

ANNUAL PROGRESS REPORT-2020 (Jan-20 to Dec-20)

KRISHI VIGYAN KENDRA JUNAGADH AGRICULTURAL UNIVERSITY, PIPALIA

1. GENERAL INFORMATION ABOUT THE KVK

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

Address	Telephone	e-mail	Web Address
Krishi Vigyan Kendra, Junagadh Agricultural University, Pipalia (Dhoraji) Dist: Rajkot, Gujarat	02824-292584	kvkpipalia@jau.in	www.jau.in

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

Address	Telephone		e-mail	Web Address
	Office	FAX		
Junagadh Agricultural University, Junagadh (Gujarat)	0285- 2672080	0285- 2672653	-	www.jau.in

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

Name	Telephone /Contact		
	Residence	Mobile	e-mail
Dr.N.B.Jadav	“Spandan” Block No. 28, Noble City, Zanzarda Road, Junagadh	09924012649	dr_nbjadav@jau.in

1.4 Year of sanction: 16, March-2012

1.5 Staff Position (as on Dec,2019)

Sl. No.	Sanctioned post	Name of the incumbent	Discipline	If Permanent, Please indicate		Date of joining
				Current Pay Band	Current Grade Pay	
1.	Senior Scientist and Head	Dr. N. B. Jadav	Extension Education	37400-67000	9000	18.08.06
2.	Subject Matter Specialist	S. V.Undhad	Plant Protection	15600-39100	6000	27.03.15
3.	Subject Matter Specialist	Dr. V. S. Prajapati	LPM	15600-39100	6000	01.04.15
4.	Subject Matter Specialist	A.R Parmar	Horticulture	15600-39100	6000	17.01.17
5.	Subject Matter Specialist	P.S Sharma	Home Sci.	15600-39100	6000	19.01.17
6.	Subject Matter Specialist	Vacant	Agronomy	-	-	-
7.	Subject Matter Specialist	Vacant	Extension	-	-	-
8.	Programme Assistant	P D Chaudhary	M.Sc.(Agri)	9300-34800 (38090/- fix)		04.08.18
9.	Computer Programmer	R. G.Panseriya	Com. Operater	9300-34800	4400	31.12.13
10.	Farm Manager	K D Chaudhari	B.Sc.(Agri)	9300-34800 (38090/-fix)		27.07.18
11.	Accountant/Superintendent	K. G.Dhaduk	Accounting & Admins.	9300-34800	4400	12.06.13

12.	Stenographer	K. R. Yadav	Steno.Grade III	5200-20200	2400	06.02.14
13.	Driver 1	Vacant	-	-		-
14.	Driver 2	Vacant	-	-		-
15.	Supporting staff 1	Vacant	-	-		-
16.	Supporting staff 2	L.B. Chavda	-	5200-20200	1650	13.12.89

1.6. Total land with KVK (in ha): 20.00 ha

Sl. No.	Item	Area in hectare(s)*
1	Under Building and Road	-
2	Under Demonstration units	-
3	Under crops	18.00
4	Orchard	-
5	Agro-forestry	-
6	Others	2.00
Total		20.00

1.7. Infrastructural Development:**A) Buildings**

Sl. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	-	-	-	-	-	-	-
2.	Farmers Hostel	-	-	-	-	-	-	-
3.	Staff Quarters (6)	-	-	-	-	-	-	-
4.	Demonstration Units	-	-	-	-	-	-	-
5	Fencing	-	-	-	-	-	-	-
6	Rain Water harvesting system	-	-	-	-	-	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Jeep (Bolero)	2013	661107	70820	Working
Mahindra Tractor	2013	565000	-	Working
Mini Tractor (Mahindra)	2016	248000	-	Working

C) Equipment & AV aids

Name of the equipment / Implements	Year of purchase	Cost (Rs.)	Present status
Cultivator (9 tine)	2013	19000	Working
Blade Harrow	2013	11500	Working
Automatic seed drill	2016-17	37619	Working
Mini tractor drawn spray pump	2016-17	69500	Working
Rotavator	2016-17	91245	Working
Reversible MB Plough	2016-17	37500	Working
Pusa STFR meter kit (WST-312P)	2016-17	80600	Working
Mrida parikshak soil testing mini lab	2016-17	90300	Working

1.8. Details of SAC meeting conducted in the year (8th SAC Meeting)

Sr. No.	Date	Number of Participants	Salient Recommendations	Action taken
1	12-3-2020	30	1. Month-wise training should be shown clearly in Action Plan instead of quarterly	Suggestion accepted and incorporated in next action plan report
			2. To measure horizontal spread of the training given and accountability of frontline demonstrations in terms of money	Suggestion accepted and frontline demonstration results shown in terms of money
			3. Find out effect and impact of training / campaign in KVK operational village	Suggestions accepted and training / campaign impact study incorporated in SAC report
			4. Increase number of Agro Advisory Services (Text message)	Suggestions accepted and incorporated
			5. Soil and water sample testing is compulsory to at least all FLD beneficiaries in all subject. Increase soil and water samples in KVK operational villages	Suggestions accepted
			6. To involve cotton ginners in training on pink bollworm management	Suggestions accepted, online training conducted with cotton ginners
			7. Increase number of good research paper with high NAAS rated journal for ICAR ranking	Four research paper published in above 5 NAAS rated journals
			8. To create awareness and encourage farmers for registration of local variety under PPV&FRA	Suggestions accepted and incorporated
			9. To organize a special training programme to selected progressive farmers from different villages for effective horizontal spread of the technology.	Suggestions accepted and three training (Plant protection, Horticulture and Animal husbandry) conducted

2. DETAILS OF DISTRICT**2.1 Major farming systems/enterprises (based on the analysis made by the KVK)**

Sr. No.	Farming system/enterprise
1	Groundnut-Wheat/Coriander, Cumin, Garlic, Cotton-Summer Groundnut/Pulse crop/Sesame
2	Live stock
3	Farm waste management specially cotton stalk
4	Fruit and vegetable preservation
5	Value addition in Groundnut and wheat

2.2 Description of Agro-climatic Zone & major agro ecological

S. No	Agro-climatic Zone	Characteristics
Zone-VI	North Saurashtra	The influence area of North Saurashtra Agro climatic Zone is spread among five districts (35.2 lakh Ha). Out of total area 73.40 per cent area falls under arid and semi-arid region. The soils of this zone are shallow to moderately deep. The soils of Rajkot district are medium black and low in their availability of nitrogen while medium phosphorus and high in available potash. Monsoon commences usually by the end of June and withdraws by middle of September. Average annual rainfall of districts is 1141.2 mm.
Zone-VII	South Saurashtra	The influence area of South Saurashtra Agroclimatic Zone is spread among four districts. (Part of Rajkot, Bhavnagar, Amreli and whole district of Junagadh). Type of soil is shallow medium black calcareous soils. Soil are medium to high in nitrogen content, phosphorus low and potash high. Average annual rainfall of the zone is 625-750 mm.

Agro – Ecological situation in the District

Sr. No.	Agro Ecological Situation	Characteristics	Taluka covered	Remarks
1	Situation No. 2	Medium Black Soil with 500-600 mm Rainfall	Gondal, Jamkandorna	North Saurashtra Zone, Zone-VI
2	Situation No.4	Shallow Black Soil with 500-600 mm Rainfall	Lodhika, Kotadasangani	
3	-	Shallow medium black soil with 620-750 mm Rainfall	Jetpur, Dhoraji, Upleta	South Saurashtra Zone, Zone-VII

2.3 Soil type

Sr.No.	Soil type	Characteristics
1	Clay to clay loam	Medium black calcareous soil
2	Sandy clay loam to clayey	Well drained soil with rapid permeability
3	Sandy to sandy 10 cm calcareous	Well drained soils

2.4 Area, Production and Productivity of major crops cultivated in the district (Year-19-20)

S. No	Crop	Area (ha)	Production (MT.)	Productivity (Qt./ha)
1	Groundnut (Kharif + summer)	150591	592346	39.33
2	Sesamum	908	850	9.36
3	Castor	5365	13966	26.03
4	Cotton	167990	308507	18.36
5	Wheat	87807	347010	39.52
6	Green gram	765	680	8.89
7	Coriander	9098	13206	14.52
8	Cumin	14189	13787	9.72
9	Garlic	3856	26420	68.52
10	Onion	6070	165147	272.07
11	Chickpea	18494	42856	23.17

Source: District agriculture department.

2.5. Weather data (2019)

Month	Rainfall (mm)	Temperature 0 C		Relative Humidity (%)	
		Maximum	Minimum	Maximum	Minimum
April	28	-	-	-	-
May	9	-	-	-	-
June	107	-	-	-	-
July	236	-	-	-	-
August	831	-	-	-	-
September	226	-	-	-	-
October	64.3	-	-	-	-
November	-	-	-	-	-
December	-	-	-	-	-
Total	1501.3	-	-	-	-

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

Category	Population	Production	Productivity
Cattle			
Cow	515003	1150 lit /lactation	4.60 lit / day
Buffalo	430795	1390	5.26 lit/day
Sheep	192994	-	-
Goats	171515	-	-
Pigs	-	-	-
Crossbred	-	-	-
Indigenous	-	-	-
Rabbits	212	-	-
Poultry			
Hens		100 eggs /year	-
Desi	9988	140 eggs /year	-
Improved	13527		-
Category		Production (Q.)	Productivity
Fish (Reservoir)			

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
Dhoraji	Dhoraji	Nani Parabadi	Groundnut, Cotton, Sesamum, Wheat, Cumin, Coriander, Chickpea, Garlic and onion. Enterprise are dairy business, vermi composting	- Infestation of pink bollworm in cotton -Sucking pest in all crops - Stem rot disease in groundnut -Coriander & Chickpea wilt - Less area under horticultural crops -Infertility in livestock	- IPM, IDM and INM in major crops - Motivate the farmers for horticulture crop - To create awareness for value addition - Popularization of MIS - Create awareness of artificial insemination
		Patanvav			
Jetpur	Jetpur	Amrapur			
		Mandlikpur			
Jamkadorana	Jamkadorana	Jasapar			
		Nani Dhudhivadar			
		Sanala			
Upleta	Upleta	Nagvadar			
		Talangana			
Gondal	Gondal	Daliya			
		Shemla			
		Bhojpara			

2.8 Priority thrust areas

Sl. No	Crop/ Enterprise	Thrust area
1.	Groundnut, Sesame etc.	Increase productivity of crops by adopting recommended practices in integrated pest management & IDM (Management of white grub and stem rot)
2.	Cotton	-Integrated pest management (management of pink bollworm in Bt.cotton) & INM in cotton -Recycling of cotton stalk (Popularizing of cotton shredder)
3.	Coriander, Sesame, etc.	Increasing the productivity of major crops by adopting recommended technologies, newly release variety and to create awareness of value addition
4.	Cumin	Integrated disease and pest management
5.	Farm waste	Recycling of farm waste through composting, Vermicomposting, green manuring, etc.
6.	Micro irrigation	Efficient use of water by micro irrigation system, water harvesting structure, and water conservation techniques
7.	Farm Women	Farm women empowerment by training in value addition, handicrafts, and small scale enterprises
8.	Horticulture(Papaya, Pomegranate, Chilly etc.)	Postharvest technology and value addition in fruit and vegetable, INM, canopy management in orchard
9.	Animal Husbandry	Increasing the productivity of livestock animals by adopting scientific practices and to create awareness about clean milk production

3. TECHNICAL ACHIVEMENT**3. A. Achievement on technology assessed and refined during 2020**

OFT				
	Number of OFTs		Number of Farmers	
Year-2020	Targets	Achievement	Targets	Achievement
OFT	5	5	15 (30 Animal)	15 (30 Animal)

FLD	Area of FLD (ha)		No. of Farmers	
	Targets	Achievement	Targets	Achievement
Summer -2020				
Sesame	4	4	10	10
	4	4	10	10
Kharif -2020				
Ground nut (GG-22)	1.5	1.5	10	10
Groundnut (<i>Trichoderma</i>)	4	4	10	10
Groundnut (IPM)	4	4	10	10
Groundnut (CFLD, GG-22)	10	10	25	25
Cotton (IPM)	4	4	10	10
Cotton (INM)	4	4	10	10
Tomato(INM)	4	4	10	10
Brinjal (IPM)	4	4	10	10
Total (A)	39.5	39.5	105	105
Rabi-2020				
Wheat	5	5	10	10

Chick pea	4	4	10	10
Cumin	4	4	10	10
Brinjal (INM)	4	4	10	10
Tomato (INM)	4	4	10	10
Onion (INM)	4	4	10	10
Total (B)	25	25	60	60
Animal Husbandry (By pass fat)	-	-	10	20
Animal Husbandry (Bypass protein)	-	-	10	20
Animal Husbandry(Calpar Gold)	-	-	10	10
Kitchen gardening	0.5	0.5	50	50
Total (C)	0.5	0.5	80	100
Total (A+B+C)	65	65	245	265

Training (including sponsored, vocational and other trainings carried under Rainwater Harvesting Unit)					Extension Activities			
3					4			
Number of Courses			Number of Participants		Number of activities		Number of participants	
Clientele	Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
Farmers/ Farm women and Rural Youth	57	48	1425	1465	-	3791	-	7067
Extn.Func.	2	0	50	0	-		-	
Total	59	48	-	3375	-	3791	-	7067

3.B. Abstract of interventions undertaken

Sl. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions
1.	Integrated Pest Management	Groundnut	White grub infestation	OFT conducted -1 FLDs – 10 No. Training and, Diagnostic visit
2.	Improved variety of Groundnut	Groundnut	Low yield and infestation of stem rot	FLDs-10 (GJG-22) CFLD FLDs : 25 No. (GJG-22) Training, Advisory service
3.	Integrated Disease Management	Groundnut	Stem rot infestation	FLDs : 10 Training, Diagnostic visit,
4.	Integrated pest management	Cotton	Pink Bollworm Infestation	FLDs : 10 (MDP Tube) Training Diagnostic visit, Campaign
5.	Integrated Nutrient Management	Cotton	Nutrient deficiency	FLDs : 10 Training, Advisory service
6.	Integrated nutrient management	Wheat	Lack of knowledge about INM and Biofert.	OFT-1, FLDs:10 Training, Advisory service

7.	IDM in cumin	cumin	Wilt incidence in cumin	FLDs : 10 Training Advisory service
8.	IDM in chick pea	Chick pea	Low yield of chick pea	FLDs : 10 (GG-5) Training, Advisory Service
9.	Integrated Nutrient Management	Garlic	Low Yield	OFT -1 Training, Diagnostic visit
10.	Improved variety (Horticulture)	Brinjal	Low Yield	FLD-10 Brinjal (GRB-5) Training, Advisory service
11	INM (Horticulture)	Tomato	Low Yield	FLD-10 Training, Advisory Service
12.	IPM (Horticulture)	Brinjal	Low yield	FLD Training and advisory service
13	Nutritional security	Nutritional security	Unaware about the concept of kitchen gardening to combat balanced Nutrition with easy availability	FLDs : 50 Training
14	Nutritional Security	Nutritional Security	Less knowledge regarding the importance of solar cooker	OFT :1 Training
15	Nutrition Management in cattle	Cattle	Lack of knowledge about nutrition management in cattle	OFT:1 Training Diagnostic visit Advisory Service
16	Nutrition Management in cattle	Cattle	Lack of knowledge about nutrition management in cattle	FLDs: 30 (calcium supplement, Bypass protein & fat) Training

3.1 Achievements on technologies assessed and refined

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

Thematic areas	Cereals	Oilseeds	Pulses	Com m-ercial Crops	Veget -ables	Fruit s	Flower	Plant -ation crops	Tuber crops	TOTAL
Varietal Evaluation	-	-	-	-	-	-	-	-	-	-
Seed / Plant production	-	-	-	-	-	-	-	-	-	-
Weed/Thinning Management	-	-	-	-	-	-	-	-	-	-
Integrated Crop Management	-	-	-	-	-	-	-	-	-	-
Integrated Nutrient Management	1	-	-	-	1	-	-	-	-	1
Integrated Farming System	-	-	-	-	-	-	-	-	-	-
Mushroom cultivation	-	-	-	-	-	-	-	-	-	-
Drudgery reduction	-	-	-	-	-	-	-	-	-	-
Farm machineries	-	-	-	-	-	-	-	-	-	-
Value addition	-	-	-	-	-	-	-	-	1	1

Integrated Pest Management	-	1	-	-	1	-	-	-	-	2
Integrated Disease Management	-	-	-	-	1	-	-	-	-	1
Resource conservation technology	-	-	-	-	-	-	-	-	-	-
Small Scale income generating enterprises	-	-	-	-	-	-	-	-	-	-
TOTAL	1	1	-	-	2	-	-	-	1	5

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

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flowers	Plantation crops	Tuber Crops	TOTAL
Varietal Evaluation	-	-	-	-	-	-	-	-	-	-
Seed / Plant production	-	-	-	-	-	-	-	-	-	-
Weed Management	-	-	-	-	-	-	-	-	-	-
Integrated Crop Management	-	-	-	-	-	-	-	-	-	-
Integrated Nutrient Management	-	-	-	-	-	-	-	-	-	-
Integrated Farming System	-	-	-	-	-	-	-	-	-	-
Mushroom cultivation	-	-	-	-	-	-	-	-	-	-
Drudgery reduction	-	-	-	-	-	-	-	-	-	-
Farm machineries	-	-	-	-	-	-	-	-	-	-
Post-Harvest Technology	-	-	-	-	-	-	-	-	-	-
Integrated Pest Management	-	-	-	-	-	-	-	-	-	-
TOTAL	-	-	-	-	-	-	-	-	-	-

A.3. Abstract of the number of technologies assessed in respect of livestock / enterprises

Thematic areas	Cattle	Poultry	Sheep	Goat	Piggery	Rabbitary	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

A.4. Abstract on the number of technologies refined in respect of livestock / enterprises

Thematic areas	Cattle	Poultry	Sheep	Goat	Piggery	Rabbit	Fisheries	TOTAL
Evaluation of Breeds	-	-	-	-	-	-	-	-
Nutrition Management	-	-	-	-	-	-	-	-
Disease of Management	-	-	-	-	-	-	-	-
Value Addition	-	-	-	-	-	-	-	-
Production and Management	-	-	-	-	-	-	-	-
Feed and Fodder	-	-	-	-	-	-	-	-
Small Scale income generating enterprises	-	-	-	-	-	-	-	-
TOTAL	-	-	-	-	-	-	-	-

* Technology that is refined in collaboration with ICAR/SAU Scientists for improving its effectiveness.

3.B2 List of Technology Assessed during- 2020

S. No	Thematic area	Name of the technology assessed	Area (ha.)	Number of trials	Remarks
1	Integrated Pest Management	Integrated Pest Management	1.5	3	-
2	Integrated Nutrient Management	Use of Bio-Fertilizer	1.2	3	-
3	Feed management	Nutritional management of milch animals	-	30	-
4	Health improvement	Comparison of solar Cooker with Traditional Cooking system.	-	3	-
5	Integrated Nutrient Management	Integrated Nutrient Management	1.2	3	-

3.B3 List of Technology Refined during - 2019

S. No	Thematic area	Name of the technology refined	Area (ha.)	Number of trials	Remarks if any
-	-	-	-	-	-

B. Details of On Farm Trials carried out on farmer's field**Details of On Farm Trials carried out on farmer's field (2019-20)****OFT-1 Assessment of response of Bio fertilizers to wheat yield**

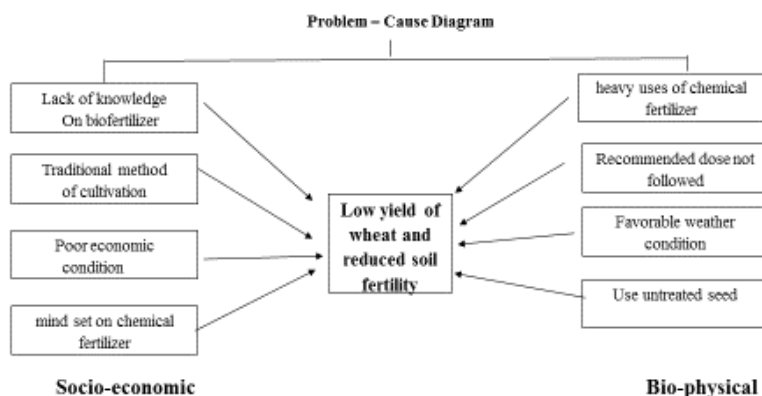
Title of OFT: - Assessment of Response of Bio fertilizers to wheat yield

Introduction: -

In Rabi season the area of wheat cultivation in Rajkot district is higher after coriander crops as compare to other crops. due to canal facilities in this area the production and productivity is higher.

But the continues use of chemical fertilizer in this crops the productivity is decreasing day by day and cost of cultivation increased. High uses of chemical fertilizer in crops the soil fertility also reduced. In this situation the KVK decide to increase uses of bio fertilizer to reduce cost of cultivation and increase soil fertility as well as quality and quantity of wheat yield.

Problem definition : Reduce yield and soil fertility

Problem cause diagram :

5. Intervening point : Response of Bio fertilizers to wheat yield

6. Crop : Wheat

7. Season/Year : Rabi 2019-20

8. Plot size :- 0.4 ha

9. No. of Replication: 3 (Farmer)

10. Cost : Rs. 600 /-

11. Source of technology: Junagadh Agricultural University, Junagadh

12. Treatments:

Farmer's practice :- Application of only DAP & Urea in different doses

Recommended practice :- 120-60-0 NPK kg/ha

Intervention:- Application of Azatobacter & PSB culture (250g/10kg) + 75% of RDF

13. Observations and results:

Details	Yield (Kg/ha)	Net profit	BCR
Farmer's practices	4250	16443	1:1.28
Recommended practices	4458	20989	1:1.37
Intervention	4625	23306	1:1.40

14. Economic Impact (Continuation of previous table)

Crop	Average Cost of cultivation (Rs./ha)			Average Gross Return (Rs./ha)			Average Net Return (Profit) (Rs./ha)			Benefit-Cost Ratio (H)
	Farmer practices	Reco. Practices	Intervention	Farmer practices	Reco. Practices	Intervention	Farmer practices	Reco. Practices	Intervention	
Wheat	57932	57032	57632	74375	78021	80938	16643	20989	23306	1:1.40

OFT-2 Assessment of micro nutrient in Garlic (2019-20)

Title : Assessment of micro nutrient in Garlic

Problem definition: Low yield due micro nutrient deficiency

Treatments : 1. **Farmer's practices:** Application of only DAP and Urea in different Doses

2. **Recommended practices:** Recommended dose of Fertilizer. RDF 50-50-50 (N-P-K) Kg/ha.

3. **Intervention :** Apply foliar spray of multi-micronutrient formulation Grade IV (Fe-Mn-Zn-Cu-B, 4.0-1.0-6.0-0.5-0.5 %) @ 1% at 60, 75 and 90 DAS in addition to recommended dose of fertilizers (50-50-50 N-P₂O₅-K₂O kg/ha)

Observations : B:C ratio and farmers perception

15. Observations and results:(2019-20)

Details	Yield (Kg/ha)	Net profit	BCR
Farmer's practices	7750	128750	1:2.72
Recommended practices	8125	151250	1:3.16
Intervention	9375	200643	1:3.84

16. Economic Impact (Continuation of previous table)

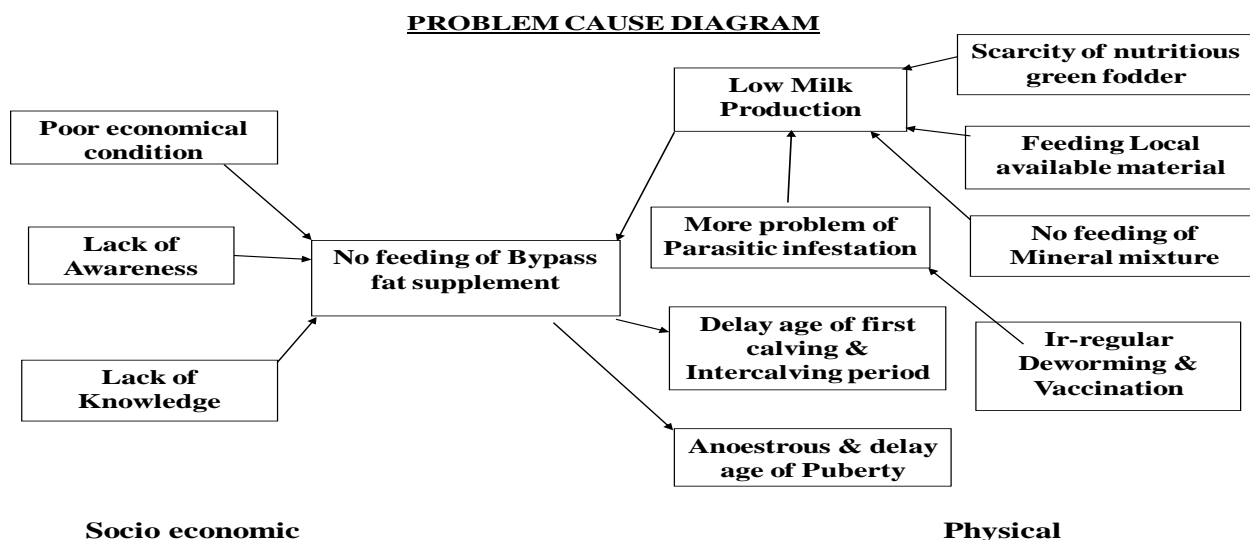
Crop	Average Cost of cultivation (Rs./ha)			Average Gross Return (Rs./ha)			Average Net Return (Profit) (Rs./ha)			Benefit-Cost Ratio (H)
	Farmer practices	Reco. Practices	Intervention	Farmer practices	Reco. Practices	Intervention	Farmer practices	Reco. Practices	Intervention	
Garlic	75000	70000	70607	203750	221250	271250	128750	151250	200643	1:3.84

OFT-3 Effect of concentrate and bypass fat feeding on milk production in Gir cattle. (2019-20)

Problem definition:

- ✓ Lack of knowledge about bypass fat feeding technology
- ✓ Low milk production due to improper feeding
- ✓ Lack of energy for milk production

Problem cause diagram

**Performance of the technology with performance indicators:****Treatments:**

- ❖ T1- Farmers practice (Green fodder, dry fodder, cake)
- ❖ T2- T1+Concentrate (1.5 kg/cow/day for maintenance + 500 gm for each lit. milk production)
- ❖ T3- T1 +T2+Bypass Fat (@50-100 gm/cow/day)

Detail of OFT programme:

- ❖ No. of villages- 5
- ❖ No. of animals- 30 (10 animals/Treatment)
- ❖ Each animal will be in similar physiological condition (age, lactation yield etc.)

Parameters to be evaluated/ recorded:

- ✓ Milk production (lit./cow/day)
- ✓ Fat percentage
- ✓ B:C ratio
- ✓ Net return

Result:

Sr. No.	Name of Demo	year	Area (no.)		No. of farmers/Demonstration				Type of farmers			
			Allotted	Conducted	SC	ST	Gen.	Total	Small	Marginal	Others	Total
1	Feed management	2019-20	20	20	7	-	13	20	6	7	7	20

<i>Technology Option</i>	<i>No. of trials</i>
T1=Routine Farmer Practice (10 kg dry fodder+15 kg green fodder+Groundnut cake)	30
T2= T1+Concentrate (5 Kg/animal/day) (Recommended practice)	
T3=T1+T2+Bypass Fat (50 gm/cow/day)	

Performances of OFT (Animal Husbandry)

Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	B:C ratio
T1: Routine Farmer Practice	Milk production at 0, 2, 4, 6, 8, 10 and 12 week (lit. / day) (6 animals/treatment)	Milk prod. at week (Lit./Day) 0 = 6.3 2 = 6.4 4 = 6.4 Ave: 6.44 lit/day 6 = 6.5 8 = 6.3 10 = 6.8 12 = 6.4			1:1.9
T2: T1+ Feeding of concentrate mixture (5kg/animal/day)		Milk prod. at week (Lt./Day) 0 = 7.2 2 = 7.3 4 = 7.5 Ave: 7.84 lit/day 6 = 7.9 8 = 7.9 10 = 8.3 12 = 8.8	Increase milk production in Concentrate along with bypass fat (T ₃) fed group	Increase milk production of animal Improve animal health via curing reproductive or metabolic diseases	1:2.56
T3: T1+T2+ Bypass fat (50 gm/cow/day)		Milk prod. at week(Lt./Day) 0 = 7.7 2 = 8.3 4 = 8.7 6 = 8.0 Ave: 8.68 lit/day 8 = 8.9 10 = 9.4 12 = 9.8			1:2.90

B. Details of On Farm Trials carried out on farmer's field (2020-21)**OFT: 1**

1. Title of OFT: - Assessment of management of white grub in Groundnut

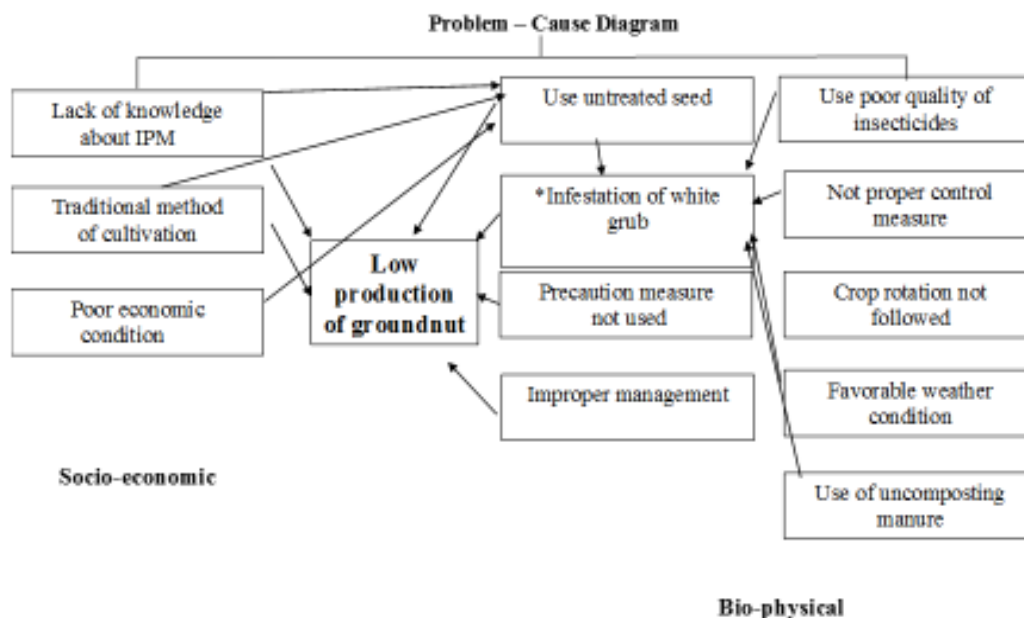
2. Introduction: -

The area under groundnut cultivation in Rajkot district is higher after cotton crops as compare to other crops. in this area groundnut crops are well suitable crops and gave higher production and productivity.

But last few years this crops suffering from heavy infestation of white grub insect. This insect cause severe damage to groundnut crops and resulting in yield loss. It is difficult to manage this pest. Farmer spent lots of money for uses of insecticides for control of this insect but not proper control. Therefore, it is very necessary to management through different possible solution of white grub in groundnut.

3. Problem definition : Low yield from groundnut cultivation

4. Problem cause diagram :



5. **Intervening point** : Management of white grub in groundnut

6. **Crop** : Groundnut

7. **Season/Year** : Kharif-20

8. **Plot size** :- 0.4 ha

9. **No. of Replication**: 3 (Farmer)

10. **Cost** : Rs. 2062 /-

11. **Source of technology**: Junagadh Agricultural University, Junagadh

12. **Treatments**:

Farmer's practice : Chloropyriphos @ 4 lit./ha at the time of attack

Recommended practice: 1. Seed treatment with Chloropyriphos @ 25 ml/kg

2. Application of Chloropyriphos @ 4 lit./ha

3. Spraying the trees on bund with lambda cyalothrin 1.5 ml/1 lit water

Intervention: 1. Application of carbofuran 3G@ 40kg/ha at time of sowing

2. Spraying the trees on bund with lambda cyalothrin 1.5 ml/1 lit water

3. Application of UREA @ 50 kg/ha with irrigation water at time of infestation.

Results:

Details	Yield (Kg/ha)	Net profit	BCR
Farmer's practices	2292	53773	1:1.81
Recommended practices	2708	76385	1:2.16
Intervention	2500	65710	1:2.00

Economic Impact (Continuation of previous table)

Average Cost of cultivation (Rs./ha)			Average Gross Return (Rs./ha)			Average Net Return (Profit) (Rs./ha)			Benefit-Cost Ratio (H)
Farmer practices	RP	Intervention	FP	RP	Intervention	FP	RP	Intervention	
66540	6582	65540	120312	142187	131250	53773	76385	65710	1:2.16

White grub infestation (Observation)							
Treatments	Percent plant damage and No of white grub per 1 meter row length						Percent pod damage / plant
	35 DAS		60 DAS		90 DAS		
	No. of White grub	No of Damage plant	No. of White grub	No of Damage plant	No. of White grub	No of Damage plant	
Recommended practices	0	0	1	1	1	1	1.10
Farmer practices	3	2	4	3	5	5	10.25
Intervention	1	0	3	3	2	2	5.78

OFT-2

Assessment of response of Bio fertilizers to wheat yield

Title of OFT: - Assessment of Response of Bio fertilizers to wheat yield

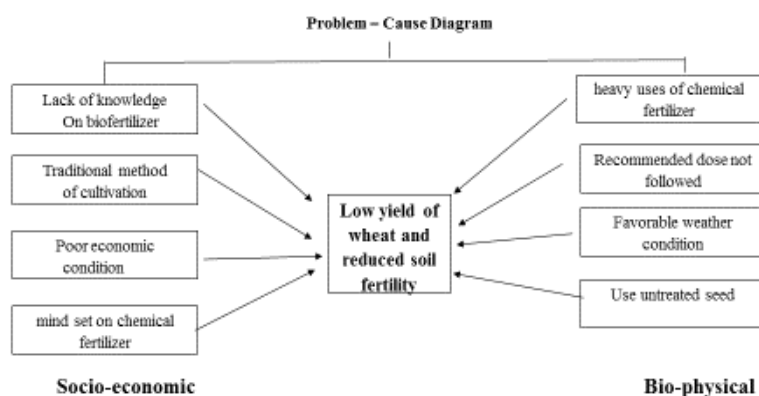
Introduction: -

In Rabi season the area of wheat cultivation in Rajkot district is higher after coriander crops as compare to other crops. due to cannel facilities in this area the production and productivity is higher.

But the continues use of chemical fertilizer in this crops the productivity is decreasing day by day and cost of cultivation increased. High uses of chemical fertilizer in crops the soil fertility also reduced. In this situation the KVK decide to increase uses of bio fertilizer to reduce cost of cultivation and increase soil fertility as well as quality and quantity of wheat yield.

Problem definition : Reduce yield and soil fertility

Problem cause diagram :



17. Intervening point : Response of Bio fertilizers to wheat yield

18. Crop : Wheat

19. Season/Year : Rabi 2020-21

20. Plot size :- 0.4 ha

21. No. of Replication: 3 (Farmer)

22. Cost : Rs. 600 /-

23. Source of technology: Junagadh Agricultural University, Junagadh

24. Treatments:

Farmer's practice :- Application of only DAP & Urea in different doses

Recommended practice :- 120-60-0 NPK kg/ha

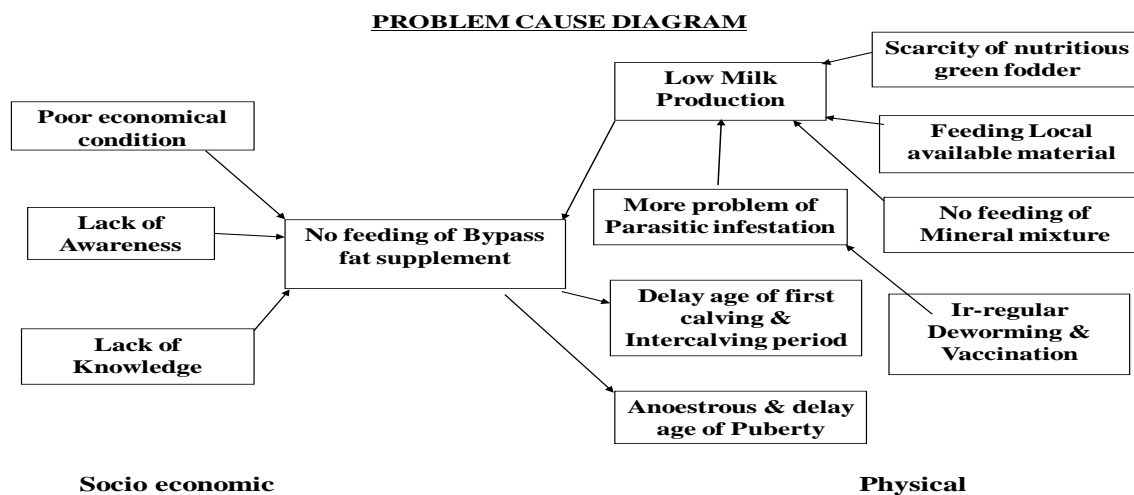
Intervention:- Application of Azatobacter & PSB culture (250g/10kg) + 75% of RDF

25. Observations and results: Results awaited

OFT-3**Title : Assessment of micro nutrient in Garlic****Problem definition:** Low yield due micro nutrient deficiency**Treatments : 1.Farmer's practices:** Application of only DAP and Urea in different Doses**2.Recommended practices:** Recommended dose of Fertilizer. RDF 50-50-50 (N-P-K) Kg/ha.**3. Intervention :**Apply foliar spray of multi-micronutrient formulation Grade IV (Fe-Mn-Zn-Cu-B, 4.0-1.0-6.0-0.5-0.5 %) @ 1% at 60, 75 and 90 DAS in addition to recommended dose of fertilizers (50-50-50 N-P₂O₅-K₂O kg/ha)**Observations :** B:C ratio and farmers perception**Results: Results awaited****OFT-4****Title:** Effect of concentrate and bypass fat feeding on milk production in Gir cattle.**Problem definition:**

- ✓ Lack of knowledge about bypass fat feeding technology
- ✓ Low milk production due to improper feeding
- ✓ Lack of energy for milk production

Problem cause diagram

**Performance of the technology with performance indicators:****Treatments:**

- ❖ T1- Farmers practice (Green fodder, dry fodder, cake)
- ❖ T2- T1+Concentrate (1.5 kg/cow/day for maintenance + 500 gm for each lit. milk production)
- ❖ T3- T1 +T2+Bypass Fat (@50-100 gm/cow/day)

Detail of OFT programme:

- ❖ No. of villages- 5
- ❖ No. of animals- 30 (10 animals/Treatment)
- ❖ Each animal will be in similar physiological condition (age, lactation yield etc.)

Parameters to be evaluated/ recorded:

- ✓ Milk production (lit./cow/day)
- ✓ Fat percentage
- ✓ B:C ratio
- ✓ Net return

Result awaited

OFT 5**Title: Comparison of solar Cooker with traditional cooking system****Items: -**

1. Boiled Rice
2. Boiled Sweet potato
3. Salted groundnut

Objective: -

- (1) To improve quality and nutrition of Prepared items
- (2) To reduce drudgery of farm women
- (3) To reduce time and fuel consumption

Treatment: -

- 1) Preparation by traditional method
- 2) Preparation by roasting
- 3) Preparation by solar cooker

No. of Replications: - 5**No. of beneficiaries:** 3 Farm women from three different locations**Observations: -**

- (1) Time consumption
- (2) Fuel consumption
- (3) Movement
- (4) Cost saving
- (5) Organo-leptic test
 - i. Colour
 - ii. Texture
 - iii. Taste

Results:

Sr. No.	Item	Boiled Rice			Salted Groundnut			Sweet Potato		
		Traditional Method (Firewood)	Preparation by Roasting (Gas)	Solar Cooker	Traditional Method (Firewood)	Preparation by Roasting (Gas)	Solar Cooker	Traditional Method (Firewood)	Preparation by Roasting (Gas)	Solar Cooker
1	Time Consumption (minute)	35	15	50	60	30	180	20	60	120
2	Fuel Consumption (g)	190	60.	-	410	100	-	350	210	-
3	Cost Saving (%)	-	1.86	7.01	-	10.4	26.9	-	43.70	73.9
4										
a	Taste	5	5	6	4	6	7	4	4	6
b	Consistency	4	5	7	3	5	8	3	4	6
d	Overall Acceptance	-	-	√	-	-	√	-	-	√

3.2 ACHIEVEMENTS OF FRONTLINE DEMONSTRATIONS

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

List of technologies demonstrated during previous year and popularized during 2018-19 and recommended for large scale adoption in the district

S. No	Crop/ Enterprise	Thematic Area*	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
					No. of villages	No. of farmers	Area in ha
1	Groundnut*	IPM	IPM	FLDs, Field days, Group discussion, Extension lit	16	80	56
2	Groundnut	IDM	Trichoderma	FLDs, Field days, Group discussion, Extension lit	25	247	87
3.	Sesame	Varietal	GT-5	FLDs, Field days, Group discussion	12	65	70
4.	Chick pea	Varietal	GG-5	FLDs, Personal visit, Training,	20	180	105
5.	Wheat	INM	Azoto + PSB	FLDs, Extension literature, Training	11	34	17
6.	Cumin	IDM	Trichoderma	FLDs, Training	9	46	19
7.	Cotton	INM	INM	FLDs, Field days, Group discussion	22	187	112
8.	Cotton	IPM	IPM	FLDs, Personal visit, Training, Extension literature	5	45	10
9	Onion	Varietal	GJRO-11	FLDs, Personal visit, Training, Extension literature	4	4	1.6
10	Brinjal	Varietal	GJLB-4	FLDs, Field days, Group discussion	5	5	2
11	Brinjal	Varietal	GJHB-4	FLDs, Field days, Group discussion	5	5	2
12	Okra	Varietal	GJOH-4	FLDs, Personal visit, Training,	3	3	1.2
13	Papaya	Varietal	GJP-1	FLDs, Personal visit, Training,	3	3	1.2
14	Animal Husbandry	Feed Management	Calcium supplement	FLDs, Personal visit, Training,	16	128	5
15	Kitchen Gardening	Household food security	Kitchen Gardening	FLDs, Personal visit, Training,	6	48	4

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

b. Details of FLDs implemented during 2020 (Information is to be furnished in the following three tables for each category i.e. Oilseed, Pulse and Other)

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Short fall
					Pro.	Actual	SC/ST	Others	T	
Oilseeds										
1	Groundnut	Variety	GG-22	<i>Kharif</i> 2020	1.5	1.5	2	8	10	-
2	Groundnut	IDM	Trichoderma	<i>Kharif</i> 2020	4	4	2	8	10	-
3	Groundnut	IPM	IPM	<i>Kharif</i> 2020	4	4	2	8	10	
4	Sesame	Variety	GT-5	<i>Summer</i> 20	4	4	2	8	10	-
Pulse										
5	Chickpea	Varietal	GG-5	<i>Rabi</i> 2020	4	4	2	8	10	-
Others: Cereals										
6	Wheat	INM	Lok - 1	<i>Rabi</i> 2020	5	5	3	7	10	-
Others: Vegetables										
7	Tomato	INM	Local	<i>Kharif-20</i>	4	4	2	8	10	-
8	Brinjal	IPM	Local	<i>Kharif-20</i>	4	4	2	8	10	-
9	Garlic	INM	Local	<i>Rabi-20</i>	4	4	2	8	10	-
10	Brinjal	Varietal	GRB-5	<i>Rabi-20</i>	4	4	2	8	10	
Others: Spices										
11	Cumin	IDM	GC-4	<i>Rabi</i> 2020	4	4	2	8	10	-
Others: Commercial crops										
12	Cotton	INM	INM	<i>Kharif</i> 2020	4	4	2	8	10	-
13	Cotton	IPM	IPM	<i>Kharif</i> 2020	10	10	2	8	10	
Animal Husbandry										
14	Cattle	Feed Management	Calcium	2020	10	10	4	6	10	-
15	Cattle	Nutrient magt.	Bypass Protein	2020	-	-	4	16	20	
16	Cattle	Nutrient magt.	Bypass fat	2020	-	-	5	15	20	
Home Science										
17	Vegetable Crops	Household food security	Kitchen Gardening	<i>Kharif</i> 2020	0.5	0.5	10	40	50	-

Performance of Frontline Demonstrations (2019-20)

Sr. No.	Crop	Technology Demo.	Variety	No. of Farmers	Area (ha.)	Demo. Yield Qtl/ha			Yield of local Check Qtl./ha	Increase in yield (%)	Data on parameter in relation to technology demonstrated	
						H	L	A			Demo	Local
1	2	3	4	5	6	7	8	9	10	11	12	13
Pulses (Rabi -2019-20)												
	Chick pea	Varietal	GG-5	10	4	31.3	21.3	26.5	21.8	21.84	Yield	Yield
Cereals (Rabi -2019-20)												
	Wheat	INM	Bioferti.	10	4	56.3	37.5	47.9	44.1	8.50	Yield	Yield
Spices (Rabi -2019-20)												
	Cumin	IDM	GC-4	10	4	15.0	7.5	10.5	8.6	21.74	Yield	Yield
Horticulture (2019-20)												
	Brinjal	Varietal	GRB-5	10	4	393.8	360	380	331.3	18.84	Yield	
	Tomato	INM	Local	10	4	96.3	75.0	85.8	77.5	21.20	Yield	
Animal Husbandry (2019-20)												
	Livestock	Nutrition management	Bypass Fat	20	-	1890			1650	4.54	Milk Yield	Milk Yield
	Livestock	Nutrition management	Bypass Protein	20	-	2030			1890	7.40	Milk Yield	Milk Yield
	Livestock	Nutrition management	Calcium supplement	20	-	1650			1480	4.86	Milk Yield	Milk Yield

Crops	Average Cost of cultivation (Rs./ha)		Average Gross Return (Rs./ha)		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio
	Demo	LC	Demo	LC	Demo	LC	
Demonstrations	14	15	16	17	18	19	20
Pulses							
Chick pea (IDM)	41482	39732	129850	106575	88368	66843	1:2.68
Cereals							
Wheat (INM)	57032	58432	83781	77218	26749	18786	1:1.47
Spices							
Cumin (IDM)	54562	55712	147000	120750	92438	65038	1:2.17
Horticulture							
Brinjal	52750	55000	134750	113000	82000	58000	1:2.55
Tomato	61202	65000	204000	186562	142797	121562	1:3.33
Animal Husbandry							
Livestock (bypass fat)	58132	54245	79231	71456	21099	17211	1:1.36
Livestock(bypass protein)	53987	51267	77529	70320	23542	19053	1:1.43
Livestock	54733	50987	74890	66354	20157	15367	1:1.36

Performance of Frontline Demonstrations (2020)

Sr. No.	Crop	Technology Demo.	Variety	No. of Farmers	Area (ha.)	Demo. Yield Qtl/ha			Yield of local Check Qtl./ha	Increase in yield (%)	Data on parameter in relation to technology demonstrated	
						H	L	A			Demo	Local
1	2	3	4	5	6	7	8	9	10	11	12	13
Kharif-2020												
Oilseeds												
	Groundnut	Variety	GG - 22	10	1.5	31.3	21.3	26.1	23.3	12.37	Yield	Yield
	Groundnut (Trichoderma)	IDM	GG - 20	10	4	37.5	17.5	23.6	20.0	18.13	Yield	Yield
	Groundnut	IPM	GG - 20	10	4	31.3	17.5	23.5	19.6	19.75	Yield	Yield
	Sesamum	Variety	GT-5	10	4	15.8	8.8	11.1	9.4	18.09	Yield	Yield
Pulses (Rabi -2020)												

Chick pea	Varietal	GG-5	10	4	31.3	21.3	26.5	21.8	21.56	Yield	Yield
Cereals (Rabi -2020)											
Wheat	INM	Biofertilizer	10	4	56.3	37.5	47.9	44.1	8.62	Yield	Yield
Other											
Cotton	INM	Bt.	10	4	25.0	10.0	15.6	14.3	9.65	Yield	Yield
Cotton	IPM	Bt.	50	20	25.0	10.0	18.4	17.3	6.52	Yield	Yield
Spices (Rabi -2020)											
Cumin	IDM	GC-4	10	4	15.0	7.5	10.5	8.6	22.09	Yield	Yield
Horticulture											
Brinjal	IPM	Local	10	4	143.8	125.0	134.8	113.0	19.25	Yield	Yield
Tomato	INM-Rabi	Local	10	4	287.0	256.3	272.0	248.8	9.35	Yield	Yield
Garlic	INM-Rabi	Local	10	4	112.6	80.0	96.3	77.5	21.20	Yield	Yield
Brinjal	INM-Rabi	Local	10	4	393.8	360	380	331.3	18.84	Yield	Yield
Home Science											
Kitchen gardening	Nutritional security	-	50	0.5	214.1	178.5	214	207.2	3.87	Yield	Yield
Animal Husbandry											
Livestock	Bypass Protein	Feed Mgt	20	10 no.	7.12			6.25	4.85	Milk Yield	Milk Yield
Livestock	Bypass Fat	Feed Mgt	20	10 no.	6.45			6.21	5.34	Milk Yield	Milk Yield
Livestock	Calcium supplementation	Feed Mgt	10	10 no.	6.79			6.50	3.78	Milk Yield	Milk Yield

Crops	Average Cost of cultivation (Rs./ha)		Average Gross Return (Rs./ha)		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio
	Demo	LC	Demo	LC	Demo	LC	
	14	15	16	17	18	19	
Oil seed							
Groundnut (Var.)	68365	65940	137809	122643	69444	56703	1:2.02
Groundnut (IDM)	65652	65840	124621	105500	58969	39660	1:1.90
Groundnut (IPM)	65052	66240	123962	103521	58910	37281	1:1.91
Sesamum	51716	51226	97344	82031	45628	30805	1:1.88
Pulses							
Chick pea (IDM)	41482	39732	129850	106575	88368	66843	1:3.13
Cereals							
Wheat (INM)	57032	58432	83781	77218	26749	18786	1:1.46
Other							
Cotton (INM)	82859	84359	140156	130093	57297	45734	1:69
Cotton (IPM)	84759	85059	137281	125781	52522	40722	1:1.62
Spices							
Cumin (IDM)	54562	55712	47000	120750	92438	65038	1:2.69
Horticulture							
Brinjal	52750	55000	134750	113000	82000	58000	1:2.55
Tomato	61202	65000	204000	186562	142797	121562	1:3.33
Garlic	70607	70000	257250	212250	186643	142250	1:3.64
Brinjal	52750	55000	134750	113000	82000	58000	1:2.55
Home Science							
Kitchen gardening	115070	118450	202340	210380	95870	86930	1:1.79
Animal Husbandry							
Livestock (bypass fat)	53987	51267	77529	70320	23542	19053	1:1.43
Livestock(bypass protein)	58132	54245	79231	71456	21099	17211	1:1.36
Livestock	54733	50987	74890	66354	20157	15367	1:1.36

Technical Feedback on the demonstrated technologies

Sl. No.	Crop	Variety/ Technology	Farmers' Feed Back
1	Groundnut	IPM	Application of chlorpyriphos 20-25 ml /kg as a seed treatment of groundnut seed reduce infestation of white grub (Very less white grub infestation)
2	Groundnut	Varietal	GJG-22 variety gives higher yield as compare to GG-20 and less infestation of stem rot as compare to other variety in kharif season
3	Groundnut	IDM	Application of Trichoderma in Groundnut crop reduce infestation of stem rot and increase yield
4	Cotton	IPM	Integrated approach for management of pink boll worm i.e. MDP tube and two or three spray of Beauveria reduce incidence of pink boll worm
5	Cotton	INM	Application of Azotobactor and PSB culture reduce cost of chemical fertilizer and increase yield
6	Wheat	INM	Application of biofertilizer reduce the cost of chemical fertilizer and increase yield
7	Wheat	INM	Application of Azotobactor and PSB culture reduced the cost of chemical fertilizers and increase yield
8	Cumin	IDM	Application of trichoderma with castor cake reduce wilt in cumin and increase yield
9	Chick pea	Varietal	Less incidence of wilt in GG-5 var of chick pea and higher yield as compare to other variety
10	Sesame	Varietal	G.T-5 var. Bold and white seeded and higher yield
11	Tomato	INM	Application of micro nutrient Grade -4 reduce nutrient deficiency and increase yield
12	Brinjal	IPM	MDP tube in Brinjal field control the shoot and fruit borer
13	Brinjal	Varietal	GRB-5 Variety tolerant against little leaf disease and higher yield
14	Garlic	INM	Application of micro nutrient Grade -4 reduce nutrient deficiency and increase yield
15	Cattle	Bypass fat	Increase milk production of animal and overall improve animal health
16	Cattle	Bypass protein	Increase milk production of animal and reduction of inter calving period
17	Cattle	Calper gold	Increase milk production of animal and reduce the metabolic disorder in animal
18	Nutritional Security	Importance of solar cooker	Nutritional enrichment with high nutritious and tasty low cost diet with reducing drudgery of women

Extension and Training activities under FLD

Sr. No.	Activity	No. of Activity organized	Date	No. of Participants			Remarks
				Male	Female	Total	
1.	Field days	12	-	227	56	283	
2.	Training for farmers	16	-	397	83	480	
3.	Training for extension functionaries	-	-	-	-	-	-

3.3 ACHIEVEMENTS ON TRAINING**A. On Campus**

Thematic Area	No. of Courses	Participant		
		Total		
		Male	Female	Total
Plant Protection	5	203	42	245
Home Science	4	15	87	102
Animal Husbandry	6	95	68	163
Horticulture	5	126	25	151
Extension	1	38	0	38
Grand Total	21	477	222	699

B. Off Campus

Thematic Area	No. of Courses	Participant		
		Total		
		Male	Female	Total
Plant Protection	8	190	52	242
Home Science	5	17	134	151
Animal Husbandry	7	107	105	212
Horticulture	6	97	35	132
Extension	1	25	4	29
Grand Total	27	436	330	766

C. Consolidated table (On and Off Campus)

Thematic Area	No. of Courses	Participant		
		Total		
		Male	Female	Total
Plant Protection	13	393	94	487
Home Science	9	32	221	253
Animal Husbandry	13	202	173	375
Horticulture	11	223	60	283
Extension	2	63	4	67
Grand Total	48	913	552	1465

(D) Vocational training programmes for Rural Youth

Crop / Enterprise	Date	Training title*	Identified Thrust Area	Duration (days)	No. of Participants									
					General			SC/ST			Total			
					M	F	T	M	F	T	M	F	T	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(E) Sponsored Training Programmes

Sr. No	Date	Title	Duration	Total No. of participants									Sponsoring Agency
				Other			SC/ ST			Total			
				M	F	T	M	F	T	M	F	T	
1	17.1.20	Pl. Protection	1	40	12	62	8	5	13	48	17	65	ATMA
2	7-3-20	Pl. Protection	1	25	0	25	6	0	6	31	0	31	State Dept
3	22-6-20	Pl. Protection	1	30	0	30	0	0	0	30	0	30	AFPRO
4	13-07-20	Pl. Protection	1	22	0	22	5	0	5	27	0	27	State dept.
5	5-10-20	Pl. Protection	1	42	0	42	7	0	7	49	0	49	ATMA
6	16-12-20	Pl. Protection	1	35	10	45	10	0	10	45	10	55	ICICI
7	6-02-20	Horticulture	1	30	0	30	0	0	0	30	0	30	State Department
8	19-2-20	Horticulture	1	37	5	42	0	0	0	37	5	42	State Department
9	8-06-20	Horticulture	1	30	0	30	0	0	0	30	0	30	ICICI
10	22-6-20	Horticulture	1	30	0	30	0	0	0	30	0	30	AFPRO
11	23/1/2020	Animal Husbandry	1	20	0	20	4	0	4	24	0	24	ICIC Foundation
12	2/3/2020	Animal Husbandry	1	45	0	45	5	0	5	49	0	49	State Line Depart.
13	3/17/2020	Animal Husbandry	1	35	0	35	3	0	3	38	0	38	State Line Depart.
14	9/15/2020	Animal Husbandry	1	0	20	20	0	4	4	0	24	24	ICIC Foundation
15	12/5/2020	Animal Husbandry	1	0	23	23	0	4	4	0	27	27	AFPRO
		Total	15	421	70	501	48	13	61	468	83	551	

3.4 Extension programmes (including activities of FLD Programmes)

Sr.No.	Activities	No.	Participants
1	Krishi shibir	3	78
2	Field day	12	73
3	Scientist visit to farmers field	93	253
4	Publication	6	0
5	Ext. literature distribution	865	865
6	Farmers visit to KVK	403	403
7	Newspaper coverage	8	0
8	Khedut sabha/night meeting	3	53
9	Telephonic advisory	2213	2213
10	Diagnostic visit	31	69
11	Kisan Ghosti	4	113

12	Khedut meeting (training)	37	791
13	TV programme (Bite)	9	0
14	Film show	15	312
15	Animal health camp	4	62
16	Demonstration	17	240
17	Training to college student	15	138
18	Kishan Vigyan Diwas	1	22
19	Kisan Diwas	1	34
20	Soil health day	1	37
21	Mahila Kisan Diwas	1	35
22	PM live Programme	2	89
23	Farmers act training	9	302
24	Consumer day vidio sharing	1	145
25	Poshan Mah Celebration	25	342
26	Swachhata Hi Seva	15	223
27	International women day	1	175
	Total	3795	7067

3.5 Production and supply of Technological products (2020)

SEED MATERIALS

Sr. No.	Crop	Variety	Stage	Area (ha)	Quantity (kg.)	Value (Rs.)
Kharif – 2020						
1.	Groundnut	GJG-31	Breeder	5.3	11250	Grading conti...
2.	Groundnut	GJG-32	Breeder	2	3600	
3.	Groundnut	GJG-17	Breeder	5.4	6250	
4.	Groundnut	GAUG-10	Breeder	4.7	4500	
5.	Groundnut	GJG-22	Mega	0.4	100	
			Total	17.80	25700	
Rabi-2020						
1	Wheat	GW-496	Mega	4.5	Crop Standing	
2	Wheat	GW-451	Mega	12		
			Total	16.5		

Technological products

Sr. No.	Particular	Quantity	Provide to No. of farmers	Amount
1	Trichoderma	105	23	7350
2	Beauveria Bassiana	76	14	3900
3	Azotobacter culture	12	3	720
4	PSB culture	4	1	480
5	Rhizobium culture	22	7	1320
6	Pheromone Trap	51	9	1020
7	Pink bollworm Lure	558		5580
8	Vegetables Packets	31	4	310
			Total	20680

3.6 Literature Developed/Published (with full title, author and reference**(A) Research paper published**

Sr. No.	Particular of Research paper
1	A.R.Parmar., S.V.Undhad, V.S.Prajapati and N.B.Jadav (2020) Impact Assessment of Frotline Demonstration on Integrated Nutrient Management in Tomato Crop in Rajkot District of Gujarat, India, International Journal of Current Microbiology and Applied Science, 9(6):3260-3265.
2	Rose Mathews and N.B.Jadav (2020) ICT utilization of Extension Personnel in Saurashtra Region of Gujarat State, International Journal of Current Microbiology and Applied Science, 9(7):2298-2302.
3	Vanpariya J.P.; Jadav N.B. and Kapuriya T.D. (2020) Attitude of farmers regarding “Gir Sawaj” brand biofertilizer in Saurashtra region of Gujarat state. International Journal of Current Microbiology and Applied Science, 9(8):2586-2591.
4	Rose Mathews and N.B.Jadav (2020) Relationship between characteristics of extension personnel and their extent of ICT utilization, Journal of Pharmacognosy and Phytochemistry, Sp 9(4):20-30.
5	Meghwali Pankaj Kumar, Jadav N.B. and Kapuriya T.D. (2020) Adoption of Agricultural Information Disseminated Through Mobile. <i>Indian Journal of Extension Education</i> , 56(2):209-211.
6	T. D. Kapuriya, N. B. Jadav, P. H. Zala and J. V. Chovatia. (2020) Standardized Scale to Measure Factors Related for Avoidance of Agriculture as a Profession. <i>Indian Journal of Extension Education</i> , 56(3):198-200.

(B) Popular/ Technical articles (vernacular language)

Sr. No.	Contributors	Year of publication	Title	Magazine Name	Vol /Issue /Page No
1.	V.S.Prajapati, N.B.Jadav and P.S.Sharma	2019	“Navjat vacharda /padio ni sar sambhar	Krushi Govidya	Oct-2019, Vol-6, pp.22-24.

(c) Books/ book chapters / Manuals etc. : nil**(D) Folder published in vernacular language : nil****C) Workshop/Seminar/Conference/Meeting/Training Attended**

Sr. No.	Date	Name of Scientist	Title	Venue	Type
1	06-01-2020	S. V. Undhad, A.R.Parmar, V.S.Prajapati, P.S.Sharma	Recent extension approaches for effective transfer of technology	Junagadh Agricultural University	Training
2	28-01-20 to 30-01-2020	S. V. Undhad	National conference of KVK - 2020	New Auditorium, Convention centre, NASC Complex, New Delhi	National Conference

3.7. Success stories/Case studies, if any (two or three pages' write-up on each case with suitable action photographs)

---NIL---

3.8 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
1.	Chilly	Use castor as a trap crop	For controlling thrips and jassids
2	Crop husbandry	Crop rotation and mixed cropping	Control weed
3	Fertility Management	Application of <i>tach / morum</i>	To improve soil physical condition
4	Fertility Management	Sheep and goat penning	To improve soil fertility
5	Harvesting	Harvest pulse crop in the morning hours	To reduce shattering

3.9 Indicate the specific training need analysis tools/methodology followed:----**3.10 Field Activities**

i. Number of villages adopted : 12

Sr. No	Name of village	Sr. No.	Name of Village	Sr. No.	Name of Village
1.	Talanganana	5.	Mandlikpar	9.	Dalia
2.	Nagavadar	6.	Amrapar	10.	Sanala
3.	Patanvav	7.	Bhojpara	11.	NaniDudhivadar
4.	NaniParabdi	8.	Shemla	12.	Jashapar

3.11 Activities of Soil and Water Testing Laboratory

Details of samples analyzed during 2019

Details	No. of Samples	No. of Farmers	No. of Villages	Amount realized
Soil Samples	65	65	10	-
Water Samples	-	-	-	-
Total	65	65	10	-

4. Impact: NIL**5:Linkage****5.1 Functional linkage with different organization**

Sr. No.	Name of organization	Nature of linkage
A	Junagadh Agricultural University	
1	College of Agriculture, Junagadh.	Impart training on Agril. aspects.
2	College of Agril. Engg, Junagadh	Impart training on Engg. aspects
3	Pulse Research Station, Junagadh	Supply of seeds for FLDs
4	Oilseeds Research Station, Junagadh	Supply of seeds for crop museum
5	Oilseeds Research Station, Amreli	Supply of seeds for crop museum

6	Director, DGR, Ivnagar, Junagadh	Training & exposure visit
7	Bio-control Lab, Dept of Ento. JAU. Junagadh	Supply of Beauveria, P. Trap, Lure etc.
8	Dept. of Plant Pathology, JAU, Junagadh	Supply of Bio fertilizer and Trichoderma
9	Vegetable Research Station, JAU, Junagadh	Supply of Vegetable Seeds
10	Cattle Breeding Farm, JAU, Junagadh	Training & exposure visit
B	State corporation and state deptt.	
1	District Agricultural Officer, Deptt. of Agriculture, District Panchayat, Rajkot	<ul style="list-style-type: none"> ➤ Joint diagnostic team visit at farmers' field ➤ Organizing collaborative training to farmers ➤ For collaborative off campus training ➤ For collaborative training and demonstration Programme ➤ Collaborative on campus training programme ➤ For providing hostel facilities to participants and organizing collaborative Mahila Krishi Mela
2	District Rural Development Agency, Rajkot	
3	Deputy Director of Veterinary, Department of veterinary & Animal Husbandry, Rajkot	
4	Deputy Director of Horticulture, Rajkot	
5	Deputy Director of Agriculture (Training), Farmer Training Centre, Rajkot	
6	Deputy Director of Agriculture (Extension), Rajkot	
10	Estate Engineer, Department of Irrigation, Dhoraji	
11	All Taluka Development Officers, and their team at Taluka level	
13	ATMA, Rajkot	

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

5.2 List Special programmes undertaken by the KVK, Which have been financed by state Govt/ other agencies

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
CLFDs (Oil seeds)	2018-19	GOI	-
Evaluation of Bioefficacy and Phytotoxicity of PII 301 (10) % SC against Chillithrips sponsored by PI Industries Ltd.	-	-	-

5.3 Details of linkage with ATMA

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

S. No.	Programme	Nature of linkage	Remarks
1	District Level Training	Impart Training and diagnostic visit on Agricultural Aspects	-
2.	Block level training	Impart Training and diagnostic visit on Agricultural Aspects	

5.4 Give details of programmes implemented under National Horticultural Mission

S. No.	Programme	Nature of linkage	Constraints if any
1	-	-	-

5.5 Nature of linkage with National Fisheries Development Board

S. No.	Programme	Nature of linkage	Remarks
1.	-	-	-

6. PERFORMANCE OF INFRASTRUCTURE IN KVK

6.1 Performance of demonstration units (other than instructional farm)

Sl. No.	Demonstration Units	Year of Establishment	Area	Details of production			Amount (Rs.)		Remarks
				Variety	produce	Quantity (Qtl)	Cost of inputs	Gross income	
-Nil-									

6.2 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	
-Nil-							

7. FINANCIAL PERFORMANCE

7.1 Details of KVK Bank accounts

Bank account	Name of the Bank	Location	Account Number
With Host Institute	---	--	---
With KVK	State Bank of India	Galaxy chowk, Dhoraji	32586636847

7.2. Utilization of KVK funds during the year 2019-20 Up to March-2020)

Sr. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	91.00	53.12	75.13
2	Traveling allowances	1.50		
3	Contingencies	10.80	6.42	9.82
TOTAL (A)		103.30	59.54	84.95
B. Non-Recurring Contingencies				
1	Works	-	-	-
2	Equipment's including SWTL & Furniture	-	-	-
3	Vehicle (Four wheeler)	-	-	-
4	Library (Purchase of assets like books & journals)	-	-	-
TOTAL (B)		-	-	-
C. REVOLVING FUND				
GRAND TOTAL (A+B+C)		103.30	59.54	84.95

7.3. Status of revolving fund

Year	Opening balance as on 1 st April	Income during the year	Expenditure during the year	Net balance
April 2012 to March 2013	100000	10970	0	110970
April 2013 to March 2014	110970	48464	28	159406
April 2014 to March 2015	159406	424853	299225	285034
April 2015 to March 2016	285034	217280	266000	236314
April 2016 to March 2017	236314	1833862	1047720	1022456
April 2017 to March 2018	1022456	2181697	2415203	788950

April 2018 to March 2019	788950	3661217	2552946	1897221
April 2019 to March 2020	1897221	1332199	2344761	884659
April 2019 to March 2020	884659	3926552	1706923	3104288

8.0 PLEASE INCLUDE INFORMATION, WHICH HAS NOT BEEN REFLECTED ABOVE (WRITTEN IN DETAILS)

8.1 “Mera Gaon Mera Gaurav” Scheme:

The Mera Gaon Mera Guarav scheme was implemented during the year 2019. Under this scheme, first following two groups of scientists were formed for village selection and base line survey.

Table 1: Details of MGMG Team and status of benchmark survey of selected villages

Team	Name of scientists with discipline	Name of village	Name of block	Name of district	Benchmark survey Status
1	2	3	4	5	6
Team 27	Dr. N. B. Jadav (ExtnEdu) MsPinki Sharma (Home Sci.) Shri S V Undhad (Pl. Prot.)	Patanvav	Dhoraji	Rajkot	Completed
		Toraniya	Dhoraji		
		Zanzmer	Dhoraji		
		Arni	Upleta		
		Pedhala	Jetpur		
Team 28	Dr. V. S. Prajapati (LPM), Shri A R Parmar (Horti.) Shri P D Chaoudhry (Plant Breeding)	KhajuriGundala	Jetpur	Rajkot	Completed
		CharanSamdhiyala	Jetpur		
		Jasapar	Jamkandorna		
		Satodad	Jamkandorna		
		Chitradad	Jamkandorna		

Table 2: Activities carried in the selected villages

Team	Visit to village		Goshthis/ Interface meetings conducted		Demonstrations conducted		
	No. of visits	No. of farmers	No. of goshthis/ interface meetings	No. of farmers	Title of demonstration	No. of demons	No. of farmers
1	2	3	4	5	6	7	8
Team 27	8	27	2	60	Feed Management	7	7
Team 28	9	42	2	67	Kitchen gardening	11	11

Team	Trainings conducted		Mobile-based advisory		Literature support provided		Input support	
	No. of training	No. of farmers	No. of farmers	No. of advisories	No. of literature	No. of farmers	Area (ha)	No. of farmers
9	10	11	12	13	14	15	16	17
Team 27	3	90	223	19	658	298	-	-
Team 28	5	115	198	17	672	269	-	-

Table 3: Any other activity carried out

Team	Name of activity	No. of farmers
1	2	3

Team 27	Off campus training	38
	Diagnostic visit +Field day	27
Team 28	Off campus training	23
	Diagnostic visit +Field day	36

8.2 Celebration of “Mahila Kisan Diwas”

The event was organized on the auspicious occasion of MAhila Kisan Diwas which we are celebrating on 15th October every year. KVK Pipalia also celebrated the occasion with the esteemed presence of Sarpanch, Mrs Neetaben Mohanbhai Vagadiya and celebrated by giving emphasis on their role in agriculture and allied activities. A total 35 number of beneficiaries were attended the programme and makes it successful with a good two way Communication.

8.3 Celebrations Poshan Maah (1.9.2020 to 30.9.2020)

The main objective was to increase nutrition awareness among mothers of young children, adolescent girls, pregnant and lactating women, family members (husbands, father, mothers-in-law) and community members, health care providers (ANM, ASHA, Anganwari worker) about key nutrition behaviours.

The event was organised on the occasion of National Nutrition Month-2020 to promote nutrition and importance of nutrition in diet along with importance of Household food security through kitchen Gardening. The event was graced with giving emphasis on Eating balanced diet containing variety of foods that is rich in iron and vitamins and also to take milk and milk products, and iodized salt. Awareness about personal hygiene and cleanliness, importance of lactation, exclusive breastfeeding for at six months and also distribution of vegetable seeds were also done to Anganwadi workers and all other beneficiaries. A total 60 number of beneficiaries were benefited by the programme.

Date	Name of Event/ Programme	Number of participants				Total Participants	Venue
		Farm women	Adole Scent girls	School Chil dren's	Angan wadi workers		
9/1/2020	Guidance on meal planning	21	0	0	0	21	Patanvav
9/2/2020	Training programme on importance of balanced diet and family nutrition	25	0	0	0	25	Toraniya
9/3/2020	Visit to Nutritional Garden	20	10	0	0	30	KVK
9/4/2020	—	0	0	0	0	0	—
9/5/2020	Seven elements of Nutrition					0	
9/7/2020	Nutritional garden layout	0	15	0	15	30	KVK
9/8/2020	Guidance on terrace gardening	20	0	0	20	40	KVK
9/9/2020	Importance of Biofortified dietary modification	15	15	0	0	0	VEGDI
9/10/2020	Lecture on kitchen gardening	10	10	0	10	30	Patanvav
9/11/2020	Use of kitchen waste for kitchen gardening	0	20	0	5	25	Patanvav
9/12/2020	—	0	0	0	0	0	—
9/14/2020	Visit to nutritional garden	25	0	0	0	0	Patanvav
9/15/2020	Off campus training on Kitchen Gardening and Field visit	0	15	10	0	25	KVK
9/16/2020	Vegetable seeds distribution	20	0	0	0	20	Toraniya
9/17/2020	Importance of kitchen gardening to promote organic farming	10	8	30	0	48	KVK

9/18/2020	Guidance on terrace gardening	26	19	0	0	45	VEGDI
9/19/2020	_____	0	0	0	0	0	_____
9/21/2020	_____	0	0	0	0	0	_____
9/22/2020	Use of kitchen waste for kitchen gardening	0	30	0	0	30	KVK
9/23/2020	Vermicomposting pit formation	15	10	0	0	25	KVK
9/24/2020	Guidance on terrace gardening	12	0	5	10	27	KVK
9/25/2020	Lecture on kitchen gardening	8	10	5	5	28	Patanvav
9/26/2020	_____	0	0	0	0	0	_____
9/28/2020	Use of kitchen waste for kitchen gardening	14	10	8	5	37	VEGDI
9/29/2020	Vermicomposting pit formation	18	5	0	0	23	KVK
9/30/2020	Vegetable Rangoli Competition among adolsecents Girls	0	14	0	0	14	KVK

8.4 Celebrations of Kisan Diwas

Kisan Diwas (Farmer's Day) is observed every year on 23 December to celebrate the birth anniversary of the fifth prime minister and kisan leader, late Chaudhary Charan Singh. Agriculture extension officers and all other scientists interact with farmers at Taravada village and provide them information about the latest agriculture insurance schemes. A total 40 number of farmers and 2 number of extension officers were actively participated during the programme

8.5 Celebration of “Swachhata Pakhwada ”

Swachhata Pakhwada was celebrated by KVK Pipalia during 15th September to 2nd Oct as a part of Swachh Bharat Mission. A campaign was organized by KVK in which many activities were performed by the Staff i.e. celebration of Sewa Divas, tree plantation, shramdaan, etc

8.6 Celebration of World Soil Health Day (05/12/2020)

The event was celebrated to know the importance of soil health and its role to increase the soil fertility which directly enhances their farming income with increases in productivity. The objective of the programme was to improve knowledge on soil health card based fertilizer application. the event was conducted at Lath Village of KVK operational area where 37 numbers of farmers had actively showed their presence and grasp the knowledge on the day of occasion.

8.7 Technical Programme (Results):

Technical Programme 1 :

Title: Assessing women empowerment and nutritional status of their children in Dhoraji Taluka

Name of the lead organization: Krishi Vigyan Kendra, JAU, Pipalia

Name of principle investigator & Associates: Dr. N. B. Jadav (PI), Senior Scientist & Head

Prof.P.S.Sharma (Co-PI) Scientist (Home Science)

Dr.V.S.Prajapati (Associate) Scientist (LPM)

S. V. Undhad (Associate) Scientist

A. R. Parmar (Associate) Scientist

INTRODUCTION:

Women's empowerment is a complex construct and there is no university accepted definition of the term or agreement regarding which domains and sub domains comprise ones empowerment. The literature on women's empowerment, however usually refers to notions of power, agency control and decision making (Malhotra *et al* 2002). Kaber, 1999 defines women empowerment as a process

namely “the expansion in people’s ability to make strategic life choices in a context”. Where this ability was previously denied to them. Women’s disempowerment barriers to social development and results in severe consequences for child health and nutrition. Women’s empowerment is an essential indicator to determine a child’s nutritional status, particularly for children that are less than five years old. Empowering women is also instrumentally valuable to achieve the well-being of men, women, and children and also for developmental issues. Women’s empowerment is intangible and latent, and is expressed in several ways, such as mobility, decision-making power, control and the command of household resources. Economic status and education are considered enabling factors that strongly affect the empowerment of women (Folaranmi, 2013). Women’s particularly low social status and disempowerment in this region, compared with other regions, create barriers to social development and result in severe consequences for child health and nutrition, including intra-uterine growth retardation, low birth weight and sub optimal child growth (Smith 2003). Some empirical studies have found that women’s nutritional status and their empowerment is to be associated with child height/length for age (HAZ/LAZ), weight for age (WAZ) or weight for height/length (WHZ) Z scores. However, the number of studies is limited and their findings are consistent (Bose 2011). A study in Bangladesh and India concluded that the mother has a great influence on decreasing child stunting if they are well empowered and educated (Sidhanta 2017). Child health showed a positive relationship with the education of mother, age of the mother, income, household size, access to safe drinking water, the location of the house, and a negative relationship between the education of the father, ownership between the education of the father, ownership of the assets, the age of the child, the gender of the child in Ghana (Zereyesus 2017).

Women empowerment is contextual and multidimensional in nature. It is used to measure the development of positive health outcomes. As women are often the primary caregivers, their children but there is dearth of study on women empowerment and nutritional status of their children. Keeping in view, this study was undertaken with following specific objectives. Based on prior literature, many studies have found an association between women’s empowerment and child nutritional status and their well-being. The primary objective of this study was to assess women empowerment in agricultural activities and its association to child nutrition status. Hence it is important to study these relationships in the local context.

OBJECTIVES:

1. To study the socio-economic profile of the respondents
2. To measure empowerment level of rural women having children aged six to sixty months
3. To determine the nutritional status of children aged six to sixty months
4. To assess the relationship between women empowerment and nutritional status of their children

Materials and Methods:

Study area

The study was conducted in Dhoraji taluka of Gujarat State. Twelve villages from the taluka were selected randomly considering the proximity (20 km from taluka place).

Sample Size

The sample size was sixty women having children age six to sixty months. Five women respondents were selected randomly from each village constituted 60 respondents. When mother had more than one child aged six to sixty months, the older child was excluded.

Data Collection and Statistical Analysis

Tools for data collection were digital weighing scale, height board or statue meter and also structure questionnaire to find out the social demographic details of the mother. The precision of the digital weighing scale was 100 gm. The height was recorded to the nearest 0.1 cm. The weight was undertaken on barefoot and minimal cloths. For child less than 1 year of age, the “mother-and-baby function” was used that enabled determination of the body weight of child while being held in the

arms of the mother. Z-score was used to determine underweight, stunting and wasting based on WHO Growth standard. Individual face to face interview of mothers having children aged 6-60 months will be taken by using teacher made well-structured gujarati version interview schedule. Questionnaires was extensively field tested, revised, translated and back-translated to ensure data quality.

The anthropometric measurement will be carried out as per WHO guideline. Anthropometric calculation will be done in WHO Anthro Version 3.2.2. Children whose weight for age Z Score (WAZ), height for age Z Score (HAZ) and weight for height Z score (WHZ) will be below minus two standard deviations (-2SD) from the median of the WHO reference population will be classified as underweight, stunted (short for their age) or chronically malnourished respectively. Health status of women will be measured by Body Mass Index (BMI). Women's empowerment will be assessed using women empowerment Index.

The five indicators as described in results will be taken for measurement of the women's empowerment Index. These five indicators will be weighted by the experts and on the basis of weightage and using following formula Empowerment Index will be worked out for individual respondents.

Empowerment Index =

$$\{(A_1/B_1) \times W_1\} + \{(A_2/B_2) \times W_2\} + \{(A_3/B_3) \times W_3\} + \{(A_4/B_4) \times W_4\} + \{(A_5/B_5) \times W_5\}$$

A= Actual obtained scores of individual indicator

B= Maximum obtainable scores of individual indicator

W=Weightage given by expert for individual indicator

1. Women's involvement in household decision making (Include 3 decisions: access to health care, child rearing, freedom to visit or mobility)
2. Women's membership in community groups
3. Women's Cash earnings
4. Women's ownership of house/land/livestock
5. Women's education

Data Analysis

WHO Anthro Software was used to compute Z Score (Weight for age, height for age and weight for height) according to WHO reference standard taking -2SD as cut-off points (underweight, stunting and wasting). The appropriate statistical tools were used and results were calculated viz percentage, mean, correlation coefficient etc.

RESULTS:

The results in Table 1 shows the percentage distribution of respondents according to demographic characteristics of the respondents in the specified area. From the table 1, it can be clearly specified that majority of the women (78.33%) were residing in joint family and rest (21.67%) were staying in a nuclear family. Age of the mother ranged from 18-25 years and more than 25 years of age among all the 60 respondents. The results concluded that more than half of the respondents (65.00%) were in the age group of more than 25 years of age whereas 35.00% of the mother were lie in the age group of 18-25 years of age, these 35 percent mother may be the mother of first index child whose child came in the age group of 6-60 months. More than half of the respondents (63.33%) had monthly income around Rs. 5000-9999, the reason may be as the group is young and educative so they might be indulged with some sort of job opportunities either government or private or else doing some self-employment generation activities like tailoring, value added products selling at village level, running parlour etc. at a village level or nearby city level. While meagre percentage i.e. 6.67% and 8.33% were holding with a monthly income of Rs 10,000-19,999 and more than 20,000 rupees respectively. Majority (63.33%) of women were doing help to their husband apart from household chores in their day today life. The reason may be that all women

were from villages and their main occupation is farming in leisure time, all women must help their husband in farming related activities. Very few (6.67%) mother were self-employed whereas 21% of the respondents were unemployed.

Table : 1 Distribution of the respondents according to their selected characteristics

Characteristics	Frequency	Percentage
1. Type of Family		
a. Nuclear	13	21.67
b. Joint	47	78.33
Total	60	100.00
2. Age of Mother		
a. < 18 years	00	00.00
b. 18 to 25 Years	21	35.00
c. > 25 Years	39	65.00
Total	60	100.00
3. Income in Rs. (Monthly)		
a. < 5000	13	21.67
b. 5000 to 9999	38	63.33
c. 10000 to 19999	04	06.67
d. > 20000	05	08.33
Total	60	100.00
4. Occupation		
a. Help to husband	38	63.33
b. Job	05	08.33
c. Self employed	04	06.67
d. Unemployed	13	21.67
Total	60	100.00
5. Education		
a. Illiterate	08	13.33
b. Primary (1 to 7 th std.)	16	26.67
c. Secondary (8 to 10 th std.)	24	40.00
d. Higher Secondary (11 th to 12 th)	07	11.67
e. Graduate (Above 12 th std.)	05	08.33
Total	60	100.00
6. Age of Index Child (in Months)		
a. 6 to 11	14	23.33
b. 12 to 23	14	23.33
c. 24 to 35	08	13.33
d. 36 to 47	12	20.00
e. 48 to 59	12	20.00
Total	60	100.00
7. Gender of Index Child		
a. Boy	35	58.33
b. Girl	25	41.67
Total	60	100.00
8. Number of children in family		
a. Single	40	60
b. Two and More	20	40

Total	60	100.00

Out of the total sample very few percentage (8.33) of the respondents were graduate, less than half (40.00%) of the respondents had attained secondary level of education. Rest of them varied in their educational level. As far as age of Index child which we had taken as our sample is concerned, equal percentage (23.33%) were found in both 6-11 months and 12-23 months each. Nearly half of the percentage (40%) of the child were lie in the age group of 36-59 months i.e. attaining 3-5 years of age. Out of the total number of sample of the child, 58.33 percentage were boys and 41.67 percentage were girls. These results may be due to random selection of the Index child. Most of the women was single mother as compare to 40 percentage of the mother who were having two or more child.

Table 2. Nutritional status of the children

Indicator	Number of Respondents	Mean Z Score	Standard Deviation
Underweight (Weight for age)	60	-0.97	1.09
Stunting (Length for age)	60	-2.78	2.14
Wasting (Weight for length)	60	1.11	2.07

Table 2 represents the nutritional status of the children and it was clearly found that mean Z scores and standard deviation were determined in the form of each indicator of nutritional status of the children. From the table 2, it can be concluded that the overall mean and standard deviation of each variable shows that the mean Z –score for weight for age (underweight) was 0.97, for length for age (stunting) was -2.78 and for weight for height (wasting) was 1.11. The value of standard deviation extended from 1.09 to 2.14 and also table further shows that length for age (stunting) having highest standard deviation of 2.14.

Table 3 concluded with the nutritional status of women with Body Mass Index (BMI) classification among the mothers' beneficiaries. BMI is an approximate measurement of your best weight for health. It is calculated by dividing your weight in kilograms by your height in meters squared (m²). The above table concluded that majority (63.33%) of mother were comes under the normal BMI range as compare to 13.33 percentage of mothers who were overweight. While very few (11.67%) of mothers were found with underweight and possibly malnourished and also obese type of BMI classification.

Table 3. Nutritional status of women with BMI Classification

Nutritional status	BMI	Number (n=60)	Percentage
Underweight	< 18.40	07	11.67
Normal	18.50 to 24.90	38	63.33
Overweight	25 to to 29.90	08	13.33
Obese	>30	07	11.67
Total		60	100

The reason might be linked with the mothers age group as it was concluded that majority of the beneficiaries were young age group. Although all were from village sector but it has been observed that young adult women focusses more on their concerning weight changes, appearances and health too.

Table 4. Nutritional status according to weight for age (Based on NCHS reference)

Grade of under nutrition	Number (n=60) Mean Z score	Patanvav (n=30)	Nani Parabadi (n=30)
Normal (≤ -2 to $+2$ Z Score)	49 (-0.97)	26 (86.67)	23 (76.67)
Moderate (-2 to $+3$ Z score)	10 (-1.11)	04 (13.33)	06 (20.00)
Severe (< -3 Z score)	1 (-3.79)	00 (00)	01 (3.33)

Table 4 found the nutritional status according to weight for age based on NCHS reference. The national center for health statistics (NCHS) reference is currently used in the national programme of about 100 countries (Chipili *et al* 2018). Weight for age reflects body weight relative to the child's age on a given day. This indicator is usually used to assess whether a child is underweight, normal or severely underweight. The table shows the percentage distribution of undernourished or malnourished children in Patanvav and Nani Parabdi villages respectively. The results concluded that in both the villages normal frequency percentage of underweight is more i.e. 86.67% and 76.67% in Patanvav and Nani Parabdi village respectively. The overall mean Z-score with respect to weight for age seems to be in range between -0.97 to -3.79. Results also found that prevalence of underweight is higher in Nani Parabdi as compare to Patanvav village of Dhoraji taluka. The reasons might be due to poor dietary diversity and mother's lack of education especially regarding balanced diet, meal planning, may be sometimes unavailability of food due to various reasons and other *lacunas* in important healthy dietary lifestyles.

Table 5 shows the nutritional status of both villages according to height for age. Height for age is considered as one of the best indicator of stunting or short stature of individuals due to under nutrition. It is clearly seen in the table that percentage distribution of children with normal, moderate and severe forms of growth retardation.

Table 5. Nutritional status according to height for age (Based on NCHS reference)

Grade of under nutrition	Number (n=60) Mean Z score	Patanvav (n=30)	Nani Parabadi (n=30)
Normal (≤ -2 to $+2$ Z Score)	24 (-1.75)	10 (33.33)	14 (46.66)
Moderate (-2 to $+3$ Z score)	12 (-2.74)	04 (13.33)	08 (26.67)
Severe (< -3 Z score)	24 (-4.93)	16 (53.34)	08 (26.67)

Results further concluded that there is a severely growth retardation (53.34%) was shown in Patanvav village while nearly half of the respondents (46.66%) were having normal level of growth retardation in Nani Parabdi village. The overall mean Z-score in terms of height for age growth structure based on NCHS reference was in between -1.75 to -4.93. These differences in the distribution of undernourished children might be due to genetic reasons, gender differences and physical activity performed by the children.

Table 6. Nutritional Status according to Weight for Height (Based on NCHS reference)

Grade of Under nutrition	Number (n=60) Mean Z Score	Patanvav (n=30)	Nani Parabadi (n=30)
Normal (≤ -2 to $+2$ Z Score)	50 (0.68)	24 (80.00)	26 (86.67)
Moderate (-2 to -3 Z Score)	4 (-2.14)	3 (10.00)	1 (3.33)
Severe (< -3 Z Score)	6 (-3.01)	3 (10.00)	3 (10.00)

Table 6 further shows that percentage distribution of growth of children of Patanvav and Nani Parabdi village of Dhoraji Taluka. Assessment of nutritional status should be based on weight for height as an indicator of the present state of nutrition and on height for age as an indicator of past nutrition. Although weight for age has for many years been a mainstay in the evaluation of nutritional status, it has the disadvantage that it does not distinguish between acute and chronic malnutrition. Table shows that in both the villages that majority of the child's nutritional status was found a normal i.e. 86.67 percent and 80 per cent in Nani parabdi and Patanvav villages respectively. Whereas very few (10%) in both the villages who were concluded with severe nutritional status according to weight for height based on NCHS reference. The overall mean Z-score of the respondents varies from 0.68 to -3.01.

Table 7 shows that women empowerment is increasingly viewed as an important strategy to reduce maternal and child under nutrition (Dasale *et al*, 2016). Table 7 further reflects the distribution of respondents according to their overall empowerment based on women empowerment index score. Table depicts that amongst respondents, 66.67 per cent of them were in category of moderate empowerment level followed by 16.67 per cent of them in both category of low and high level of empowerment. The results are in line with the findings of Kumari (2008) and Pandey (2005).

Table 7. Distribution of Respondents according to their overall empowerment based on women empowerment index score

Sr. No.	Overall Women Empowerment Index (Scores)	Frequency (n=60)	Percentage
1.	Low (>5.60)	10	16.66
2.	Moderate (5.61-10.82)	40	66.67
3.	High (<10.83)	10	16.67

Table 8 shows the descriptive statistics for the five women empowerment indicator as shown in the table. Different domains of women empowerment may relate differently to child nutritional well-being. A number of studies have demonstrated that women's empowerment is associated with better health outcomes in children. (Strobe and Pine, 2013)

The study concludes that 38.33 percent of women were got involved in taking decision related to health care of their children and household related purchasing followed by 36.67% of women who were found empowered to take decision in all the three household decision making i.e. access to health care of their children, household related purchasing and freedom to visit relatives. Studies shows that a women's voice in decision making is positively associated with the nutritional status of children under the age of five (Shroff *et al* 2011 and Fantahun *et al* 2007)

Equal percentage of women members were found quantitatively from both the villages' i.e. 50 percentage of women beneficiaries were empowered by taking active part in community groups while rest half of the beneficiaries were those who were not involved in activities conducted in community groups like self-help group or some other developmental activities run under the group after becoming its member. By Contrast, (Ross *et al* 2015) found that membership in social and economic groups played a significant role in improving women's Body Mass Index (BMI).

Table 8. Distribution of Women with respect to its various dimensions

Indicators	Number (n=60)	Percentage
1. Participate in three key household decision making		
a) Access to health care	15	25
b) Household purchasing	23	38.33
c) Freedom to visit relatives	22	36.67
2. Membership in community Groups		
a) Yes	30	50
b) No	30	50
3. Earning Status		
a) Yes	29	48.33
b) No	31	51.67
4. Ownership of House/Land		
a) Yes	8	13.33
b) No	52	86.67
5. Educational Status		
a) No Education	1	1.67
b) Primary level of Education	37	61.67

c) Secondary level or higher secondary level	22	36.67
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The mother's employment status is another important maternal factor to assess women empowerment. If the mother is also an income earner, it helps to increase the total household income, which in turn directly affect the empowerment of women at home and her society too. The mother's education in an unskilled labor occupation positively affects child health (Mohammed, 2013). Our results concluded with the findings as nearly half of the respondents (48.33%) were involved in some kind of employment may be Govt, private or some other self-employment generation activities. With respect to the ownership of land by women beneficiaries showed again their women empowerment and study concludes that majority (86.67%) out of total were having no ownership in terms of land assets which creates negative association with their environment. Women's education is highly associated with their women empowerment level. Results of the present study concludes that 61.67 percent of the mother had attained primary level of education followed by 36.67 percentage who had attained secondary level of education.

Table 9. Correlation between Women empowerment and nutritional status of children age (6-60 months)

Sr. No.	Variables	"r" value
1.	Weight for Age	0.25874*
2.	Height for Age	0.37246**
3.	Weight for Height	0.1777 NS
4.	BMI of Mother	0.31128*

*Significant at 0.05 level (0.247)

** Significant at 0.01 level (0.321)

Table 9 concludes with the association between women empowerment measured by WEI-5D and the nutritional status of under-five children (6-60 months) and also nutritional status i.e. BMI of mother. Results showed that the significant positive association of women's overall empowerment with all the variables like children's weight for age, height for age Z-score while non-significant results were found with overall empowerment of mother and their children weight for height Z-scores. Results further suggests that increasing women empowerment score, predominantly having good BMI of mother ($r = 0.311$) and also good weight for age Z score with correlation coefficient equals to 0.258 with significance at 0.05 level.

Height for Z score was significantly associated with the height for age Z-score of the children which implies that high empower index women were having good height for age and vice versa. The results were in line with (Smith *et al*, 2003)

Table 10 shows correlation between women empowerment and nutritional status of children. Table depicts that the maternal education was found to be very effective determinants of young child nutritional status (Cunningham *et al*, 2015).

Table 10. Correlation between Women empowerment and nutritional status of children age (6-60 months)

Sr. No.	Variables	"r" value
1.	Mother Age	0.17254 NS
2.	Family type	(-) 0.27341*
3.	Education	0.35942**
4.	Income (Monthly)	0.41245**
5.	No. of Child	0.25678*

*Significant at 0.05 level (0.247)

** Significant at 0.01 level (0.321)

Same findings were found in present study as positive correlation was found with women's education ($r = 0.359$), mother's monthly income ($r = 0.412$) while family type was significantly negatively co-related with the women empowerment and nutritional status of children with correlation coefficient value $r = -0.273$. No significant association was found with related to mother's age ($r = 0.172$) with women empowerment and nutritional status of their children.

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Technical Programme 2

Title: Impact of COVID-19 on eating habits and choices of meal pattern residing in Saurashtra region of Gujarat state – The project is pilot study and analysis is on going result will be present next year

Proceeding of the 8th Scientific Advisory Committee (SAC) Meeting of KVK Pipalia (Rajkot-II) held on 12th March 2020

The Eighth Scientific Advisory Committee meeting of Krishi Vigyan Kendra, Junagadh Agricultural University, Pipalia held at Krishi Vigyan Kendra, Junagadh Agricultural University, Targhadia on 12th March, 2020. The meeting was chaired by Hon'ble Vice Chancellor, Dr. V. P. Chovatia, Junagadh Agricultural University, Junagadh.

The following members were remained present in the meeting.

Sr. No.	Name & Designation	Position	Sr. No.	Name & Designation	Position
1	Dr. V. P. Chovatia Hon. Vice Chancellor, JAU, Junagadh.	Chairman	17	Dr. J.H. Choudhary SMS, KVK, JAU, Targhadia	Invitee Member
2	Dr. B K Sagarka Director of Extension Education, JAU, Junagadh	Member	18	Shri D.P. Sanepara SMS, KVK, JAU, Targhadia	Invitee Member
3	Dr. D.S. Hirpara Research Scientist, DFRS, JAU, Targhadia	Member	19	Dr. M.M. Tajpara SMS, KVK, JAU, Targhadia	Invitee Member
4.	Dr. H. C. Chhodvadia, Associate Extension Educationist, JAU, Junagadh	Member	20	Smt. H.A. Manvar SMS (Home Science), KVK, JAU, Targhadia	Invitee Member
5	Shri. P. T. Shiyani, DCF, Forest Department, Rajkot	Member	21	Dr. M. K. Jadeja, SMS, KVK, JAU, Targhadia	Invitee Member
6	Shri. M. B. Nashit, Deputy PD, ATMA, Rajkot	Member	22	Shri. S. R. Rathwa, A.O, KVK, JAU, Targhadia	Invitee Member
7	Shri. A. J. Chovatia, ADA, Dist Panchayat, Rajkot	Member	23	Ms. Pinki S. Sharma SMS (Home Science), KVK, JAU, Pipalia	Member
8	Dr. Amit H. Patel, Deputy Manager Rajkot dairy, Rajkot	Member	24	Shri A.R.Parmar SMS, KVK (Horticulture), JAU, Pipalia	Member
9	Smt. Vasant Joshi AIR, Rajkot	Member	25	Dr. V. S. Prajapati Scientist (AH), KVK, JAU, Pipalia	Member
10	Sh. Atul Sharma, AIR, Rajkot	Invitee Member	26	S.V. Undhad SMS (Plant Protection), KVK, JAU, Pipalia	Member
11	Nilesh M. Kaneria, ADH, Rajkot	Member	27	Leelaben Chaganbhai Lakhtaria Progressive Farmer, Morbi	Invitee Member
12	Dr. G. K. Vora, Veterinary Officer,	Member	28	Babaria BharatBhai Lalajibhai,	Member

	Kuvavdva, Rajkot			Progressive Farmer, Jetpur, Dist: Rajkot	
13	Rita B. Vora, CEE, Jasdan, Rajkot	Invitee Member	29	Rameshbhai Bachubhai Amipara, Progressive Farmer, Jashapar, Dist:Rajkot	Member
14	Dr. G. R. Sharma, Principal, Polytechnic in Agri. Engg., Targhadia	Invitee Member	30	Donga Dhirubhai Gobarbhai Progressive Farmer, Jashapar Dist:Rajkot	Member
15	Dr. B.B. Kabaria Senior Scientist & Head, KVK, JAU, Targhadia	Member	31	Ashwinbhai Trada, Progressive Farmer Jamkandorna Dist: Rajkot	Member
16	Dr. D.A. Saradava Senior Scientist & Head, KVK, JAU, Morbi	Member	32	Dr. N.B.Jadav, Senior scientist & Head, KVK, Pipalia	Member Secretary

In the beginning, Dr. B. B. Kabariya, Senior Scientist & Head, KVK Targhadia, Junagadh Agricultural University, Targhadia welcomed Chairman of the committee and Hon'ble Vice Chancellor, Junagadh Agricultural University, Junagadh, Dr. V. P. Chovatia, Dr. B.K. Sagarka, Director of Extension Education, JAU, Junagadh and all the members and progressive farmers of the cluster villages of KVK, Pipalia, Targhadia and Morbi district.

Hon. Vice Chancellor, Dr. V. P. Chovatia, inaugurated the meeting by lighting the lamp. Chairman of the meeting and all the members of SAC meeting were also welcomed with flowers.

Dr. N.B.Jadav, Senior Scientist & Head, KVK, Pipalia presented the progress report of the year 2019-20 (Jan.2019 to Dec.2019) including training achievements, extension activities, etc. conducted by this center and action plan for the year 2020 (Jan.2020 to Dec. 2020). All subject matter specialist of KVK viz, S.V.Undhad, Dr. V. S. Prajapati, Shri. A.R. Parmar, Smt P.S. Sharma has presented the progress report (Jan.2019 to Dec.20 2019) and action plan for the next year of plant protection, animal husbandry, horticulture, home science discipline, respectively.

The following suggestions were made by the SAC members during the meeting.

1. Month-wise training should be shown clearly in Action Plan instead of quarterly.
2. To measure horizontal spread of the training given and accountability of Frontline Demonstration (FLD) in terms of money.
3. Find out effect and impact of training/campaign in KVK operational villages.
4. Increase number of Agro Advisory Services (Text Messages).
5. Soil and Water sample testing is compulsory to at least all FLD beneficiaries in all subjects. Increase the soil and water samples also in KVK operational villages.
6. To involve cotton ginners in training on pink bollworm management.
7. Increase number of good research paper with high NAAS rated journal for ICAR Ranking.
8. Create awareness and encourage farmers for registration local variety under PPV&FRA.

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9. To organize a special training programme to selected progressive farmers from different villages for effective horizontal spread of the technology.

In chairman remarks, Hon'ble Vice Chancellor, Dr. V. P. Chovatia, Junagadh Agricultural University, Junagadh appreciated the work done by the center. He gave emphasis on importance of soil and water testing before planting for any season for effective management while farming. Also he suggests to write good research paper for upgrading university ranking at ICAR/national level.

Finally, the meeting was concluded by performing the vote of thanks by S.V.Undhad, Scientist (plant protection), KVK, Pipalia (Rajkot-II).

Member Secretary, SAC &
Senior Scientist & Head
Krishi Vigyan Kendra
Junagadh Agricultural University
Pipalia (Rajkot-II)

Director of Extension Education
Junagadh Agricultural University
Junagadh

Chairman SAC,
KVK, Pipalia
&
Vice Chancellor
Junagadh Agricultural University
Junagadh

Note: Proceeding for approval please

ANNUAL ACTION PLAN: 2021

1. Training Programmes:

Quarter wise summary of training

Discipline	On Campus				T	Off campus				T	GT
	I	II	III	IV		I	II	III	IV		
Plant Protection	1	1	2	1	5	1	2	2	1	6	11
Extension	0	0	1	1	2	0	0	1	1	2	4
Horticulture	1	1	2	1	5	1	2	2	2	7	12
Home Science	1	1	1	1	4	1	1	2	1	5	9
Animal Hus.	1	1	1	1	4	1	2	2	1	6	10
Vocational				1					1		2
Extension functionaries			1	1							2
Sponsored training											14
Total					20					26	64

A. On Campus training (For practicing farmers, farm women and rural youth):

I. Quarter (1st Jan to 31st March, 2021)				
Plant Protection	Integrated pest management in summer groundnut	1	25	PF
Horticulture	Irrigation and nutrient management in fruit crops	1	25	PF
Home Science	Preparation of different types of bakery products like biscuits, Cake etc.	1	25	PF
Animal Hus	Importance of artificial insemination in cow and buffalo	1	25	PF
II. (1st April to 30th June, 2021)				
Plant Protection	-Integrated Pest management in cotton & groundnut	1	25	PF
	-Integrated Disease management in groundnut	1	25	PF
Horticulture	Production technology of fruit and vegetable	1	25	PF
Extension	Formation of new SHGs, CIGs,	1	25	PF
Home Science	Preparation of Jam, Squash, Ketchup from fruits	1	25	FW
Animal Hus	Importance of balance ration in milch animal	1	25	PF
III. Quarter (1st July to 30th Sept, 2021)				
Plant Protection	Integrated pest and diseases management in coriander	1	25	PF
Horticulture	-Nursery raising	1	25	PF
	-Organic farming in different horticultural crops	1	25	PF
Home Science	Art & Craft for rural women	1	25	FW
Ani. Husbandry	Importance of colostrum feeding in new born calves	1	25	PF
IV. Quarter (1st Oct to 31st Dec, 2021)				
Plant Protection	Diseases management in spices	1	25	PF
Animal Hus	Fodder crop production technology	1	25	PF
Home Science	Preparation of different pickles	1	25	FW
Extension	Leadership Development	1	25	PF

Horticulture	Production technology of spices crops	1	25	PF
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B. Off Campus training (For practicing farmers, farm women and rural youth):

I. Quarter (1 st Jan to 31 st March, 2021)				
Plant Protection	Integrated pest management in summer crops	1	30	PF
Home Science	Organic Kitchen gardening & its importance on health	1	30	FW
Animal Hus	Clean milk production by proper milking watering and animal washing	1	30	PF
Horticulture	Importance of drip irrigation in horticultural crops	1	30	PF
II. (1 st April to 30 th June, 2021)				
Plant Protection	-Integrated Pest management in cotton & groundnut	1	30	PF
	-Integrated Disease management in kharif crops	1	30	PF
Extension	Procedure for formation of new SHGs, CIGs	1	30	PF
Horticulture	Production technology in protected cultivation	1	30	PF
Home Science	Preparation of low cost RTS beverages	1	30	FW
Animal Hus	Infertility of cow and Buffalo by diseases & its prevention	1	30	PF
III. Quarter (1 st July to 30 th Sept, 2021)				
Plant Protection	-Integrated pest and disease management in Rabi crops	1	30	PF
	-Bio control of Pests and Diseases	1	30	PF
Home Science	-Preparation of Peanut milk and its value addition	1	30	FW
	-Importance of green leafy vegetables in diet	1	30	FW
Animal Hus	-Importance of colostrum feeding in new born calves	1	30	PF
	-Creating awareness about balance nutrition management	1	30	PF
Horticulture	-Pruning and training in fruit crops	1	30	PF
	-Management of young Plants/ Orchards	1	30	PF
IV. Quarter (1 st Oct to 31 st Dec, 2021)				
Plant Protection	Diseases management in cumin & coriander	1	30	PF
Extension	Development of entrepreneurship among rural youth	1	30	PF
Animal Hus	-Fodder crop production technology	1	30	PF
	-Increase nutritive value of low quality roughages for milking animals	1	30	PF
Home Science	Work simplification in household activities and Drudgery reduction technologies in agriculture	1	30	FW
Horticulture	-Cultivation practices of onion and garlic	1	30	PF
	-Post-Harvest Management Technology	1	30	PF
	-Different Bahar treatments in citrus & pomegranate	1	30	PF

2. Vocational Training

S.No	Title of Training	Dura. Days	No. of participants	Type of Participants
1.	Preparation of different bakery products	2	30	Rural women
2.	Low cost RTS drinks	2	30	Rural women

3. Extension Functionaries

Sr.	Title of Training	Dura./Days	No. of participants
1	Management of pink bollworm in cotton and white grub in groundnut	1	27
2.	Cattle health management through vaccination and feed	1	27

	management		
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4. Sponsored Training

S.No	Department	No. of Trainings	No. of Participants
1	ATMA	6	180
2	DAO, Rajkot	5	150
3	DRDA/FTC	1	30
4	GSFC/GNFC	4	120

5. Front Line Demonstration

A. Agriculture and Horticulture

Sl. No.	Crop	Variety	Thematic area	Tech. Demo.	Critical inputs with cost (Rs.)	Season and year	Area (ha)	No. of farmer/demon.	Parameters identified
1	Groundnut	GG-20	IPM	Seed treatment with Chlorpyrifos	Chlorpyrifos & Lambda 2.5 L =Rs. 525	Kharif-2020	4	10	Pest infestation & Yield B:C ratio
2	Groundnut	GG-22	Varietal	Improved variety	GJG-22, Seeds = 30 kg =Rs.2200	Kharif-2020	4	10	Yield, B:C
3	Groundnut	GG-20	IDM	Application of Trichoderma	Trichoderma : 2 Kg =Rs.140 Castor cake: 1Bag (50 Kg =Rs.765	Kharif-2020	4	10	Disease incidence & Yield , B:C ratio
4	Cotton	Bt	INM	Application of Azotobacter, PSB	Azotobacter : 1 lt=Rs.120 PSB Culture : 500 ml =Rs.240	Kharif-2020	4	10	Yield, B:C ratio
5	Cotton	Bt.	IPM	MDP tube	200g. Rs: 1000	Kharif-2020	20	50	Yield, B:C ratio, PB infestation
6	Brinjal	Local	IPM	MDP tube	500 gm Rs. 100	Kharif-2020	4	10	Yield, B:C ratio,
7	Tomato	Local	INM	Grade-4 micro nutrient	250 gm 2pkt	Kharif-2020	4	10	Yield, B:C ratio,
8	Wheat	INM	INM	Azotobacter, PSB	Azotobacter : 1 ltr=Rs. 120 PSB : 1 ltr = Rs.240	Rabi-2020	5	10	Yield, B:C ratio
9	Cumin	GC-4	IDM	Tricho+Castor cake	Trichoderma : 2 kg =Rs.140 Castor Cake: 50 Kg. =Rs.690	Rabi-2020	4	10	Disease incidence & Yield , B:C ratio
10	Chick pea	GG-5	Varietal	Improved variety	Seeds GG-5 : 25 kg = Rs=2100	Rabi-2020	4	10	Yield, B:C ratio
11	Brinjal	GRB-5	Varietal	Improved variety	150 gm	Rabi-2020	4	10	Yield, B:C ratio
12	Garlic	Local	INM	Grade-4 micro nutrient	250 gm 2pkt =Rs.162	Rabi-2020	4	10	Yield, B:C ratio
13	Sesamum	GT-3	Varietal	Improved variety	Seeds GT-3 =2 kg =Rs. 360	Summer-2020	4	10	Yield, B:C ratio

14	Kitchen Gardening	-	Nutritional Security	Vege. Seeds	Seeds of different vegetable	Kharif-2020	0.5	50	Yield, B:C ratio
15	Ease in milking animal	-	Drudgery Reduction	-	Revolving Stools	-	-	5	Average Quantity of milk, time taken, Leg pain, Milk loss
Total							69.5	225	

B. Animal Husbandry

Enterprise	Breed	No. of farmers	No. of animals, poultry birds etc.	Critical inputs	Performance parameters / indicators
Buffalo	Jafarabadi	-	10	Calpar gold (60 ml/day/animal)	Milk yield and B:C ration
Cattle	Gir	-	20	Bypass fat (50 gm/day/animal)	Milk yield and B:C ration
Cattle	Gir	-	20	Bypass protein (50 gm/day/animal)	Milk yield and B:C ration

6. ON FARM TESTING:

1. TITLE: RESPONSE OF BIO FERTILIZERS TO WHEAT YIELD (ON GOING)

Technology assessed: Use of bio fertilizer

Treatments:

Farmer's practice: - Application of only DAP & Urea in different doses

Recommended practice: - 120-60-0 NPK kg/ha

Intervention: - Application of Azatobacter & PSB culture (250g/10kg) + 75% of RDF

Observation: Yield (kg/ha), Economics (B:C ratio), Farmers' perception

2. TITLE: MANAGEMENT OF WHITE GRUB IN GROUNDNUT (ON GOING)

Problem definition: Low yield and heavy damage due to white grub

Technology assessed: Integrated pest Management

Technology Option	Treatments	No. of trails
Farmers' practice	Chloropyriphos @ 4 lit./ha at the time of attack + Application of nitrogenous fertilizer Urea with irrigation (50 to 60 kg /ha)	3
Recommended practice	1. Seed treatment with Chloropyriphos @ 25 ml/kg 2. Application of Chloropyriphos @ 4 lit./ha in standing crop (if pest appears) 3. Spraying the trees on bund with Lambda cyelothrin @ 15 ml /15 lit water	

Observations: Yield (kg/ha), Pest incidence (%) Economics (B:C ratio), Farmers' perception

3. TITLE: EFFECT OF CONCENTRATE AND BYPASS FAT FEEDING ON MILK PRODUCTION IN GIR CATTLE.

Problem Definition:

- ✓ Lack of knowledge about bypass fat feeding technology.

- ✓ Low milk production due to improper feeding.
- ✓ Lack of energy for milk production.

Details of technologies selected for assessment:

Dairy production is mainly based on proper scientific feeding of animals. The lactating animals are to be fed with good quality roughages along with green fodder belonging to legumes or cereals as per the availability. Looking to the productivity of gir cattle such food resources are not sufficient to meet the nutrient requirement of a lactating animal. Hence we have to add more nutritious food in to the diet of animals to reach the maximum production potential and to maintain the normal body condition. Now a day, bypass fat feeding technology is recommended for high yielding cattle. Bypass fat feeding technology along with concentrate feeding in cattle to fulfil energy and nutrient requirement. Hence, we have proposed this on farm testing to increase the milk production of gir cattle.

Source of technology: NAU, Navsari (2011)

Production system and thematic area: Nutrition Management

Farmers in the district are not following a wearing system & they also keep them under traditional management system so due to malnutrition & no deworming, the growth rate was found to be hindered.

Performance of the Technology with performance indicators

Treatments:

T 1 -Framer's practice

T 2 -Concentrate (1.5kg/cow/day for maintenance+500 gm for each lit. milk production)

T 3 - Concentrate (1.5kg/cow/day for maintenance+500 gm for each lit. milk

Production) + Bypass fat 50-100gm/cow/day.

Detail of OFT Programme:

- ✓ No. of Villages: 5
- ✓ No. of animals: 30 (10 animal/Treatment)
- ✓ Each animal will be in similar physiological condition (age, lactation, days of lactation etc.).

Parameters to be evaluated/ recorded:

- ✓ Milk production (lit / cow / day)
- ✓ Fat percentage
- ✓ B:C ratio
- ✓ Net return

4. TITLE: RESPONSE OF NEW RELEASE VARIETY OF TOMATO GT-6 ON LEAF CURL OCCURRENCE AND YIELD

Problem Definition: Low yield due to micronutrient deficiency.

Technology Assessed: To increase yield of Tomato by decreasing sucking pest infestation by sowing tolerant variety.

Treatment: 1) Farmer practices: Sowing of Local Variety + any Pesticides

2) Recommended practices: Sowing of GT 6 Variety + foliar sprayings of Acephate 75 WP @ 1.5 g / liter 10 days after transplanting, Fipronil 5 SC @ 1.5 ml / liter 20 DAT, and Imidacloprid 70 WG @ 2g / 15 liter 40 DAT.

3) Intervention: Sowing of Local Variety and foliar sprayings of Acephate 75 WP @ 1.5 g / liter 10 days after transplanting, Fipronil 5 SC @ 1.5 ml / liter 20 DAT, and Imidacloprid 70 WG @ 2g / 15 liter 40 DAT

Observation to be recorded: Yield (qtl/ha), B:C ratio, Farmers' perception.

5. TITLE: ASSESSMENT OF EFFECT OF MICRO NUTRIENT ON YIELD OF GARLIC

Problem definition: Low yield due micro nutrient deficiency

Treatments: 1. Farmer's practices: Application of only DAP and Urea in different Doses

2.Recommended practices: Recommended dose of Fertilizer. RDF 50-50-50 (N-P-K) Kg/ha.

3. Intervention: Apply foliar spray of multi-micronutrient formulation Grade IV (Fe-Mn-Zn-Cu-B, 4.0-1.0-6.0-0.5-0.5 %) @ 1% at 60, 75 and 90 DAS in addition to recommended dose of fertilizers (50-50-50 N-P₂O₅-K₂O kg/ha)

Observations: B:C ratio and farmers' perception

6. TITLE: COMPARISON OF SOLAR COOKER WITH TRADITIONAL COOKING SYSTEM

Objectives: -

1. To improve quality and nutrition of Prepared items
2. To reduce drudgery of farm women
3. To reduce time and fuel consumption

Treatment: -

1. Preparation by traditional method (Firewood/cow dung cakes)
2. Preparation by LPG Gas
3. Preparation by solar cooker

Items: -

1. Cake
2. Milk
3. Boiled pulses

No. of Replications: - 5

No. of beneficiaries: 3 Farm women from three different locations

Observations: -

1. Time consumption
2. Fuel consumption
3. Movement
4. Cost saving
5. Organoleptic test: i) Colour ii) Texture iii) Taste iv) Overall Acceptability

7. TITLE: ASSESSMENT OF ACCEPTANCE OF PEANUT MILK IN COMPARISON TO COW'S MILK AMONG CONSUMERS.

Objectives: -

1. To evaluate the sensory characteristics of Peanut milk parallel to cow's milk
2. To analyze the nutritional properties of both milk.
3. To check the shelf life of the peanut milk.

Treatments: -

- i) T1- Cow's milk
- ii) T2- Peanut milk
- iii) T3- Mixture of both milk in equal ratio

Observations: -

1. Sensory characteristics- colour, flavor, taste, overall acceptability
2. Nutritional Properties- Protein, carbohydrate, fat, vitamin & minerals
3. Shelf life- microbiological test and household level test.

7. Extension Activities:

Sr. No.	Activities	Proposed No.
1	KisanMela	1
2	Field Day	5
3	KisanGhoshi	5
4	Radio Talk	As and when required
5	TV Show	As and when required
6	Film Show	5
8	Khedutshibir	15
9	Kisanmahila meeting	5
10	New paper Coverage	As and when required
11	Popular Articles	5
12	Extension Literature	8
13	Advisory Service	As and when required
14	Ex-Trainee Sammelan	2
15	Others- Seminar	4
16	Exhibition	2