ICAR-ATARI, Pune

DETAILS OF ANNUAL PROGRESS REPORT OF KVK-DANG DURING 2018-19

(1st April, 2018 to 31st March, 2019)

1. GENERAL INFORMATION ABOUT THE KVK

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

Address with PIN code	Telephone		E mail	Website address & No. of visitors (hits)
	Office	FAX		
Krishi Vigyan Kendra,Navsari Agricultural University, Ahwa road, Waghai, Tal: Waghai, District: Dang, Gujarat-394 730	02631-246239	---	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. Hemant Sharma	02631-246239	9998747306	kvkwaghai@nau.in

1.4. Year of sanction: 1984-85

1.5. Staff Position (as on March 31, 2019)

Sl. No.	Sanctioned post	Name of the incumbent	Discipline	Pay Scale If Temporary, pl. indicate the consolidated amount paid (Rs./month) (Rs.)	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. Hemant Sharma	Plant Pathology	37400-67000	9000	41720	06-06-2018	Temporary	Others	9998747306	drhsharma@nau.in	
2.	Scientist (1)	Mr. V. K. Desai	Plant Pathology	15600-39100	6000	20590	06.05.2011	Temporary	Others	9979908974	vkdesai@nau.in	
3.	Scientist (2)	Mr. N. M. Thesia	Agronomy	15600-39100	7000	19840	16.05.2012	Temporary	Others	9426536161	nmthesiya@nau.in	
4.	Scientist (3)	Mr.H. A. Prajapati	Horticulture	15600-39100	6000	15600	13.02.2017	Temporary	OBC	9429430999	prajapatiharshad20@gmail.com	
5.	Scientist (4)	Dr. D. B. Bhoi	Vet.Gynaec & Obste.	15600-39100	7000	20650	04.04.2011	Temporary	OBC	9925253536	drdbbhoi@nau.in	
6.	Scientist (5)	Mr. J. B. Dobariya	Extension Education	15600-39100	6000	17610	20.08.2015	Temporary	Others	9724761097	dobariyajignesh@yahoo.com	
7.	Scientist (6)	Smt. N. N. Patel	Home Science	15600-39100	6000	19050	2.1.2014	Temporary	OBC	8128681276	nitalnpatel@gmail.com	

8.	Farm Manager	Mr. R. S. Patel	-	38090 (Fix)	-	-	08.03.2019	Temporary	ST	9904410078 8140840815	Patelrs6996@gmail.com	
9.	Computer Programmer	Mr. R. S. Bhoya	-	39900-126600	--	60400	01-02-2019	Temporary	ST	9427516370	--	
10.	Programme Assistant	Mr. K. V. Patel	-	38090 (Fix)	-	-	24.9.2015	Temporary	ST	9687788642	Kasyapvpatel2@gmail.com	
11.	Accountant / superintendent	Vacant	-	39900-126600	-	-	-	-	-	-	-	-
12.	Stenographer	Vacant	-	5200-20200		-	-	-	-	-	-	-
13.	Driver (1)	Vacant	-	5200-20200		-	-	-	-	-	-	-
14.	Driver (2)	Vacant	-	5200-20200		-	-	-	-	-	-	-
15.	Supporting staff (1)	Mr. D. N. Parmar		14800-47100		17700	01.08.2011	Temporary	ST	-	-	
16.	Supporting staff (2)	Vacant	-	4440-7440		-	-	-	-	-	-	-

1.6. Total land with KVK (in ha):

S. No.	Item	Area (ha)
1.	Under Buildings	0.97
2.	Under Demonstration Units	0.29
3.	Under Crops	2.75
4.	Horticulture	0.83
5.	Pond	----
6.	Others if any	----
	Total	**4.84**

1.7. Infrastructural Development:

A) Buildings

Sr. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Year	Plinth area (Sq.m)	Expenditure (Rs.)	Starting year	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR	1990	200.73	0.93	--	--	--
2.	Farmers Hostel	ICAR	2005	278.00	12.00	--	--	--
3.	Staff Quarters (6)	--	--	--	--	--	--	--
	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 Ggdown	ICAR	2011	12	3.00	--	--	--

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Motorcycle Hero Honda Splendor	2011	50755	32112 (31-03-2019)	working
Utility vehicle	2019	800000	-	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

1.8. Details SAC meeting conducted in the year 2018

Date	Name of Participants	Designation of Participants	Salient Recommendations	Action taken
12-03-2018	Dr. C. J. Dangaria	Hon'ble Vice Chancellor, NAU, Navsari	1. Multiplication of Gujarat Navsari Turmeric 2 at KVK farm and use for future FLD.	1. GNT 2 variety of turmeric was multiplied at KVK farm in 0.12 ha with approximately 800 kg production. FLD on this variety is withdrawal as per suggestion given by the Director, ATARI Pune during KVKs Annual Action Work Plan Meeting held during 1-2 March, 2019 at NAU, Navsari.
	Dr. G. R. Patel	Director of Extension Education, NAU, Navsari		
	Dr. Z. P. Patel	Dean & Principal, CoA, NAU, Waghai-Dangs		
	Mr. M.M.Patel	Project Director, ATMA, Ahwa, Dang		
	Dr. S. N. Saravaiya,	Asso.Professor & Head, (Vegetable Sci.), Aspee college of Horticulture and Forestry, NAU, Navsari		
	Dr. H. E. Patil	Associate Research Scientist, Hill millet Research Station, NAU, Waghai-Dangs	2. Organize training programme on Kitchen Garden at all adopted village.	2. Total twelve training programmes have been conducted on Kitchen garden in seven adopted villages (Dokpatal, Uga, Borpada, Koshmal, Jamlapada, Divantembrun, Gadhvi) of Dang district in which total 398 farmer and farm women participated.
	Mr Sunil U Patel	District Agriculture Officer, Ahwa, Dangs		
	Dr.Mahaveer Choudhary	Principal of Agri. Polytechnic, NAU, Waghai-Dangs		
	Mr. K. G. Birari	Agri Enterpreneur, Jamlapada, Tal.- Waghai, Dangs		
	Mr. Bendubhai M. Gaikwad	Progressive Farmer, Nadagkhadi, Tal.- Waghai, Dangs		
	Smt. Bhartiben C. Patel	Chair person of Women SHG, Waghai, Dangs		
	Mr. V.U.Patel	Agriculture Officer, Dep. of agriculture, Vasda	3. Organize demonstration on solar cooker with financial assistance of ATMA Dang.	3. According to Action Plan (2018-19), ten FLDs on solar cooker have been conducted under KVK budget.
	Mr. Jiteshbhai R.Gavit	Progressive farmer, Village: Divadiyavan, Waghai, Dangs		
	Mrs.Chamulaben valvi	Progressive farmer, Village: Kudkas, World vision, India, Waghai		
	Mrs. Kamuben Ganeshbhai Jadav	Progressive farmer, Village:Dabdar, Tal. Waghai, Dangs	4. Establish demonstration unit for organic farming on KVK farm.	4. One organic mango demonstration unit has established at KVK farm.
	Mrs. Sarikaben Sanjaybhai Babar	Progressive farmer, Village:Dabdar, Tal. Waghai, Dangs	5. Organize demonstration related to organic farming.	5. As per Gujarat Sendriya Kheti Neeti -2015, all demonstrations were organized on organic farming with use of organic inputs.
	Mrs. Sajniben Balubhai Pasariya	Progressive farmer, Village:Dabdar, Tal. Waghai, Dangs		
	Prof. V. K. Desai	I/c Senior scientist & head (Plant protection), KVK, NAU, Waghai-Dangs	6. Training should be organized on value addition in mushroom	6. One day training programme was conducted on "Value addition in mushroom" with total 61 participants.
	Prof. N. M. Thesiya	Scientist (Agronomy), KVK, NAU, Waghai-Dangs		
	Dr. D. B. Bhoi	Scientist (Veterinary Sci.), KVK, NAU, Waghai-Dangs		
	Prof. J. B. Dobariya	Scientist (Extension Education), KVK, NAU, Waghai-Dangs	7. Process should be carried out for purchase of new vehicle/ four wheeler for KVK activities	7. Work is under progress for purchase of new four wheeler for KVK activities.
	Prof. H.A.Prajapati	Scientist (Horticulture), KVK, NAU, Waghai-Dangs		
	Prof. N.N.Patel	Scientist (Home Science), KVK, NAU, Waghai-Dangs		
	Mr. K.V.Patel	Agriculture Officer, KVK, NAU, Waghai-Dangs		
	Mr. P. M.Shankhla	Agriculture Officer, KVK, NAU, Waghai-Dangs		

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 - forest 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	Dangs 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 is remote forest area and characterized mainly by tribal. The cropping pattern of the district is single rainfed crops. The major crops in *kharif* are Paddy, Finger millet, Little millet, Sorghum, Black gram *etc.* 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 (10500 ha)	56,300

2.4. Area, Production and Productivity of major crops cultivated in the district (2017-18)

Sr. No.	Crop	Area (ha)	Production (MT.)	Productivity (Kg/ha)
1.	Paddy	20400	71400	3500
2.	Nagli	5800	8700	1500
3.	Vari	2000	3000	1500
4.	Sorghum	850	807	950
5.	Maize	2280	2166	950
6.	Black Gram	5000	4250	850
7.	Pigeon Pea	3050	3812	1250
8.	Soybean	2710	1626	600
9.	Ground nut	3050	3660	1200
10.	Niger	1500	450	300
	Kharif Total	**46640**	**99871**	**12600**
11.	Gram	3900	4875	1250
12.	Wheat	175	367	2100
13.	Pigeon pea	197	128	650
14.	Black Gram	20	11	550
15.	Cluster bean	398	338	850
16.	Sugarcane	375	9375	25000
	Rabi-Total	**5065**	**15094**	**30400**

Source: District agriculture department/Authentic Source

Area, Production and Productivity of Horticultural crops cultivated in the district (2017-18)

Sr. No.	Crop	Area (ha)	Production (MT.)	Productivity (t/ha)
A.	**Fruit Crops**			
1.	Mango	4975	34029	6.84
2.	Cashew nut	1347	2155	1.60
3.	Custard Apple	106	848	8.0
4.	Sapota	27	299	11.08
5.	Banana	25	1025	41.0
6.	Amla	22	136	6.19
7.	Pomegranate	12	90	7.51
8.	Others	107	793	7.41
	Total	**6621**	**39376**	-
B.	**Vegetable crops**			
1.	Okra	1298	18938	14.59
2.	Brinjal	645	11494	17.82
3.	Onion	561	12011	21.41
4.	Tomato	371	8213	22.15
5.	Cluster bean	398	5811	14.60
5.	Cowpea	131	1119	8.54
6.	Cucurbitaceous	798	10853	13.60
7.	Others	1535	82864	-
	Total	**5737**	**101303**	-

Source: District horticulture department.

2.5. Weather data (2018-19)

Month	Rainfall (mm)	Temperature (0 C)		Mean Relative Humidity (%)	Rainy Days (Nos.)
		Maximum	Minimum		
March-2018	---	37.00	16.5	63	0.0
April-2018	---	38.8	19.2	62	0.0
May-2018	---	39.5	23.3	65	0.0
June-2018	439.00	34.90	26.7	77	6.0
July-2018	2134.00	28.80	24.2	90	21
Aug-2018	676.00	28.80	24.2	90	24
Sept-2018	198.00	31.20	22.1	81	09
Octo-2018	5.00	35.0	19.6	75	01
Nov-2018	--	34.3	15.6	67	00
Dec-2018	--	30.9	10.7	65	00
Jan-2019	--	31.0	9.00	63	00
Feb-2019	--	32.2	11.9	64	00
Total	**3452.00**	--	--	--	**61**

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

Category	Population	Productivity
Crossbred	9860	2000 to 2200 lit/cow
Indigenous	60074	800 lit/cow
Buffalo	20727	1200 lit/cow
Crossbred	**--**	**--**
Indigenous	**--**	**--**
Goats	30316	300 lit
Pigs	--	--
Crossbred	--	--
Indigenous	148	--
Rabbits	109	--
Desi	153189	62 eggs/year
Improved	1715	188 Egg/Annum
Ducks	538	150 Egg/Annum
Turkey and others	-	--
Category		Productivity
Fish	--	--

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 **Oilseeds:** Groundnut, Niger **Vegetables:** Okra **Fruit crops:** Mango, Custard apple **Floriculture:** Rose and Marigold **Others:** Tuber crops **Animal Husbandry**	❖ 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	➢ 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			
	Waghai	Borpada Dokpatal Kosmal Uga			

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	128	148	23	24	498	519

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
45	93	1115	4199	131	688	8355	33966

Seed Production (Qtl.)		**Planting materials (Nos.)**	
5		**6**	
Target	Achievement	Target	Achievement
94	109.28	2000	5755

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 2018-19

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**	❖ 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
Integrated Pest Management										
Integrated Crop Management			2							2
Integrated Disease Management	1		1							2
Small Scale Income Generation Enterprises										
Weed Management										
Resource Conservation Technology					1					1
Farm Machineries										
Integrated Farming System										
Seed / Plant production										
Value addition										
Drudgery Reduction										
Storage Technique										
Mushroom cultivation										
Total	**1**		**3**		**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	Turmeric	Varietal assessment of turmeric during *Kharif* season in the Dangs, variety GNT1	10	10	0.2
Integrated Pest Management					
Integrated Crop Management	Green gram	Spacing management in summer green gram	30	30	0.1
	Gram	Seed bed preparation for *Rabi* gram	30	30	0.1
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	Watermelon	Mulching in watermelon	6	6	1.2
Farm Machineries					
Integrated Farming System					
Seed / Plant production					
Post Harvest Technology / Value addition					
Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
Total			**88**	**88**	

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
Gram	Rain fed	Low yield of *Rabi* gram crop	Seed bed preparation for *Rabi* gram	30	T_1. Broadcasting T_2. 30 cm x 10 cm	Yield (Q/ha)	T_1: 7.61 Qt T_2: 11.3 Qt	Treatment T_2 (30 cm x 10 cm) was better than T_1 (Broadcasting)	Wilt disease problem is not found in treatment T_2 and its easy for inter culturing operation which reduces weed infestation rather than treatment T_1	No	--
Green gram	Rain fed	Low yield of green gram crop in summer	Spacing management in summer green gram	30	T_1. Broadcasting T_2. 30 cm x 10 cm	Yield (Q/ha)	T_1:6.11 Qt T_2:9.24 Qt	Treatment T_2 (30 cm x 10 cm) was better than T_1 (Broadcasting)	More weed infestation found in T_1 which ultimately reduce yield	No	--

Turmeric	Rain fed	Low yield of turmeric in *Kharif*	Varietal assessment of turmeric during *Kharif* season in the Dangs, variety GNT 1	10	T_1. Farmers practices (Salem Variety) T_2. Gujarat Navsari Turmeric -1	Yield (Q/ha)	T_1:135.1 Qt T_2:189.2 Qt	Treatment T_2 (Gujarat Navsari Turmeric -1) was better than T_1 (Farmers practices)	GNT 1 variety give higher production then Salem	No	--
Watermelon	Irrigated	Low yield of watermelon and high evaporation rate of soil moisture	Mulching in watermelon	06	T_1: No mulching T_2: Paddy Straw T_3: Plastic mulch (30 micron, silver-black colour)	Yield (Q/ha)	T_1 :90 Qt T_2:125 Qt T_3: 150 Qt	T_3 treatment is best among T_1 and T_2	Use of Plastic mulch is increase the production in watermelon	No	--
Finger millet	Rainfed	Low yield of Finger millet	Control of blast disease of Finger millet in the Dangs	06	T_1:Farmers practice T_2:Spray of *Pseudomonas* sp.@60ml/10litre of water	Yield (Q/ha)	T_1: 8.50 Qt T_2: 9.54 Qt	T_2 treatment is best than T_1	Need high yielding blast disease resistant variety in Finger millet	No	--
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 *Trichoderma viride* @ 5 g/kg of seed	Yield (Q/ha)	T_1: 9.75 Qt T_2: 10.5 Qt	T_2 treatment is best than T_1	Good quality and uniformity	No	--
Cross bred cattle	--	Less body growth Parasitic infestation	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, 80th after birth	Weight of calf (Kg/calf)	T_1 :60.kg/calf T_2:63.8 kg/calf T_3:65.9 kg/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	--

Cross bred cattle	--	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)	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	--

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.Broadcasting T_2. 30 cm x 10 cm	NAU, Navsari (1998)	T_1: 7.61 Qt T_2: 11.3 Qt	Qt/ha	T_1: 15635 T_2: 27085	T_1:2.42 T_2:3.16
T_1. Broadcasting T_2. 30 cm x 10 cm	NAU, Navsari (2004)	T_1:6.11 Qt T_2:9.24 Qt	Qt/ha	T_1: 17495 T_2: 30080	T_1:2.74 T_2:3.61
T_1. Farmers practices (Salem variety) T_2. Gujarat Navsari Turmeric -1	NAU, Navsari (2016)	T_1:135.1 Qt T_2:189.2 Qt	Qt/ha	T_1: 30490 T_2: 131460	T_1:1.25 T_2:2.14
T_1: No mulching T_2: Paddy Straw T_3: Plastic mulch (30 micro, silver-black colour)	NAU, Navsari (2013)	T_1 :90 Qt T_2:125 Qt T_3: 150 Qt	Qt/ha	T_1 :19000 T_2: 36500 T_3: 64000	T_1 :1.43 T_2: 1.71 T_3: 2.14
T_1:Farmers practice T_2:Spray of *Pseudomonas* sp.@60ml/10litre of water	NAU, Navsari (2011)	T_1: 8.50 Qt T_2: 9.54 Qt	Qt/ha	T_1: 4750 T_2: 7890	T_1:1.19 T_2:1.31
T_1: Farmers practice T_2:Seed treatment with *Trichoderma viride* @ 5 g/kg of seed	NAU, Navsari (2010)	T_1: 9.75 Qt T_2: 10.5 Qt	Qt/ha	T_1: 1125 T_2: 3250	T_1:1.03 T_2:1.09
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, 80th after birth	NAU, Navsari (2011)	T_1 :60.0 kg/calf T_2:63.8 kg/calf T_3:65.9 kg/calf	Kg/Calf	T_1 :800 T_2: 1100 T_3: 1400	T_1 :1.36 T_2: 1.44 T_3:1.53
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 of Technology Assessed: Seed bed preparation for *Rabi* gram **(2016-17; 2017-18 & 2018-19) Concluded**

Problem Definition: In dang district, productivity of gram is low because of not maintaining proper spacing and sowing method which causing severe weed and disease problem in the area which ultimately reduces the yield.

Details of technologies selected for assessment:
Treatment:

T_1: Farmer practices (Broadcasting)
T_2: 30 x10 cm (Recommended)

Input:

1. Chickpea variety Guj. Gram 2 @ 60 kg/ha
2. Pendimethalin @ 1 kg a.i./ha is suggested
3. Seed treatment with Thiram is suggested
4. Liquid bio-fertilizer: *Rhizobium* @ 1lit/ OFT
5. Fertilizer application based on soil testing report
6. Novel organic fertilizer 1 lit/ OFT

Source of technology: NAU, Navsari (1998)

Production system and thematic area: Irrigated & ICM

Performance of the technology with performance indicators:

Sr. No.	Year	No of trial	Area (ha)	Yield(Q/ha)	
				T_1 Farmer practices (Broadcasting)	**T_2 30 x10 cm (Recommended)**
1.	2016-17	30	3	5.83	9.84
2.	2017-18	30	3	6.31	10.01
3.	2018-19	30	3	7.61	11.31
			Average	**6.58**	**10.39**

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 30 cm x 10 cm sowing of gram rather than farmer practices.
3. Higher yield in recommended practices due to easy weeding and less competition of nutrients and fertilizer between plants.
4. Although farmer practice is easy for sowing crop but showed more serious problem of wilt.

Final recommendation for micro level situation (Conclusion):

On the basis of three years average data, treatment T_2 (30 x10 cm) gave 10.39 Q/ha yield as compared with T_1 i.e. farmer practices (6.58 Q/ha) with net return (Rs. 23865/-) having 2.9 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: 2

Title of Technology Assessed: Spacing management in summer green gram **(2016-17; 2017-18 & 2018-19) Concluded**
Problem Definition: In dang district, productivity of green gram is low because of not maintaining proper spacing and sowing method which causing severe weed and disease problem in the area which ultimately reduces the yield.
Details of technologies selected for assessment:
Treatment:

T_1: Farmer practices (Broadcasting)
T_2: 30 x10 cm (Recommended)

Input:

1. Green gram variety Meha @ 20 kg/ha
2. Pendimethalin @ 1 kg a.i./ha is suggested
3. Seed treatment with Thiram is suggested.
4. Liquid bio-fertilizer: *Rhizobium* @ 1lit/ OFT
5. Fertilizer application based on soil testing report
6. Novel organic fertilizer 1 lit/ OFT

Source of technology: NAU, Navsari (1998)

Production system and thematic area: Irrigated & ICM

Performance of the technology with performance indicators:

Sr. No.	Year	No of trial	Area (ha)	Yield(Q/ha)	
				Broad casting (Farmer practices)	30 cm between rows (Recommended)
1.	2016-17	30	3	4.69	6.80
2.	2017-18	30	3	4.91	6.84
3.	2018-19	30	3	6.11	9.24
			Average	**5.24**	**7.63**

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 30 cm x 10 cm sowing of green gram 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 three years average data, treatment T_2 (30 x10 cm) gave 7.63 Q/ha yield as compared with T_1 i.e. farmer practices (5.24 Q/ha) with net return (Rs. 26650) having 3.31 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

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: T_1. Farmers practices (Salem variety)
T_2. 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.	2018-19	10	2	135.1	189.2

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: GNT 1 variety gives higher production then local variety

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

OFT: 4

Title of Technology Assessed: Mulching in watermelon **(2016-17; 2017-18 & 2018-19) Concluded**

Problem definition: Low yield of watermelon and high evaporation rate of soil moisture

Details of Technologies selected for assessment:

Treatment:

T_1: No mulching
T_2: Paddy Straw
T_3: Plastic mulch (30 micron, silver-black color)

Source of Technology: Navsari Agricultural University, Navsari (2013)

Production system and thematic area: irrigated & Resource conservation technology

Performance of the Technology with performance indicators:

Sr. No.	Year	No of trial	Area (ha)	Yield(Q/ha)		
				No mulching	Paddy Straw	Plastic mulch (30 micron, silver-black color)
1.	2016-17	06	3.6	171.87	194.94	245.67
2.	2017-18	06	3.6	163.30	188.10	229.00
3.	2018-19	06	3.6	90.00	125.00	150.00
			Average	**141.72**	**169.35**	**208.22**

Feedback, matrix scoring of various technology parameters done through farmer's participation/ other scoring Technique: - Plastic mulch increase the yield of watermelon

Final recommendation for micro level situation: Use of Plastic mulch in watermelon give the better yield than paddy straw mulching and no mulching. On the basis of three years average data, treatment T_3 gave 208.22 Q/ha yield as compared with T_1 & T_2 with net return (Rs. 94089.66) having 2.65 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

OFT: 5

Title: Control of blast disease of Finger millet in the Dangs (2016-17; 2017-18 & 2018-19) Concluded

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.

Treatment

T_1: Farmers practice
T_2: Spray of *Pseudomonas* sp. @ 60ml/10litre of water

Source of technology: NAU, Navsari (2011)

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 *Pseudomonas* sp.@60ml/10litre of water
1.	Kharif 2016	06	2.4	7.50	10.20
2.	Kharif 2017	06	2.4	8.50	10.00
3.	Kharif 2018	06	2.4	8.50	9.54
			Average	**8.16**	**9.91**

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 T_2 (Spray of *Pseudomonas* sp.@ 60ml/10litre of water) in finger millet recorded highest average yield (9.91 q/ha) than treatment T_1 (farmers practices) with net return (Rs. 34685/-) having 1.33 BC Ratio.

Constraints identified and feedback for research: Nil

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

OFT: 6

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 & sclerotium rot disease in dang, we proposed the OFT to reduce disease incidence and increase yield.

Treatment

T_1: Farmers practice

T_2: 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 *Trichoderma viride* @ 5 g/kg of seed
1.	Rabi-2019	6	2.4	9.25	10.58

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, T_2 treatment *i. e.* seed treatment with *Trichoderma viride* @ 5g/kg of seed is best than T_1 (Farmer practice)

Constraints identified and feedback for research: Nil

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

OFT: 7

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 sacristy 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:

T_1 - Framer'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, 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

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

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: T_3 treatment is best among T_1 and T_2

Constraints identified and feedback for research: Nil

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

OFT: 8

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 nutrious 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:

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)

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

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

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: T_3 treatment is best among T_1 and T_2

Constraints identified and feedback for research: Nil

Process of farmer's participation and their reaction: Field day, 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 2018-19 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	Crop Production	GNR 6	FLD, Training, Field Days, Farmers meeting, Exposure visit to KVK farm, Mass media	15	50	10
2.	Finger millet	Crop Production	GNN 6		5	25	05
3.	Gram	Crop Production	GG 5		8	25	05
4.	Mango & Vegetables	Nutritional Management	NOLF & Biofertilizer (*Azotobactor,* PSB, KMS)		15	70	12
5.	Gram	IDM	*Trichoderma*		5	20	8
6.	Cross breed cattle	Nutrient Management	Mineral mixture & Bypass fat		15	40	40
7.	Farm Mechanization	Drudgery reduction	Twin wheel hoe		10	25	25

B. Details of FLDs implemented during 2018-19 (under ICAR-KVK-Budget)

SN	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**									
-	-	-	-	-	-	-	-	-	-	-
II	**Pulse crops**									
1.	Gram	Varietal evaluation	GG 5	Rabi 2018-19	5	5	25	--	25	--
2.	Pigeon pea	Varietal evaluation	GNP 2	Kharif, 2018	5	5	25	--	25	--
III	**Cereal crops**									
3.	Paddy	Varietal evaluation	GNR 6	Kharif, 2018	5	5	25	--	25	--
4.	Finger millet	Varietal evaluation	GNN 6	Kharif, 2018	5	5	25	--	25	--
5.	Little millet	Varietal evaluation	GV 3	Kharif, 2018	5	5	25	--	25	--

IV	**Horticultural crops**									
6.	Indian bean	Varietal evaluation	GNIB 22	Rabi 2018-19	5	5	25	--	25	--
7.	Okra	INM	Biofertilizer, NOLN	Rabi-2018-19	5	5	25	--	25	--
8.	Onion	Varietal evaluation	AFLR	Rabi-2018-19	1	1	10	--	10	--
9.	Mango	INM	Biofertilizer	Summer 2018-19	2	2	20	--	20	---
10.	Turmeric	Varietal evaluation	Rhizomes of Sugandham	Kharif, 2018	2	2	20	-	20	---
V	**Plant Protection**									
11.	Paddy	Pest management	Pheromone trap	Kharif, 2018	5	5	20	--	20	--
12.	Finger millet	IDM	*Pseudomonas flourescence*	Kharif, 2018	4	4	10		10	
13.	Gram	IDM	*Trichoderma*	Rabi 2018-19	4	4	10	--	10	--
14.	Groundnut	IDM	*Trichoderma*	Summer 2018-19	4	4	10	-	10	
FLDs under other schemes (Other than KVK-ICAR Budget): Adaptive Trial (Phase-II), CFLD-Pulses, Mega seed TSP										
I	**Oilseed**									
--	-	-	-	-	-	-	-	-	-	-
II	**Pulse crops**									
15.	Green gram	Crop Production	GM 6	Summer 2018-19	8.5	8.5	29	--	29	Adaptive trial
16.	Gram	Crop Production	GG 5	Rabi 2018-19	8.33	8.33	90	--	90	TSP Mega seed
17.	Gram	Crop Production	GG 5	Rabi 2018-19	6.66	6.66	53	--	53	Adaptive trial
18.	Gram	Crop Production	GG 5	Rabi 2018-19	20.0	20	50	--	50	CFLDs pulses
II	**Cereal crops**									
--	--	--	--	--	--	--	--	--	--	--
III	**Horticultural crops**									
19.	Watermelon	Resource conservation technology	Plastic Mulch	Summer 2019	2.0	2.0	10	--	10	Adaptive trial
IV	**Plant Protection**									
20.	Mango	Pest management	Methyl eugenol trap	Summer 2018-19	30.0	30	22	--	22	Adaptive trial

Details of farming situation during 2018-19 (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 2018-19	Irrigated	Lateritic black Hilly	H	M	H	Paddy, Ragi	20- 25 /11/2018	20 - 28 /2/2019	73	01
Pigeon pea	Kharif, 2018	Rain fed	Lateritic black Hilly	H	M	H	Gram	20- 30 /07/2018	10-30 /01/2019	3013	55
Cereal crops											
Paddy	Kharif, 2018	Rain fed	Lateritic black Hilly	H	M	H	Gram, Green gram	25 -30 /07/2018	10 -30 /11/2018	3013	55
Finger millet	Kharif, 2018	Rain fed	Lateritic black Hilly	H	M	H	Gram, Green gram	25 -30 /07/2018	10 -30 /11/2018	3013	55
Little millet	Kharif, 2018	Rain fed	Lateritic black Hilly	H	M	H	Gram, Green gram	25 -30 /07/2018	10 -30 /11/2018	3013	55
Horticultural crops											
Indian bean	Rabi 2018-19	Irrigated	Lateritic black Hilly	H	M	H	Paddy	20-30/10/2018	1-15/03/2019	00	00
Okra	Rabi-2018-19	Irrigated	Lateritic black Hilly	H	M	H	Paddy	20-30/10/2018	1-15/03/2019	73	01
Onion	Rabi-2018-19	Irrigated	Lateritic black Hilly	H	M	H	Paddy	15-20/10/2018	15-30/03/2019	240	07
Mango	Summer 2018-19	Irrigated	Lateritic black Hilly	H	M	H	--	Existing	May 2018	00	00
Turmeric	Kharif, 2018	Rain fed	Lateritic black Hilly	H	M	H	Gram, Green gram	1 -30 /05/2018	01 -28/02/2019	3452	61
Plant Protection											
Paddy	Kharif 2018	Rain fed	Lateritic black Hilly	H	M	H	Gram	25 -30 /07/2018	10 -30 /11/2018	3013	55
Finger millet	Kharif2018	Rain fed	Lateritic black Hilly	H	M	H	Gram, Green gram	25 -30 /07/2018	10 -30 /11/2018	3013	55
Gram	Rabi 2018-19	Irrigated	Lateritic black Hilly	H	M	H	Paddy, Ragi	20 -25 /11/2018	20 -28 /2/2019	73	01
Groundnut	Summer-2018-19	Irrigated	Lateritic black Hilly	H	M	H	Paddy, Ragi	25-31/01/2019	Awaited	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 2018-19	Irrigated	Lateritic black Hilly	H	M	H	Paddy, Ragi	1-10 /02/2018	01- 10 /5/2018	00	00
Gram	Rabi 2018	Irrigated	Lateritic black Hilly	H	M	H	Paddy, Ragi	20-25/11/2018	20- 28 /2/2019	73	01
Gram	Rabi 2018	Irrigated	Lateritic black Hilly	H	M	H	Paddy, Ragi	20-25/11/2018	20- 28 /2/2019	73	01
Gram	Rabi 2018	Irrigated	Lateritic black Hilly	H	M	H	Paddy, Ragi	20-25/11/2018	20- 28 /2/2019	73	01
Cereal crops											
--	--	--	--	--	--	--	--	--	--	--	--
Horticultural crops											
Watermelon	Summer-2018-19	Irrigated	Lateritic black Hilly	H	M	H	Paddy	1-15/01/2019	15-20/04/2019	00	00
Plant Protection											
Mango	Summer-2018-19	Rainfed	Lateritic black Hilly	H	M	H	--	Existing	May 2018	00	00

Technical Feedback on the demonstrated technologies

Sr. No.	Discipline	Feed Back
1.	Horticulture	Gujarat Navsari Turmeric 1 variety is not infected by Rhizome rot disease
2.		Require resistant variety of okra against YVM virus.
3.	Plant Protection	Need to develop traps for pests of rice, pulses, mango & cashew nut (Rice: Gundhi bug; Pulse: Mites; Mango: Hopper; Cashew nut: TMB)
4.		Need to develop false smut resistant variety in rice
5.		Tolerant/resistant variety of cashew nut against tea mosquito bug
6.		Pest disease control measures for organic farming
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	Feed Back
1.	Crop Production	GG 5 variety of gram gave excellent yield under conserve moisture & resistant to wilt
2.		GNN 6 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	Use of Plastic mulch is increase the production in watermelon
6.		Need to develop proper marketing channel for Turmeric.
7.		Problem of yellow vein mosaic virus was reported in okra.
8.	Plant Protection	List of recommended pesticides and weedicides for organic farming
9.		Require trap similar as Nauroji fruit fly trap for Tea mosquito bug in cashew
10.	Animal Science	Feeding mineral mixture and timely deworming leads to better health and body growth in cross breeds calves
11.		Feeding bypass fat along with mineral mixture in cross breed cattle resulted increase milk production and better health
12.	Home Science	After demonstration, farm women started growing 6 to 8 types of vegetables in scientific way in their backyard by using waste water
13.		Through Kitchen garden farmers get fresh and organic vegetables at low cost
14.		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	18-04-18, 14-08-18, 27-09-18, 16-11-18, 18-01-19, 19-01-19, 24-01-19, 21-01-19, 05-02-19,19-03-19	110	--
2.	Farmers Training	93	--	3893	--
3.	Media coverage	09	--	--	--
4.	Training for extension functionaries	05	19 & 20-11-2018, 03 & 04-12-2018, 10 &12-12-2018,17 & 18-12-2018, 07& 08-02-2019	197	--

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	11.40	10.60	10.98	8.72	25.92	12500	38430	25930	3.07	11000	30520	19520	2.77
Pigeon pea	ICM	New variety	GNP 2	25	5	13.20	10.20	12.1	9.13	32.53	14000	36300	22300	2.59	12000	27390	15390	2.28

* 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	32.10	27.85	30.7	25.9	18.88	27500	55422	27922	2.0	25500	46620	21120	1.82
Finger millet	ICM	New variety	GNN 6	25	5	14.45	12.45	13.7	10.05	36.92	10000	20640	10640	2.06	8000	15075	7075	1.88
Little millet	ICM	New variety	GV 3	25	5	13.85	12.35	13.1	9.46	38.69	10000	19680	9680	1.96	8000	14190	6190	1.77
Horticultural crops																		
Indian bean	Varietal evaluation	New variety	GNIB 22	25	5	42.0	25.0	35.7	25.7	39.04	41638	132312	90674	3.17	42782	102880	60098	2.40
Okra	Organic farming	INM	Biofertilizer, NOLN	25	5	93.0	74.0	87.0	84.8	2.57	42262	208828	166566	4.94	51884	203606	151722	3.92
Onion	Varietal evaluation	New variety	AFLR	10	1	240	179	221	196	12.74	98410	221300	122890	2.24	103160	196300	93140	1.90
Mango	Biofertilizer	INM	NOVEL & Biofertilizer	20	2	Result awaited												
Turmeric	Varietal evaluation	New variety	Sugandham	20	2	135	90	117	104	12.94	98410	153140	54730	1.55	99720	114730	15010	1.15
Plant Protection																		
Paddy	Pest mgt.	Pheromone trap	Hybrid varieties	20	5	27.00	21.00	22.5	21.3	5.96	35000	42883	7883	1.22	34000	40470	6470	1.19
Finger millet	IDM	*Pseudomonas flourescence*	Local varieties	10	4	11.00	9.50	10.00	9.00	11.11	28000	35000	7000	1.25	27000	31500	4500	1.16
Gram	Disease mgt.	*Trichoderma*	Local varieties	10	4	12.50	8.00	10.70	9.75	10.26	33500	37625	4125	1.12	33000	34125	1125	1.03
Groundnut (2017-18)	Disease mgt.	*Trichoderma*	GG 11	8	4	20.00	12.00	18.00	16.00	12.50	55000	90000	45000	1.63	54000	80000	36000	1.48
Groundnut (2018-19)	Disease mgt.	*Trichoderma*	GG 11	10	4			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

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)				% Change in Yield	Economics of demonstration* (Rs./ha)			
						Demo			Check		Gross Cost	Gross Return	Net Return	BCR** (R/C)
						High	Low	Ave.						
Oilseed														
--	--	--	--	-	--	--	--	--	--	--	--	--	--	--
Pulse crops														
Green gram	Crop Production	New variety	GM 6	29	8.5	9.09	8.79	8.95	--	--	11500	40275	28775	3.50
Gram	Crop Production	New variety	GG 5	90	8.33	10.78	9.95	10.33	-	-	12500	36155	23655	2.89
Gram	Crop Production	New variety	GG 5	53	6.66	11.40	10.60	10.99	--	--	12500	38465	25965	3.07
Cereal crop														
--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Horticultural crops														
Watermelon	Resource Conservation Technology	Plastic Mulch	Hybrid	10	2.0	150	105	131.7	99.0	33.37	56240	105360	49120	1.87
Plant Protection														
Mango	Pest and diseases management	Methyl eugenol trap	Mixed	30	22	--	--	--	--	--	--	--	--	--

* 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.	Nutrition management	Feeding of bypass fat	20	20	13.5	11.0	22.73	--	--	4000	11340	7340	2.83	3550	9240	5690	2.60
2.	Nutrition management	Feeding of Mineral mixture	20	20	6.2	5.3	16.98	--	--	2300	5208	2908	2.26	2200	4452	2252	2.02
3.	Fodder management	Introduction of new variety of Fodder Sorghum " CSV 21 F"	20	20	392 (q/ha)	--	--	--	--	26000	90000	64000	3.46	--	--	--	--
Dairy cow (Adaptive trial)																	
1.	Nutrition management	Feeding of bypass fat	20	20	13.4	11.1	20.72	--	--	4000	11256	7256	2.81	3525	9324	5774	2.62
2.	Nutrition management	Feeding of Mineral mixture	20	20	6.3	5.4	16.66	--	--	2300	5292	2992	2.30	2200	4536	2336	2.06

* 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.)			
					Demons Ration	Check		Demons ration	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)	10	Fuel expenses Rs/Unit/Year	2600	8100

FLD on Farm Implements and Machinery

Name of the implement	Crop	Technology demonstrated	No. of Farmer	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)	Green gram	Drudgery reduction technology	25	1	Labour saving man hour/ha	98	200	104.08	--	--	13	13	--	2340	--	2340
Hand weeder (Adaptive tial)	Gram	Drudgery reduction technology	25	1	Labour saving man hour/ha	95	198	108.42	--	--	12	12	--	2160	--	2160

* 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)			
					Demons Ration	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	Organic kitchen garden	60	60	98.7	--	-	--	--	1200	4935	3735	4.11	--	--	--	--
Home science	Nutrition garden	Organic kitchen garden	27	27	107.8	--	--	--	--	600	3268	2668	5.44	--	--	--	--

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	Crop Production	New variety	GG 5	50	20.00	11.23	9.98	10.73	8.13	31.98	12500	37555	25055	3.00	11000	28525	17525	2.59

* * 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				30	0	30	30	0	30
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management										
Soil & water conservation	1				55	2	57	55	2	57
Integrated nutrient management										
Production of organic inputs										
Others (pl specify)										
Organic farming	5				95	120	215	95	120	215
Total	**7**				**180**	**122**	**302**	**180**	**122**	**302**
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume crops	3				56	58	114	56	58	114
Off-season vegetables	1				30	8	38	30	8	38
Nursery raising	1				34	0	34	34	0	34
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify) Organic farming	1				0	40	40	0	40	40
Total (a)	**6**				**120**	**106**	**226**	**120**	**106**	**226**
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit	1				42	3	45	42	3	45
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**				**42**	**3**	**45**	**42**	**3**	**45**
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										

Others (pl specify)										
Total (c)	**0**				**00**	**00**	**00**	**00**	**00**	**00**
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d)	**0**				**00**	**00**	**00**	**00**	**00**	**00**
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (e)	**0**				**00**	**00**	**00**	**00**	**00**	**00**
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (f)	**0**				**00**	**00**	**00**	**00**	**00**	**00**
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)	**0**				**00**	**00**	**00**	**00**	**00**	**00**
GT (a-g)	**7**				**162**	**109**	**271**	**162**	**109**	**271**
III Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										
Integrated Nutrient Management	1				42	18	60	42	18	60
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	**1**				**42**	**18**	**60**	**42**	**18**	**60**
IV Livestock Production and Management										
Dairy Management	3				55	209	264	55	209	264
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Disease Management	2				19	76	95	19	76	95
Feed & fodder technology	1				31	29	60	31	29	60
Production of quality animal										

products										
Others (pl specify)										
Total	**6**				**105**	**314**	**419**	**105**	**314**	**419**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	1				6	25	31	6	25	31
Design and development of low/minimum cost diet	2				22	62	84	22	62	84
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs	2				0	72	72	0	72	72
Storage loss minimization techniques										
Value addition	1				2	46	48	2	46	48
Women empowerment										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
Others (pl specify) Capacity Building and Group Dynamics	1				12	41	53	12	41	53
Total	**7**				**42**	**246**	**288**	**42**	**246**	**288**
VI Agril. Engineering										
Farm Machinary 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	**00**				**00**	**00**	**00**	**00**	**00**	**00**
VII Plant Protection										
Integrated Pest Management	3				20	111	131	20	111	131
Integrated Disease Management	2				27	101	128	27	101	128
Bio-control of pests and diseases	2				46	0	46	46	0	46
Production of bio control agents and bio pesticides										
Others (pl specify) Organic farming	1				55	1	56	55	1	56
Total	**8**				**148**	**213**	**361**	**148**	**213**	**361**
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	**00**				**00**	**00**	**00**	**00**	**00**	**00**
IX Production of Inputs at site										
Seed Production	3				47	52	99	47	52	99
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	**3**				**47**	**52**	**99**	**47**	**52**	**99**
X Capacity Building and Group Dynamics										
Leadership development										
Group dynamics	1				40	46	86	40	46	86
Formation and Management of SHGs										
Mobilization of social capital	1				60	0	60	60	0	60
Entrepreneurial development of farmers/youths										
WTO and IPR issues										
Others (pl specify) Storage loss minimization techniques	1				15	10	25	15	10	25
Capacity building for ICT application	1				5	77	82	5	77	82
Integrated Farming Systems	1				26	24	50	26	24	50
Total	**5**				**146**	**157**	**303**	**146**	**157**	**303**
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total	**00**				**00**	**00**	**00**	**00**	**00**	**00**
GRAND TOTAL	**44**				**872**	**1231**	**2103**	**872**	**1231**	**2103**

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										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management										
Soil & water conservation	1				33	11	44	33	11	44
Integrated nutrient management	1				48	2	50	48	2	50
Production of organic inputs										
Others (pl specify) Organic farming	3				100	13	113	100	13	113
Total	**5**				**181**	**26**	**207**	**181**	**26**	**207**
II Horticulture										
a) Vegetable Crops										
Production of low value and high value crops	4				185	64	249	185	64	249
Off-season vegetables										
Nursery raising	1				43	18	61	43	18	61
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify) Organic farming	1				46	2	48	46	2	48
Total (a)	**6**				**274**	**84**	**358**	**274**	**84**	**358**
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit	2				116	23	139	116	23	139
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)	**2**				**116**	**23**	**139**	**116**	**23**	**139**
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl specify)										
Total (c)	**00**				**00**	**00**	**00**	**00**	**00**	**00**

d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d)	**00**				**00**	**00**	**00**	**00**	**00**	**00**
e) Tuber crops										
Production and Management technology	1				32	12	44	32	12	44
Processing and value addition										
Others (pl specify)										
Total (e)	**1**				**32**	**12**	**44**	**32**	**12**	**44**
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (f)	**00**				**00**	**00**	**00**	**00**	**00**	**00**
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)	**00**				**00**	**00**	**00**	**00**	**00**	**00**
GT (a-g)	**9**				**422**	**119**	**541**	**422**	**119**	**541**
III Soil Health and Fertility Management										
Soil fertility management	1				30	20	50	30	20	50
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	**1**				**30**	**20**	**50**	**30**	**20**	**50**
IV Livestock Production and Management										
Dairy Management	4				47	203	250	47	203	250
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Disease Management	1				17	44	61	17	44	61
Feed & fodder technology										
Production of quality animal products										
Others (pl specify)										
Total	**5**				**64**	**247**	**311**	**64**	**247**	**311**

V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	3				35	49	84	35	49	84
Design and development of low/minimum cost diet	1				4	43	47	4	43	47
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking	1				0	32	32	0	32	32
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition										
Women empowerment	7				133	126	259	133	126	259
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care	1				7	23	30	7	23	30
Others (pl specify)										
Total	**13**				**179**	**273**	**452**	**179**	**273**	**452**
VI Agril. Engineering										
Farm Machinary 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	**00**				**00**	**00**	**00**	**00**	**00**	**00**
VII Plant Protection										
Integrated Pest Management	1				15	0	15	15	0	15
Integrated Disease Management	1				20	0	20	20	0	20
Bio-control of pests and diseases	1				13	2	15	13	2	15
Production of bio control agents and bio pesticides										
Others (pl specify)										
Total	**3**				**48**	**2**	**50**	**48**	**2**	**50**
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	**00**				**00**	**00**	**00**	**00**	**00**	**00**
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	**00**				**00**	**00**	**00**	**00**	**00**	**00**
X Capacity Building and Group Dynamics										
Leadership development	1				10	28	38	10	28	38
Group dynamics	1				15	10	25	15	10	25
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths	1				11	19	30	11	19	30
WTO and IPR issues										
Others (pl specify)										
Total	**3**				**36**	**57**	**93**	**36**	**57**	**93**
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total	**00**				**00**	**00**	**00**	**00**	**00**	**00**
GRAND TOTAL	**39**	**0**	**0**	**0**	**960**	**744**	**1704**	**960**	**744**	**1704**

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										
Cropping Systems	1				30	0	30	30	0	30
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management										
Soil & water conservatioin	2				88	13	101	88	13	101
Integrated nutrient management	1				48	2	50	48	2	50
Production of organic inputs										
Others (pl specify)										
Organic farming	8				195	133	328	195	133	328
Total	**12**				**361**	**148**	**509**	**361**	**148**	**509**
II Horticulture										
a) Vegetable Crops										
Production of low value and high volume crops	7				241	122	363	241	122	363
Off-season vegetables	1				30	8	38	30	8	38
Nursery raising	2				77	18	95	77	18	95
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify) Organic farming	2				46	42	88	46	42	88
Total (a)	**12**				**394**	**190**	**584**	**394**	**190**	**584**
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit	3				158	26	184	158	26	184
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)	**3**				**158**	**26**	**184**	**158**	**26**	**184**
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										

Others (pl specify)										
Total (c)	**0**				**00**	**00**	**00**	**00**	**00**	**00**
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d)	**0**				**00**	**00**	**00**	**00**	**00**	**00**
e) Tuber crops										
Production and Management technology	1				32	12	44	32	12	44
Processing and value addition										
Others (pl specify)										
Total (e)	**1**				**32**	**12**	**44**	**32**	**12**	**44**
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (f)	**0**				**00**	**00**	**00**	**00**	**00**	**00**
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)	**00**				**00**	**00**	**00**	**00**	**00**	**00**
GT (a-g)	**16**				**584**	**228**	**812**	**584**	**228**	**812**
III Soil Health and Fertility Management										
Soil fertility management	1				30	20	50	30	20	50
Integrated water management										
Integrated Nutrient Management	1				42	18	60	42	18	60
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	**2**				**72**	**38**	**110**	**72**	**38**	**110**
Dairy Management	7				102	412	514	102	412	514
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Disease Management	3				36	120	156	36	120	156
Feed & fodder technology	1				31	29	60	31	29	60
Production of quality animal products										

Others (pl specify)										
Total	**11**				**169**	**561**	**730**	**169**	**561**	**730**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	4				41	74	115	41	74	115
Design and development of low/minimum cost diet	3				26	105	131	26	105	131
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking	1				0	32	32	0	32	32
Gender mainstreaming through SHGs	2				0	72	72	0	72	72
Storage loss minimization techniques										
Value addition	1				2	46	48	2	46	48
Women empowerment	7				133	126	259	133	126	259
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care	1				7	23	30	7	23	30
Others (pl specify) Capacity Building and Group Dynamics	1				12	41	53	12	41	53
Total	**20**				**221**	**519**	**740**	**221**	**519**	**740**
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	**00**				**00**	**00**	**00**	**00**	**00**	**00**
VII Plant Protection										
Integrated Pest Management	4				35	111	146	35	111	146
Integrated Disease Management	3				47	101	148	47	101	148
Bio-control of pests and diseases	3				59	2	61	59	2	61
Production of bio control agents and bio pesticides										
Others (pl specify) Organic farming	1				55	1	56	55	1	56
Total	**11**				**196**	**215**	**411**	**196**	**215**	**411**
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	**00**				**00**	**00**	**00**	**00**	**00**	**00**
IX Production of Inputs at site										
Seed Production	3				47	52	99	47	52	99
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	**3**				**47**	**52**	**99**	**47**	**52**	**99**
X Capacity Building and Group Dynamics										
Leadership development	1				10	28	38	10	28	38
Group dynamics	2				55	56	111	55	56	111
Formation and Management of SHGs										
Mobilization of social capital	1				60	0	60	60	0	60
Entrepreneurial development of farmers/youths	1				11	19	30	11	19	30
WTO and IPR issues										
Others (pl specify) Storage loss minimization techniques	1				15	10	25	15	10	25
Capacity building for ICT application	1				5	77	82	5	77	82
Integrated Farming Systems	1				26	24	50	26	24	50
Total	**8**				**182**	**214**	**396**	**182**	**214**	**396**
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total	**00**				**00**	**00**	**00**	**00**	**00**	**00**
GRAND TOTAL	**83**				**1832**	**1975**	**3807**	**1832**	**1975**	**3807**

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										
Protected cultivation technology										
Production and use of organic inputs	1			0	28	0	28	28	0	28
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			0	6	66	72	6	66	72
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application	1			0	6	72	78	6	72	78
Management in farm animals										
Livestock feed and fodder production	1			0	19	0	19	19	0	19
Household food security										
Any other (pl.specify) Organic farming	1			0	14	11	25	14	11	25
TOTAL	**5**	**0**	**0**	**0**	**73**	**149**	**222**	**73**	**149**	**222**

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										

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										
Protected cultivation technology										
Production and use of organic inputs	1			0	28	0	28	28	0	28
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			0	6	66	72	6	66	72
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application	1			0	6	72	78	6	72	78
Management in farm animals										
Livestock feed and fodder production	1			0	19	0	19	19	0	19
Household food security										
Any other (pl.specify) Organic farming	1			0	14	11	25	14	11	25
TOTAL	**5**	**0**	**0**	**0**	**73**	**149**	**222**	**73**	**149**	**222**

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	1				30	0	30	30	0	30
Organic farming	1				13	32	45	13	32	45
Organic farming	1				18	25	43	18	25	43
Organic farming	1				1	54	55	1	54	55
Organic farming	1				38	0	38	38	0	38
Commercial production of vegetables	1				3	51	54	3	51	54
Organic farming	1				0	40	40	0	40	40
Nursery Management	1				34	0	34	34	0	34
Commercial production of vegetables	1				22	2	24	22	2	24
Integrated Pest Management	1				5	51	56	5	51	56
Integrated Disease Management	1				2	71	73	2	71	73
Integrated Disease Management	1				25	30	55	25	30	55
Organic farming	1				55	1	56	55	1	56
Bio-control of pests and diseases	1				30	0	30	30	0	30
Integrated Pest Management	1				0	60	60	0	60	60
Dairy Management	1				11	159	170	11	159	170
Disease Management	1				10	60	70	10	60	70
Dairy Management	1				35	0	35	35	0	35
Gender mainstreaming through SHGs	1				0	40	40	0	40	40
Capacity Building and Group Dynamics	1				12	41	53	12	41	53
Low cost and nutrient efficient diet designing	1				22	39	61	22	39	61
Low cost and nutrient efficient diet designing	1				0	23	23	0	23	23
Integrated Farming Systems	1				60	0	60	60	0	60
Capacity building for ICT application	1				5	77	82	5	77	82
Integrated Farming Systems	1				26	24	50	26	24	50

Production and use of organic inputs	1				15	0	15	15	0	15
Production and Management technology	1				32	0	32	32	0	32
Production and use of organic inputs	1				0	52	52	0	52	52
Organic farming	1				25	3	28	25	3	28
Organic farming	1				30	5	35	30	5	35
Organic farming	1				45	5	50	45	5	50
Commercial production of vegetables	1				20	7	27	20	7	27
Commercial production of vegetables	1				30	44	74	30	44	74
Commercial production of vegetables	1				82	13	95	82	13	95
Commercial fruit production	1				53	14	67	53	14	67
Commercial production of vegetables	1				53	0	53	53	0	53
Commercial fruit production	1				63	9	72	63	9	72
Dairy Management	1				2	58	60	2	58	60
Dairy Management	1				11	89	100	11	89	100
GRAND TOTAL	**39**				**918**	**1179**	**2097**	**918**	**1179**	**2097**

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	1			0	22	11	33	22	11	33
Others (pl. specify)										
Total	**1**			**0**	**22**	**11**	**33**	**22**	**11**	**33**
Post harvest technology and value addition										
Value addition	1			0	0	43	43	0	43	43
Others (pl. specify)										
Total	**1**			**0**	**0**	**43**	**43**	**0**	**43**	**43**
Livestock and fisheries										
Dairy farming										
Composite fish culture										
Sheep and goat rearing										
Piggery										
Poultry farming	1			0	4	19	23	4	19	23
Others (pl. specify)										
Total	**1**			**0**	**4**	**19**	**23**	**4**	**19**	**23**
Income generation activities										
Vermicomposting	1			0	60	0	60	60	0	60
Production of bio-agents, bio-pesticides,										
bio-fertilizers etc.										
Repair and maintenance of farm machinery										
and implements										
Rural Crafts										
Seed production										
Sericulture										
Mushroom cultivation	1			0	8	3	11	8	3	11
Nursery, grafting etc.										
Tailoring, stitching, embroidery, dying etc.										
Agril. para-workers, para-vet training										
Others (pl. specify)										

Total	**2**	**0**	**0**	**0**	**68**	**3**	**71**	**68**	**3**	**71**
Agricultural Extension										
Capacity building and group dynamics										
Others (pl. specify)										
Total										
Grand Total	**5**				**94**	**76**	**170**	**94**	**76**	**170**

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	81	2044	35	2079
Diagnostic visits	54	358	10	368
Field Day	10	164	15	179
Group discussions	5	163	6	169
KisanGhosthi	4	190	4	194
Film Show	19	1196	19	1215
Self -help groups	2	34	4	38
Kisan Mela	2	3714	30	3744
Exhibition	3	3874	34	3908
Scientists' visit to farmers field	50	482	23	505
Plant/animal health camps	2	106	2	108
Farmers' seminar/workshop	3	232	3	235
Method Demonstrations	67	1273	29	1302
Celebration of important days	21	7485	20	7505
Exposure visits	7	180	7	187
Lecture delivered	145	8732	40	8772
Field visit	78	579	20	599
FLD visit	32	230	22	252
OFT visit	13	72	11	83
Farmer visit to KVK	31	879	22	901
Farmer Scientist interaction	28	384	19	403
BRS/MRS/MSW placment	4	12	0	12
Farm School	2	75	4	79
Soil test Campaigns	1	60	2	62
Soil health Campaigns	2	236	3	239
Mahila Mandal conveners meet	2	109	1	110
Survey	20	718	0	718
Total	**688**	**33581**	**385**	**33966**

Details of other extension programmes

Particulars	Number	Remarks
Newspaper coverage	9	Aranyak news paper, Surat, Sandesh
Popular articles	2	
Radio Talks	1	
TV Talks	1	
Animal health camps (Number of animals treated)	2	
Others (pl. specify in Remark column)	198	Soil sample analyses
Others (pl. specify in Remark column)	54	Plant health clinic diagnostic services
Others (pl. specify in Remark column)	6	Success story
Others (pl. specify in Remark column)	4	Research Paper
Total	**277**	

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	Chickpea	Variety	GG 2	8.95	58175	89
Pulses	Green gram	Variety	CO 4	3.40	10540	34
Pulses	Green gram	Variety	GAM 5	9.00	28800	90
Cereals	Paddy	Variety	IR 28	28.70	82656	90
Cereals	Paddy	Variety	GR 7	50.88	152640	175
Millets	Little millet	Variety	GV 2	3.05	7015	130
Spices	Turmeric	Variety	SUGANDHAM	2.80	7000	1
Spices	Turmeric	Variety	KESAR	1.00	2500	1
Spices	Turmeric	Variety	GNT 1	1.50	3750	1
Total				**109.28**	**353076**	**611**

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	-	Mukta Round	3645	1822.5	50
Vegetable crops	Chilli	-	Priyanka	1005	502.5	30
Vegetable crops	Tomato	-	Shiva	1105	552.5	32
Total				**5755**	**2877.5**	**112**

Production of Bio-Products

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

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	Impact of Front Line Demonstrations of INM in Okra During Off Season in the Dang District of Gujarat	International Journal of Economic Plants 2018, 5(3):123-126	01
	Awareness and adoption of improved sapota production technology by the farmers	Journal of Medicinal Plants Studies, 2018; 6(6):21-24	01
	Serum macro-Micro minerals profile in Dystocia affected Dangi cows treated with different Ecbolic Agents	Bulletin of Environment, Pharmacology and Life Sciences, Volume 7 (11), Oct.-2018	01
	Impact of On Farm Testing on Raising of Paddy nursery in Dang District	Trends in Biosciences Journal, Volume 11, Issue 35, Sept 2018.	01
	Relationship between characteristics and their decesion making pattern of the tribal women in dairy farming	Indian journal of social Research Vil.60(1) (Jan-Feb., 2019) (25-33)	01
Technical reports	Annual Action Plan 2019-20	ATARI, Pune	01
	Annual Progress report 2018-19	ATARI, Pune	01
	Scientific Advisory commits meeting report	ATARI, Pune	01
	ZREAC	ATARI, Pune	01
News coverage	Khedut mate Krushi Vigyan Kendra Ake Mandir Che Jena Margadershan thi Unnati Thase: Dr. Patel	22-06-18, Sandesh, Page No.12, Friday, 22-06-2018, Sandesh Avruti,Valsad-Dang	01
	Krishi Vigyan Kendra, Waghai khate pradhanmantri khedut sanvad karyakram ma sahbhagi that dang jilla na khedut bhai baheno	04-07-18, Aranyak news paper, Surat	01
	Waghai Taluka na Antariyal vistarma Krushi Vigyan Kendra dravra char divasiy off vampus talim yojai	04-07-18, Aranyak news paper, Surat	01
	Krishi Vigyan Kendra, Waghai dvara kitchen garden ni talim apai	11-07-18, Aranyak news paper, Surat	01
	Navsari Krushi Yuniversity na Waghai campus khate Van Mahotsav ni Ujavani	25-07-18, Aranyak news paper, Surat	01
	Ahwa Taluka na Gadhvi Game Krushi Vigyan Kendra Dravra char divasiy Off campus Talim Yojai	18-25 July 2018, Aranyak news paper, Surat	01
	Dokpatal game pashupalan ane pak utpadan ange parisavand	09-12-18, Navsari-Dang Sandesh	01
	“Waghai ma tran divas krishimelano prarambh”	14-02-19, Gujarat mitra	01
	Krushi Vigyan Kendra atle shikshan, shanshodhan ane vistaran no triveni sangam	20-02-19,Aranyak weekly, Surat	01
Technical bulletins	--	--	
Popular articles	Value addition: A key to Raise the Farmer's income	Compendium of Summer School training programme on " Skill Development through Technological Intervention for Doubling the Farmers Income"	01
	Vegnanik Abhigam Thaki Pashu Mavjat ane Swachh Duth Utpadan	Godhuli, Varse-02, Anke-03, July-September, 2018, Salag anke 09	01
Extension literature	--	--	
Others (Pl. specify)	--	--	
TOTAL			**20**

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 high yielding gram variety

N. M. Thesiya, J. B. Dobariya, H. A. Prajapati, D. B. Bhoi, N. N. Patel & V. K. Desai

1. Situation analysis/ Problem:

Gram is the most important of all the pulses and accounts for 37 per cent of the production and 28.28 per cent of the total area of pulses in India. It can be grown in a wide range of climatic conditions but it prefers mild cool and comparatively dry climate with 20°-25°C temperature and 40-50 cm rainfall. It grows well on loamy soils.

In dang district, productivity of gram is low because of not maintaining proper spacing and sowing method by farmers. Due to this, severe weed and wilt disease problem occur in the area which ultimately reduces the yield and income of the farmers. Most of the farmers were broadcasting the gram seed, so that 80-90 kg/ha seed sown in place of 60 kg/ha, 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 gram.

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 fertilizer application in gram by the farmers. The Scientist (Crop production) decided to intervene on this point and given demonstration of gram to the farmers. The farmers have been given training on gram package of practices. The team of KVK scientist made frequent visits of the farmers' field and guided them accordingly for various operations.

Bibupada, Vahutiya, Bijurpada are tribal dominated villages situated 80 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 have purchased the gram from private seed companies and also 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, and rouging, judicious use of fertilizer, harvesting and post harvest handling of seeds and also provides seed, biofertilzer and novel organic fertilizer to farmers.

3. Output:

Economics:

Details of Technology	No. of Farmers /Demos	Area (ha)	Yield (q/ha)				% Increase in yield
			Demo			Check	
			Highest	Lowest	Average		
Gram GG 5	50	20	1123	998	1073	813	32

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
Gram GG 5	50	20	12500	37555	25055	3.00	11000	28525	17525	2.59

In farmer's method the farmers were able to harvest average of 813 kg/ha of gram as against 1073 kg/ha in demonstration with an increase of 32 per cent. The net benefit incurred was Rs. 25055 per hectare in demonstration plot of gram.

4. Outcome

As a result of intervention, the seed rate has been reduced to 20 kg/ ha in line sowing method of gram. 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.

Seed distribution

Biofertilizer and novel organic fertilizer distribution

5. Impact

By implementing this, farmers become aware about the importance and benefits of newly released variety of gram and its production and productivity. Cost of cultivation was decreased in demonstration plots up to the tune of 5-10 per cent. Net return of gram in demonstrated plots was Rs. 25055/ ha and cost benefit ratio is 3.00, whereas, in control plot was Rs. 17525/ ha and cost benefit ratio is 2.59.

Training

Field day

Success Story-2

Higher Income through Crop Diversification in the Dang District

H. A. Prajapati, N. M. Thesiya, J. B. Dobariya, D. B. Bhoi, N .N. Patel & V. K. Desai

Name of farmer	Shri Hasmukhbhai Rangubhai Bagul
Village	Godadiya, Ta: Ahwa, Dist: Dang State: Gujarat
Education qualification	9th pass
Land holding	1.15 ha (Irrigated)

1. Situation Analysis/Problem:

Hasmukhbhai Rangubhai Bagul is a farmer of village: Godadiya, Taluka: Ahwa, District: Dangs in the Gujarat educated up to 9th standard and having 1.15 ha land. He has eight year experience in farming. Somehow, they were earning their livelihood by practicing rainfed agriculture in their land. He was growing local and old varieties of paddy, vari and ragi during the *Kharif* season and gram in rabi season. Use of the local varieties of various crops could not give the proper remuneration to Hasmukhbhai. Under such situation, it was difficult to sustain economic security and standard of living of his family. Therefore Hasmukhbhai was in search of farming system which gives a proper remuneration to his family.

2. Plan, implement and support:

By AGAKHAN NGO, he came to know about Krishi Vigyan Kendra. Shri Hasmukhbhai started to visit the Krishi Vigyan Kendra in order to get proper guidance about scientific cultivation of various crops. Horticulture scientist impressed to see his keen interest in scientific cultivation of various crops. The Scientist of Krishi Vigyan Kendra guides him properly and tells him to grow a various crop with a scientific approach. The scientist of KVK started a series of activities *i.e.* training, demonstration, scientist visit to farmer's field, field day *etc.* to deal with the existing problems and observed a positive impact. Shri. Hasmukhbhai installed a drip irrigation facility in his farm and decided to do a proper management of various crops due to the continuous efforts of KVK and AGAKHAN (NGO).

3. Outputs:

At present Hasmukhbhai has adopted scientific approach regarding the cultivation of various crops. He has taken another farm on the rent and for cultivation of various horticultural crops. He has adopted horticultural crops like okra, chilli, brinjal, bottlegourd, bittergourd, watermelon, Ridgegourd. He uses proper scientific cultivation practices as per the guidance provide by the scientist of KVK through training, demonstrations and very frequent farm visit.

After getting success, Shri Hasmukhbhai realizes the importance of uses of scientific cultivation practices, drip and mulching and also motivated other farmers by making awareness about this technology in terms of:

- ✓ 30 to 40 % water & 10 to 20 % fertilizer saving with increase in their efficiency.
- ✓ Increase in yield and net profit.
- ✓ 40 to 50 % less incidence of weeds in the field with drip and 80 to 90 % with mulch area which is the major problem in the Dangs.
- ✓ Saving in electricity as the time required for irrigation through drip was reduce down against flood irrigation.
- ✓ Low incidence of pest and diseases.
- ✓ Reduce the spray of Insecticide

Chilli cultivation

Watermelon cultivation with drip irrigation & plastic mulch

Drip Irrigation

SRI method in Rice cultivation

Ridge gourd cultivation

Bitter gourd cultivation

Bottle gourd cultivation

Other Cucurbitaceous cultivation

4. Outcome:

Due to adoption of scientific cultivation practices, his constant effort and hard work and timely support from KVK, other line departments & NGOs he could achieve very impressive growth in scientific cultivation of various crops shown in Table.

5. Impact

Before KVK intervention Shri Hasmukhbhai grow only desi varieties of ragi, vari, rice & gram. His net worth per annum is hardly Rs. 70,000 to Rs. 90,000 (approx.). After the KVK intervention his net worth per annum is 4.00 to 4.50 lakh (approx.).

Sr. No.	Crop name	Area (ha)	Cost of cultivation (Rs.)	Gross return (Rs.)	Net return (Rs.)
Year : 2016-17					
1.	Rice (kharif)	0.40	10000.00	40000.00	30000.00
2.	Nagli (kharif)	0.30	5000.00	10000.00	5000.00
3.	vari (Kharif)	0.30	5000.00	10000.00	5000.00
4.	Bittergourd (kharif)	0.40	40000.00	110000.00	70000.00
5.	Okra(rabi)	0.60	40000.00	125000.00	85000.00
6.	Brinjal (Rabi)	0.40	20000.00	100000.00	80000.00
7.	Watermelon (summer)	0.40	40000.00	80000.00	40000.00
	Total	**2.8**	**160000.00**	**475000.00**	**315000.00**
Year : 2017:18					
1.	Rice (kharif)	0.40	8000.00	50000.00	42000.00
2.	Nagli (kharif)	0.30	5000.00	10000.00	5000.00
3.	Bittergourd (kharif)	0.40	45000.00	120000.00	75000.00
4.	Okra(rabi)	0.80	50000.00	140000.00	90000.00
5.	Ground nut (summer)	0.40	15000.00	45000.00	30000.00
6.	Watermelon(summer)	0.40	40000.00	100000.00	60000.00
7.	Chilli (rabi)	0.40	30000.00	70000.00	40000.00
	Total	**3.1**	**193000.00**	**535000.00**	**342000.00**
Year : 2018-19					
1.	Rice (kharif)	0.40	10000.00	50000.00	40000.00
2.	Nagli (kharif)	0.30	5000.00	10000.00	5000.00
3.	Bittergourd (kharif)	0.40	40000.00	100000.00	60000.00
4.	Okra(rabi)	0.40	30000.00	80000.00	50000.00
5.	Bottlegourd(kharif)	0.40	15000.00	30000.00	15000.00
6.	Watermelon (summer)	0.80	60000.00	140000.00	80000.00
7	Chilli (rabi)	0.40	50000.00	200000.00	150000.00
8	Ridgegourd (kharif)	0.80	30000.00	70000.00	40000.00
	Total	**3.9**	**240000.00**	**680000.00**	**440000.00**

For the success of crop diversification in tribal areas he believes that it is due to intensive guidance provided by the Scientist Mr. H. A. Prajapati. This impressive result of crop diversification turned Shri. Hasmukhbhai from poor farmer to happy progressive farmer. The success of crop diversification in resource poor areas is a unique example to generate the employment as well as empower the tribal economy in the country.

Success story-3

Title: Mushroom cultivation a source of additional income for tribal in dang district

V. K. Desai, H.A.Prajapati, N.M.Thesiya, J.B.Dobariya, D.B.Bhoi & N.N.Patel

Mr Rameshbhai suliya

Village: Nani Waghai

Tal: Waghai (Dang) Gujarat.

Dist: Dang-394730

Mob. NA

1. Situation analysis/Problem statement:

Profile		
Age	42 Years	Before Contact with KVK, Waghai, Dangs, he was facing very poor economic condition and had to toil hard for managing his family.
Education	Diploma in agriculture	
Land Holding	2 acres	
Farming Experience	22 years	
Crop grown	Paddy, Nagli, Tur	
Animals own	Nil	

Rameshbhai Sulya is a farmer of Village Dodipada, Taluka Waghai, District Dangs in Gujarat, educated up to Diploma agriculture and having 2.0 acre of land. Somehow, he was earning his livelihood by practicing rain fed agriculture in his land. He was growing local and old varieties of Paddy, Vari and Tur during *Kharif* season. Under such situation, He needed some additional or supplementary income to increase income and food and nutritional security of his family. Therefore, He was in search of some alternate sources of income.

By some sources, he came to know about KVK imparting knowledge and training for mushroom cultivation. He contacted KVK scientist who explained to him the method of mushroom cultivation and training folder which was prepared in local dangi dialect. He prepared a small shed of 5x5 mt., Information was made available to him for purchasing spawn and preparation of cylinders for mushroom production and as per the guidance provide by the scientists of KVK through training, and very frequent visits. He also devised new method of suspending mushroom cylinders on poles and grows it in limited space. Due to adoption of improved practice, his constant efforts and hard work and timely support from KVK. He was able to raise additional income.

The success of mushroom cultivation in resource poor areas is a unique example to generate the employment in spare time as well as supplementary income.

2. Plan, implement and support: As a farmers Shri Rameshbhai Sulya was a regular visitor to KVK and beneficiary of KVK activities

KVK interventions:-

- 6 days vocational training on Mushroom.
- Motivation to start cultivation
- Providing literature in local language.
- Technical guidance for starting the unit.

- ❖ Advisory services.
- ❖ Follow- up visits.
- ❖ Technical back-up in running the unit when required.

3. Output: After training, he purchased mushroom spawn carried out cultivation on his own and with KVK intervention developed and ingenious method of suspending mushroom spawns cylinders with the help of ropes and was able to generate extra income from the activity.

4. Outcome: mushroom cultivation has benefited the farmer to earn additional income from farm waste and use of fallow space in house .The labour is only for initial two-three days .he can carry out mushroom cultivation without disturbing his daily routine

5. Economic Impact:

Sr. No.	Particulars/ Items	Before KVK intervention	After KVK intervention
1.	Mushroom cultivation	Not done	Good mushroom cultivation done
2.	Mushroom production	Nil	28-30 kg in 4 cuttings and marketed @ Rs 200 /kg.
3.	Technology intervention	Hot water immersion for sterilization of paddy straw	Use of chemical for sterilization(saves time, money and valuable wood)
4.	Economics	Nil	Increase approx. Rs 6000 income on investment of Rs. 2200 only

Success Story-4

Title: Dairy Farming-A constant income generating business for tribal woman

D. B. Bhoi, V. K. Desai, H. A. Prajapati, N. M. Thesiya, J. B. Dobariya, & N. N. Patel

1. Situation analysis/Problem:

Ushilaben Ghanashyambhai Gayakwad is a marginal farm woman of village Uga (Chichpada), Taluka Waghai, District Dangs in Gujarat, educated up to 12th standard and having 5.0 acre of land. Her husband is a farmer. They have two children a son and a daughter. Somehow, she was earning her livelihood by practicing rain fed agriculture in her 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 meager productivity; however the bullocks were used for the agricultural operations. Under such situation, it was difficult to sustain household food and nutritional security of her family. The geographic situation of the district and her village is hilly area covered with dense forest and rainfed agriculture. Therefore, she was in search of some alternate sources of income.

Ushilaben Ghanshyambhai Gayakwad and her Husband

Diagnostic visit by KVK scientist

2. Plan, implement and support

By some sources, she came to know about some welfare schemes for tribal. First of all she has convinced her villagers and started a co-operative dairy in her village. Meanwhile her village, Uga Chichpada was adopted by KVK of the district. A series of animal husbandry activities like meetings, trainings, *kisan gosthis*, animal treatment camps, field visits and visit to a dairy co-operative has been started by KVK scientists. Ushilaben and other interested farm women had purchased one HF cross-bred cow worth Rs. 40,000/- by receiving loan from a bank 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. Scientists of KVK were impressed to see her keen interest in dairy farming.

3. Output:

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 Scientists of KVK had started a series of activities i.e. training, demonstration, visits etc to deal with the existing problems and observed a positive impact. The farmers who had joined the dairy co-operative started to grow the fodder crops in their fields. Not only that, but they had started rain water harvesting and prevented soil erosion. As a result, a strong competition between various farm women to get more and more milk production developed.

4. Outcome:

At present, Ushilaben 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 4 milking HF crossbred cows, 3 heifers and 3 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, deworming and diagnosis as per the guidance provided by the scientists of KVK through training, demonstrations and very frequent farm and home visits.

Due to adoption of improved practice, her constant efforts and hard work and timely support from KVK and other line departments and Vasudhara dairy she could achieved very impressive growth in dairy farming as per the table-1.

5. Impact:

Table 1:mpact of KVK

Sr. No.	Particulars/ Items	Before KVK intervention (2015)	After KVK intervention (2018-19)
1.	Animals own	2-Desi cows 2- Desi Bullocks	4- HF crossbred cows 3-Heifers (HF crossbred) 3 - Calves (HF crossbred) 2- Bullocks 25 poultry birds
2.	Vaccination & De-worming	Not proper	Regular
3.	Milk production (day)	Initial 1.5 lit/day	Average-9.5 lit/cow/day She could sold milk of about 27 lit/day i.e. highest net income up to Rs. 32,000/- per month
4.	Highest milk production per animal per day	2.1 lit/day	Up to 25.5 lit/day/animal
5.	Anoestrus and repeat breeder problems	Yes	No
6.	Inter-calving interval	More than 2.5 yrs	14-16 months
7.	Service period	Average-190 days	95 days
8.	No. of service per conception rate	5-15	1-2
9.	Growth of calves and heifers	Poor	Good
10.	Age of first calving	4-6 yrs	28-36 months
11.	Economics enhancement Income per month(Net profit) Income through selling of self reared HF animals	 Not good Nil	 Rs.20,000-28,000 per month Planned in future

12.	Modern assets in the house because of dairy farming	Nil	Freeze – 1 TV - 1 Telephone - 1 Motorcycle - 1(Hero Honda) Tractor with trolley & Plough Car-1 (Honda Amaze)
13.	Bank loan	-----	Paying regularly
14.	C:B Ratio		1: 1.78

For the success of dairy farming in tribal areas Ushilaben believes that it is due to intensive guidance provided by the scientists of KVK particularly Dr. D. B. Bhoi as he considering me and other poor farmers as a family member. 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 milk marketing facility as well.

At present she is paying an installment of loan worth Rs. 8,500/- regularly to the bank. 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 need not to go anywhere for earning employment and 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 of her children due to dairy farming.

This impressive result of dairy farming turned Ushilaben Ghanshyambhai Gayakwad and her family 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

Title: Value Addition of Ragi: A venture Adding Value to livelihood of Tribal Women of Dang District.

N.N.Patel, D.B.Bhoi, V. K. Desai, H.A.Prajapati, N.M.Thesiya & J.B.Dobariya

Name of the women Entrepreneur: Smt. Bhartiben C. Patel
Village: Waghai
Tal: Waghai (Dang) Gujarat.
Dist: Dang-394730
Mob. 9099886155

Profile

Age	:	42 yrs.
Education	:	12th pass
Occupation	:	Housewife
Marital status	:	Married
Enterpreneur Experience	:	8 yrs
Live Stock	:	-

Thematic area: Value Addition
Adoption of technology:
Attended 6 days vocational training on post harvest technology

1. Situation analysis/Problem:

This is the story of tribal women Smt. Bhartiben C. Patel. Living with her family in village Waghai Dang. Dang district is tribal and hilly belt of south Gujarat. Most of populations dependent on agriculture, animal husbandry and daily wages laborious job. It also consist forest and heavy rainfall area. Due to above reason farmers are not receiving good yield and production in agriculture. Here all farmers have small to medium land holding so, most of people live below poverty line. Tribal women also help in agriculture, animal husbandry and extreme cases have to work as migrant labour outside Dang district. There is no Industrial area in Dang so, after monsoon due to scarcity of water most of families are migrate to other district for their livelihood. Waghai is taluka place also entry of district and very beneficial to located on national highway connected with Sputara hill station and Shirdi Nashik Holy place. Bhartiben coming from lower economic status. Her family has no holding any land. Bhartiben with her family facing economical crisis due to irregular income from available limited resources throughout the year.

2. Plan, implement and support

As president of "KRIMISHA SAKHI MANDAL" one day Bhartiben came to attend the on campus training on SHGs management organized by KVK, Dang. Here she understands the actual objectives and benefits of SHGs. After training, she contact to Home scientist and ask about economic problem solution by various home base entrepreneur for self employment and extra income generating activity. After few days, her group member and she took the training on post harvest technology of various local farm produces. Her group learnt to prepare Ragi papad, Ragi biscuit, Ragi Chakri, Ragi sev, Ragi sakkarpara, Potato, Banana and sago Chips, Mango Pickles, Squash, jam and Murrabbba, various Masala preparation *etc.* KVK, Dang exposed their group to visit of local successful processing units. After training received from KVK scientist, she decided to establish one home scale unit of Ragi product since ragi and little millet are main crop of this area and no anyone farmers know about their value addition and processing. She convince her group member with the help of home scientist for fulfill her dream.

KVK interventions:-

- 6 days vocational training on Post harvest technology
- Motivation to start an enterprise
- Technical guidance for starting the unit

- ❖ Advisory services
- ❖ Follow- up visits
- ❖ Technical back-up in running the unit when required

3. Output: After acquisition of training, she purchased, collect and stored the large quantity of Ragi from local neighbor farmers. Her group starts to prepare Ragi Papad making and sold it in local near market places. They put one regular roadside display unit at Botanical Garden, Waghai (Ecotourism Place) for sailing of their product. Day to day their product become popular than demand become increase so, they also include to produce Ragi based other item like Ragi biscuit, Ragi chakri, Ragi sev, Ragi sakkarpara and Bamboo pickles. With the help of KVK her group registered under DRDA and they plan for cash loan of Rupees 2.50 lakh. Bank approves 1.50 lakh loan for this venture. After received loan they apply in gram panchayat for small scale unit place. Gram panchayat gave her group a small shed for their activities. They established unit with preparation of 20kg Ragi papad daily and sale their product with brand name "***GIRA***".

For marketing of their products group were participated to bring their stall in every government event organized at block, distirct and state level like, Visarati Vangi, Ahmedabad, Krushi mahotsav, Garib kalayan Mela, Summer, Winter, Monsoon Festival at Saputara Hill station, Agril. Fair and Exhibition *etc.* Due to publicity and demand they also establish two more unit Leaf and paper cup dish making unit and second one is Sanitary Napkins Making unit. Now a days, this SHG's activities not limit to Ragi item but also produce Bamboo article, Sanitary Napkin and Leaf- Paper cups/ dishes.

4. Outcome:

- ❖ Considering their activities group awarded by Chief Minister of Gujarat in 2013 for *"Best Agricultural Method Demonstration"* in Vibrant Gujarat Agricultural Summit -2013.
- ❖ As group leader Bhartiben also awarded "2nd *Girnar Krushi Shiromani Purashkar"* in same year 2013.
- ❖ Last year they received order to construct Toilet in various villages of District under Swachha Bharat Abhiyaan" from Gram Sakhi Sangh, District Panchayat, Ahwa (Dang)
- ❖ Gram panchayat appreciated her activities, effort and devotion.

Horizontal spread:

Motivated from the above mentioned Smt. Bhartiben's successful enterprise, now a days around 7-8 another group were created and started preparation of Ragi items in Waghai. One more thing they hire another 4 to 5 women on Rs. 70/- to 80/- per three hour basis for papad making. Provide them opportunity to earn income at door level. This enterprise will provide skill development for the women dwellers in identified area, tribal families will be benefited directly and creating ray of hope for better sources of livelihood, and live sustainable life with self- sufficiency and self- reliance.

-

4. **Economic Impact:** Due to this each group member earn extra income of Rs. 1500/- per month and group earn daily Rs. 500/- to 1000/-. Presently, total bank balance of group is Rs.1, 50, 000/-.

Income from their product:

Sr. No.	Item/ Product	Income/ Year (In Rs.)
1	Ragi item	80000/-
2	Bamboo articles	40000/-
3	Leaf and Paper cup/ dish	25000/-
4	Sanitary Napkin	10000/-


કૃષિ વિજ્ઞાન કેન્દ્ર


GIRA
ડાંગની સ્મૃતિ, ગીરા છે
નાગલીનો સ્વાદિષ્ટ વાનગીઓ
૧. નાગલી બિસ્કિટ
૨. નાગલી ખાખરો
૩. નાગલી રોટલા
૪. નાગલી ઉપમા
૫. નાગલી ચિલ્લા
૬. નાગલી સેવ
૭. નાગલીના લાડવા
૮. નાગલીના ઢોકળા
૯. નાગલીના
૧૦. નાગલીના


WELCOME
WELCOME

Success Story-6

Women upliftment through cultivation of turmeric, processing, value addition and marketing of turmeric powder

J.B.Dobariya, N.N.Patel, D.B.Bhoi, V. K. Desai, H.A.Prajapati & N.M.Thesiya

1. Situation analysis/Problem:

Dakshaben Kashirambhai Birari is a marginal farm woman of village Jamlapada (Rambhas) Taluka Waghai, District Dangs in Gujarat, educated up to 10th standard and having 2.5 acre of land. Her farming experience is 12 years. Her husband is a teacher. They have two children study in the engineering filed. Somehow, she was earning her livelihood by practicing rain fed agriculture in her land. She has used broadcasting sowing method without any scientific approach. She was not gives timely water to crops due to heavy loss in farming business. She was growing local and old varieties of Paddy, Vari, Pigeon pea and Ragi during *Kharif* season. Under such situation, it was difficult to sustain household food and nutritional security of her family. The geographic situation of the district and her village is hilly area covered with dense forest and rainfed agriculture.

2. Plan, implement and support

She is interest, particularly in turmeric, is surprising when he asserts: "Among all crops turmeric is the least affected by pests and infestations. By some sources, she came to know about some welfare schemes for tribal. First of all she has convinced her villagers and started a Self Help group in her village. Meanwhile her village Jamlapada is near to the KVK Dang. A series of extension activities like meetings, trainings, *Kisan gosthis*, Farmer advisory, field visits, method demonstration, film show and visit to a farmer's field has been started by KVK scientists. She started to visit the KVK in order to get the guidance for scientific cultivation of Turmeric. Scientists of KVK were impressed to see her interest in the turmeric farming. Now, she is expert in the scientific farming of turmeric and value addition and processing of turmeric powder.

3. Output:

Initially, they booked 2 ton seed rhizomes of Gujarat Navsari turmeric 1 from KVK, Waghai, Dang and grows on two acre of land. From that she harvested about 17 tons of fresh turmeric during January 2015. Out of this produce, she dried only 100 kg of turmeric and makes powder. Within 3-4 years, her turmeric powder becomes famous in all over the Gujarat and outside the state.


Turmeric processing unit and preparation of Nagli papad by SHGs

4. Outcome:

Dakshaben has adopted scientific concepts of turmeric cultivation, processing and value addition as per the suggestions given by KVK scientists. She has extended her farm and today she is do farming in 6-7 acre of land with production of approximately 55 tone of turmeric with Rs. 4, 33, 333/- average net income.

5. Impact:

Last three years data of turmeric production

Particular	2014-15	2015-16	2016-17
Crop	Turmeric	Turmeric	Turmeric
Total area	2 Acre	3 Acre	3 Acre
Production (Kg)	17 tone	26 tone	22 tone
Total Income	4,81,950	7,02,000	5,94,000
Total expenditure	88,000	1,32,000	1,15,000
Net income	3,71,000	5,70,000	4,79,000

Today, the tourist who are passing from the Waghai-Saputara-Nasik higway attracted by the smell of turmeric powder. They stop at Ambika farm of Dakshaben. She is confidently said that, if once my turmeric powder have enter in kitchen or house of any person, then kitchen is not kept alone without this. For the success of turmeric farming in tribal areas Dakshaben believes that it is due to intensive guidance provided by the Scientists of KVK as they consider me and other poor farmers as a family member. In addition to this, humble support made by ATMA as well as state government to provide subsidy for purchasing the boiling machine.

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)

S. No.	Crop / Enterprise	ITK Practiced	Purpose of ITK
--	--	--	--

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

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 farmers 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: 05

Name of villages: Borpada, Dokpatal, Jamlapada, Koshmal and Uga (Chichpada)

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 2019 (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	35,060/-	35,000/-
3.	Cluster Front Line Demonstration (CFLD)on pulses funded under NFSM 2018-19	2105-B	2,92,500/-	1,07,500/-
4.	Atmosphere and climate research modelling observing systems and services (ACROSS)	02121-02	4,80,000/-	59,265/-

C. C. Details of linkage with ATMA

a) Is ATMA implemented in your district: Yes/No = Yes
If yes, role of KVK in preparation of SREP of the district? -

Coordination activities between KVK and ATMA

Programmes	Progrmmes attended by KVK staff (No.)	Progrmmes organized by KVK staff (No.)
Meetings	12	6
Research projects	0	0
Training programmes	26	26
Demonstrations	10	10
Extension programmes	45	55
Technology week	1	1
Exposure visit	7	7
Exhibition	3	3
Soil health camps	2	2
Animal health campaigns	2	2
Farmers field school	2	2
Capacity development	1	1
Kisan mela	2	2
Agri-preneurs development	0	0
Video films	10	10
Watershed approach	0	0
Extension literature	1000	1000

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		123	Dang	--
	MNREGA	--			--	--
	NHM	State			Dang	--

	RKVY	State			Dang	--
	DRDA	State			Dang	--
	Zila Panchyat	State			Dang	--
	Seed Village	State		5	Dang	--
	NAIP	--			--	--
	Climate Change	--		2	--	--
	Others (Plz. Specify)	--			--	--
	DAO	State		5	Dang	-
	ADHO	State		7	Dang	-

8. Innovator Farmer's Meet

Sr. No.	Particulars	Details
1.	Are you planning for conducing Farm Innovators meet in your district?	Yes
2.	If Yes likely month of the meet	Dec., 2019
3.	Brief action plan in this regard	Arrange innovative farmers meet with farmers of Subir taluka

9. Farmers Field School (FFS)

Sr. No	Thematic area	Title of the FFS	Budget proposed in Rs.	Brief report
1.	Income generation	SRI method in Paddy cultivation	--	--
2.	Income generation	Rice and Ragi	--	--

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

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

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

Sr. No.	Discipline	Feed Back
1.	Horticulture	Navsari Turmeric 1 variety is not infected by Rhizome rot disease.
2.		Require resistant variety of okra against YVM virus.
3.	Plant Protection	Need to develop traps for pests of rice, pulses, mango & cashew nut. (Rice: Gundhi bug; Pulse: Mites; Mango: Hopper; Cashew nut: TMB)
4.		Development of false smut resistant variety in rice.
5.		Tolerant/resistant variety of cashew nut against tea mosquito bug.
6.		Pest disease control measures for organic farming.
7.	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.
8.	Home Science	Due to use of Twin wheel hoe Labour cost reduce and Time saving and also increase work efficiency
9.	Extension Education	Need to develop proper post harvest chain from farm to market.

11. Technology Week celebration during 2018-19: Yes/No, If Yes

Period of observing Technology Week: From 12-02-19 to 16-02-19
Total number of farmers visited : 2888
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	80
	Lectures organized	47	2888
	Exhibition	3	2757
	Film show	2	131
	Fair	3	2757
	Farm Visit	4	2808
	Diagnostic Practicals	50	50
	Supply of Literature (No.)	1	2888
	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	111	2888
	Number of organizations participated	20	20

Detail of Technology Week celebration during 2018-19

Sr. No.	Day/ Date	Thematic area	Topic / Technology covered	No. of participants		
				M	F	T
1.	1st day 12-02-2019 Tuesday	National productivity say with horticultural workshop and organic farming training cum awareness programme, Film show	➢ National productivity day ➢ Organic farming ➢ Vermicomposting ➢ Bio-fertilizers & bio-pesticide ➢ Use of banana psudo stem sap ➢ Protected Cultivation ➢ Drip & Mulching ➢ WadiYojana	33	18	51
2.	2nd day 13-02-2019 Wednesday	Farmer fair cum Organic farming workshop	➢ Quality seed production ➢ Pulse production by organic farming ➢ Soil health card ➢ SRI technology of Paddy ➢ Organic farming in cereal crops ➢ Disease and pest management in rabi crops ➢ Pradhan MantriFasalBimaYojana ➢ Importance of deworming in animal ➢ State & Central Government Schemes for the farmers	548	738	1286
3.	3rd day 14-02-2019 Thursday	Farmer fair and training cum awareness programme on plant protection in organic farming	➢ Organic farming and plant protection in pulse crops ➢ Organic farming and plant protection in cereal crops ➢ Integrated pest/disease management in rabi crops ➢ Information of organic product release by NAU, Navsari ➢ Self employment by mushroom farming ➢ Honey bee production ➢ KVK is a farmer temple ➢ Importance of Vaccination in animals ➢ "Times" importance matter for farm management ➢ Importance of self help group	313	609	922

4.	4th day 15-02-2019 Friday	Farmer fair cum Training cum dairy farming workshop	➢ Feeding management in milking animals ➢ Schemes of animal husbandry in dang district ➢ Clean milk production ➢ Future and present status of animal husbandry business in dang district ➢ Precautions during calving ➢ Importance of vaccination and deworming ➢ NABARD scheme to purchase dairy animal ➢ Organic farming in pulses ➢ Importance of Kitchen gardening for to overcome malnutrition	227	322	549
5.	5th day 16-02-2019 Saturday	Kisan gosties, film show and training programme on Women empowerment and information technology	➢ Formation of SHGs and its importance ➢ Management, registration and role of DRDA in formation of SHGs ➢ Role of SHGs in home scale business ➢ Bank loan to SHGs ➢ Conservation of water and soil ➢ Role of women in Poultry farming ➢ Progressive & entrepreneur farmers talk ➢ Role of women in plant protection ➢ I-Kisan& ATMA information ➢ Low cost and no cost technology ➢	20	60	80
Total				**1141**	**1747**	**2888**

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	02	106	106
Total	**02**	**106**	**106**

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).

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)

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

B. Cases of large scale adoption- full cases may be given at the end as Annexure.
(Please furnish detailed information for each case and)

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

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 2018			
May			
June			
July			
August			
September			
October			
November	01	1262	NA
December	01	1262	NA
January 2019	01	1272	NA
February			
March			

Name of KVK	Message Type	Type of Messages						
		Crop	Live stock	Weather	Marke-ting	Aware-ness	Other enterprise	Total
KVK, Dang	Text only	03						03
	Voice only							
	Voice & Text both							
	Total Messages	**03**						**03**
	Total farmers Benefitted	**3796**						**3796**

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	
--	--	--	--	--	--	--	--	--	--

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	21-12-17	20-04-18	1.6	GG 5	Foundation seed	2400
Gram	21-12-17	20-04-18		GG 5	Truthful seed	355
Green gram	25-12-17	20-04-18	0.20	CO-4	Truthful seed	120
Green gram	20-02-18	12-06-18	0.90	Meha	Certified seed	1010
Green gram	23-02-18	15-06-18	0.40	GM 6	Truthful seed	545
Cereals						
Paddy	23-06-18	13-12-18	0.80	GNR-6	Truthful seed	3005
Paddy	23-06-18	13-12-18	1.00	IR-28	Certified seed	3290
Paddy	23-06-18	13-12-18	1.80	GR 7	Certified seed	8190
Spices & Plantation crops						
Turmeric	13-06-17	20-04-18	0.20	Sugandhum, GNT-1	Truthful seed	250 885
Fruits						
Mango	-	-	0.9	Kesar	General	446
				Langra	General	60
				Rajapuri	General	74
				Totapuri	General	32
				Amrapali	General	91
				Vasibadami	General	152
				Desi	General	169
Brinjal-seedlings	10-01-18	01-09-18	0.05	GNRB 1	--	4550 Nos.

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.

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 2018-19 (Rs. in lakh)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1.	**Pay & Allowances**	**90.00**	**90.00**	**87.06**
2.	**Traveling allowances**	**2.00**	**2.00**	**1.05**
3.	**Contingencies**	**17.00**	**17.00**	**16.91**
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)			6.00
B	POL, repair of vehicles, tractor and equipments			1.18
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)			2.74
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)			0.94
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			4.30
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)			1.75
G	Training of extension functionaries			-
H	Maintenance of buildings			-

I	Establishment of Soil, Plant & Water Testing Laboratory			-
J	Library			
	TOTAL (A)	**109.00**	**109.00**	105.02
B. Non-Recurring Contingencies				
1.	**Works**	1.00	1.00	0.80
2.	**Equipments including SWTL & Furniture**	11.00	11.00	11.00
3.	**Vehicle** (Four wheeler/Two wheeler, please specify)	8.00	8.00	8.00
4.	**Library** (Purchase of assets like books & journals)	-	-	-
TOTAL (B)		**20.00**	**20.00**	**19.80**
C. REVOLVING FUND		-	-	-
GRAND TOTAL (A+B+C)		**129.00**	**129.00**	**124.82**

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

Year	Opening balance as on 1st April	Income during the year	Expenditure during the year	Net balance in hand as on 1st April of each year
April 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

17. Details of HRD activities attended by KVK staff during year 2018-19

Name of the staff	Title of the training programme	Institute where attended	Dates	Types of the programme
H. A. Prajapati	ATMA Governing board meeting	FTC, Ahwa	24-04-18	Meeting
H. A. Prajapati	Krishi Kalyan Karyashala & Mahotsav	Collector office, Ahwa, Dang	25-04-18	Video conferencing
V. K. Desai	ATMA convergence	NAU, Navsari	12-04-18	Meeting
V. K. Desai	PFMS	Anand	13-04-18	Training
J. B. Dobariya N.N.Patel	National Seminar on Extension Strategies for doubling farmers income for livelihood security	AAU, Anand	26 & 27 -04-2018	Seminar
All staff	PRA meeting for selection of village	KVK, Waghai	09-04-18	Meeting
V. K. Desai	Annual conference of KVK	Rahuri, Maharastra	4 to 7 -05-2018	Workshop
V. K. Desai	Pre kharif meeting organized by department of agriculture	Collector office, Ahwa	15-05-18	Meeting
V. K. Desai	AUC of KVK budget head	NAU, Navsari	21-05-18	Meeting
V. K. Desai	Kharif crop planning	NAU, Navsari	30-05-18	Meeting
N.N.Patel	Importance of Balance Nutrition, NOTE: Pay duty as Subject expert in Dialup conference organized on the Occasion of Smruti Irani, Parliament Member & Textile minister of Government of India visit at NAU, Navsari by Krishi Vigyan Kendra, NAU, Navsari and Reliance Foundation, Surat.	KVK,Navsari	01-06-18	Conference
N. M. Thesiya	Preparation and dissemination of agro advisory at block level	KVK, Aurangabad-I	6 & 7-07-2018	Orientation training
H. A. Prajapati, Hement Sharma	District Mission Committee meeting	Ahwa, Dang	13-07-18	Meeting
All staff	ATMA convergence meeting	KVK, Waghai	13-07-18	Meeting

J. B. Dobariya, Hement Sharma	Participation in Monthly Review Meeting of KVKs and ATMA conversion meeting	ATIC, NAU, Navsari	06-07-18	Meeting
Hemant Sharma	Bimonthly meeting of T & V	ATIC, NAU, Navsari	06 & 07-07-2018	Meeting
All staff	KVK Review meeting	KVK, Waghai	31-07-18	Meeting
All staff	KVK Review meeting	KVK, Waghai	13-08-18	Meeting
All staff	KVK Review meeting	KVK, Waghai	21-08-18	Meeting
N. N. Patel	Summer School training programme on "Skill Development through Technological Intervention for Doubling the Farmers Income" Organised by Directorate of Research, MPUAT, Udaipur, Rajasthan.	MPUAT, Udaipur, Rajasthan.	27 to 29-08-2018	Summer School Training
Dr. Hemant Sharma	ATMA-AGB Meeting	Zilla Panchayat, Ahwa, Dang	26-07-18	Meeting
Dr. Hemant Sharma	100% Organic Dang	FTC, Ahwa, Dang	01-08-18	Meeting
Dr. Hemant Sharma	Meeting for PFMS	Comptroller office, NAU, Navsari	02-08-18	Meeting
Dr. Hemant Sharma	Monthly Review Meeting of KVKs	KVK, Dadiyapada	08-08-18	Meeting
Dr. Hemant Sharma	Interface meeting of innovative farm women of two district	KVK, Dadiyapada	08-08-18	Meeting
Dr. Hemant Sharma	GOPCA training programme	FTC, Ahwa, Dang	10-08-18	Training
Dr. Hemant Sharma	Crop Weather Watch Group (CWWG) meeting	Zilla Panchayat, Navsari	14-08-18	Meeting
Dr. Hemant Sharma	Advisory Committee meeting for 100% Organic Dang	ATIC, NAU, Navsari	16-08-18	Meeting
J. B. Dobariya, N. M. Thesiya	Science fair as a Judge	Sakarpatal	20-09-18	Science Fair
All staff	Interface meeting of innovative farm women of two Districts Dang and Surat(76 + 90 = 166)	KVK, Waghai	11-09-18	Meeting
All staff	Monthly review meeting of all KVKs of Navsari Agriculture University	KVK, Waghai	11-09-18	Meeting
Dr. Hemant Sharma	PFMS	Comptroller office, NAU, Navsari	17-09-18	Training
N. M. Thesiya	Strategies to improve the officer involved in soil health card scheme	MANAGE, Hyderabad	22 to 26-10-2018	Training
H. A. Prajapati, Dr. Hemant Sharma	Organic farming in Horticultural Crops	GABI, Surat	25-10-18	Seminar
J. B .Dobariya, HS, N.M.Thesiya	29th ZREAC Rabi/Summer Meeting	SSK, NAU, Navsari	11-10-18	Meeting
Dr. Hemant Sharma	Meeting with Nodal Officer (Mega Seed) for seed production at KVK, Waghai	KVK, Waghai	05-10-18	Meeting
Dr. Hemant Sharma	Monthly Review Meeting of KVKs	SSK, NAU, Navsari	11-10-18	Meeting
Dr. Hemant Sharma	ATMA-KVKs Convergence Meeting	SSK, NAU, Navsari	11-10-18	Meeting
H. A. Prajapati	Environment and climate, conservation agriculture, soil health management and organic farming	SK nagar, SDAU	12 to 19-11-2018	Model training course
V. K. Desai , J.B.Dobariya	PRA tootls and techniques for SREP development	ATIC, NAU, Navsari	15 to 17-11-2018	Training
Dr. Hemant Sharma, N.N.Patel	100 % organic farming of Dang district	KVK, Waghai	01-11-18	Meeting

Dr. Hemant Sharma	GST meeting	Comptroller office, NAU, Navsari	26-10-18	Meeting
Dr. Hemant Sharma	Digital field book	NAU, Navsari	29-10-18	Training
N. M. Thesiya	CFLDs on pulses and oilseed crop	KVK, Bhavnagar	06 to 08-12-2018	Training cum workshop
All staff	Online purchasing through GEM, Government E-market place training	NAU, Navsari	01-12-18	Training
Dr. Hemant Sharma	CWWG	Athva lines, Surat	12-12-18	Meeting
N.M.Thesiya	Bord of study	NAU, Navsari	02-01-19	Meeting
Dr. Hemant Sharma	KVK Monthly Review meeting, KVK-ATMA convergence meeting and Bimonthly workshop	ATIC, Navsari	03-01-19	Meeting
All staff	Monthly Review meeting	KVK, Waghai	05-01-19	Meeting
Dr. Hemant Sharma	ATMA Governing Board meeting, DMC meeting and 100% organic Dang meeting	Zilla Panchayat Bhawan, Ahwa	08-01-19	Meeting
N. M. Thesiya	Skill development training to Kushalya Vardhan Kendra staff	ATMA,SAMETI,Gandhi nagar	7-8/2/19	Meeting
All staff	KVK review meeting	KVK, Waghai	06-02-19	Meeting
All staff	Election duty	Collector office, Ahwa, Dang	08-02-19	Meeting
All staff	Election duty	Collector office, Ahwa, Dang	13-02-19	Meeting
J. B. Dobariya, N. N. Patel, Dr. Hemant Sharma	15th AGRESCO meeting (Social Science Group)	NAU, Navsari	15-02-19	Meeting
All staff	Election duty	Collector office, Ahwa, Dang	19-02-19	Meeting
All staff	Annual Action Plan 2019-20	ATIC, NAU, Navsari	20-02-19	Meeting
H. A. Prajapati, N M Thesiya, N. N. Patel, V. K. Desai	Election duty	Mamlatdar office,Waghai	21-02-19	Meeting
V. K. Desai	VVPAT/ EVM Demonstration at Village for Awareness	Allotted village	25-02-19	Demonstration camp
H. A. Prajapati	VVPAT/ EVM Demonstration at Village for Awareness	Allotted village	26-02-19	Demonstration camp
H. A. Prajapati	AGRESCO-Horti. meeting	NAU, Navsari	21-22/02/19	Meeting
N. N. Patel	VVPAT/ EVM Demonstration at VIllage for Awareness	Susarda, Baaj, Rambhaash, Chikar, Jaamlapada,Devipada	26-02-19	Demonstration camp
J. B .Dobariya	Demonstration camp	Ghoghli, Kasavdahad, Sunda, Khapri and Golasta	26-02-19	VVPAT/ EVM Demonstration at Village for Awareness
N. M. Thesiya	AGRESCO	ATIC, Navsari	5 & 6-03-2019	Meeting
All staff	18th SAC	KVK, Waghai	16-03-19	Meeting
All staff	AGRESCO	NAU, Navsari	27 & 28-02-2019	Meeting
All staff	RAG	NAU, Navsari	06-03-19	Meeting
J. B. Dobariya, NNP, HS	Election meeting	Waghai	08-03-19	Meeting
All staff	Live telecast Election training	Mamlatdar office, Waghai	08-03-19	Meeting
Dr. Hemant Sharma	PPSC Agresco	NMCA, Navsari	27-28/02/19	Meeting
Dr. Hemant Sharma	Annual Action Work Plan of KVKs	ABM, Navsari	01-02/03/19	Meeting

Dr. Hemant Sharma	1st PG-RAG meeting	NMCA, Navsari	06-03-19	Meeting

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	44	914	796	1710
Rural youths	--	--	--	--
Extension functionaries	05	73	149	222
Sponsored Training	39	918	1179	2097
Vocational Training	05	94	76	170
Total	93	1999	2200	4199

2. Frontline demonstrations

Enterprise	No. of Farmers	Area (ha)	Units/Animals
Oilseeds	--	--	--
Pulses	272	53.49	--
Cereals	75	25	--
Vegetables	110	17	--
Other crops	62	43	--
Hybrid crops	--	--	--
Total	**519**	**138.49**	**--**
Livestock & Fisheries	100	--	100
Other enterprises	147	--	147
Total	**247**	**--**	**247**
Grand Total	**766**	**138.49**	**247**

3. Technology Assessment

Category	No. of Technology Assessed	No. of Trials	No. of Farmers
Technology Assessed			
Crops	06	88	88
Livestock	02	20	60
Various enterprises	00	00	00
Other			
Total	08	108	148

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	688	33966
Other extension activities	277	-
Total	965	33966

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marke-ting	Aware-ness	Other enter prise	Total
KVK, Dang	Text only	03						03
	Voice only	-						-
	Voice & Text both	-						-
	Total Messages	**03**						**03**
	Total farmers benefitted	**3796**						**3796**

6. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	109.28	353076
Planting material (No.)	5755	2877
Bio-Products (kg)	--	--
Livestock Production (No.)	--	--
Fishery production (No.)	--	--

7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil	198	17500
Water	--	--
Plant	--	--
Total	**198**	**17500**

8. HRD and Publications

Sr. No.	Category	Number
1.	Workshops	02
2.	Conferences	01
3.	Meetings	51
4.	Trainings for KVK officials	11
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	--
13.	Proceedings	--
14.	Award & recognition	--
15.	Ongoing research projects	03