

FOR OFFICE USE ONLY

# **ACTION PLAN**

**(2014 - 2015)**



**PROGRAMME CO-ORDINATOR  
KRISHI VIGYAN KENDRA  
JUNAGADH AGRICULTURAL UNIVERSITY  
KHAPAT- 360579  
PORBANDAR**

## Annual Action Plan : 2014 – 2015

**Name of KVK: Krishi Vigyan Kendra, J.A.U., Khapat  
Dist. Porbandar (Gujarat)**

### Specialization:

- Seed production
- Sustainable Agriculture through
  1. Micro irrigation systems
  2. Integrated Nutrient Management
  3. Integrated Pest & Disease Management
  4. Soil Reclamation

### Present Staff Position

Sr. No.	Sanctioned post	Name of the incumbent	Discipline	Pay Scale	Date of joining
1	Programme Coordinator	Vacant	-	39400-67000	-
2	IC Programme Coordinator & SMS	R. K. Odedra	Horticulture	15600-39100	1-06-09
3	Subject Matter Specialist	P. J. Gohil	Agronomy	15600-39100	21-8-06
4	Subject Matter Specialist	R. B. Vadher	Entomology	15600-39100	19-8-06
5	Subject Matter Specialist	H. R. Vadar	Agril. Engg. (SWE)	15600-39100	22-8-06
6	Subject Matter Specialist	D. S. Thakar	Home Science	15600-39100	22-8-06
7	Subject Matter Specialist	S. R. Thaker	Fisheries	15600-39100	31-8-06
8	Programme Assistant	A. M. Bhimani		9300-34800 10, 000 (fix)	13-3-12
9	Computer Programmer	J J. Naliyapara	-	9300-34800 10, 000 (fix)	12-6-08
10	Farm Manager	Vacant	-	9300-34800	-
11	Accountant / Superintendent	B. S. Bokhariya	--	9300-34800 10, 000 (fix)	18-6-08
12	Stenographer	P. H. Parekh	-	5200-20200 5300 (fix)	20-11-13
13	Driver	Vacant	-	5200-20200	-
14	Driver	Vacant	-	5200-20200	-
15	Supporting staff	B. M. Vyas	-	4440-7440	01-6-05
16	Supporting staff	N. S. Chavda	-	4440-7440	28-2-08

## 1. Training Programmes: Quarter wise Summary of Trainings

Discipline	On Campus				Total	Off campus				Total	Grand Total
	I	II	III	IV		I	II	III	IV		
Crop production	1	1	2	1	5	3	1	2	2	8	13
Horticulture	1	2	1	1	5	2	2	2	2	8	13
Plant protection	1	1	1	3	6	2	2	2	2	8	14
Ag. Eng.	2	1	1	1	5	2	2	2	2	8	13
Home Sci.	1	2	2	1	6	3	2	2	3	10	16
Fisheries	1	1	1	2	5	2	2	3	3	10	15
Animal Husbandry	-	-	2	-	2	2	-	2	-	4	6
All Disciplines (For Ext. Func.)	1	-	1	-	2	-	-	-	-	-	2
<b>Total</b>	<b>8</b>	<b>8</b>	<b>11</b>	<b>9</b>	<b>36</b>	<b>17</b>	<b>11</b>	<b>16</b>	<b>14</b>	<b>56</b>	<b>92</b>

### A. On Campus Training Programs For Farmers, Farm women and Rural youth

Quarter-I (April to June-14)				
Subject	Title of Training	No. of Days	No. of Parti.	Type of Parti.
Crop Production	• Production Technologies major kharif crops	3	30	Farmers
Horticulture	• Nursery management for vegetable crops	3	30	Farmers
Plan Protection	• Biological controls of pest and disease	3	30	Farmers
Agril. Engineering	• Water harvesting & ground water recharge techniques	3	30	Farmers
Home Science	• Value addition in mango	3	30	Farm Women
Fisheries	• Carp breeding, hatchery management and grow out rearing.	3	30	Fisherman

<b>Quarter-II (July to September-14)</b>				
Crop Production	• Integrated Nutrient management	3	30	Farmers
Horticulture	• Protected cultivation (Green house, Net house, tunnels)	3	30	Farmers
Plant Protection	• IPDM in major Kharif crops	3	30	Farmers
Agril. Engineering	• Micro irrigation system; use and maintenance	3	30	Farmers
Home Science	• Preparation of bakery products	3	30	Farm women
Fisheries	• Hatchery management & Cultivation of fresh water Prawn	3	30	Fisherman
<b>Quarter-III (October to December-14)</b>				
Crop Production	• Recent advances in production technology of Rabi crops	3	30	Farmers
Horticulture	• Cultivation of spices and vegetables	3	30	Farmers
Plant Protection	• Identification of pest and diseases and its control	3	30	Farmers
Agril. Engineering	• Post harvest Technologies and value addition	3	30	Farmers
Home Science	• Value addition in food grains	3	30	Farm women
Fisheries	• Mariculture Practices	3	30	Fisherman
Animal Husbandry	• Hygienic milk production	2	60	Farmers
<b>Quarter-IV (January to March-15)</b>				
Crop Production	• Conservation agriculture and crop residue management	3	30	Farmers
Horticulture	• Advance technologies for chili & creepers	3	30	Farmers
Plant Protection	• IPDM in crops under protected cultivation	3	30	Farmers
	• Storage pest management in food grains	3	30	Farmers
Agril. Engineering	• Use and maintenance of improved Farm implements and machinery.	3	30	Rural youth
Home Science	• Income generation activities for empowerment of rural Women	3	30	Farm women
Fisheries	• Sea weed cultivation & preparation of LSF	3	30	Fisherman

**B. Off Campus Training Programs  
For Farmers, Farm women and Rural youth**

<b>Quarter-I (April to June-14)</b>				
<b>Subject</b>	<b>Title of Training</b>	<b>No of Training</b>	<b>No. of Parti.</b>	<b>Type of Parti.</b>
Crop Production	• Advances in groundnut production technology	1	30	Farmers
	• Integrated Nutrient Management in kharif crops	1	30	Farmers
	• Seed production technologies for major kharif crops	1	30	Farmers
Horticulture	• Layout and Management of mango orchards	1	30	Farmers
	• Protected cultivation of flower & vegetables crops	1	30	Farmers
Plant Protection	• Stem/collar rot management in groundnut	1	30	Farmers
	• Seed treatment in major kharif crops	1	30	Farmers
Agril. Engineering	• Use of renewable energy sources in agriculture	1	30	Farmers
	• Ground water recharge techniques	1	30	Farmers
Home Science	• Nutritional requirements for pregnant and lactating women	1	30	FW
	• Healthy diet for malnourished children	1	30	FW
	• Value addition in agriculture product	1	30	FW
Fisheries	• Shrimp farming in Brackish water	1	30	Fisherman
	• Culture of fresh water prawn- Scampi	1	30	Fisherman
Animal Husbandry	• Balanced nutrition and animal health care	2	60	Farmers
<b>Quarter-II (July to Sept.-14)</b>				
Crop Production	• Castor Production Technology	1	30	Farmers
Horticulture	• Fertilizer management in fruit crops	1	30	Farmers
	• INM in crops under protected cultivation	1	30	RY
Plant Protection	• Integrated pest & disease management in kharif crops	2	60	Farmers
Agril. Engineering	• Importance of Farm drainage systems	1	30	Farmers

	<ul style="list-style-type: none"> <li>• Micro irrigation system; use and maintenance</li> </ul>	1	30	Farmers
Home Science	<ul style="list-style-type: none"> <li>• Drudgery reducing technologies for farm women in agriculture</li> </ul>	1	30	FW
	<ul style="list-style-type: none"> <li>• Importance of vaccination for infant</li> </ul>	1	30	FW
Fisheries	<ul style="list-style-type: none"> <li>• Ornamental Fish Culture</li> </ul>	1	30	Fisherman
	<ul style="list-style-type: none"> <li>• Fresh Water Fish Culture</li> </ul>	1	30	Fisherman
<b>Quarter-III (October to December-14)</b>				
Crop Production	<ul style="list-style-type: none"> <li>• Advances in production technologies of wheat &amp; chickpea</li> </ul>	1	30	Farmers
	<ul style="list-style-type: none"> <li>• INM in major rabi crops</li> </ul>	1	30	Farmers
Horticulture	<ul style="list-style-type: none"> <li>• Cultivation of onion &amp; garlic</li> </ul>	1	30	RY
	<ul style="list-style-type: none"> <li>• Production technologies for cumin &amp; coriander</li> </ul>	1	30	Farmers
Plant Protection	<ul style="list-style-type: none"> <li>• IPDM in major rabi crops</li> </ul>	1	30	Farmers
	<ul style="list-style-type: none"> <li>• <i>Aflatoxin</i> &amp; Storage pest management in groundnut</li> </ul>	1	30	Farmers
Agril. Engineering	<ul style="list-style-type: none"> <li>• Harvest and post harvest machinery</li> </ul>	1	30	Farmers
	<ul style="list-style-type: none"> <li>• Value added agriculture</li> </ul>	1	30	RY
Home Science	<ul style="list-style-type: none"> <li>• Preparation of jam, squash, catch up from fruit</li> </ul>	1	30	FW
	<ul style="list-style-type: none"> <li>• Value addition in <i>aonla</i></li> </ul>	1	30	RY
Fisheries	<ul style="list-style-type: none"> <li>• Shrimp farming-tiger shrimp</li> </ul>	1	30	Fisherman
	<ul style="list-style-type: none"> <li>• Seaweed cultivation</li> </ul>	1	30	RY
	<ul style="list-style-type: none"> <li>• Cage Culture</li> </ul>	1	30	Fisherman
Animal Husbandry	<ul style="list-style-type: none"> <li>• Balanced nutrition in milch animals</li> </ul>	2	60	Farmers
<b>Quarter-IV (January to March-15)</b>				
Crop Production	<ul style="list-style-type: none"> <li>• Production technologies of major summer crops</li> </ul>	1	30	Farmers
	<ul style="list-style-type: none"> <li>• Soil sampling techniques and importance of soil analysis</li> </ul>	1	30	Farmers
Horticulture	<ul style="list-style-type: none"> <li>• Scope of net house for of seasonal cultivation.</li> </ul>	1	30	Farmers
	<ul style="list-style-type: none"> <li>• Cultivation of leafy vegetables under net house</li> </ul>	1	30	Farmers
Plant Protection	<ul style="list-style-type: none"> <li>• Natural enemies of pest</li> </ul>	1	30	Rural youth
	<ul style="list-style-type: none"> <li>• Integrated pest management in chilly</li> </ul>	1	30	Farmers
Agril. Engineering	<ul style="list-style-type: none"> <li>• Fertigation technique- for maximizing fertilizer use efficiency.</li> </ul>	1	30	Rural Youth
	<ul style="list-style-type: none"> <li>• Shredding of biomass and its use</li> </ul>	1	30	Farmers

Home Science	• Consumer awareness	1	30	FW
	• Solar Cooker : Uses & Advantages	1	30	FW
	• Nutritional Education	1	30	FW
Fisheries	• Preparation of LSF	1	30	Fisherman
	• Fish processing & value addition	1	30	Fisherman
	• Fisheries status, conservation & orientation towards aquaculture	1	30	RY

### C. Vocational Training Programme:

Sr. No.	Title of Training	Duration Days	No. of Parti.	Type of Parti.	Schedule quarter
1	Installation and maintenance of MISs	3	30	Rural youth	I
2	Production of organic inputs	3	30	Rural youth	III
3	Self preparation of bio products	3	30	Rural youth	IV
4	Plug Nursery raising technique for business	3	30	Rural youth	II
5	Rice/ urad papad, khakhra and vadi making	3	30	Rural youth	II
6	Cutting, tailoring, embroidery and handicraft	3	30	Rural youth	III
7	Sea weed culture and Preparation of LSF	3	30	Rural youth	IV

### D Training Programme Extension Functionaries:

Sr. No.	Title of Training	Duration Days	No. of Parti.	Schedule quarter
1	Integrated crop management- major crops	3	30	I
2	Recent advances in agriculture and animal husbandry.	3	30	III

### E Sponsored Training Programmes:

Sr. No.	Department	No. of trainings	No. of Parti./training
1	ATMA	30	30
2	DAO, Porbandar	3	30
3	DWDU	5	30
4	AKRSP (NGO)	6	30

**1. Front Line Demonstrations:  
Physical targets of FLDs (Proposed)**

Name of the crop/enterprise	Season	Technology to be demonstrated	Variety	Area (ha./No. of units)	No. of Demo.
<b>Oilseeds</b>					
Groundnut	Kharif-2014	INM	-	10	20
Sesame	Summer 2015	Improved Variety	GT-3	4	10
<b>Pulses</b>					
Gram	Rabi 2014-15	Improved Variety	GG-3	8	20
Green gram	Summer 2015	Imp. Variety & Bio fertilizer	GM-4	4	10
<b>Cereals</b>					
Wheat	Rabi 2014-15	INM	GW-366/496	10	20
<b>Seed spices</b>					
Cumin	Rabi 2014-15	IDM	GC-4	8	20
Coriander	Rabi 2014-15	Imp. Variety & IDM	GC-2	4	10
<b>Commercial crops</b>					
Cotton	Kharif 2014	INM	Bt. Variety	10	25
<b>Fodder Crop</b>					
Lucerne	Rabi 14-15	Improved variety	Anand-2	4	10
<b>Bio-agents</b>					
Groundnut	Kharif 14	<i>Trichoderma</i>	GG-20	4	10
<b>Other Enterprise</b>					
Fisheries	-	Small scale culture practices using cage	Fin/Shell fish Spp.	10	10
Soil water conservation	-	Cumin	Broad Bed Furrow	4	8
Farm implements/ Machinery	-	-	Groundnut pod grader	-	2
Home Science	-	Solar cooker	-	5	5
		Improved Sickle	-	10	10

**2. On-Farm Testing.**

**A. On Going**

**OFT: 1**

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

**Items:-**

1. Mango Murbba
2. Boiled Sweet potato
3. Boiled Masala Sweet corn



4. Salted groundnut
5. Sesame *Mukhvas*

**Objective:-**

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

**Treatment: - Item no. 1**

- (1) Preparation by traditional method
- (2) preparation by sunlight heat
- (3) preparation by solar cooker

**Treatment: - Item no. 2-4**

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

**No. of Replications: - 5**

**Observations:-**

- (1) Time consumption
- (2) Fuel consumption
- (3) Movement
- (4) Cost saving
- (5) Organoleptic test
  - a. Sweetness
  - b. Texture
  - c. Consistency
  - d. Overall acceptance

**OFT: 2 Integrated Management of sucking pest in Bt. cotton**

**Treatments:**

1. **Farmer's practice** - Higher doses of new chemical pesticides
2. **Recommended practice** - Dimethioate 10ml/10 lit of water or Imidachloprid 7.5 ml/10 lit of water or Profenophos 16 ml/10 lit of water
3. **Intervention** - Alternate spraying of recommended pesticides + *Verticillium lecanii* @ 30 g/10 lit of water + Neem oil (1500 ppm) @ 30 ml/10 lit of water

**OFT:3 Effect of seed treatment on wilt in chickpea**

**Treatments:**

1. **Farmer's practice** - No seed treatment
2. **Recommended practice** Seed treatment with Carbendazime @ 3g/kg seed
3. **Intervention** – Seed treatment with *Trichoderma* @ 8 g/kg seed + vitavax (Carboxin) @ 3g/kg seed

**OFT: 4 Effect of Bio fertilizers on wheat yield.****Treatments:**

1. **Farmer's practice** - Application of only DAP & Urea in different doses
2. **Recommended practice** - 120-60-0 NPK kg/ha
3. **Intervention** - Seed treatment with Azatobacter & PSB culture (250g/10kg seed) + 75% of RDF

**OFT: 5 Effect of sulphur on onion production****Treatments:**

1. **Farmer's practice** - No use of sulphur
2. **Recommended practice** – RDF + 20 kg sulphur/ha through gypsum at the time of sowing or elemental sulphur 20-25 DATP
3. **Intervention** – RDF + 20 kg sulphur/ha (readily available in the market) at the time of sowing

**B. New OFT:****OFT: 1****Title: Effect of sulphur on yield of summer sesame****Problem definition:** Low yield and oil content in sesame**Technology Assessed:** Sulfur nutrition

Technology Option	Treatments	No. of trails
Farmers practice	No sulphur application	3
Recommended practice	20 kg S/ha as gypsum (100 kg)	
Intervention	Application of wettable sulphur 80% G @ 20 kg S/ha	

**Observations:**

- Yield (kg/ha)
- Economics

**OFT: 2****Title: Effect of seed rate in maintenance of germination in cumin.****Problem definition:** Poor germination in cumin.**Technology Assessed:** Maintenance of proper germination in cumin.

Technology Assessed	Treatments	No. of trails
T <sub>1</sub>	12-15 kg/ha	3
T <sub>2</sub>	12-15 kg seed/ha (6-8 hrs warm water soaking followed by shed drying and seed treatment with Mencozeb @ 3 gm/kg seed)	

**Observations:**

- Yield (kg/ha)
- Germination %
- Economics

**OFT: 3****Title: Performance of drip irrigation with sowing method in cumin.****Problem definition:** Low yield due to sowing method and over irrigation in cumin**Technology Assessed:** Drip Irrigation System.

Treatment No.	Technology Option	Technology to be assessed	No. of trials
1	Farmers practice	Broad casting method without drip irrigation	3
2	Recommended practice	Broad casting method without drip irrigation	
3	Intervention 1	Row sowing with drip irrigation	
4	Intervention 2	Row sowing with drip irrigation	

**Observations:**

- Yield (kg/ha)
- Economics

**OFT: 4****Title: Management of white grub in groundnut****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	3
Recommended practice	1. Seed treatment with chloropyriphos @ 25 ml/kg 2. Spraying the trees on bund with carbaryl @ 40 g/10 lit water	
Intervention	1. Application of carbofuran 3 G @ 40 kg/ha at the time of sowing 2. Spraying the trees on bund with carbaryl @ 40 g/10 lit water	

**Observations:**

- Yield (kg/ha)
- White grub population
- Economics

**OFT: 5**

**Title:** Effect of culture density on fish (major carp) production in using cage in pond.

**Problem definition:** Low yield due to unawareness of Technologies.

**Technology Assessed:** Optimum culture density using cage

Treatment No.	Technology to be assessed	No. of trials
1	1000 No. seed /m <sup>3</sup>	1
2	2000 No. seed /m <sup>3</sup>	
3	4000 No. seed /m <sup>3</sup>	

**Observations:**

- Yield (kg/ha)
- Survival %
- Fish growth

**OFT: 6**

**Title:** Fattening of baby Lobster using cage for better production.

**Problem definition:** Low income due to unawareness of Technologies.

**Technology Assessed:** Optimum culture density using cage

Treatment No.	Technology to be assessed	No. of trials
1	20 No. Lobster /m <sup>3</sup>	1
2	40 No. Lobster /m <sup>3</sup>	
3	60 No. Lobster /m <sup>3</sup>	

**Observations:**

- Yield (kg/ha)
- Survival %
- Additional income

**OFT: 7**

**Title:** Effect of mulching in Bt cotton

**Problem definition:** Weed infestation and difficulty in use of plastic mulch

**Technology Assessed:** Mulching

Technology Option	Treatments	No. of trails
Farmers practice	Using drip irrigation without mulch	3
Recommended practice	Drip irrigation with black plastic mulch (25 micron)	
Intervention	Drip irrigation with organic mulch (wheat straw @ 6 t/ha)	

**Observations:**

- Moisture content
- Weed infestation
- Yield (kg/ha)
- Economics

**OFT: 8****Title: Effect of planting geometry on chili****Problem definition:** Low yield due to low plant population in chili**Technology Assessed:** Planting Geometry

Technology Option	Treatments	No. of trails
Farmers practice	90 x 60 cm spacing	3
Recommended practice	75 x 60 cm spacing	
Intervention	60 x 45 cm spacing	

**Observations:**

- Plant population
- Yield (kg/ha)
- Economics

**OFT – 9****Title: Effect of salt & oil on spoilage of mango pickles****Problem Definition: Spoilage in mango pickle****Technology Assessed:** Prevention of spoilage in mango pickles**Objective:**

1. To prevent spoilage in mango pickle
2. To increase self life of mango pickle
3. Cost saving

**Treatments:**

Common ingredients use for all the treatments:- Mango 1 kg, turmeric powder 5 gm, jaggary/sugar 600 gm, fenugreek 50 gm, mustard 30 gm, asafetida (hing) 5 gm, coriander 30 gm, funnel 30 gm, red chili powder 30 gm.

1. Salt 12% (120 gm) + Oil 800 ml/ kg mango **(General practices)**
2. Salt 15% (150 gm) + Oil 250 ml/ kg mango **(Recommended practices)**
3. Salt 20% (200 gm) + Oil 200 ml/ kg mango **(Refinement)**

**No. of Replication:** - 3 (Farm women)**Observations:-**

1. Self life (days)
2. Colour
3. Texture
4. Cost

**4. Other Extension Activities:**

Sr. No.	Activity	Proposed Number
1.	Kisan Mela	1
2	Field day	15
3.	Kisan Gosthi	30
4	Radio / TV Talks	As & when required
5	TV Show	As & when required
6	Film show	25
7.	Exhibition	5
8	News Paper Coverage	12
9	Popular Article	6
10	Extension Literature (No.)	
	i ) Folders / Pamphlets	6
	ii ) Slides	As & when required
	iii) Video film show	As & when required
11	<b>Advisory Service</b>	As & when required
12.	<b>Diagnostic service:</b>	
	i ) Farmers visit to K.V.K.	As & when required
	ii) Scientist visit to farmers Field	As & when required
13.	Communication media	
	i) Subscriber of <i>Krushvi govidhya</i> Magazine	100
14	<b>Special Programmes</b>	
	Technology week	1
	<i>Parthenium</i> awareness week	1
	Celebration of special days	5
	Night meeting/Farmers' meeting	10
	Micronutrient awareness campaign	3
	Soil Sample analysis	100

**Seed production:**

Sr. No.	Crop/Plant	Area (ha)	Production
1	Groundnut	12	200 q.
2	Wheat	2	70 q.
3	Lucerne	0.4	1 q.
4	Saplings (Brinjal & Tomato)	-	10000 No.

**Infrastructure Needed:**

<b>Sr. No.</b>	<b>Type</b>	<b>Item</b>	<b>Cost (Rs.)</b>
1	Vehicle	Mini bus	15,00,000
2	Works	Fencing wall	30,00,000
3	Equipment/Implements	Disc plough	50,000
		Bund former	10,000
<b>Total</b>			<b>45,60,000</b>

**Budget requirement:**

(Rs. in lakh)

<b>Particulars</b>	<b>2014-15</b>
<b>A. Recurring</b>	
Pay & Allowances	85.00
TA	1.20
HRD	0.00
Contingencies	12.00
<b>TOTAL(A)</b>	<b>98.20</b>
<b>B. Non-Recurring</b>	
Works	30.00
Equipments & Furniture	0.60
Vehicles	15.00
Livestock	0.00
Library	0.25
REVOLVING FUND	0.00
<b>TOTAL(B)</b>	<b>45.85</b>
<b>GRAND TOTAL(A+B)</b>	<b>144.05</b>