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ICAR

ANNUAL REPORT

(APRIL, 2008 - MARCH, 2009)

KRISHI VIGYAN KENDRA

SUNDARGARH, KIREI - 770073

ORISSA UNIVERSITY OF AGRICULTURE & TECHNOLOGY
BHUBANESWAR - 751003

CONTENTS

PROFORMA FOR ANNUAL REPORT
(01-04-2008 to 31-03-2009)

1. GENERAL INFORMATION ABOUT THE KVK

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

KVK	Postal Address with Pin code	Telephone			E mail
		STD	Office	FAX	
Sundargarh	At/Po-Kirei, Dist.-Sundargarh , Pin-770073	06622	211793	211793	pckvksng@yahoo.co.in

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

Host Institute name	Postal Address with Pin code	Telephone			E mail
		STD	Office	FAX	
Orissa University of Agriculture & Technology (OUAT)	Orissa University of Agriculture & Technology (OUAT), Bhubaneswar-751003, Orissa	0674	2392677	2397780	ouatmain@hotmail.com

1.3. Name of the Programme Coordinator with phone & mobile No

Name	Telephone / Contact		
	Residence	Mobile	Email
Sri Chintamani Panda	9438036405	9437185175	Kunia_panda2001@yahoo.com

1.4. Year of sanction: 27th March 2004

1.5. Staff Position (as on 31st March,2009)

Sl. No.	Sanctioned post	Name of the incumbent	Designation	Discipline with highest degree	Pay Scale with present basic	Date of joining	Permanent /Temporary	Category (SC/ST/ OBC/ Others)
1	Programme Coordinator	Sri Chintamani Panda	Programme Coordinator	Horticulture	12000-420-18300 (14940)	07/02/2008	Permanent	General
2	Subject Matter Specialist	Sri Ashis Kumar Mohanty	SMS	Horticulture	8000-275-13500 (8825)	14/01/2005	Contractual	General
3	Subject Matter Specialist	Sri Jayanta Kumar Pati	SMS	Agril. Extension	8000-275-13500 (8825)	21/02/2005	Contractual	General
4	Subject Matter Specialist	Vacant	-	-	-	-	-	-
5	Subject Matter Specialist	Vacant	-	-	-	-	-	-
6	Subject Matter Specialist	Vacant	-	-	-	-	-	-

Sl. No.	Sanctioned post	Name of the incumbent	Designation	Discipline with highest degree	Pay Scale with present basic	Date of joining	Permanent /Temporary	Category (SC/ST/ OBC/ Others)
7	Subject Matter Specialist	Vacant	-	-	-	-	-	-
8	Programme Assistant	Vacant	-	-	-	-	-	-
9	Computer Programmer	Sri Prasant Kumar Sahoo	Prog. Asst. (Comp.)	Computer Application	5500-175-9000 (6025)	05/07/2008	Contractual	OBC
10	Farm Manager	Sri T.R. Sahoo	Farm Manager	Horticulture	5500-175-9000 (6025)	11/07/2005	Contractual	OBC
11	Accountant / Superintendent	Vacant	-	-	-	-	-	-
12	Stenographer	Vacant	-	-	-	-	-	-
13	Driver	Sri Srikanta Sahu	-	-	3050-75-3950-80-4590 (3125)	28/07/2007	Contractual	OBC
14	Driver	Sri B. Sa	-	-	(3050) (Cons.)	19/07/2008	Contractual	OBC
15	Supporting staff	Sri S.N. Pradhan	-	-	(2550) (Cons.)	04/08/2008	Contractual	OBC
16	Supporting staff	Sri A. Sahu	-	-	(2550) (Cons.)	07/08/2008	Contractual	OBC

1.6. Total land with KVK (in ha) : 21 .00

S. No.	Item	Area (ha)
1	Under Buildings	0.12
2.	Under Demonstration Units	162 sq.m
3.	Under Crops	4.80
4.	Orchard/Agro-forestry	6.30
5.	Others	9.62

1.7. Infrastructural Development:

A) Buildings

S. 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.	Admin. Building	NARP-II	1993		N.A.	N.A.	N.A.	N.A.
2.	Farmers Hostel	ICAR	-	-	-	Work assigned to C.P.W.D.	N.A.	N.A.
3.	Staff Quarters (6)	NARP-II	1994		N.A.	N.A.	N.A.	N.A.
4.	Demo. Units (2)	ICAR	20.09.2007		Account with DPP	-	-	-
5	Fencing	ICAR	20.09.2007	2425mt.	700000	-	-	-
6	Rain Water harvesting system	ICAR	-	-	Account with DPP	Work under progress		
7	Threshing floor	ICAR	184	-	-	-	-	-
8	Farm godown	Pre-existing	-	-	-	-	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Four Wheeler –Tata Sumo	2005	5,50,000	48740	Working
Two Wheeler- Hero Honda	2005		24826	Working

C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Television	2005	18870.00	Working
Dish Antenna	2005	2850.00	Working
DVD Player	2005	3975.00	Working
Sony Handy Cam(Video Camera)	2005	24990.00	Working
Konica Camera	2004	995.00	Working
Over Head Projector with screen & Pointer	2005	28150.00	Working
Slide Projector	2005	12750.00	Working
Computer and Accessories	2005	54800.00	Working
Cooler	2005	4980.00	Working
Furniture (Godrej Table, Chairs, Almirah, Book case etc.)	2005	175253.00	Working
Laptop	2007	48900.00	Working
LCD Projector	2007	44710.00	Working
FAX	2007	6032.00	Working
UPS	2005	1750.00	Working
Copier cum Fax	2008	75000.00	Working
Digital Camera	2008	9490.00	Working

1.8. A). Details SAC meeting* conducted in the year

Sl. No.	Date	Number of Participants	Salient Recommendations	Action taken
1.	05.02.2009	40	1. Popularizing Kissan Call Centre for easy and cheap access of information by the farmers. 2. Formation of Farmers Club in collaboration with NABARD. 3. Encourage farmers to enroll them under Distance Education Programme in OUAT. 4. Include "SRI" in KVK action plan. 5. Explore the Potential of scented rice cultivation in Sundargarh. 6. Recording of Feed back of farmers after each activities of KVK. 7. Increase the area under dry land fruit crop. 8. FLD on pointed gourd. 9. Commercial floriculture in sub-urban areas. 10. Develop goatery unit in KVK campus. 11. Veterinary activities in adopted villages particularly Banaraja poultry and fodder cultivation. 12. Mushroom Spawn unit in KVK campus. 13. Include apiculture in KVK action plan 14. Popularize Vermicompost in large scale. 15. Diversification of crops in up lands with Maize & Groundnut. 16. Making farmer conscious of Organic Farming. 17. Establishing cold storages from RKVY fund by the Horticulture department 18. Develop farming system models.	To be included in Annual Action Plan

**** Attach a copy of SAC proceedings along with list of participants***

2. DETAILS OF DISTRICT (2008-09)

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

S. No	Farming system/enterprise
1	Agriculture+ Horticulture
2	Agriculture
3	Agriculture+ Animal husbandry
4	Animal husbandry

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

Sl. No	Agro-climatic Zone	Characteristics
1.	North-Western-Plateau Zone	The North western plateau zone situated between $21^0.15'$ and $22^0.32'$N latitude and $83^0.22'$ and $85^0.22'$E longitude encompasses 17 blocks of Sundergarh district and Seven blocks of Deogarh district covering a geographical area 12.90 thousand hectares which accounts for 8.45% of the total geographical area of the state. Out ff the 12.90 lakh ha of geographical area, 4.571 lakh ha is under cultivation with gross cropped area of 5.81 lakh ha. The cropping intensity of the zone is 127.11%. The climate is general is hot , moist ad sub-humid with a mean maximum temperature of 42^0 C in summer and mean minimum temperature of 10^0 C in winter. The average annual rainfall is 1239.78mm. The zone has irrigation facilities from Dug wells, L.I. Points, Minor Irrigation projects, major irrigation projects and other sources. The net area irrigated is 1,29,424.47 ha (27%) and the rest 73% area is rainfed. Rice is the principal crop of the zone occupying 76.12% of the net sown area. The important groups of crops such as cereals, pulses, vegetables, oilseeds, millets, sugarcane etc. accounts for 76.5, 22.5, 12.99, 14.3, 1.42 and 0.15% respectively of the net cultivated area in the zone with average productivity of 15.08, 6.74, 63.36, 8.22, 9.22 and 521.34q/ha respectively.

S. No	Agro ecological situation	Characteristics
1.	AES - I	Low Rainfall, Lateritic Soil
2.	AES - II	Medium Rainfall, Red & Black Soil
3.	AES - III	High Rainfall, Lateritic Soil
4.	AES - IV	Medium Rainfall, Black & Brown, Forest Soil
5.	AES - V	High Rainfall, Black & Brown Forest Soil

2.3 Soil type/s

S. No	Soil type	Characteristics	Area in ha ('000 ha)
1	Red soils (alfisols)	Light texture, highly porous with low water holding capacity; don't contain laterite mass, low in nutrient status with acidic soil reaction.	359.9
2	Laterite and Latertic soils (Ultisols and Oxisols)	Highly permable with moderate water holding capacity and are pale brown to brownish yellow in colour.	173.5
3	Mixed Red and Yellow Soils (ultisols)	Heterogeneous in texture, depth, colour depending upon the topography.	386.6
4	Mixed red and black soils(Association of ultisols and vertisols)	Brown to balck in colour and are very deep. The reaction of the soil varies between slightly alkaline to slightly acidic	169.4
5	Brown forest soils (Humlets)	The thickness of the soil ranges from 9-15mt. of the surface and the subsoil possesses lateritic material. Nutrient status of the soil is normal.	226.4

2.4. Area, Production and Productivity of major crops cultivated in the district

S. No	Crop	Area (ha)	Production (Qtl)	Productivity (Qtl /ha)
1.	Paddy	214.5	308.5	14.38
2.	Wheat	2.2	3.52	16
3.	Maize	7.52	8.57	22.39
4.	Arhar	4.61	3.13	6.78
5.	Mung	10.05	3.09	7.63
6.	Biri	15.09	5.73	3.8
7.	Cowpea	4.83	3.26	6.75
8.	Gram	2.75	1.83	6.64
9.	Field Pea	2.12	1.18	5.58
10.	Kulthi	15	7.5	5
11.	Groundnut	3.24	3.715	27.21
12	Mustard	5.18	2.07	4
13.	Til	17.83	5.3	6.93
14.	Niger	1.62	0.41	2.52
15.	Sunflower	5.3	0.229	16.1
16.	Mango	6420	22305	3.4
17.	Guava	796	5275	6.63
18.	Citrus	1595	11440	7.2
19.	Litchi	913	2442	2.67
20.	Sapeta	26	112	4.31
21.	Banana	1698	21354	12.57
22.	Papaya	42	749	17.83
23.	Pineapple	15	155	10.33
24.	Other fruits	2610	23300	8.92
25.	Ber	341	2089	6.12
26.	Brinjal	3195	38995	12.2
27.	Tomato	3205	43030	13.42
28.	Cabbage	2495	74170	29.72
29.	Cauliflower	3498	48603	13.89
30.	Pea	297	2509	8.44
31.	Okra	4921	48478	9.85
32.	S.Potato	3283	26988	9.85
33.	Other Veg.	5685	55488	4.74
34.	Potato	485	5735	11.82
35.	Onion	1404	10651	7.58
36.	Garlic	483	1485	3.07
37.	Corriender	391	189	0.48
38.	Chilli	3200	2720	0.85
39.	Ginger	543	1026	1.89
40.	Turmeric	228	538	2.35
41.	Marigold	21	0.63	5.06
42.	Rose	2.2	6.5	2.95
43.	Gladioli	1	98000	98000

(Courtesy: NIC, Sundargarh)

2.5. Weather data

Month	Rainfall (mm)	Temperature ^{0} C		Relative Humidity (%)
		Maximum	Minimum	
June-08	204.28	38	28	92
July-08	442.35	33	28	92
August-08	476.49	33	26	92
September-08	537.69	32	25	92
October-08	-	32	29	92
November-08	-	31	24	84
December-08	-	30	24	90
January-09	-	32	20	91
February-09	-	37	21	73
March-09	-	40	31	56

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

Category	Population	Production	Productivity
Cattle			
Crossbred	9441		
Indigenous	152259	42.10(‘000mt)	
Buffalo	55255		
Sheep			
Crossbred	53210		
Indigenous			
Goats	405369	3.32(’000mt)	
Pigs			
Crossbred	99752		
Indigenous			
Rabbits	468		
Poultry			
Hens	1136907	45.92 million eggs	
Desi			
Improved			
Ducks	31015		
Turkey and others			
Fish		4967.46 mt	65.23kg/ha.
Marine			
Inland			
Prawn			
Scampi			
Shrimp			

(Courtesy: Livestock Census, DSO, Sundargarh)

1. Details of Operational area / Villages (2008-09)

Sl. No.	Taluk	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1.	Sundargarh	Sadar	Bandubahal	1. Brinjal 2. Chilli 3. Tomato 4. Cauliflower 5. Onion 6. Potato 7. Paddy 8. Wheat	1. Wilting 2. Low yield 3. Fruit & Shoot borer 4. Distress sale in On-season	1. Lower yield of vegetables as compared to state average 2. Indiscriminate use of chemical pesticides
2.	Sundargarh	Tangarpali	Chakramal	1. Paddy 2. Tomato 3. Brinjal 4. Pointed gourd 5. Cauliflower 6. wheat 7. mustard	1. Indiscriminate use of pesticide. 2. Low yield 3. Wilting 4. Inadequate knowledge on IPM	1. Lower yield of vegetables as compared to state average 2. Introduction of Pheromone trap. 3. Use of Bio-control agent & Bio-pesticides 4. Use of Botanicals 5. Trap Crop 6. Need Based application of chemical pesticide at ETL level
3.	Sundargarh	Badagaon	Phulbari	1. Tomato 2. Brinjal 3. Chilli 4. Horsegram 5. Groundnut 6. Paddy	1. Low yield 2. Wilting 3. Inadequate knowledge on IPM 4. Regular Vegetable Production on same land. 5. Drudgery upon women	1. Scientific cultivation practice of Mushroom 2. Enhancing cropping intensity in backyards with higher seed replacement ratio for optimum utilization of land & labour inputs 3. Drudgery reduction
4.	Sundargarh	Sabdega	Bhagapalli	1. Paddy 2. Wheat 3. Greengram 4. Groundnut 5. Maize 6. Mustard	1. Indiscriminate use of pesticides 2. Inadequate knowledge on 3. Inadequate knowledge on INM	1. Increase yield & quality of produce in maize, groundnut, green gram 2. Promote low duty crops to be grown after paddy as paira or on residual soil moisture regime
5.	Sundargarh	Lefripada	Diamunda	1. Paddy 2. Wheat 3. Greengram 4. Groundnut 5. Maize 6. Sunflower 7. Mustard	1. Indiscriminate use of pesticides 2. Inadequate knowledge on IPM 3. Inadequate knowledge on INM	1. Increase yield & quality of produce in maize, groundnut, green gram 2. Promote sandwitch cropping between two paddy crops

2.7 Priority thrust areas

S. No	Thrust area
1	Crop diversification in Upland.
2	Increase in area of Horticultural crops (Mango, Litchi, Lemon, Banana etc.)
3	Introduction of HYV & Hybrid varieties.
4	Off season vegetable cultivation.
5	INM & IPM practices for all crops.

3. TECHNICAL ACHIEVEMENTS

3.1. A. Abstract of interventions undertaken

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions					
				Title of OFT if any	Title of FLD if any	Title of Training if any	Title of training for extension personnel if any	Extension activities	Supply of seeds, planting materials etc.
1.	Agronomy	Paddy	Distress sale of paddy due to absence of exportable quality	Assessment of scented var. of paddy	-	INM in scented variety of paddy	-	-	Seed
2	Agronomy	Paddy	Local variety is susceptible to diseases.	-	Introduction of HYV paddy(cv.Pratikshya)	INM in paddy	INM in paddy	-	seed
3	Plant Protection	Paddy	Indiscriminate use of pesticides	Management of caseworm in paddy	-			Diagnostic visit, Leaflets, Radio talk,	Trichocard, Triazophos
4	Plant Protection	Paddy	Indiscriminate use of pesticides	-	IPM in paddy			Film show, Diagnostic visit, Field day, Leaflets	Pheromone trap, Trichocard
5	Plant Protection	Brinjal	Indiscriminate use of pesticides	-	IPM in Brinjal			Diagnostic visit, Leaflets	Pheromone trap, Trichocard
6	Plant Protection	Groundnut	Indiscriminate use of pesticides	-	IPM in Groundnut			Diagnostic visit, Leaflets	Pheromone trap, Trichocard
7.	Horticulture	Tomato	Wilting in Tomato (67%-88%)		FLD on wilt tolerant tomato variety (Utkal Kumari)	Improved package of practices of tomato		Film show, Diagnostic visit, Field day, Leaflets	Seed
8.	Horticulture	Chilli	Low yield (24 q/ha)	-	FLD on HYV chilli (Utkal Ava)	Improved package of practices of chilli		Film show, Diagnostic visit, Field day, Leaflets	Seed
9.	Horticulture	Cauliflower	Less price in on-season due to market glut.(Rs21,400/ha sold @ Rs.400/q))	-	FLD on Off-season cauliflower variety (Himlata)	Package of practices for early variety cauliflower-a remunerative enterprise.	-	Film show, Diagnostic visit, Field day, Leaflets	Seed

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions					
				Title of OFT if any	Title of FLD if any	Title of Training if any	Title of training for extension personnel if any	Extension activities	Supply of seeds, planting materials etc.
10.	Horticulture	Cauliflower	Low yield (136 q/ha)	-	INM in rabi cauliflower (Madhuri)	Improved package of practices of cauliflower	-	Diagnostic visit, Leaflets	Fertilizers, micronutrient
11.	Horticulture	Brinjal	Low yield (218 q/ha)	Assessment of yield potential of brinjal (Utkal keshari)	-	Improved package of practices of brinjal	-	Diagnostic visit, Leaflets	Seed
12.	Horticulture	Pointed gourd	Low yield (242 q/ha)	Assessment of yield potential of pointed gourd. (Swarna rekha)	-	Improved package of practices of pointedgourd.	-	Diagnostic visit, Leaflets	Vine cuttings

3.1. A. Details of each On Farm Trial

1	Title of on-farm trials	**Evaluation of scented var. of paddy**
2	Problem diagnose	Distress sale of paddy due to absence of exportable quality
3	Details of technologies selected for assessment	Scented var. of paddy Pusa Basumati
4	Source of technology	OUAT
5	Production system	Rice-Rice
6	Thematic area	Varietal evaluation
7	Micro-farming system	Rainfed medium land
8	Performance of the Technology with parameter/ indicators	T1-Farmers variety(Gahamphul) T2-High yielding variety (Pusa Basmati)
9	Final recommendation for micro level situation	Cultivation of Pusa Basmati makes farmer assured of returns during distress sale.
10	Constraints identified and feedback for research	-
11	Process of farmers participation and their reaction	Farmers participated during planning, implementation and evaluation of the trial.

3.1.A. Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of the OFT	No. of trials*	Technology Assessed	Parameters of assessment
1	2	3	4	5	6	7
Paddy	Rainfed medium land	Distress sale of paddy due to absence of exportable quality	Evaluation of scented var. of paddy	3	Scented var. Pusa Basmati	Yield, recovery %, marketability, organoleptic quality, C:B, Farmers feedback, Farmers reaction

**** No. of farmers***

Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement done	Justification for refinement
8	9	10	11	12
Yield(q/h) T1-24.16 T2-34.34	Scented variety Pusa basmati gives 42.13% more yield than local check.	Scented rice has increased the bargaining power of farmer during distress sale.	-	-

Technology Assessed / Refined	*Production (t/ha)	Net Return (Profit) in Rs. / t	BC Ratio
13	14	15	16
Farmer's practice**	2.41	3856	1.16
Technology assessed**	3.43	7889	1.23
Technology refined**			

3.1. B. Details of each On Farm Trial

1	Title of on-farm trials	**Assessment of caseworm in paddy**
2	Problem diagnose	Indiscriminate use of chemical pesticides, develop insect resistance, resurgence and environmental pollution
3	Details of technologies selected for assessment	Use of tricho card,dragging of rope,draining of water from field,putting *karada* twig and use of Triazophos.
4	Source of technology	OUAT
5	Production system	Rice-Rice
6	Thematic area	IPM
7	Micro-farming system	Rainfed low land
8	Performance of the Technology with parameter/ indicators	T1-Farmers practice T2-Recommended practices • Use of tricho card, • dragging of rope, • draining of water from field, • putting *karada* twig • use of Triazophos
9	Final recommendation for micro level situation	For effective control of caseworm in rice farmers release *Trichogramma parasitoids* and spraying of Triazophos.
10	Constraints identified and feedback for research	-
11	Process of farmers participation and their reaction	Farmers participated during planning, implementation and evaluation of the trial and they are happy to adopt the technology.

3.1.B. Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of the OFT	No. of trials*	Technology Assessed	Parameters of assessment
1	2	3		4	5	6
Rice	Rainfed low land	Indiscriminate use of chemical pesticides, develop insect resistance, resurgence and environmental pollution	Assessment of caseworm in paddy	5	• Use of tricho card, • dragging of rope, • draining of water from field, • putting *karada* twig use of Triazophos	Yield, %leaf infestation

**** No. of farmers***

Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement done	Justification for refinement
7	8	9	10	11
Yield T1- 20.2 q/ha T2-26.5 q/ha **% leaf Infestation** T1-8-10% T2-2-4%	The recommended practice T2 yielded 26.5q/ha as compared to local practice T1(20.2 q/ha)with % leaf infestation of 2-4%(T2) and 8-10%(T1) respectively.	Highly appreciated the chemical pesticide Triazophos and use of Tricho-card with draining of water and dragging of rope.	Decided later	-

Technology Assessed / Refined	*Production (t/ha)	Net Return (Profit) in Rs. / t	BC Ratio
13	14	15	16
Farmer's practice**	2.02	3028	1.14
Technology assessed**	2.65	5565	1.21
Technology refined**			

3.1. C. Details of each On Farm Trial

1	Title of on-farm trials	**Assessment of yield potential of brinjal.**
2	Problem diagnose	Low yield(218q/ha) of local cultivar(2195 ha area)
3	Details of technologies selected for assessment	Variety (Utkal Keshari): High yielding(250-300q/ha), tolerant to wilt, released from OUAT in the year-1997.
4	Source of technology	OUAT, Bhubaneswar
5	Production system	Vegetable-Vegetable
6	Thematic area	Production of low volume & high value crops
7	Micro-farming system	Irrigated medium land
8	Performance of the Technology with parameter/ indicators	T_1-Local cultivar T_2-High yielding variety(Utkal Keshari) Variety-Utkal Keshari recorded maximum yield(276 q/ha)
9	Final recommendation for micro level situation	Suitable for Sundargarh sub-division
10	Constraints identified and feedback for research	Shoot & Fruit borer attack(30%)
11	Process of farmers participation and their reaction	Farmers participated during planning, implementation and evaluation of the trial. They are satisfied with higher yield.

3.1.C. Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment
1	2	3	4	5	6	7
Brinjal	Irrigated medium land	Low yield	Assessment of yield potential of brinjal.	5	T_1-Local cultivar T_2-High yielding variety(Utkal Keshari)	Yield, economics, Farmers feedback, Farmers reaction

**** No. of farmers***

Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement done	Justification for refinement
8	9	10	11	12
Yield T_1- (21.2 t/ha) T_2-(27.6 t/ha) **BC ratio** T_1- (1.47) T_2- (1.65)	The introduced variety(Utkal Keshari) recorded higher yield(27.6 t/ha) which is 30.18% higher than local check. The B:C ratio is also more(1.65) as compared to local check(1.47).	High yielding variety with purple colour thin skin.	-	-

Technology Assessed / Refined	*Production (t/ha)	Net Return (Profit) in Rs. / t	BC Ratio
13	14	15	16
Farmer's practice**	21.2	23,600	1.47
Technology assessed**	27.6	32,800	1.65
Technology refined**	-	-	-

3.1. D. Details of each On Farm Trial

1	Title of on-farm trials	**Assessment of yield potential of pointed gourd**
2	Problem diagnose	Low yield(242q/ha), affected area is 698 ha.
3	Details of technologies selected for assessment	Developed through clonal selection, elongated fruit(30-35g),striped green, contain soft seed,yield-300-350 q/ha, released from HARP, Ranchi in 2006.
4	Source of technology	HARP, Ranchi
5	Production system	Vegetable-vegetable
6	Thematic area	Production of low volume and high value crops.
7	Micro-farming system	Irrigated medium land
8	Performance of the Technology with parameter/ indicators	T_1-Local cultivar T_2-HYV(Swarna rekha)
9	Final recommendation for micro level situation	Results awaited
10	Constraints identified and feedback for research	Results awaited
11	Process of farmers participation and their reaction	Farmers participated during planning and implementation of the trial.

3.1.D. Results of On Farm Trials

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment
1	2	3	4	5	6	7
Pointed gourd	Irrigated medium land	Low yield	Assessment of yield potential of pointed gourd	3	T_1-Local cultivar T_2-HYV (Swarna rekha)	Yield, economics, Farmers feed back, Farmers reaction.

**** No. of farmers***

Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement done	Justification for refinement
8	9	10	11	12
Yield Results awaited	Results awaited	-	-	-

Technology Assessed / Refined	*Production (t/ha)	Net Return (Profit) in Rs. / t	BC Ratio
13	14	15	16
Farmer's practice**	-	-	-
Technology assessed**	-	-	-
Technology refined**	-	-	-

3.2 Achievements of Frontline Demonstrations

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

S. No	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	Crop production	HYV paddy	TV talk, Radio talk, News paper, Leaflets, Training, Demonstrations, Field day, Field visit etc.	1	2	0.4
2	IPM	IPM in paddy	TV talk, Radio talk, News paper, Leaflets, Training, Demonstrations, Field day, Field visit etc.	3	10	1.0
3	IPM	IPM in brinjal	TV talk, Radio talk, News paper, Leaflets, Training, Demonstrations, Field day, Field visit etc.	3	8	1.0
4	IPM	IPM in cauliflower	TV talk, Radio talk, News paper, Leaflets, Training, Demonstrations, Field day, Field visit etc.	3	8	1.0
5	Production of low volume and high value crops (Tomato)	Wilt tolerant variety(Utkal Kumari)	Radio talk, Leaflets, Training, Demonstrations, Field day, Field visit etc.	1	5	0.4
6	Off-season vegetables (Cauliflower)	Off -season variety (Himlata)	TV talk, Radio talk, Leaflets, Training, Demonstrations, Field day, Field visit etc.	1	5	0.4

b. Details of FLDs implemented during 2008-09

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ ST	Others	Total	
1	Paddy	Crop production	HYV	Kharif-08	0.4	0.4	2	0	2	
2	Paddy	Integrated Pest Management.	Introduction of Pheromone trap, Trichocard,need based application of pesticide.	Kharif-08	5	4	4	2	6	
3	Brinjal	Integrated Pest Management.	Introduction of Pheromone trap, Trichocard,need based application of pesticide.	Rabi-08-09	2	1.5	3	2	5	
4	Groundnut	Integrated Pest Management.	Introduction of Pheromone trap, Trichocard,need based application of pesticide.	Kharif-08	10	10	8	2	10	

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ ST	Others	Total	
5	Tomato	Production of low volume and high value crops	Wilt tolerant variety (Utkal Kumari)	Rabi-08-09	0.4	0.4	2	3	5	
6	Chilli	Production of low volume and high value crops	HYV(Utkal Ava)	Rabi-08-09	0.4	0.4	3	2	5	
7	Cauli-flower	Off-season vegetables	Off Season variety (Himlata)	Kharif-08	0.4	0.4	3	2	5	
8	Cauli-flower	Integrated Nutrient Management	Recommended dose of Fertilizer, Micronutrient	Rabi-08-09	0.4	0.4	4	0	4	

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Paddy	Kharif-08	RF	Sandy loam	Low	medium	Low	Fallow	22.7.08 to 23.7.08	26.11.08 to 4.12.08	415.20	26
Paddy	Kharif-08	RF	Sandy loam	Low	medium	Low	Fallow	10.7.08 to 15.7.08	25.11.08 to 30.11.08	415.20	26
Brinjal	Rabi-08-09	Irrigated	Sandy loam	Low	medium	Low	paddy	5.11.08 to 15.11.08	15.2.08 to 30.3.08	-	-
Groundnut	Kharif-08	RF	Sandy loam	Low	medium	Low	Fallow	15.7.08 to 25.7.08	4.11.08 to 7.11.08	415.20	26
Tomato	Rabi-08-09	Irrigated	Sandy loam	Low	medium	Low	Fallow	9.10.08 to 13.10.08	21.1.09 to 28.2.09	-	-
Chilli	Rabi-08-09	Irrigated	Sandy loam	Low	medium	Low	paddy	18.10.08 to 26.10.08	19.02.09 to 28.02.09	-	-
Cauliflower	Kharif-08	RF	Sandy loam	Low	medium	Low	Onion	09.08.08 to 13.08.08	10.10.08 to 26.10.08	415.20	26
Cauliflower	Rabi-08-09	Irrigated	Sandy loam	Low	medium	Low	Fallow	6.11.08 to 11.11.08	08.02.09 to 23.02.09	-	-

Performance of FLD

Sl. No	Crop	Technology Demonstrated	Variety	No. of Farmers	Area (ha.)
1	2	3	4	5	6
1	Paddy	HYV	Pratikshya	2	0.4
2	Paddy	IPM	Pooja & Pratikshya	6	3.0
3	Brinjal	IPM	Hybrids	5	1.5
4	Groundnut	IPM	TAG-24	10	3.0
5	Tomato	Wilt tolerant variety	Utkal Kumari	5	0.4
6	Chilli	HYV	Utkal Ava	5	0.4
7	Cauliflower	Off-season variety	Himlata	5	0.4
8	Cauliflower	INM	Madhuri	4	0.4

NB: Attach few good action photographs with title at the back with pencil

Crop	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
	7	8	9	10	11	12	13
Paddy	45.0	40.0	42.5	30.0	41.66	B-C ratio=1.2	-
Paddy	28.2	21.5	26.5	20.2	24	-	-
Brinjal	201	180	197	175	11	-	-
Groundnut	15.0	9.5	14.0	8.5	39.3	-	-
Tomato	226.6	204.8	210.7	148.0	42.36	Wilt percentage= 6.88% Yield=210.7 qtl/ha B-C ratio=1.75	Wilt percentage =57 % Yield=148.0 qtl/ha B-C ratio=1.23
Chilli	35.5	29.5	32.0	22.6	20.30		
Cauliflower	78.21	71.56	72.88	-	-	Yield=72.88 qtl/ha B-C ratio=1.97	-
Cauliflower	298.0	218.0	258.0	203.0	21.0	Yield=258.0 qtl/ha B-C ratio=1.54	Yield=203.0 qtl/ha B-C ratio=1.47

Economic Impact

Average Cost of cultivation (Rs./ha)		Average Gross Return (Rs./ha)		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return / Gross Cost)	
Demonstration	Local Check	Demonstration	Local Check	Demonstration	Local Check	Demo	local
14	15	16	17	18	19	20	21
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
48000	32000	84280	39464	36280	7464	1.75	1.23
58000	48000	185600	131080	127600	83080	2.2	1.73
66800	-	132000	-	65200	-	1.97	-
50000	48000	77400	60900	27400	22900	1.54	1.47

Analytical Review of component demonstrations (details of each component for rainfed / irrigated situations to be given separately for each season).

Crop	Season	Component	Farming situation	Average yield (q/ha)	Local check (q/ha)	Percentage increase in productivity over local check
Paddy	Kharif	Seed replacement	Rain Fed	24.0	18.5	23
Paddy	Kharif	IPM	Rain fed	26.5	20.6	22
Brinjal	Rabi	IPM	Irrigated	175	160	9
Groundnut	Kharif	IPM	Rain fed	14.0	9.5	32

Technical Feedback on the demonstrated technologies

Technology	Feed Back
HYV paddy	41.66% more yield of pratikshya over local has motivated farmers
IPM in Paddy	Indiscriminate use of chemical pesticides reduced, farmers happy over cost savings on pesticides
IPM in brinjal	Indiscriminate use of chemical pesticides reduced, farmers happy over cost savings on pesticides
IPM in Groundnut	Seed treatment reduced collar-rot problem.Hence optimum plant population could be maintained thereby increasing the yield.
Wilt tolerant variety of Tomato (var. Utkal Kumari)	High yielding variety, tolerant to wilting, thin skin, appearance resemble with local variety. .
HYV of chilli (Utkal Ava)	High yielding variety, elongated fruit, more seed content, dark red in colour, better pungency.
Off-season variety of Cauliflower (var. Himlata)	Variety suitable for Off-season cultivation, bright white and compact curd.
INM in cauliflower	Less expenditure, higher yield, bright white and compact curd, free from physiological disorder.

Farmers' reactions on specific technologies

Technology	Feed Back
HYV paddy	Farmers are satisfied with the variety and yield performance
IPM in paddy	Non availability of pheromone traps
IPM in brinjal	Non availability of pheromone traps and bicontrol agent
IPM in groundnut	Non availability of pheromone traps and bicontrol agent
Wilt tolerant variety of Tomato (var. Utkal Kumari)	Farmers are satisfied with the variety.
HYV of chilli (Utkal Ava)	Farmers are satisfied with the variety.
Off-season variety of Cauliflower (var. Himlata)	Now farmers have taken interest in it.
INM in cauliflower	Farmers are satisfied with the practice.

Extension and Training activities under FLD

Sl. No.	Activity	No. of activities organised	Date	Number of participants	Remarks
1	Field days	2	09.02.09; 10.03.09	100	
2	Farmers Training	13	04.08.08 - 05.08.08, 24.09.08-25.09.08, 26.09.08-27.09.08, 24.11.08-25.11.08, 28.11.08-29.11.08, 19.01.09-20.01.09, 28.01.09-29.01.09, 1.8.08 – 2.8.08 11.8.08 – 12.8.08 17.9.08-18.9.08 24.9.08-25.9.08 5.12.08-6.12.08 11.7.08-12.7.08	215	
3	Media coverage	3	30.09.08; 22.11.08; 22.8.08	Mass	
4	Training for extension functionaries	4	11.07.08-12.07.08 16.08.08-17.08.08 21.08.08-22.08.08 27.08.08-28.08.08	48	

C. Details of FLD on Enterprises

A) Farm Implements

Name of the implement	crop	No. of farmers	Area (ha)	Performance parameters / indicators	* Data on parameter in relation to technology demonstrated		% change in the parameter	Remarks
					Demon.	Local check		

B) Field efficiency, labour saving etc.

(ii) Livestock Enterprises

Enterprise	Breed	No. of farmers	No. of animals, poultry birds etc.	Performance parameters / indicators	* Data on parameter in relation to technology demonstrated		% change in the parameter	Remarks
					Demon.	Local check		

C) Milk production, meat production, egg production, reduction in disease incidence etc.

(iii) Other Enterprises

Enterprise	Variety/ breed/ Species/ others	No. of farmers	No. of Units	Performance parameters / indicators	Data on parameter in relation to technology demonstrated		% change in the parameter	Remarks
					Demon.	Local check		
Apiary	-	-	-	-	-	-	-	-
Sericulture	-	-	-	-	-	-	-	-
Vermi compost	-	-	-	-	-	-	-	-

3.3 Achievements on Training (Including the sponsored and FLD training programmes)

D) ON Campus

Thematic Area	No. of Courses	Duration (days)	No. of Participants						
			Others			SC/ST			Grand Total
			Male	Female	Total	Male	Female	Total	
(A) Farmers & Farm Women									
I Crop Production									
Weed Management									
Resource Conservation Technologies									
Cropping Systems	1	2	4	0	4	21	0	21	25
Crop Diversification									
Integrated Farming									
Water management									
Seed production									
Nursery management									
Integrated Crop Management									
Fodder production									
Production of organic inputs									
II Horticulture									
a) Vegetable Crops									
Production of low volume and high value crops	1	2	19	0	19	6	0	6	25
Off-season vegetables									
Nursery raising	1	2	0	10	10	0	15	15	25
Exotic vegetables like Broccoli									
Export potential vegetables									
Grading and standardization									
Protective cultivation (Green Houses, Shade Net etc.)									
b) Fruits									
Training and Pruning									
Layout and Management of Orchards									
Cultivation of Fruit									
Management of young plants/orchards									
Rejuvenation of old orchards									
Export potential fruits									
Micro irrigation systems of orchards									
Plant propagation techniques									
c) Ornamental Plants									
Nursery Management									
Management of potted plants									
Export potential of ornamental plants									
Propagation techniques of Ornamental Plants									
d) Plantation crops									
Production and Management technology									
Processing and value addition									
e) Tuber crops									
Production and Management technology									
Processing and value addition									
f) Spices									
Production and Management technology									
Processing and value addition									
g) Medicinal and Aromatic Plants									
Nursery management									
Production and management technology									
Post harvest technology and value addition									

Thematic Area	No. of Courses	Duration (days)	No. of Participants						
			Others			SC/ST			Grand Total
			Male	Female	Total	Male	Female	Total	
III Soil Health and Fertility Management									
Soil fertility management									
Soil and Water Conservation									
Integrated Nutrient Management									
Production and use of organic inputs									
Management of Problematic soils									
Micro nutrient deficiency in crops									
Nutrient Use Efficiency									
Soil and Water Testing									
IV Livestock Production and Management									
Dairy Management									
Poultry Management									
Piggery Management									
Rabbit Management									
Disease Management									
Feed management									
Production of quality animal products									
V Home Science/Women empowerment									
Household food security by kitchen gardening and nutrition gardening									
Design and development of low/minimum cost diet									
Designing and development for high nutrient efficiency diet									
Minimization of nutrient loss in processing									
Gender mainstreaming through SHGs									
Storage loss minimization techniques									
Value addition									
Income generation activities for empowerment of rural Women									
Location specific drudgery reduction technologies									
Rural Crafts									
Women and child care									
VI Agril. Engineering									
Installation and maintenance of micro irrigation systems									
Use of Plastics in farming practices									
Production of small tools and implements									
Repair and maintenance of farm machinery and implements									
Small scale processing and value addition									
Post Harvest Technology									
VII Plant Protection									
Integrated Pest Management									
Integrated Disease Management									
Bio-control of pests and diseases									
Production of bio control agents and bio pesticides									
VIII Fisheries									
Integrated fish farming									
Carp breeding and hatchery management									
Carp fry and fingerling rearing									

Thematic Area	No. of Courses	Duration (days)	No. of Participants						
			Others			SC/ST			Grand Total
			Male	Female	Total	Male	Female	Total	
Composite fish culture									
Hatchery management and culture of freshwater prawn									
Breeding and culture of ornamental fishes									
Portable plastic carp hatchery									
Pen culture of fish and prawn									
Shrimp farming									
Edible oyster farming									
Pearl culture									
Fish processing and value addition									
IX Production of Inputs at site									
Seed Production									
Planting material production									
Bio-agents production									
Bio-pesticides production									
Bio-fertilizer production									
Vermi-compost production									
Organic manures production									
Production of fry and fingerlings									
Production of Bee-colonies and wax sheets									
Small tools and implements									
Production of livestock feed and fodder									
Production of Fish feed									
X Capacity Building and Group Dynamics									
Leadership development									
Group dynamics									
Formation and Management of SHGs									
Mobilization of social capital									
Entrepreneurial development of farmers/youths									
WTO and IPR issues									
XI Agro-forestry									
Production technologies									
Nursery management									
Integrated Farming Systems									
XII Others (Pl. Specify)									
TOTAL	-	-	-	-	-	-	-	-	-
(B) RURAL YOUTH									
Mushroom Production									
Bee-keeping									
Integrated farming									
Seed production									
Production of organic inputs									
Integrated Farming									
Planting material production									
Vermi-culture									
Sericulture									
Protected cultivation of vegetable crops									
Commercial fruit production									
Repair and maintenance of farm machinery and implements									
Nursery Management of Horticulture crops									
Training and pruning of orchards									
Value addition									

Thematic Area	No. of Courses	Duration (days)	No. of Participants						
			Others			SC/ST			Grand Total
			Male	Female	Total	Male	Female	Total	
Production of quality animal products									
Dairying									
Sheep and goat rearing									
Quail farming									
Piggery									
Rabbit farming									
Poultry production									
Ornamental fisheries									
Para vets									
Para extension workers									
Composite fish culture									
Freshwater prawn culture									
Shrimp farming									
Pearl culture									
Cold water fisheries									
Fish harvest and processing technology									
Fry and fingerling rearing									
Small scale processing									
Post Harvest Technology									
Tailoring and Stitching									
Rural Crafts									
TOTAL									
© Extension Personnel									
Productivity enhancement in veg. crops									
Integrated Pest Management									
Integrated Nutrient management	1	2	4	3	7	1	2	3	10
Rejuvenation of old orchards									
Protected cultivation technology									
Formation and Management of SHGs									
Group Dynamics and farmers organization									
Information networking among farmers									
Capacity building for ICT application									
Care and maintenance of farm machinery and implements									
WTO and IPR issues									
Management in farm animals									
Livestock feed and fodder production									
Household food security									
Women and Child care									
Low cost and nutrient efficient diet designing									
Production and use of organic inputs									
Gender mainstreaming through SHGs									
Mushroom preservation									
TOTAL									

OFF Campus

Thematic Area	No. of Courses	Duration (days)	No. of Participants						
			Others			SC/ST			Grand Total
			Male	Female	Total	Male	Female	Total	
(A) Farmers & Farm Women									
I Crop Production									
Weed Management									
Resource Conservation Technologies									
Cropping Systems									
Crop Diversification	1	2	10	0	10	15	0	15	25
Integrated Farming									
Water management									
Seed production									
Nursery management									
Integrated Nutrient Management (INM)	3	6	31	0	31	44	0	44	75
Fodder production									
Production of organic inputs									
II Horticulture									
a) Vegetable Crops									
Production of low volume and high value crops	6	12	63	0	63	87	0	87	150
Off-season vegetables									
Nursery raising	1	2	0	20	20	0	5	5	25
Exotic vegetables like Broccoli									
Export potential vegetables									
Grading and standardization									
Protective cultivation (Green Houses, Shade Net etc.)									
b) Fruits									
Training and Pruning									
Layout and Management of Orchards									
Cultivation of Fruit									
Management of young plants/ orchards									
Rejuvenation of old orchards									
Export potential fruits									
Micro irrigation systems of orchards									
Plant propagation techniques									
c) Ornamental Plants									
Nursery Management									
Management of potted plants									
Export potential of ornamental plants									
Propagation techniques of Ornamental Plants									
d) Plantation crops									
Production and Management technology									
Processing and value addition									
e) Tuber crops									
Production and Management technology									
Processing and value addition									
f) Spices									
Production and Management technology									
Processing and value addition									
g) Medicinal and Aromatic Plants									
Nursery management									
Production and management technology									
Post harvest technology and value addition									

Thematic Area	No. of Courses	Duration (days)	No. of Participants						
			Others			SC/ST			Grand Total
			Male	Female	Total	Male	Female	Total	
III Soil Health and Fertility Management									
Soil fertility management									
Soil and Water Conservation									
Integrated Nutrient Management									
Production and use of organic inputs									
Management of Problematic soils									
Micro nutrient deficiency in crops									
Nutrient Use Efficiency									
Soil and Water Testing									
IV Livestock Production and Management									
Dairy Management									
Poultry Management									
Piggery Management									
Rabbit Management									
Disease Management									
Feed management									
Production of quality animal products									
V Home Science/Women empowerment									
Household food security by kitchen gardening and nutrition gardening									
Design and development of low/minimum cost diet									
Designing and development for high nutrient efficiency diet									
Minimization of nutrient loss in processing									
Gender mainstreaming through SHGs									
Storage loss minimization techniques									
Value addition									
Income generation activities for empowerment of rural Women									
Location specific drudgery reduction technologies									
Rural Crafts									
Women and child care									
VI Agril. Engineering									
Installation and maintenance of micro irrigation systems									
Use of Plastics in farming practices									
Production of small tools and implements									
Repair and maintenance of farm machinery and implements									
Small scale processing and value addition									
Post Harvest Technology									
VII Plant Protection									
Integrated Pest Management	6	12	64	17	81	61	3	64	145
Integrated Disease Management									
Bio-control of pests and diseases	1	2	8	0	8	12	0	12	20
Production of bio control agents and bio pesticides									
VIII Fisheries									
Integrated fish farming									
Carp breeding and hatchery management									

Thematic Area	No. of Courses	Duration (days)	No. of Participants						
			Others			SC/ST			Grand Total
			Male	Female	Total	Male	Female	Total	
Carp fry and fingerling rearing									
Composite fish culture									
Hatchery management and culture of freshwater prawn									
Breeding and culture of ornamental fishes									
Portable plastic carp hatchery									
Pen culture of fish and prawn									
Shrimp farming									
Edible oyster farming									
Pearl culture									
Fish processing and value addition									
IX Production of Inputs at site									
Seed Production									
Planting material production									
Bio-agents production									
Bio-pesticides production									
Bio-fertilizer production									
Vermi-compost production									
Organic manures production									
Production of fry and fingerlings									
Production of Bee-colonies and wax sheets									
Small tools and implements									
Production of livestock feed and fodder									
Production of Fish feed									
X Capacity Building and Group Dynamics									
Leadership development	2	4	14	0	14	36	0	36	50
Group dynamics	1	2	4	0	4	21	0	21	25
Formation and Management of SHGs									
Mobilization of social capital									
Entrepreneurial development of farmers/youths	1	2	10	0	10	30	10	40	50
WTO and IPR issues									
XI Agro-forestry									
Production technologies									
Nursery management									
Integrated Farming Systems									
XII Others (Pl. Specify)									
TOTAL									
(B) RURAL YOUTH									
Mushroom Production									
Bee-keeping	1	3	2	0	2	13	0	13	15
Integrated farming									
Seed production	1	2	3	0	3	7	0	7	10
Production of organic inputs									
Integrated Farming									
Planting material production									
Vermicomposting	1	2	17	0	17	2	6	8	25
Sericulture	1	2	8	0	8	2	0	2	10
Protected cultivation of vegetable crops									
Commercial fruit production									
Repair and maintenance of farm machinery and implements									
Nursery Management of Horticulture crops									
Training and pruning of orchards									

Thematic Area	No. of Courses	Duration (days)	No. of Participants						
			Others			SC/ST			Grand Total
			Male	Female	Total	Male	Female	Total	
Value addition									
Production of quality animal products									
Dairying									
Sheep and goat rearing									
Quail farming									
Piggery									
Rabbit farming									
Poultry production									
Ornamental fisheries									
Para vets									
Para extension workers									
Composite fish culture									
Freshwater prawn culture									
Shrimp farming									
Pearl culture									
Cold water fisheries									
Fish harvest and processing technology									
Fry and fingerling rearing									
Small scale processing									
Post Harvest Technology									
Tailoring and Stitching									
Rural Crafts									
TOTAL									
© Extension Personnel									
Productivity enhancement in veg. crops									
Integrated Pest Management	1	2	5	5	10	4	1	5	15
Integrated Nutrient management	1	2	6	0	6	4	0	4	10
Rejuvenation of old orchards									
Protected cultivation technology									
Formation and Management of SHGs									
Group Dynamics and farmers organization									
Information networking among farmers	1	2	11	0	11	2	0	2	13
Capacity building for ICT application									
Care and maintenance of farm machinery and implements									
WTO and IPR issues									
Management in farm animals									
Livestock feed and fodder production									
Household food security									
Women and Child care									
Low cost and nutrient efficient diet designing									
Production and use of organic inputs									
Gender mainstreaming through SHGs									
Any other (Pl. Specify)									
TOTAL									

E) Consolidated table (On and Off Campus)

Thematic Area	No. of Courses	Duration (days	No. of Participants						
			Others			SC/ST			Grand Total
			Male	Female	Total	Male	Female	Total	
(A) Farmers & Farm Women									
I Crop Production									
Weed Management									
Resource Conservation Technologies									
Cropping Systems	1	2	4	0	4	21	0	21	25
Crop Diversification	1	2	10	0	10	15	0	15	25
Integrated Farming									
Water management									
Seed production									
Nursery management									
Integrated Nutrient Management (INM)	3	6	31	0	31	44	0	44	75
Fodder production									
Production of organic inputs									
II Horticulture									
a) Vegetable Crops									
Production of low volume and high value crops	7	14	82	0	82	93	0	93	175
Off-season vegetables									
Nursery raising	2	4	0	30	30	0	20	20	50
Exotic vegetables like Broccoli									
Export potential vegetables									
Grading and standardization									
Protective cultivation (Green Houses, Shade Net etc.)									
b) Fruits									
Training and Pruning									
Layout and Management of Orchards									
Cultivation of Fruit									
Management of young plants/orchards									
Rejuvenation of old orchards									
Export potential fruits									
Micro irrigation systems of orchards									
Plant propagation techniques									
c) Ornamental Plants									
Nursery Management									
Management of potted plants									
Export potential of ornamental plants									
Propagation techniques of Ornamental Plants									
d) Plantation crops									
Production and Management technology									
Processing and value addition									
e) Tuber crops									
Production and Management technology									
Processing and value addition									
f) Spices									
Production and Management technology									
Processing and value addition									
g) Medicinal and Aromatic Plants									
Nursery management									
Production and management technology									
Post harvest technology and value addition									
III Soil Health and Fertility Management									
Soil fertility management									

Thematic Area	No. of Courses	Duration (days	No. of Participants						
			Others			SC/ST			Grand Total
			Male	Female	Total	Male	Female	Total	
Soil and Water Conservation									
Integrated Nutrient Management									
Production and use of organic inputs									
Management of Problematic soils									
Micro nutrient deficiency in crops									
Nutrient Use Efficiency									
Soil and Water Testing									
IV Livestock Production and Management									
Dairy Management									
Poultry Management									
Piggery Management									
Rabbit Management									
Disease Management									
Feed management									
Production of quality animal products									
V Home Science/Women empowerment									
Household food security by kitchen gardening and nutrition gardening									
Design and development of low/minimum cost diet									
Designing and development for high nutrient efficiency diet									
Minimization of nutrient loss in processing									
Gender mainstreaming through SHGs									
Storage loss minimization techniques									
Value addition									
Income generation activities for empowerment of rural Women									
Location specific drudgery reduction technologies									
Rural Crafts									
Women and child care									
VI Agril. Engineering									
Installation and maintenance of micro irrigation systems									
Use of Plastics in farming practices									
Production of small tools and implements									
Repair and maintenance of farm machinery and implements									
Small scale processing and value addition									
Post Harvest Technology									
VII Plant Protection									
Integrated Pest Management	6	12	64	17	81	61	3	64	145
Integrated Disease Management									
Bio-control of pests and diseases	1	2	8	0	8	12	0	12	20
Production of bio control agents and bio pesticides									
VIII Fisheries									
Integrated fish farming									
Carp breeding and hatchery management									
Carp fry and fingerling rearing									
Composite fish culture									
Hatchery management and culture of freshwater prawn									
Breeding and culture of ornamental fishes									
Portable plastic carp hatchery									
Pen culture of fish and prawn									
Shrimp farming									

Thematic Area	No. of Courses	Duration (days	No. of Participants						
			Others			SC/ST			Grand Total
			Male	Female	Total	Male	Female	Total	
Edible oyster farming									
Pearl culture									
Fish processing and value addition									
IX Production of Inputs at site									
Seed Production									
Planting material production									
Bio-agents production									
Bio-pesticides production									
Bio-fertilizer production									
Vermi-compost production									
Organic manures production									
Production of fry and fingerlings									
Production of Bee-colonies and wax sheets									
Small tools and implements									
Production of livestock feed and fodder									
Production of Fish feed									
X Capacity Building and Group Dynamics									
Leadership development	2	4	14	0	14	36	0	36	50
Group dynamics	1	2	4	0	4	21	0	21	25
Formation and Management of SHGs									
Mobilization of social capital									
Entrepreneurial development of farmers/youths	1	2	10	0	10	30	10	40	50
WTO and IPR issues									
XI Agro-forestry									
Production technologies									
Nursery management									
Integrated Farming Systems									
XII Others (Pl. Specify)									
TOTAL									
(B) RURAL YOUTH									
Mushroom Production									
Bee-keeping	1	3	2	0	2	13	0	13	15
Integrated farming									
Seed production	1	2	3	0	3	7	0	7	10
Production of organic inputs									
Integrated Farming									
Planting material production									
Vermicomposting	1	2	17	0	17	2	6	8	25
Sericulture	1	2	8	0	8	2	0	2	10
Protected cultivation of vegetable crops									
Commercial fruit production									
Repair and maintenance of farm machinery and implements									
Nursery Management of Horticulture crops									
Training and pruning of orchards									
Value addition									
Production of quality animal products									
Dairying									
Sheep and goat rearing									
Quail farming									
Piggery									
Rabbit farming									
Poultry production									
Ornamental fisheries									
Para vets									
Para extension workers									
Composite fish culture									
Freshwater prawn culture									
Shrimp farming									

Thematic Area	No. of Courses	Duration (days	No. of Participants						
			Others			SC/ST			Grand Total
			Male	Female	Total	Male	Female	Total	
Pearl culture									
Cold water fisheries									
Fish harvest and processing technology									
Fry and fingerling rearing									
Small scale processing									
Post Harvest Technology									
Tailoring and Stitching									
Rural Crafts									
TOTAL									**60**
© Extension Personnel									
Productivity enhancement in veg. crops									
Integrated Pest Management	1	2	5	5	10	4	1	5	15
Integrated Nutrient management	2	4	10	3	13	5	2	7	20
Rejuvenation of old orchards									
Protected cultivation technology									
Formation and Management of SHGs									
Group Dynamics and farmers organization									
Information networking among farmers	1	2	11	0	11	2	0	2	13
Capacity building for ICT application									
Productivity enhancement in veg. crops									
Integrated Pest Management	1	2	5	5	10	4	1	5	15
Management in farm animals									
Livestock feed and fodder production									
Household food security									
Women and Child care									
Low cost and nutrient efficient diet designing									
Production and use of organic inputs									
Gender mainstreaming through SHGs									
Productivity enhancement in vegetable crops									
Mushroom preservation									
TOTAL									**63**

Date	Clientele	Title of the training programme	Duration in days	Venue (Off / On Campus)	Number of participants			Number of SC/ST		
					Male	Female	Total	Male	Female	Total
11.7.08-12.7.08	IS	INM in paddy	2	Off	5	5	10	1	2	3
1.8.08-2.8.08	PF	INM in paddy	2	Off	25	0	25	21	0	21
22.8.08-23.8.08	PF	SRI of paddy	2	On	25	0	25	12	0	12
23.10.08-24.10.08	PF	Acid soil management	2	Off	25	0	25	16	0	16
6.1.09-7.1.09	PF	Soil fertility management	2	Off	25	0	25	7	0	7
9.3.09-10.3.09	PF	Improved package and practice of Hyb. Sunflower	2	Off	25	0	25	15	0	15
1-2.8.08	FW	IPM in kharif rice	2	Off	17	0	17	3	0	3
4-5.8.08	PF	Improved package of practices of brinjal	2	Off	25	0	25	11	0	11

Date	Clientele	Title of the training programme	Duration in days	Venue (Off / On Campus)	Number of participants			Number of SC/ST		
					Male	Female	Total	Male	Female	Total
11-12.8.08	FW	Knowledge of bio-pesticide & their use against different insect & disease of vegetable	2	Off	8	0	8	12	0	12
16-17.8.08	IS	IPM in paddy	2	Off	5	5	10	4	1	5
21-22.8.08	IS	INM in mango	2	Off	10	0	10	4	0	4
24-25.9.08	FW	Nursery raising of solanaceous vegetables	2	Off	0	25	25	0	5	5
26-27.9.08	PF	Improved package of practices of capsicum	2	Off	25	0	25	12	0	12
29-30.9.08	RY	Seed production in tomato	2	Off	10	0	10	7	0	7
24-25.11.08	PF	Improved package of practices of Chilli	2	Off	25	0	25	19	0	19
28-29.11.08	PF	Improved package of practices of Brinjal	2	Off	25	0	25	7	0	7
19-20.01.09	PF	Improved package of practices of Pointed gourd	2	Off	25	0	25	23	0	23
28-29.01.09	PF	Improved package of practices of Tomato	2	Off	25	0	25	15	0	15
24-25.3.09	FW	Nursery raising of solanaceous vegetables	2	ON	0	25	25	0	15	15
26-27.3.09	PF	Improved package of practices of Bittergourd	2	ON	25	0	25	6	0	6
4-5.8.08	FW	Improved package of practices of brinjal	2	Off	25	0	25	16	0	16
21-22.8.08	IS	INM in Mango	2	Off	10	0	10	3	0	3
30-31.1.08	FW	Mobilization of rural credit for upliftment of resource poor farmers.	2	Off	7	2	9	12	4	16
4-5.2.08	IS	Use of ICT for effective dissemination of technologies.	2	Off	5	1	6	4	1	5
19-20.3.08	FW	Management of Farmers clubs for market led production.	2	Off	5	1	6	14	5	19
24-25.3.08	RY	Eco friendly vermicomposting	2	On	5	2	7	13	5	18
26-27.3.08	FW	In-situ soil water conservation practices.	2	Off	19	0	19	1	0	1
28-29.3.08	FW	Cultivation of Fodder grasses	2	Off	11	8	19	5	1	6
4-5.6.08	FW	Leadership development & group mobilization in farmers	2	Off	9	0	9	16	0	16
22-23.8.08	FW	SRI method of rice cultivation	2	On	13	0	13	12	0	12
11-12.7.08	IS	INM in paddy	2	Off	3	4	7	1	2	3
1-2.8.08	FW	Integrated crop management	2	Off	4	0	4	21	0	21

(D) Vocational training programmes for Rural Youth – Not conducted

Crop / Enterprise	Identified Thrust Area	Training title*	Duration (days)	No. of Participants			Self employed after training			Number of persons employed else where
				Male	Female	Total	Type of units	Number of units	Number of persons employed	

(E) Sponsored Training Programmes

Sl. No	Title	Thematic area	Month	Duration (days)	Client PF/ RY/ EF	No. of courses	No. of Participants							Sponsoring Agency
							Male		Female		Total			
							Others	SC / ST	Others	SC / ST	Others	SC/ ST	Total	
1	Acid Soil Management	Soil fertility management	March	2	PF	2	50	50	50	50	100	100	200	OUAT, BBSR
2	IPM in Maize	Production & protection technology	Octobe r,	2	PF	1	3	12	3	7	6	19	25	Govt. of INDIA
Total			-	2		2	50	50	50	50	100	100	200	-

3.4. Extension Activities (including activities of FLD programmes)

Nature of Extension Activity	No. of activities	Farmers			Extension Officials			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Field Day	4	161	39	200	7	1	8	168	40	208
Kisan Mela	14	2150	650	2800	14	6	20	2164	656	2820
Kisan Ghosthi										
Exhibition	8	500	300	800	12	4	16	512	304	816
Film Show	14	390	360	750	14	11	25	404	371	775
Method Demonstrations										
Farmers Seminar										
Workshop										
Group meetings	15	300	150	450	60	20	80	360	170	530
Lectures delivered as resource persons	20	600	200	800	-	-	-	600	200	800
Newspaper coverage	3									Mass
Radio talks	15									Mass
TV talks										
Popular articles	5									Mass
Extension Literature	4									Mass
Advisory Services										
Scientific visit to farmers field	227	1005	214	1219	-	-	-	1005	214	1219
Farmers visit to KVK	1399	887	512	1399	-	-	-	887	512	1399
Diagnostic	6	29	0	29	0	0	0	29	0	29

Nature of Extension Activity	No. of activities	Farmers			Extension Officials			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
visits										
Exposure visits										
Ex-trainees Sammelan	1	52	8	60	-	-	-	52	8	60
Soil health Camp										
Animal Health Camp										
Agri mobile clinic										
Soil test campaigns										
Farm Science Club Conveners meet										
Self Help Group Conveners meetings										
Mahila Mandals Conveners meetings										
Akshya Tritiya World Food Day Women in Agril.	3	95	55	150	2	2	4	97	57	154
Any Other (Specify)										
Total	**1738**	**6169**	**2488**	**8657**	**109**	**44**	**153**	**6278**	**2532**	**8810**

3.5 Production and supply of Technological products

SEED MATERIALS

Category	Crop	Variety	Quantity (qtl.)	Value (Rs.)	Provided to No. of Farmers
CEREALS	Paddy	Pratikhya	22.5	27630	OSSC
OILSEEDS	Ground nut	Smruti	2.2	7520	KVK FLD
PULSES	-	-	-	-	-
VEGETABLES	-	-	-	-	-
FLOWER CROPS	-	-	-	-	-
OTHERS (Specify)	-	-	-	-	-

SUMMARY

Sl. No.	Crop	Quantity (qtl.)	Value (Rs.)	Provided to No. of Farmers
1	CEREALS	22.5	27630	OSSC
2	OILSEEDS	2.2	7520	KVK FLD

3	PULSES	-	-	-
4	VEGETABLES	-	-	-
5	FLOWER CROPS	-	-	-
6	OTHERS	-	-	-
TOTAL		**24.7**	**35150**	**-**

PLANTING MATERIALS

Sl. No.	Crop	Variety	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
FRUITS	Mango	Amrapalli, Dasheri	94	1551	15
	K.Lime	K.Lime	25	275	10
	Papaya	Honey Dew	60	260	10
SPICES					
VEGETABLES	Tomato	BT-10, BT-12	12760	3180	17
	Brinjal	HYV	3328	838	18
	Chilly	HYV	520	133	5
	Cauliflower	HYV	3375	848	12
FOREST SPECIES					
ORNAMENTAL CROPS					
PLANTATION CROPS					
Others (specify)	Tomato		200 kg	300	12
RAW VEG.	Capsicum		14 kg	140	5
	Cauliflower		40 kg.	83	3

SUMMARY

Sl. No.	Crop	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
1	FRUITS	182	2100	20
2	VEGETABLES	20000	5000	52
3	SPICES	-	-	-
4	FOREST SPECIES	-	-	-

5	ORNAMENTAL CROPS	-	-	-
6	PLANTATION CROPS	-	-	-
7	OTHERS	254 kg.	523	20
	TOTAL		**7623**	**92**

BIO PRODUCTS

Sl. No.	Product Name	Species	Quantity		Value (Rs.)	Provided to No. of Farmers
			No	(kg)		
BIOAGENTS	-	-	-	-	-	-
BIOFERTILIZERS	Vermi compost	*Eusiniea fotida*		500	-	Used in KVK farm
BIO PESTICIDES	-	-	-	-	-	-

SUMMARY

Sl. No.	Product Name	Species	Quantity		Value (Rs.)	Provided to No. of Farmers
			No	(kg)		
1	BIOAGENTS	-	-	-	-	-
2	BIO FERTILIZERS	***Eusiniea fotida***		500	-	Used in KVK farm
3	BIO PESTICIDE	-	-	-	-	-
	TOTAL	-	-	500	-	-

LIVESTOCK: NIL

Sl. No.	Type	Breed	Quantity		Value (Rs.)	Provided to No. of Farmers
			(Nos	Kgs		
Cattle	-	-	-	-	-	-
Sheep and Goat	-	-	-	-	-	-
Poultry	-	-	-	-	-	-
Fisheries	-	-	-	-	-	-
Others (Specify)	-	-	-	-	-	-

SUMMARY

Sl. No.	Type	Breed	Quantity		Value (Rs.)	Provided to No. of Farmers
			Nos	Kgs		
1	CATTLE	-	-	-	-	-
2	SHEEP & GOAT	-	-	-	-	-
3	POULTRY	-	-	-	-	-
4	FISHERIES	-	-	-	-	-
5	OTHERS	-	-	-	-	-
	TOTAL	-	-	-	-	-

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

(A) KVK News Letter : Chasbas (2) 31st Mar 2008 Half Yearly 400 copies

(B) Literature developed/published

Item	Title	Authors name	Number	Budget head* from which expenditure incurred
Research papers	1. Insecticides mediated tri-trophis interaction in rice ecosystem with reference to WBPH. 2. Impact of hostplant resistance and time of planting on rice BPH,*N. Lugens*(Stal.) and its natural enemies.	Panda S. K, Nayak, S.K, Behera U.K Panda S. K, Nayak, S.K, Behera U.K	2	Self finance
Technical reports	Annual Report Action Plan FLD Maize report FLD(Oilseed) report FLD(Pulse) report Bench Mark Survey PRA Survey	All Scientists	7	KVK, Cont.
News letters	Chasbas	All Scientists	2	KVK, Cont.
Technical bulletins				
Popular articles	Mechanical control of pests	S.K.Nayak, C.M Panda	1	
	Neem-A safe pesticide	S.K.Nayak, C.M Panda	1	
	Control of *Gajar* grass and use of it in compost making	S.K.Nayak, C.M Panda	1	
	Role of companion crop in pests control.	S.K.Nayak, C.M Panda	1	
	Trap crop in pest management	S.K.Nayak, C.M Panda	1	
	Neem pesticides	S.K.Nayak J.K. Pati	1	
	Pheromone trap in pest management	S.K.Nayak	1	
	Scientific cultivation of black pepper	C.M. Panda	1	

	Cultivation of medicinal yam	A.K. Mohanty	1	
Extension literature	Groundnut-A crop alternate to upland paddy	S.K.Nayak, C.M Panda	200	KVK Cont.
	Improved package of practices of Maize	A.K. Mohanty C.M Panda	200	KVK Cont.
	IPM in Maize	A.K. Mohanty S.K. Nayak	200	KVK Cont.
	Organic farming	S.K.Nayak, C.M Panda	200	KVK Cont.
Others (Pl. specify)				
TOTAL				

N.B. Please enclose a copy of each. In case of literature prepared in local language please indicate the title in English

(C) Details of Electronic Media Produced

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

3.7. Success stories/ Case studies

OFF-SEASON VEGETABLE CULTIVATION(CAULIFLOWER)

1. **Name of the Enterprise/ Practice / Technology**: Off Season Vegetable cultivation (Cauliflower)

2. **Name and address of the farmer**: Sri Pitamber Naik
   Village/Post: Bhedabahal, Block: Sundargarh Sadar
   District: Sundargarh
   State: Orissa

3. **Initial Status**. The cauliflower which becomes available from 1st week of October to last week of November in Sundargarh market comes from Raigarh district of Chhatishgarh and the market price remains Rs.40/- per kg. Therefore the farmers of Raigarh district get more profit by cultivating this cauliflower as off-season in kharif. So one thing came to our mind that why farmers of Sundargarh district will not get more profit out of this enterprise.

   The agroclimatic condition and soil of Sundargarh district is very much conducive for vegetable cultivation. Since 56% of the total cultivated area is high land and 80.5% of total cultivated area is rainfed. There is enormous scope for kharif vegetables. Having good scope for marketing inside the district itself in a city like Rourkela and other towns like Rajgangpur, Bonai, Sundargarh and Jharsuguda, off-season vegetable cultivation can be promoted in the district, particularly in kharif. In some blocks like Nuagaon, Bisra, Lathikata,

Rajgangpur, Kutra and sadar block farmers are practicing kharif tomato and brinjal. Likewise cauliflower can be taken in kharif also.

Bhedabahal, a village in Sundargarh sadar block is situated at a distance of 9 kms from district head quarters. Fifty four families live in this village are mostly small, mariginal and landless labourers. Paddy is the principal crop in kharif. Due to lack of irrigation facilities land remains vacant in Rabi and also in summer. About 42 acres of upland which is occupied by short duration paddy in kharif can be diverted for cultivation of vegetables in kharif. But due to their old traditional pattern and lack of knowledge in this regard this land can not be converted to vegetable cultivation.

4. **KVK Intervention:** Keeping in view getting good return from off season cauliflower, the scientists of KVK motivated him to go for off-season cauliflower cultivation. A 2-days training programme on "Cultivation of off-season cauliflower" was conducted at KVK campus. A FLD was given in 1000m^2 in the year 2007-08 in which improved agro-techniques including IPM method was demonstrated.

5. **Innovative extension approach**

A. Training and Demonstration-Know how and do how of recent technology was provided to him through training and demonstration. KVK scientists made him acquainted with pest identification, necessary plant protection measures including biological methods of control.

B. Input Linkage-He was linked with input dealers dealing with quality of inputs such as seeds, fertilizers and plant protection chemicals.

C. Market Linkage-He was linked to vegetable retailers of Sundargarh and Jharsuguda town for remuneration prices and guaranteed buyback of off season cauliflower.

6. **Details of the technology:**

I. Selection of variety: Himlata

II. Nursery raising:

Time: 1st week of July

Condition: Protected with low cost plastic tunnel using bamboo frame.

Seed treatment: Bavistin @ 1g/Kg seed.

Nursery bed size: 3mX1mX0.15m

III. Transplanting:

Time: 1st week of August

Spacing: 45X45 cm

Treatment of seedlings: With Bavistin @ 2g/litre for 30 minutes.

Protection of seedlings from rain: Covering with leaf funnel made from sal leaves as well as with *khapar*, made from burnt soil which is used for roofing.

IV. Inter-culture: twice

Once in 3rd week of August

Another in 1st week of September

V. Manuring and Fertilizer:

FYM: 10 t/ha

N:P:K: 120:60:60 Kg/ha

Boron: Spraying @ 3g/litre(twice) in 1st and 3rd week of September.

VI. Plant protection Measures(IPM):

Intercropping: Cauliflower : Marigold(trap crop)=15:1

Use of Trichocard: 20000 eggs/acre.

Spraying: Need based application with Endosulfan @ 2ml/litre and Neem oil @ 3 ml /litre alternately to control *Spodoptera*

VII. Harvesting and yield:

Duration : 60 days

Method : harvesting with sharp knife.

Average curd weight: 280 g

Yield : 48q/ha

VIII. Packaging: In plastic net bags to enhance the keeping quality and freshness.

7. Adoption of the technology and benefit to the farmer: New Technology of cultivating off season high demand cauliflower has fetched him good return. The sale price was Rs 1.32 lakhs/ha., cost of production was Rs 0.67 lakhs/ha and net profit was Rs 0.65 lakhs/ha. During 1st year(2006-07), the area given under demonstration was 1000m^2. This year the area has been increased to 1 acre and other 5 farmers of nearby village-Kirei have also started off-season cauliflower cultivation in 2 acres of land.

8. Models of technology dissemination:

INNOVATIVE TECHNOLOGY DISSEMINATION MODEL

PARTICIPATORY SITUATION ANALYSIS THROUGH PRA IN ADOPTED VILLAGE

↓

LACK OF AWARENESS REGARDING CULTIVATION OF OFF-SEASON CAULIFLOWER
POOR KNOWLEDGE IN IMPROVED CULTIVATION PRACTICES

CLIMATIC FEASIBILITY FOR OFF-SEASON CAULIFLOWER CULTIVATION,
MARKET FACILITY AT SUNDARGARH. ROURKELA AND JHARSUGUDA

↓

TRAINING ON OFF-SEASON CAULIFLOWER CULTIVATION

DEMONSTRATION ON "OFF-SEASON CAULIFLOWER VARIETY -HEMALATA"
SUPPLY OF TECHNICAL LITERATURE, TRAINING
VIDEO SHOW, SUPERVISION

↓

DURATION : 60 DAYS, METHOD: HARVESTING WITH SHARP KNIFE.
AVERAGE CURD WEIGHT: 280 G, YIELD : 72.88Q/HA

THE GROSS RETURN WAS RS 1.32 LAKHS/HA., COST OF PRODUCTION WAS RS 0.67 LAKHS/HA AND NET PROFIT WAS RS 0.65 LAKHS/HA.

CONVICTION OF THE FARMERS THAT OFF-SEASON CAULIFLOWER IS A REMUNERATIVE ENTERPRISE WAS ESTABLISHED.
LINKAGE WITH TRADERS AND MARKET WAS ACHIEVED.
OTHER FARMERS OF NEAR BY VILLAGES- KIREI AND KANDABAHAL BECAME INTERESTED TO GROW OFF-SEASON CAULIFLOWER.

↓

LACK OF KNOWLEDGE OF FARMERS IN OTHER VILLAGES ABOUT OFF-SEASON CAULIFLOWER

↓

KVK IS PLANNING TO
CONDUCT TRAININGS FOR OTHER FARMERS AND ADOPTED VILLAGES ON OFF-SEASON CAULIFLOWER

DEMONSTRATION ON CULTIVATION OF OFF-SEASON CAULIFLOWER

FACILITATE LINKAGE WITH INPUT DEALERS AND MARKET FOR SUPPLY OF QUALITY INPUTS AND SALE OF PRODUCE AT REMUNERATIVE PRICE.

9. **Farmers' reaction and feedback**: The farmers were surprised to see the success of off season cauliflower cultivation. They appreciated the net profit which was absent in cultivating paddy in uplands. The farmers of nearby village- Kirei & Kandabahal also took interest in adopting this technology.

10. **Extent of diffusion effect of the newly adopted technology. (Horizontal spread):** Five farmers of nearby villages of Kerei, Badbahal and Kandabahal have followed his foot steps and have recently started off-season cauliflower cultivation. Exposure visit teams from Tangarpali and Hemgiri block with support from ATMA have visited his farm to see his success and it is likely have many more are to follow in near future.

11. **Follow up action:** KVK, Sundargarh has documented the success. It has developed plan to promote off-season cauliflower in blocks like Nuagaon, Kutra and Rajgang pur. Trainings and demonstrations planned to be conducted in these blocks and facilitate linkage with input dealers and market for supply of quality inputs and sale of produce at remunerative price.

12. **Lessons learnt:** Cauliflower in Sundargarh district is being cultivated as on-season crop i.e. in Rabi season but due to climatic suitability it can also be taken as off-season crop. The market price of rabi season crop which becomes available in the month of December-January remains hardly Rs.10/- per kg. Whereas the market price of kharif season(off-season) crop which becomes available in October remains Rs.40/- per kg. Therefore the profit is 4 times in case of off-season cauliflower as compared to on-season crop. So if cauliflower is spread in whole district as off-season crop, then the economic condition of farmers can be improved. By this enterprise the internal demand can be fulfilled as well as excess produce can be sold in markets of other districts and states.

13. Action Photo:

IPM in Brinjal

Off Season Cauliflower

Celebration of Women in Agriculture day

FLD on Dhingri Mushroom

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

a. Phone-in programme on every Wednesday after noon.

b. Establishment for Technology transfer club.

c. Formation of Farmers club

d. Distance education through Directorate of Extension Education,OUAT,Bhubaneswar.

3.9 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	Rice	Bitter gourd (*Momordica charantia*) leaves.	Repel insect pests in Paddy field.
2	French bean & Country bean	Dusting of ash	Controls aphids
3	Storage insect pest	Leaves of Begonia(*Vitex negundo*), Karanja (*Clisthathus* sp.) and Neem (*Azadiracta indica*)	Insect pest repellent and help to store paddy seeds for a longer period.

3.10 Indicate the specific training need analysis tools/ methodology followed for

- **Farmer-** Need assessment through focus group discussion and interview schedule.
- **Rural Youth-**Need assessment through market led demand study.
- **In-service personnel-** Interview schedule

3.11 Field activities- Continuing for the third year

i. Number of villages adopted: 5
ii. No. of farm families selected: 350
iii. No. of survey/PRA conducted: 5

3.12. Activities of Soil and Water Testing Laboratory- Not Applicable

Status of establishment of Lab :

1. Year of establishment :

2. List of equipments purchased with amount :

Sl. No	Name of the Equipment	Qty.	Cost
1			
2			
3			
Total			

3. Details of samples analyzed so far :

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

4.0 IMPACT

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

Name of specific technology/ skill transferred	No. of partici-pants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Preparation of compost under pit and heap method	40	30	8250	Not recorded
Cultivation of hybrid sunflower	40	35	7530	Not recorded
IPM in paddy	40	13	9583	Not recorded
IPM in green gram and Black gram	40	15	6523	Not recorded
IPM in ground nut	40	18	6425	Not recorded
Mechanisation farming for increasing groundnut production	40	10	7324	Not recorded
In-situ rain water harvesting	20	15	7528	Not recorded
Use of hand operated tubular maize sheller	40	30	9272	Not recorded
Use of ground nut decorticator	40	38	8535	Not recorded
Cultivation of paddy straw mushroom	40	30	9373	Not recorded
Cultivation of Dhingiri mushroom	40	20	6385	Not recorded
Income generation through agarbati & candle making	40	13	6975	Not recorded

Name of specific technology/ skill transferred	No. of partici-pants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Use of Improved Sickle, Maize seller, Groundnut decorticator(Drudgery reduction)	40	30	5590	Not recorded
Improved package of practices of Cucurbits(Cucumber & Watermelon)	40	33	1068	Not recorded
Package of practices for Off-season vegetable cultivation (tomato & cauliflower)-a remunerative enterprise.	40	33	5540	Not recorded
Package of practices of capsicum	40	20	-	Not recorded
Cultivation of Kharif onion in uplands.	40	5	6535	Not recorded
Cultivation of wilt tolerant tomato	40	45	6390	Not recorded
Seed extraction of tomato and its marketing for income generation	40	15	7370	Not recorded
Repair and maintenance of diesel pumps	20	10	9295	Not recorded
Vegetable seed production for income generation	-	-		
Sapling and graft production of fruit plants (mango, guava, kagzi lime)	20	10	10500	Not recorded
Wilt management in Tomato, Chilli and Brinjal	40	55	9200	Not recorded
IPM in Toria	40	25	8470	Not recorded
Income generation through Mixture(snacks) making	20	20	11500	Not recorded
Improved Poultry farming	20	15	6540	Not recorded
Preservation of Fruit & Vegetables with special importance to pickle	20	15	7475	Not recorded
Nursery raising of vegetable & flowering plants(Rose, Marigold, Tuberose)	40	5	8380	Not recorded
Cultivation of ginger and turmeric.	40	12	12525	Not recorded

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

4.2. Cases of large scale adoption – Not recoded so far.

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

- Training on drudgery reduction (Tubular maize sheller) was imparted to 25 participants. 60% adoption i.e. 15 participants adopted the practice and were benefited by using less labour during post harvest processing of maize.

- Training on preparation of weaning mix was imparted to 50 lady participants and 80% adoption was seen i.e. 40 trainees prepared their own weaning mix and used for house hold consumption. Now they are planning to practice it on commercial scale.

5.0 LINKAGES

5.1 Functional linkage with different organizations

Name of organization	Nature of linkage
1. State dept. of Agril., Hort., Soil conservation and Animal husbandry	Training and supply of seeds, grafts, seedling,
2. District Administration	Participation in Exhibitions, Krushak Sampark Melas and Trainings, District level development and strategy committee meeting
3. ATMA	Programmes of ATMA (Training, Exposure visit, Demonstration, Farmer Scientist Interaction, workshop and Exhibition)
4. NGO	Training, Exhibition, workshop and Agro Advisory centre

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.)
FLD(Maize)	July2008	Govt. of India	79200

5.3 Details of linkage with ATMA

a) Is ATMA implemented in your district **Yes**

S. No.	Programme	Nature of linkage	Remarks
1	Farmers-Scientist Interaction	Resource person	-
2	Training & Demo.	Facilitators / Resource person	-
3	PPP mode demo (Crop substitution)	Resource person	-
4	Exposure visit	Information provider	-

5.4. Give details of programmes implemented under National Horticultural Mission- Not Started

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

5.5 Nature of linkage with National Fisheries Development Board –Not Applicable

S. No.	Programme	Nature of linkage	Remarks

6. PERFORMANCE OF INFRASTRUCTURE IN KVK

6.1 Performance of demonstration units (other than instructional farm)

Sl.	Demo	Year	Area	Details of production	Amount (Rs.)	Remarks

No.	Unit	of estt.		Variety	Produce	Qty.	Cost of inputs	Gross income	
1	Vermi compost	2007	-	*Eusiniea fotida*	5000	-	700	3000	

6.2 Performance of instructional farm (Crops) including seed production

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Cost of inputs	Gross income	
Cereals (Paddy)	09.07.07	24.11.07	0.8	Pratikhya	Foundation	22.5q	18000	27630	
Paddy	27.6.08	Standing crop	0.8	Pratikhya	Foundation				
Pulses	-	-	-	-	-	-	-	-	-
Oilseeds (G. nut)	09.07.07	22.10.07	0.4	Smruti	Foundation	2.2q	7000	7520	
G. nut	26.6.08	Standing crop	0.4	Smruti	Foundation				
Fibers	-	-	-	-	-	-	-	-	-
Spices & Plantation crops									
Floriculture	-	-	-	-	-	-	-	-	-
Fruits	-	-	-	-	-	-	-	-	-
Vegetables	-	-	-	-	-	-	-	-	-
Others (specify)									

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

Sl. No.	Name of the Product	Qty	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
1	VermiCompost	500kg	800	4000	-

6.4 Performance of instructional farm (livestock and fisheries production)

– Not Applicable

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

6.5 Utilization of hostel facilities - Under construction

Accommodation available (No. of beds) :

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
October 2007			
November 2007			
December 2007			
January 2008			
February 2008			
March 2008			
April 2008			
May 2008			
June 2008			
July 2008			
August 2008			
September 2008			

7. FINANCIAL PERFORMANCE

7.1 Details of KVK Bank accounts

Bank account	Name of the bank	Location	Account Number
With Host Institute	State Bank of India	Bhubaneswar	-
With KVK	State Bank of India	Sundargarh	10969167181

7.2 Utilization of funds under FLD on Oilseed *(Rs. In Lakhs)*

Item	Released by ICAR*		Expenditure		Unspent balance as on 1st April 2009
	Kharif 2008	Rabi 2008 -09	Kharif 2008	Rabi 2008 -09	
Inputs	0	0	30,033	2,307	Nil
Extension activities	0	0	0	0	Nil
TA/DA/POL etc.	0	0	0	0	Nil
TOTAL	**0**	**0**	**30,033**	**2,307**	**Nil**

***Adjusted in KVK contingency by order of authority.**

7.3 Utilization of funds under FLD on Pulses *(Rs. In Lakhs)*

Item	Released by ICAR		Expenditure		Unspent balance as on 1st April 2009
	Kharif 2008	Rabi 2008 -09	Kharif 2008	Rabi 2008 -09	
Inputs	0	0	8,353	0	Nil

Extension activities	0	0	0	0	Nil
TA/DA/POL etc.	0	0	0	0	Nil
TOTAL	**0**	**0**	**8,353**	**0**	**Nil**

7.4 Utilization of funds under FLD on Cotton *(Rs. In Lakhs)* - Not applicable

Item	Released by ICAR		Expenditure		Unspent balance as on 1st April 2009
	Kharif 2008	Rabi 2008 -09	Kharif 2008	Rabi 2008-09	
Inputs					
Extension activities					
TA/DA/POL etc.					
TOTAL					

7.5 Utilization of KVK funds
Year 2007-08

S.No	Particulars	Sanctioned	Released	Expenditure
A	**Recurring Contingencies**			
1	**Pay and allowances**		1391691	1391691
2	**Traveling Allowances**	63000	63000	46795
3	**Contingencies**			
a.	Staionary, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	200000	187389	183583
b.	POLs, repair of vehicles, tractor and equipments			
c.	Meals/refreshments for trainees (ceiling upto Rs.40/day/trainee be maintained)	350000	350000	269532
d.	Training material (poster, charts, demonstration material including chemicals etc. required for conducting the training)			
e.	Front Line Demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			
f.	On-Farm Testing (on need based, location specific and newly generated information in the major production systems of the area)			
g.	Training on extension functionaries			
h.	Maintenance of building			
i.	Establishment of Soil, Plant & Water Testing Laboratory			
j.	Library			
	TOTAL (A)		**1992080**	**1891601**
B.	**Non-Recurring Contingencies**			
(i)	Works			
(ii)	Equipments including SWTL & Furniture	95000	85899	84490
(iii)	Vehicle (Four wheeler/ Two wheeler, please specify)			
(iv)	Library (Purchase of assets like books & journals)			
	TOTAL (B)	**95000**	**85899**	**84490**
C.	**REVOLVING FUND**	**0**	**0.61818 (OB)**	**0.23373**
	GRAND TOTAL (A+B+C)			

Year 2008-09

(*Rs. in lakhs*)

S.No	Particulars	Sanctioned	Released	Expenditure
A	**Recurring Contingencies**			
1	**Pay and allowances**			
2	**Traveling Allowances**	0.80	0.80	0.6536
3	**Contingencies**			
a.	Staionary, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	2.00	2.0685	2.06778
b.	POLs, repair of vehicles, tractor and equipments			
c.	Meals/refreshments for trainees (ceiling upto Rs.40/day/trainee be maintained)	4.00	4.00	2.53502
d.	Training material (poster, charts, demonstration material including chemicals etc. required for conducting the training)			
e.	Front Line Demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			
f.	On-Farm Testing (on need based, location specific and newly generated information in the major production systems of the area)			
g.	Training on extension functionaries			
h.	Maintenance of building			
i.	Establishment of Soil, Plant & Water Testing Laboratory			
j.	Library			
	TOTAL (A)	**6.80**	**6.8685**	**5.2564**
B.	**Non-Recurring Contingencies**			
(i)	Works			
(ii)	Equipments including SWTL & Furniture	4.00	4.00	4.00
(iii)	Vehicle (Four wheeler/ Two wheeler, please specify)			
(iv)	Library (Purchase of assets like books & journals)			
	TOTAL (B)	4.00	4.00	4.00
C.	**REVOLVING FUND**			
	GRAND TOTAL (A+B+C)	**10.80**	**10.8685**	**9.2564**

Status of revolving fund (Rs. In lakhs) for the last three years

Year	Opening balance as on 1st April	Income during the year	Expenditure during the year	Net balance in hand as on 1st April of each year
2006 -2007	0.44869	0.45254	0.26659	0.61818
2007- 2008	0.61818	0.43828	0.23373	0.82273
2008-2009	0.92207	0.54817	0.77819	0.69255

8.0 Please include information which has not been reflected above

8.1 Constraints

Sl. No.	Type of constraints	Action
a.	Administrative	1. Following vacant posts need to be filled up • Subject Matter Specialist-02 (Preferably one from Ag. Engg./ Animal Science & one from Home Sc.) • Jr. Steno-cum-Computer Operator-01 • Programme Assistant -01 2. Extension of existing administration building. 3. Construction of 3R quarters-4 nos., 2R quarters-1 and 1R 2 nos. 4. Electrical & P.H. fitting in the existing administrative building ,staff quarters and campus 5. Generator 2KW
b.	Technical	• Construction of boundary wall (2000m) • Installation of energised deep tube well and irrigation channel(500 m) • Training hall • Tractor with farm implements(Trolley, Disc plough, cultivator, axial flow thresher, inclined plate planter and rotavator
c.	Financial	• Budget provision in R.E for POL and office expenses should be increased. • Expenditure per trainee @ Rs. 40/-per day is very less. Need to be revised. • Budget provision of TA and DA for extension functionaries during training.

(Signature of Programme Coordinator)