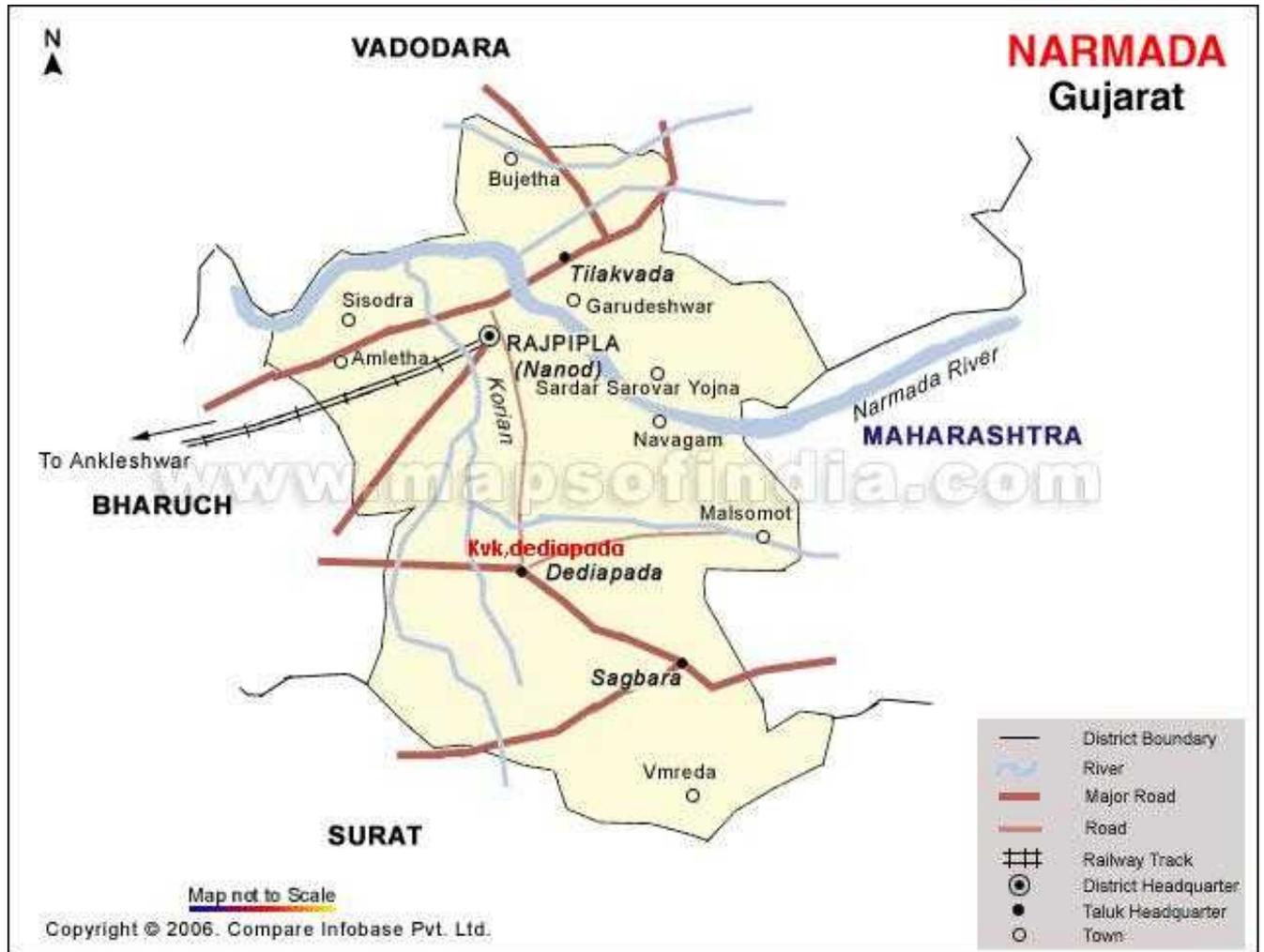




**KRISHI VIGYAN KENDRA, NARMADA**



**ANNUAL ACTION PLAN: 2011-2012**



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## **MAJOR THRUST AREA**

- 1. Increasing the production of major crops (Paddy, Pigeon pea, Wheat, Pulses and Cotton).**
- 2. Rainfed horticultural .**
- 3. Fruit and vegetables in irrigated area.**
- 4. Conservation of soil and water resources.**
- 5. Income generation by imparting skill training.**
- 6. Women empowerment.**
- 7. Improved livestock management practices.**

## Action Plan for the year 2011-12

### 1. Training Programme

S.N.	Discipline	ON CAMPUS																				TOTAL ON CAMPUS				OFF CAMPUS				GT
		PF				FW				RY				EF				Sponsored				I	II	III	IV	I	II	III	IV	
		I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV									
1.	Crop Production	1		1	1	-	1	-	-	-	1					1					1	2	2	1	2	2	1	1	<b>12</b>	
2.	Horticulture	1	1	1	1				1			1				1					1	1	3	2	3	2	2	2	<b>16</b>	
3.	Home Science					1	1	1	1		1		1			1					1	2	2	2	1	1	2	1	<b>12</b>	
4.	Animal Science	1		1			1	1				1	1			1					2	1	2	2	1	2	2	2	<b>14</b>	
5.	Plant Protection	1			1			1						1							1	1	1	1	2	2	1	2	<b>11</b>	
6.	Extension Education		1		1			1				1	1								-	2	1	2	1	1	1	1	<b>9</b>	
7.	Others																	3	3	3	3	3	3	3	3	0	0	0	0	<b>12</b>
	<b>Total</b>	4	2	3	4	1	3	4	2	0	2	1	3	1	2	3	1	3	3	3	9	12	14	13	10	10	9	9	<b>86</b>	

## Details of training with title

### 1.1 ON CAMPUS TRAINING (FOR PRACTICING FARMERS, FARM WOMEN AND RURAL YOUTHS)

Subject	Title of training	Month	Duration (days)	No. of participants	Type of participants
<b>QUARTER-I</b>					
Crop Production	Scientific cultivation of major kharif crops	April-11	1	25	PF
Horticulture	Scientific cultivation of Kharif of Vegetables	May-11	1	25	PF
Plant Protection	Insect-Pest Management in major kharif crops	May-11	1	25	PF
Animal Science	Feeding pattern of supplementation mineral mixture to dairy animal for health, reproduction and milk production	May-11	1	25	PF
Animal Science	Methods for artificial insemination techniques	June-11	1	25	EF
Home Science	Preparation of low cost balanced diet for pre-school children	June-11	1	25	FW
<b>QUARTER-II</b>					
Crop Production	Production of organic inputs- composting and vermicompost	July	1	25	RY
	Weed management in Kharif crops	July	1	25	FW
Horticulture	Water Conservation Technologies in Vegetables	Jan-11	1	25	PF
Plant Protection	Integrated pest management	Aug-11	1	25	EF
Animal Science	Heat detection techniques in animals.	July-11	1	25	FW

Home Science	Preparation of pickles for income generation	Sept-11	1	25	RY
	Balanced diet for pregnant and lactating women	Sept-11	1	25	FW
Extension Education	Banking credit procedure with special reference to KCC	July-11	1	25	FW
Extension Education	Use of ICT in agriculture	Sept-11	1	15	EF
<b>QUARTER-III</b>					
Crop Production	Water conservation technologies for rain fed farming	Oct-11	1	25	PF
Crop Production	Integrated nutrient management in Rabi crops	Oct-11	1	25	EF
Horticulture	Vegetables cultivation in low cost green house planning of orchard	Oct-11	1	25	PF
	Nursery raising for self employment	Dec-11	1	25	RY
Horticulture	Cultivation of Rabi vegetables	Oct-11	1	25	EF
Plant Protection	Importance of seed treatments in field crops	Oct-11	1	25	FW
Animal Science	Care and management of puerperial animals	Sept-11	1	25	PF
Animal Science	Feeds and fodder management in milch animals	Sept-11	1	25	FW
Home Science	Use of solar cooker for cooking	Oct-11	1	25	FW
Home Science	Preparation of Low cost food for School going children	Nov-11	1	25	EF
Extension Education	Income generation options	Dec-11	1	25	FW
<b>QUARTER-IV</b>					
Crop Production	Role of micronutrients in crop production	Jan-12	1	25	PF
Horticulture	Cultivation of leafy vegetables in Low Cost Green House	Jan-12	1	25	PF
Horticulture	Fruit& vegetables preservation techniques	Feb-12	1	25	FW

Plant Protection	Use of neem and other plant products in insect pests management	Jan-11	1	25	PF
Animal Science	Establishment of dairy unit	Jan-12	1	25	RY
Animal Science	Housing management of dairy animals	Jan-12	1	25	EF
Home Science	Value addition in soyabean	Jan-12	1	25	RY
Home science	Benefits of breast feeding in growth of child	Feb-12	1	25	FW
Extension Education	Formation of farmers club and its importance	Jan-12	1	25	FW
Extension Education	Role of youth in dissemination of technology	Jan-12	1	25	RY

PF=Practicing farmers      FW=Farm women      RY=Rural youth      EF=Extension functionaries

#### OFF CAMPUS TRAINING (FOR FARMERS, FARM WOMEN AND RURAL YOUTHS)

Subject	Title of training	Month	Duration (days)	No. of participants	Type of participants
<b>QUARTER-I</b>					
Crop Production	Nursery raising for kharif crops	May-11	1	25	PF
	Fertilizers management in kharif crops	June-11	1	25	PF
Horticulture	Kitchen Garden	April-11	1	25	FW
	Cultivation Practices of Indian Bean	May-11	1	25	PF
	Importance of fruit crops and Planning and Management of Orchard	May-11	1	25	PF
Plant Protection	Integrated insect pests and disease management in Paddy	June-11	1	25	PF
	Bio control of crop pests -Conservation of natural enemies	June-11	1	25	PF
	Integrated insect pests and disease management in cotton	June-11	1	25	PF

Extension Education	Importance of Farm Science Club	June-11	1	25	PF
Animal Science	Scientific management of newly born calves	June-11	1	25	FW
Home Science	Formation of SHGs	June-11	1	25	FW
<b>QUARTER-II</b>					
Crop Production	Use of bio fertilizers in crop plants	July-11	1	25	RY
	Weed management in kharif crops	August-11	1	25	FW
Horticulture	Cultivation Practices of Chilly and Brinjal	July-11	1	25	PF
Horticulture	Post Harvest Management and Marketing of Indian Bean	Aug-11	1	25	PF
Plant Protection	Plant protection equipments and spraying technologies	Aug-11	1	25	PF
	Biological control of crop pests	Sept-11	1	25	PF
Extension Education	Value addition and marketing of farm produce	Sept-11	1	25	PF
Animal Science	Care of dairy animal before and after Calving.	July-11	1	25	FW
Animal Science	Dairy Cattle housing	August-11	1	25	FW
Home science	Nutritional security through Kitchen Gardening	July-11	1	25	FW
<b>QUARTER-III</b>					
Crop Production	Scientific cultivation of major Rabi crops	Oct-11	1	25	PF
Horticulture	Cultivation practices of Cole crops	Oct-11	1	25	PF
	Introduction of onion crops and its cultivation practices	Nov-11	1	25	PF
Plant Protection	Integrated pest management in cotton	Oct-11	1	25	PF
Extension Education	Kisan Credit Card : importance and procedure	November	1	25	PF
Animal Science	Urea treatment to Paddy straw	Dec-12	1	25	PF
Animal Science	Importance of A.I. in dairy animal	Dec-12	1	25	PF

Home Science	Importance of storage of Grains	Oct-11	1	25	FW
	Conservation of nutrients while handling and cooking of foods	Dec-11	1	25	FW
<b>QUARTER-IV</b>					
Crop Production	Scientific cultivation of Summer groundnut	Jan-12	1	25	PF
Horticulture	Cultivation practices of Okra	Jan-12	1	25	PF
	Cultivation practices of Vine crops	Feb-12	1	25	PF
Plant Protection	IPDM in summer crops	Jan-12	1	25	FW
	Beekeeping for pollination	March-12	1	25	RY
Animal Science	Vaccination in Dairy animal	Jan-12	1	25	PF
Animal Science	Rearing of heifers as future cow	Feb-12	1	25	FW
Home Science	Benefits of Vegetables in daily diet.	Jan-12	1	25	FW
Extension Education	Marketing strategy for agricultural produce	March-12	1	25	PF

PF=Practicing farmers

FW=Farm women

RY=Rural youth

EF=Extension functionaries

### 1.3 VOCATIONAL TRAININGS

Subject	Title of training	Month	Duration (days)	No. of participants	Type of participants
<b>QUARTER-III</b>					
Horticulture	Nursery Management	May-12	7	25	RY
Home Science	Sewing Class	April-11	15	10	RY
<b>QUARTER-IV</b>					
Plant Protection	Maintenance and repair of plant protection appliances	Aug-11	7	25	RY
Crop production	Production of organic inputs	Sept-11	7	20	RY

#### 1.4 TRAINING TO EXTENSION PERSONEL

Subject	Title of training	Month	Duration (days)	No. of participants	Type of participants	Sponsoring Agency
<b>QUARTER-I</b>						
Animal Science	Housing management	Jan-12	1	25	EF ( J.K. Trust, A.I. workers)	J.K. Trust
Animal Science	Insemination techniques	March-12	1	25	AI workers	Line dept.
Plant Protection	Integrated pest management	Aug-11	1	25	VLWs	Line Dept
<b>QUARTER-II</b>						
Home Science	Preparation of Low cost food for School going children	Nov-11	1	25	Anganwadi workers	ICDS
Extension Education	Use of ICT in Agriculture	Sept-11	1	15	VLWs/ EF	Line Dept./ NGO
<b>QUARTER-III</b>						
Crop Production	Integrated nutrient management in Rabi crops	Oct-11	1	25	VLWS	Line Dept
Horticulture	Cultivation of Rabi vegetables	Oct-11	1	25	EF	NGO

## 2. Front line demonstrations during 2011-12

Name of the crop/enterprises	Season	Name of the technology to be demonstrated	Variety	Area (ha) /No. of units	No. of Demo
<b>Pulses</b>					
Pigeon pea	<i>Kharif</i>	Popularize new variety	Vaishali	12	60
Gram	<i>Rabi</i>	Popularize new variety	GG-2	12	60
<b>Cereals</b>					
Paddy	<i>Kharif</i>	Popularize new variety in paddy	GR-5	10	50
Wheat	<i>Rabi</i>	Popularize new variety in wheat	GW 322	10	50
Maize	<i>Kharif</i>	Popularize new variety in Maize	GM 6	2	14
<b>Horticulture</b>					
Brinjal	<i>Kharif</i>	Integrated Nutrient Management	--	2	10
Chili	<i>Kharif</i>	Integrated Nutrient Management	--	2	10
Tomato	<i>Rabi</i>	Integrated Nutrient Management	--	2	10
Okra	Summer	To popularize new variety	GO2	2	10
Onion	<i>Rabi</i>	To popularize new variety	NHRDF Red	2	10
<b>Bio-agents</b>					
Pigeon pea	<i>Kharif</i>	To popularize use of <i>Trichoderma</i>	--	5	14
Gram	<i>Rabi</i>	To popularize use of <i>Trichoderma</i>	--	5	14
Cotton	<i>Kharif</i>	Integrated pest management	--	5	14
Indian Bean	<i>Kharif</i>	IPM			
<b>Livestock</b>					
	--	Feeding of mineral mixtures to buffalos	--	--	20
	--	Concentrate feeding to kids	--	--	20
	--	Urea treatment to paddy straw	--	--	10
	--	Teat dipping with KMNO <sub>4</sub> in cross bred cows	--	--	20
<b>Home science</b>					
	--	Popularize use of plastic bags for grain storage	--	--	100
	--	Nutritional garden	--	--	20

## 2.1 FRONT LINE DEMONSTRATIONS- OILSEEDS AND PULSES

Title of Demo.	Objectives	Variety	Farming Situation	Area (ha)	No.of Demo /farmers	Existing Technology	Scientific Technology intervention	Critical inputs	Remarks
<b>Pulses</b>									
Gram	To popularize new variety	GG-2	Rainfed	12	60	<ul style="list-style-type: none"> <li>▪ Use of old/local variety</li> <li>▪ No seed treatment</li> <li>▪ No use of fertilizer</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of new variety</li> <li>▪ Seed treatment</li> <li>▪ Recommended dose of fertilizer</li> </ul>	Seed Bio-fertilizer	Rabi' 10-11
Pigeon pea	To popularize new variety	Vaisali	Rainfed	12	60	<ul style="list-style-type: none"> <li>▪ Use of old/local variety</li> <li>▪ No seed treatment</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of new variety</li> </ul>	Seed Bio-fertilizer	Kharif' 11

## 2.2 FRONT LINE DEMONSTRATION OTHER THAN OILSEEDS AND PULSES

Title of Demo.	Objectives	Variety	Farming Situation	Area (ha)	No. of Demo /farmers	Existing Technology	Scientific Technology intervention	Critical inputs	Remarks
Wheat	To popularize new variety	GW-366	Irrigated	10	50	<ul style="list-style-type: none"> <li>▪ Use of old/local variety</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of new variety</li> </ul>	Seed	Rabi' 11-12
Maize	To popularize new variety	GM-6	Rainfed	2	14	<ul style="list-style-type: none"> <li>▪ Use of old/local variety</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of new variety</li> </ul>	Seeds	Kharif' 11
Paddy (Drilled)	To introduce new variety	GR-5	Rainfed	10	50	<ul style="list-style-type: none"> <li>▪ Use of local variety</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of new variety</li> </ul>	Seed	Kharif' 11
<b>Vegetable</b>									
Okra	To popularize new variety	GO-2	Irrigated	2	10	<ul style="list-style-type: none"> <li>▪ Use of local variety</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use of new variety</li> </ul>	Seed	Summer' 11
Onion	Introduction of new crops	NHRDF Red	Irrigated	2	10	<ul style="list-style-type: none"> <li>▪ Low value crops</li> </ul>	<ul style="list-style-type: none"> <li>▪ High value crops</li> </ul>	Seeds	Rabi-2011-12
Chilly	INM	-	Rainfed	2	10	<ul style="list-style-type: none"> <li>▪ Use of imbalance fertilizers</li> </ul>	<ul style="list-style-type: none"> <li>▪ INM</li> </ul>	Biofertilizers Chemical fertilizers	Kharif' 11
Tomato	Efficient use of fertilizers	GT-2	Irrigated	2	10	<ul style="list-style-type: none"> <li>▪ Use of Excess or less quantity of fertilizers</li> </ul>	<ul style="list-style-type: none"> <li>▪ Integrated Nutrient Management</li> </ul>	- Recommended dose of	Rabi' 11-12

						<ul style="list-style-type: none"> <li>▪No use of biofertilizers</li> <li>▪No use of FYM</li> </ul>		Chemical fertilizers - Biofertilizers	
<b>IPM</b>									
IPM in cotton	Management of cotton pest	-	Rainfed	5	14	<ul style="list-style-type: none"> <li>▪Only chemical method of pest control</li> </ul>	▪IPM	Pheromone trap Lures Neem based pesticides <i>B. bassiana</i>	Kharif'11
IPM in Indian bean	Management of pest	-	Rainfed	5	14	<ul style="list-style-type: none"> <li>▪Only chemical method of pest control</li> </ul>	▪IPM	Pheromone trap Lures Neem based pesticides <i>B. bassiana</i>	Kharif'11
<b>Bio-agents</b>									
Use of <i>Trichoderma</i> in pignon pea	To manage wilt disease	-	Rainfed	50	14	<ul style="list-style-type: none"> <li>▪No seed treatment</li> </ul>	▪Seed treatment	<i>Trichoderma</i>	Kharif'11
Use of <i>Trichoderma</i> in Gram	To manage wilt disease	-	Rainfed	5	14	<ul style="list-style-type: none"> <li>▪No seed treatment</li> </ul>	▪Seed treatment	<i>Trichoderma</i>	Rabi'11-12
<b>Other demonstration</b>									
Nutritional Garden	To popularize the Nutritional Garden	Recommended varieties of vegetables	Irrigated	-	20	<ul style="list-style-type: none"> <li>▪Use of desi or scattered method</li> </ul>	▪Kitchen Garden Model	- Recommended vegetables seeds	Rabi'10-11
Storage	To popularize plastic bag	-	-	-	100	<ul style="list-style-type: none"> <li>▪Traditional method</li> </ul>	▪Plastic bag	Plastic bag	-

## Livestock production

<b>Sr. No</b>	<b>Technology to be demonstrated</b>	<b>Objective</b>	<b>No. of Farmer</b>	<b>Types &amp; No of Animals</b>	<b>Observation</b>	<b>Critical inputs</b>
1.	Mineral Mixture	To popularize Mineral Mixture Supplementation	20	Buffalo-20	Service period (day)	Powd. Mineral mixture
2.	Urea treatment to Paddy straw	To introduce urea treatment	10	CB-cow-10	Milk production (lit/day)	Urea + plastic cloth
3.	Concentrate feeding to kid	To popularize Concentrate feeding method	10	kid-20	Body at age at 1 <sup>st</sup> , 3 <sup>rd</sup> , 6 <sup>th</sup> , & 9 <sup>th</sup> , months	Concentrate
4.	Teat dipping	To Control the Mastitis	20	CB-cow-20	% of Mastitis	Powd. Potassium permanganate

### 3. On Farm Testing

#### *OFT: On going*

1. Refinement of crop spacing in Chili
2. Effect of supplementing mineral mixture and concentrate on Body growth performance in calves
3. Evaluation of Low cost high calorie diets made from locally available food materials for Pre-school children.

### On Farm Testing: New

#### **Plant Protection:**

**OFT : 1** Assessment of stem application method of insecticide for management of sucking pest in cotton

**Back ground information:** Cotton crop is still the highest consumer of pesticide even after the introduction of Bt cotton due to higher incidence of sucking pest. The ill effect of foliar application of the pesticides to natural enemies of insect pests and to the environment including human health is known to us. Narmada district is a tribal dominated district and the majority farmers are marginal having small fragmented land holding. In this situation, a stem application method of insecticide can be highly useful as it is a low cost technology, applicable during cloudy weather, useful in water scares condition, suitable for IPM strategy, safe to beneficial and applicator. To test the feasibility of its application as well as its effectiveness against the sucking pest, this on farm trial has been proposed.

Technique : Stem application technique has been developed for the control of early season sucking pests in cotton, without disturbing eco-balance. This technique involves the application of insecticides to the middle 1/3 rd portion of the main stem in one stroke (about two to four inches length only) with the help of applicator. Effective up to 15 – 20 days.

#### Benefits:

1. Highly effective against sucking pests
2. Less use of pesticide
3. Safe to environment
4. Safe to beneficial

5. Safe to applicator
6. No special skill involved
7. Applicable during cloudy weather
8. Highly useful in places of water scarcity
9. Highly suitable for integrated pest Management (IPM) strategy
10. Low cost technology

Objective: To test the effectiveness and feasibility of stem application method of insecticides.

Location : Tawal village, Ta. Sagbara, Dist.: Narmada

Treatments:

1. Stem application of Acephate (4:1 Water: Insecticide)
2. Spraying of recommended insecticides
3. Control (farmer's method)

No. of farmers: 5

Area : 1 ha (0.2 ha each)

Methodology:

Insecticides will be mixed in the ratio of 4 :1 i.e. four part water and one part insecticide and filled in the bottle. This solution will be applied at an interval of 15 days starting from 30 days of sowing in T1. In T2 need based application of insecticides will be made as per recommendation.

Observations:

1. Population o sucking pests at 15 days interval from randomly selected three leaves from five plants in each treatment
2. Yield
3. Economics

## OFT : 2

Title: Management of *Helicoverpa* in Indian bean by non chemical means

**Back ground information** : Indian bean is an important vegetables crops grown in some isolated pocket of Dediapada and Sagbara block of Narmada district . This crop is affected by different unread pests viz Helicoveuypa, aphedo, whitjles *etc.* The damage caured by Helicoveuypa is significant farmers are frequently applying high doses of insecticides to to manage this noluriuns pest. In market the demand of organic Indian bean is more even it is exported to other countries. Resident of iureehi in Indian bean is a leveling factor for export so to restrict/ avoid the use of chemical pesticide it is plan to development and areas biointersive module for managment of Helicoveuypa in Indian bean.

Objective: To reduce the labour in sowing operation

Objective: To manage the *Helicoverpa* by using non chemical methods

### Treatments:

1. Bio intensive module : Monitoring through pheromone traps  
Spraying of neem based pesticides  
Hand picking of bigger larvae  
Spraying of HaNPV
2. Chemical recommended insecticides
3. Farmers method : Frequent spraying of pesticides (Weekly spraying)

No of farmers : 3

Area : 4.8 ha (0.4 ha each)

## **Agronomy:**

**OFT 1:** Assessment of feasibility of hand operated automatic seed drill in hilly area of Narmada district

**Back ground information:** Narmada district is a tribal dominated district with undulating land. The majority of the farmers are small and marginal with fragmented land. The tribal people are find it difficult to sow their crop in small piece of land with bullock drawn sowing method. They are sowing their crop manually with hand. Which is tiresome and labors consuming. In this context, a hand driven automatic seed drill available in local market - in Saurashtra region need to be tested for its effectiveness in hilly undulated area of Narmada district especially Dediapada and Sagbara block.

Objective : To reduce the labour in sowing operation

Treatments:

1. Sowing through hand operated automatic seed drill equipment
2. Hand sowing

No. of farmers : 10

Area : 2 ha (0.2 ha each)

**OFT 2:** Assessment of feasibility of bullock drawn automatic seed drill in hilly area of Narmada district

**Back ground information :** Farm mechanization is very poor in Narmada district. farmers are having undulating land, fragment land. Further, the Dediapada and Sagbara block has very limited irrigation facilities, so farmers have to depend on rain for cultivation- which require likely april. approximate farmers are using traditional bullock drawn farm implements. They are using bullock drown seed drill which sow only one raw at a line. Further they are pulling seed manually in it. Which had to uneven sowing of seed with higher seed rote. In this context, a bullock drawn automatic seed drill available in Saurashtra region which can sow seeds in five raws at a line. It has facility to saw seed at specified distance which save time and labour. To test the feasibility a bullock drawn automatic seed drill, this on farm testing has been proposed.

Treatments:

1. Sowing through bullock drawn automatic seed drill equipment
2. Hand sowing

No. of farmers : 10

Area : 2 ha (0.2 ha each)

#### 4. Extension Activities

SN	Activity	Total
1	2	3
1.	Field days	5
2.	Kisan mela / Farmers day	1
3.	Agricultural exhibition/participation	5
4.	Kishan Goshti/ Khedut shibir/Scientist farmers interaction	12
5	Special day celebration	2
6.	Diagnostic services	As per need
	(i)Farmers visit to KVK	
	(ii)Scientists visits to farmers fields	As per need
7	Lecture to be delivered in other programme	As per need
8.	Distribution of seed on cost basis	5 Ton
9	Publication	
10	(i) Research Paper	-
11	(ii)Popular articles	4
	(iii) Folders	As per need
12	Communication media	
	(i) Radio talk	As per allotment
	(ii) TV / Film show	25
	(iii) News paper coverage	As per need
	(iv) Telephone helpline	As per need
13	Animal health camp	3
14	Exposure visit	2

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