencies	16.00	16.00	15.68
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	-	-	8.53
B	POL, repair of vehicles, tractor and equipments	-	-	1.07
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	-	-	2.91
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	-	-	1.03
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	-	-	2.12
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	-	-	0.0
G	Training of extension functionaries	-	-	-
H	Maintenance of buildings	-	-	-
I	Establishment of Soil, Plant & Water Testing Laboratory	-	-	-
J	Library	-	-	-
	TOTAL (A)	103.00	103.00	98.57
B. Non-Recurring Contingencies				
1.	Works (Repair and Renovation)	11.00	11.00	11.00
2.	Equipment including SWTL & Furniture	-	-	-
3.	Vehicle (Four wheeler/Two wheeler, please specify)	-	-	-
4.	Library (Purchase of assets like books & journals)	-	-	-
	TOTAL (B)	11.00	11.00	11.00
	C. REVOLVING FUND	-	-	-
	GRAND TOTAL (A+B+C)	114.00	109.57	109.57

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

Year	Opening balance as on 1 st April	Income during the year	Expenditure during the year	Net balance in hand as on 1 st April of each year
April 2016 to March 2017	11.39	49.53	7.41	53.51
April 2017 to March 2018	53.51	25.64	7.49	71.66
April 2018 to March 2019	71.66	8.72	8.68	71.70
April 2019 to March 2020	71.70	8.62	7.72	72.60

17. Details of HRD activities attended by KVK staff during year 2019-20

Name of the staff	Title of the training programme	Institute where attended	Dates	Types of the programme
All staff	KVK review meeting with Senior scientist and Head and All Scientist of KVK, Dangs	KVK, Waghai	01-04-2019	Meeting
N. M. Thesiya	Krushi mahotsav meeting	Meeting	10-06-2019	Collector seminar hall, Ahwa
N. M. Thesiya	Audit para meeting	Meeting	31-05-2019	NAU, Navsari
N. M. Thesiya	7th pay fixation and TDS meeting	Meeting	21-06-2019	NAU, Navsari
All staff	Meeting	Review meeting	24-06-2019	KVK, waghai
J. B. Dobariya	National Symposium on Pragmatic perspectives of Agricultural Development programme in Present Scenario	Symposium	8 & 9 June 2019	Central Examination hall, NAU, Navsari
H. R. Sharma	Organic Dang	Meeting	03-06-2019	KVK, Waghai
H. R. Sharma	DMC (Horticulture)	Meeting	06-06-2019	KVK, Waghai
H. R. Sharma	Annual Zonal Workshop	Workshop	14-16/06/2019	ICAR-CCARI-Goa
H. R. Sharma	Planning for <i>Kharif</i> seed production Prog.	Meeting	19-06-2019	NAU, Navsari
H. R. Sharma, N. M. Thesiya	Bimonthly, KVK Monthly Review and ATMA convergence	Meeting	04-07-2019	NAU Navsari
N. M. Thesiya	Budget plan	Meeting	05-07-2019	NAU Navsari
H. R. Sharma	Meeting to Comptroller about Income Tax Deduction	Meeting	06-07-2019	NAU Navsari
N. N. Patel	Foods and Nutrition security of the Rural Households: Role of Women	Training	15 to 19-07-2019	MANAGE, Rajendranagar, Hyderabad
J. B. Dobariya	Workshop on ICT Application and Use of M Kisan Portals in Agriculture and Allied Fields	Training	22 to 27-07-2019	EEL, AAU, Anand
P. P. Javiya, S. A. Patel, B. M. Vahunia	Natural Farming	Workshop	04-09-2019	Gandhinagar
ALL	Work shop on "Soft skills for Personality Development" by EEI, Anand	Workshop	05/09/19 to 06/09/19	Waghai
ALL	KVK, Review meeting	Meeting	06-09-2019	KVK, waghai
ALL	Mushroom uccher seminar	Seminar	21-10-2019	waghai
G. G. Chauhan, J. B. Dobariya, S. A. Patel	ZREAC meeting	Meeting	04-10-2019	NAU, Navsari
G. G. Chauhan, J. B. Dobariya, S. A. Patel	Monthly review meeting	Meeting	04-10-2019	NAU, Navsari
P. P. Javiya	PG-RAG-Crop production	Meeting	21-10-2019	NAU, Navsari
H. A. Prajapati	Up-scaling of Water productivity in Arid and semi arid areas for sustainable Agriculture	Summer school	03-10-2019 to 23-10-2019	MPUAT, Udaipur, Rajasthan
G. G. Chauhan, J. B. Dobariya,	ATMA conversation meeting	Meeting	10-10-2019	SSK hall, NAU, Navsari
B. M. Vahunia	<i>Krushi ane bagayat pakoma pravartman pak sarkshan na prashno ane nirakaran</i>	Seminar	08-11-2019	Anand
G. G. Chauhan	QRT review meeting	Meeting	25-27/11/2019	Anand
ALL	KVK Review Meeting	Meeting	13-12-2019	KVK, waghai
G. G. Chauhan, P. P. Javiya, S. A. Patel, B. M. Vahunia	ATMA-Conversations meeting	Meeting	24-12-2019	N.A.U., Navsari

G. G. Chauhan , P. P. Javiya, S. A. Patel, B. M. Vahunia	Monthly review meeting	Meeting	24-12-2019	N.A.U.,Navsari
G. G. Chauhan	Seminar	Seminar	25-12-2019	Bardoli
B. M. Vahunia	KVK Review meeting	Meeting	24-12-2019	Navsari
B. M. Vahunia	2nd PG-RAG meeting (Crop Protection)	PG-RAG	27-12-2019	Navsari
P. P. Javiya	Training on Subhas Palekar Prakrutik Krishi	Training	05 to 11-12-2019	Vadtal, Nadiyad
B. M. Vahunia	PP-RAG (Crop Protection) meeting	Meeting	27-12-2019	Navsari
All Staff	KVK, Waghai Review meeting	Meeting	01-01-2020	KVK, Waghai
All Staff	KVK, Waghai Review meeting	Meeting	17-01-2020	KVK, Waghai
All Staff	19 Scientific Advisory Meeting	Meeting	23-01-2020	KVK, Waghai
All Staff	KVK, Waghai Review meeting	Meeting	24-01-2020	KVK, Waghai
H. A. Prajapati	Awareness programme by WDRA, New Delhi and	Training	20-01-2020	KVK, Waghai
H. A. Prajapati	Awareness programme on AMI , Gandhinagar	Training	20-01-2020	KVK, Waghai
H. A. Prajapati	Same field, Better Yield: Understanding on Current and Emerging Technologies for Doubling farmers Income	Training (21 days winter school)	03-02-2020 to 23-02-2020 (21 days winter school)	Sher-e-Kashmir University of Agricultural Science & Technology of Kashmir, Shalimar, Srinagar (J & K) – 190 025
ALL	Global Potato Conclave-2020	Webcast of Potato Conference	28-01-2020	College of Agriculture, Waghai
ALL	KVK Review Meeting	Meeting	07-02-2020	KVK, waghai
ALL	ATMA Conversation Meeting	Meeting	11-02-2020	KVK, waghai
B. M. Vahunia	Subhash Palekar Prakrutik Kheti	Workshop	09-02-2020	NAU, Campus , Navsari
B. M. Vahunia	AGRESO (Plant Protection)	Meeting	14-02-2020	Seminar hall, NMCA, NAU, Navsari
B. M. Vahunia	AGRESO (Plant Protection)	Meeting	15-02-2020	Seminar hall, NMCA, NAU, Navsari
J. B. Dobariya	AGRESO (Social Science group)	Meeting	27-02-2020	Dep.of Ext.Edu., COA, NAU., Navsari
ALL	KVK Review Meeting	Meeting	12-03-2020	KVK, waghai
P. P. Javiya	16th NRM-AGRESO	Seminar	5,6-03-2020	N.M. college of Agriculture NAU, Navsari
ALL	KVK Review Meeting	Meeting	04-03-2020	KVK, waghai
H. A. Prajapati	AGRESO Horticulture subcommittee meeting	Meeting	03,04-03-2020	ACHF, NAU,Navsari
G. G. Chauhan	National Conference	Conference	28,29-2-2020 to 1-3-2020	New delhi

18. List the other collaborative research/ extension projects and also write brief key achievements of the projects: Nil

- Pro SOIL
- NARI (Please indicate the name of one adopted village and give the activities carried over on nutri sensitive agriculture)
- VATICA
- Seed Hub
- Others (if any)

19. Please include any other important and relevant information which has not been reflected above (write in detail). --

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	40	885	735	1620
Rural youths	-	-	-	-
Extension functionaries	06	120	140	260
Sponsored Training	18	452	461	913
Vocational Training	05	17	133	150
Total	69	1474	1469	2943

2. Frontline demonstrations

Enterprise	No. of Farmers	Area (ha)	Units/Animals
Oilseeds	--	--	-
Pulses	204	64.4	-
Cereals	75	15	-
Vegetables	140	23.66	-
Other crops	53	8.16	-
Hybrid crops	-	-	-
Total	472	111.22	-
Livestock & Fisheries	160	-	160
Other enterprises	110	1.0	85
Total	270	1.0	245
Grand Total	742	112.22	245

3. Technology Assessment

Category	No. of Technology Assessed	No. of Trials	No. of Farmers
Technology Assessed			
Crops	06	52	52
Livestock	02	20	60
Various enterprises	00	00	00
Other	-	-	-
Total	08	72	112

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	506	34552
Other extension activities	00	00
Total	506	34552

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						Total
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	
KVK, Dang	Text only	07	-	-	-	05	-	12
	Voice only	-	-	-	-	-	-	-
	Voice & Text both	-	-	-	-	-	-	-
	Total Messages	07	-	-	-	05		12
	Total farmers benefitted	9019	-	-	-	6351		15370

6. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	94.4	493550
Planting material (No.)	4275	4275
Bio-Products (kg)	-	-
Livestock Production (No.)	-	-
Fishery production (No.)	-	-

7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil	281	2800
Water	-	-
Plant	-	-
Total	281	2800

8. HRD and Publications

Sr. No.	Category	Number
1.	Workshops	04
2.	Conferences	01
3.	Meetings	33
4.	Trainings for KVK officials	06
5.	Visits of KVK officials	-
6.	Book published	-
7.	Training Manual	-
8.	Book chapters	-
9.	Research papers	05
10.	Lead papers	-
11.	Seminar papers	-
12.	Extension folder	06
13.	Proceedings	-
14.	Award & recognition	-
15.	Ongoing research projects	00