

**KRISHI VIGYAN KENDRA
NAYAGARAH**

**Annual Report
2007-08
(01.4.2007 TO 31.03.2008)**



***ORISSA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY
BHUBANESWAR-751003***

PROFORMA FOR ANNUAL REPORT

(1-4-2007 to 31-03-2008)

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	
Krishi Vigyan Kendra, Nayagarh, Orissa	At – Panipoila, P.O – Balugaon, Dist – Nayagarh, State – Orissa, Pin – 752070	-	-	-	nayagarhkvk@yahoo.co.in nayagarhkvk@rediffmail.co

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	P.O. – Bhubaneswar, Dist – Khurda, State – Orissa, Pin – 751003	0674	2402677	2407780	ouatmain@hotmail.com

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. Prasannajit Mishra	-	9437406114	-

1.4. Year of sanction: 29.05.2004 (F.NO.2-10/98 AE II, Dt29.05.04 of ICAR)

1.5. Staff Position (as on 31st March 2008)

Sl. No.	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay Scale with present basic	Date of joining	Permanent /Temporary	Category (SC/ST/OBC/ Others)
1	Programme Coordinator	Dr. P. J. Mishra	Programme Coordinator	Agronomy	12,000-18,3000 13,680/-	01.07.07	Temporary	Gen
2	Subject Matter Specialist	Mr. P. K. Banerjee	SMS	Extn. Edn.	12,000-18,3000 15,360/-	11.02.05	Temporary	Gen
3	Subject Matter Specialist	Dr. G. Das	SMS	Horticulture	8,000-13,500 8,550/-	24.01.05	Temporary	Gen
4	Subject Matter Specialist	Mrs. G. Subudhi	SMS	Home Sc.	8,000-13,500 8,550/-	25.02.05	Temporary	Gen
5	Subject Matter Specialist	Mr. A. K. Swain	SMS	Fisheries	8,000-13,500 8,550/-	11.03.05	Temporary	Gen
6	Subject Matter Specialist	Mr. P. K. Prusty	SMS	Plant Prot.	8,000-13,500 8,275/-	22.08.06	Temporary	Gen
7	Subject Matter Specialist	Mr. S. Nayak	SMS	Forestry	8,000-13,500 8,275/-	22.12.06	Temporary	Gen
8	Programme Assistant	Mr. B. K. Parimanik	Prog. Asst.	Forestry	5,500-9,000 5,675/-	16.10.06	Temporary	Gen
9	Computer Programmer	Miss. R. Praharaj	Prog. Asst.	Computer	5,500-9,000 5,675/-	10.03.06	Temporary	Gen
10	Farm Manager	Miss. R. K. Bhol	Farm Manager	Plant Physiology	5,500-9,000 5,675/-	25.08.06	Temporary	Gen
11	Accountant / Superintendent	Mr. B. N. Mohanty	Accountant / Superintendent	-	5,900-9,000 7,100/-	17.07.06	Temporary	Gen
12	Stenographer	Mr. A. Patnaik	Steno cum Comp. Ope.	Stenographer	4,000-6,000 4,000/-	06.07.07	Temporary	Gen
13	Driver	Mr. P. K. Barik	P.L. working against driver	-	2,550-3,200 3,200/-	02.05.05	Temporary	OBC
14	Driver	Mr. U. Das	Driver	-	3,050-4,590 4,210/-	01.03.06	Temporary	Gen

15	Supporting staff	Sri.Gunanidhi Bauta	Peon/Watchman	-	2,550-3,200	19.12.07	Temporary	Gen
16	Supporting staff	Ri.Prasanna Martha	Peon/Watchman	-	2,550-3,200	19.12.07	Temporary	Gen

1.6. Total land with KVK (in ha):

S. No.	Item	Area (ha)
1	Under Buildings	1.50 ha.
2.	Under Demonstration Units	0.40 ha.
3.	Under Crops	2.00 ha.
4.	Orchard/Agro-forestry	6.50 ha.
5.	Others	11.33 ha.

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	ICAR	Feb. 08	-	-	-	-	-
2.	Farmers Hostel	ICAR	-	-	-	2007	300	Under cons
3.	Staff Quarters (6)	--	-	-	-	-	-	-
4.	Demo. Units (2)	--	-	-	-	-	-	-
5	Fencing	ICAR	-	-	-	2007	6 Ac.	Under cons
6	Rain Water harvesting system	--	-	-	-	-	-	-
7	Threshing floor	ICAR	2006	225	Completed	-	-	-
8	Farm godown	--	-	-	-	-	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
TATA SUMO (Jeep)	2005	4,42,673	47045	Running condition
Tractor with implements	2005	4,88,247	126.8 Hr	Running condition

C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Computer	2005	69,450	Running condition
Laptop & LCD Projector	2007	99,642	Running condition
Digital copier with printer	2008	56,259	Running condition
Digital camera	2008	9,490	Running condition
Public address system	2008	18,640	Running condition

1.8. A). Details SAC meeting conducted in the year (1.4.07-31.3.08) :

Details of SAC Recommendations held on dt.26.10.07

1. Demonstration of integrated farming system and cropping system models in the district to achieve food security and maximizing profit.
2. Development of agro based employment generating avenues for ensuring at least 100 days engagement of agriculture workers in the year.
3. Promote crop intensification programme around water harvesting structures.
4. Encourage farmers to synchronize planting period of vegetables and fruits with market demand in the district.

5. Support the SHGs of sugarcane growers in the district for increase in area, production and productivity of sugarcane.
6. Encourage progressive farmers to develop hatchery for supply of fish fry in the district.
7. Create awareness among farming community to adopt organic farming.
8. Promote tissue cultured sugarcane plants and feasibility study of cane cultivation during kharif season.
9. Popularization of paddy straw and dhingri mushroom cultivation as a self employment enterprise.
10. Conduct micro level analysis of farming situation in the KVK operational areas.
11. Subscribe to important journals for updating knowledge of scientists.
12. Strengthen cooperation with all line departments in the district.
13. Promote value addition to agricultural produce.
14. Create one or two ideal village(s) with cooperation of all line department personnel.
15. Documentation of success stories with detailed economics and photographs.

2. DETAILS OF DISTRICT (2007-08):

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

S. No	Farming system/enterprise
1.	Crop Enterprises - (Paddy, Sugarcane, Greengram, Blackgram, Colocasia & Seasonal vegetables, Groundnut, Sunflower, Toria), Sugarcane – fallow, Paddy – Greengram, paddy – Blackgram, paddy – Sunflower, paddy – vegetables, paddy – Groundnut, paddy – Toria Horticultural crops – Mango, Papaya, Guava, Cashew, and Banana Other Enterprises – Dairy, Fishery, Goatery, and poultry.
2.	Water scarcity, mostly used for direct seeded kharif paddy / kharif groundnut / vegetable Used for transplanted paddy and sugarcane cultivation in kharif and blackgram / greengram in rabi.
3.	Long duration kharif paddy followed by paira cropping of greengram / blackgram. Paddy followed by pulses / vegetables / sunflower / groundnut Direct seeded short duration kharif paddy / Kharif vegetables

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

Sl. No	Agro-climatic Zone	Characteristics
1.	East and South Eastern Coastal Plane Zone	Situated between 20.5°N to 20.24°N latitude and 85.5°E to 85.12°E longitude. The geographical area of the district is 4242 sq.km. (4, 24,200ha) of which 1, 36,841 ha are under cultivation. Out of three types of cultivated area, high land consists of 33% (45ha); medium land 39% (ha) and low land 28% (37ha).The area of the district can be characterized as rain fed with low irrigation potential and major portion falling under hilly terrains, high lands & forests. The soil is alluvial, red, mixed red and black types; average annual rainfall 1449mm. and the cropping intensity is 174%.

S. No	Agro ecological situation	Characteristics
1	Situation - I	<ul style="list-style-type: none"> ▪ Rain fed up-land with red soil. ▪ Rain fed medium land with alluvial soil. ▪ Rain fed low land with alluvial soil. ▪ Irrigated medium land with alluvial soil. ▪ Drought prone hilly terrains. ▪ Flood prone medium and low land. ▪ Water logged areas and water bodies. (WHS, ponds, reservoirs)
2	Situation - II	
3	Situation – III	
4	Situation – IV	
5	Situation – V	
6	Situation – VI	
7	Situation - VII	

2.3 Soil type/s

S. No	Soil type	Characteristics	Area in ha
1	Red soil Red laterite soils Alluvial soil	Low soil fertility, poor drainage, soil erosion	396000 ha

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

S. No	Crop	Area (ha)	Production (Qtl)	Productivity (Qtl /ha)
Kharif				
1	Paddy (local)	18981	364800	19.2
2	Paddy (hyv)	79019	2009180	25.4
3	Maize (local)	765	17750	23.2
4	Maize HYV)	3588	137490	38.3
5	Ragi	653	8030.3	12.3
6	Moong	504	1880.2	3.7
7	Biri (Urad)	5896	22010	3.7
8	Arhar	1326	8210	6.1
9	Groundnut	729	10210	14
10	Sesamum	4640	12800	2.7
11	Castor	49	170	3.4
12	Total Oilseeds	5426	23160	4.2
13	Mesta	597	1910	3.4
14	Sunhemp	160	480	3
15	Ginger	101	1820	18
16	Turmeric	241	3810	15.8
17	Chillies	651	6640	10.2
18	Total condiment & spices	1003	12150	12
Rabi				
1	Wheat	75	898	10.64
2	Paddy(HY)	168	4690	27.91
3	Maize (HYV)	124	4400	35.48
4	Moong	32523	70800	2.17
5	Biri (Urad)	8326	20170	2.42
6	Kulthi	5695	14060	2.47
7	Gram	102	350	3.40

8	Field pea	202	950	4.7
9	Groundnut	380	4520	11.92
10	Sesamum	1813	3810	2.10
11	Castor	21	80	3.7
12	Sunflower	221	1300	5.8
13	Mustard	1674	2060	1.1
14	Linseed	590	1560	2.60
15	Safflower	12	50	4.16
16	Potato	157	6350	40.44
17	Sugarcane	4447	3246880	730
18	Onion	561	30710	54.74
19	Garlic	253	9840	38.8
20	Coriander	229	1010	4.4
21	Chillies	258	2000	7.7

2.5. Weather data

Month	Rainfall (mm)	Temperature °C		Relative Humidity (%)
		Maximum	Minimum	
April'07	11	39.2	34.0	61.9
May'07	58	40.6	35.5	63.4
June'07	345	38.2	34.1	72.0
July'07	145.8	35.9	32.0	78.9
Aug'07	286.48	34.1	31.0	86.6
Sept'07	404.15	32.7	31.5	84.5
Oct.'07	54.38	29.23	25.32	77.81
Nov.'07	0.5	28.04	22.22	70.49
Dec'07	0	24.67	19.72	58.29
Jan'08	14.45	25.06	18.87	80.16
Feb'08	5.9	27.74	20.32	73.31
March'08	14.94	32.15	25.18	56.68

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

Category	Population	Production	Productivity
Cattle			
<i>Crossbred</i>	3277	15.75th.MT	-
<i>Indigenous</i>	84062	-	-
Buffalo	8582	-	-
Sheep			
<i>Crossbred</i>	-	-	-
<i>Indigenous</i>	-	-	-
Goats	97017	1030	-
Pigs	54	-	-
<i>Crossbred</i>	-	-	-
<i>Indigenous</i>	-	-	-
Rabbits	-	-	-
Poultry			
Hens	104875	9.92 M eggs	-
<i>Desi</i>	-	-	-
<i>Improved</i>	-	-	-

Ducks	1024	-	-
Turkey and others	-	-	-
Fish	5728.77Ha	6330 MT	1.1 MT
<i>Marine</i>	-	-	-
<i>Inland</i>	5728.77Ha	6330 MT	1.1 MT
Prawn	2507.00Ha	2 MT	0.0008 MT
Scampi	2507.00Ha	1 MT	0.0004 MT
Shrimp	-	-	-
Category	Population	Production	Productivity
Cattle			
<i>Crossbred</i>	3277	15.75TMT	
<i>Indigenous</i>	84062		
Buffalo	8582		
Sheep			
<i>Crossbred</i>			
<i>Indigenous</i>			
Goats	97017	1030	
Pigs	54		
<i>Crossbred</i>			
<i>Indigenous</i>			
Rabbits			
Poultry	104875	9.92M eggs	
Hens			
<i>Desi</i>			
<i>Improved</i>			
Ducks	1024		
Turkey and others			
Fish	5728.77Ha	6330 MT	1.1 MT
<i>Marine</i>	-	-	-
<i>Inland</i>	5728.77Ha	6330 MT	1.1 MT
Prawn	2507.00Ha	2 MT	0.0008 MT
Scampi	2507.00Ha	1 MT	0.0004 MT
Shrimp	-	-	-

Details of Operational area / Villages (2007-08)

Sl. No.	Taluk	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1.	Nayagarh	Nayagarh	Kantabania, Koska Panipoila Barabati Narialli Balugaon Khedapada	Sugarcane, paddy, groundnut, banana, mushroom, fresh water prawn ornamental fish, backyard poultry	Reduction in cane yield due to borer damage Increasing cost of production and reducing yield response High production cost and low pod yield due to initial weed infestation Low yield from traditional types with damage due to winds. Non / underutilization of paddy straw and sugarcane baggage. Low income from fish culture with less export value No income from backyard of house	High rate of borer infestation in sugarcane Less use of organic manure Low yield of groundnut Development of high yielding Tissue cultured banana plantation Income generation activities for empowerment of rural women Scientific culture practice with pond and tank based freshwater Unemployed rural youths with non professional avenue income generation
2	Khandapada	Khandapada	Biridihi, Ranipada	Paddy, sugarcane, , banana, mango	Reduction in cane yield due to borer damage Increased cost of production and reduced yield response High production cost and low pod yield due to initial weed infestation Low yield from traditional types with damage due to winds. Old and sick orchards bear little or no fruits	High rate of borer infestation in sugarcane Less use of organic manure Low yield of groundnut Development of high yielding Tissue cultured banana plantation Low yield from old and traditional orchards

3	Nuagaon	Nuagaon	Khanguri, lingiribari, bakalbandha, kanigiri	Sugarcane, paddy, groundnut, banana, mushroom, fresh water prawn, ornamental fish, backyard poultry, Yam and elephant foot yam	Reduction in cane yield due to borer damage Increased cost of production and reduced yield response High production cost and low pod yield due to initial weed infestation Low yield from traditional types and damage by winds. No /underutilization of paddy straw and sugarcane baggage. Low income from fish culture with less export value No income from backyard of house Acrid quality of local cultivars and low yield of yam and EFY	High rate of borer infestation in sugarcane Less use of organic manure Low yield of groundnut Development of high yielding Tissue cultured banana plantation Income generation activities for empowerment of rural women Scientific culture practice with pond and tank based freshwater Unemployed rural youths with non professional avenue for income generation. High return from improved tuber crops
4	Bhapur	Bhapur	Rampada	mushroom, fresh water prawn	Low income from fish culture with less export value	Scientific culture practice with pond and tank based freshwater
5	Odogaon	Odogaon	Hariharpur, Godipalli	Sugarcane, paddy, groundnut, banana	Reduction in cane yield due to borer damage Increasing cost of production and reducing yield response High production cost and low pod yield due to initial weed infestation Low yield from traditional types with damage due to winds. .No/ underutilization of paddy straw and sugarcane baggage. Low income from fish culture with less export value No income from backyard of house Acrid quality of local cultivars and low yield	High rate of borer infestation in sugarcane Less use of organic manure Low yield of groundnut Development of high yielding Tissue cultured banana plantation Income generation activities for empowerment of rural women Scientific culture practice with pond and tank based freshwater Unemployed rural youths with non professional avenue income generation High return from improved tuber crops

6	Daspalla	Daspalla	Tumandi, janisahi, madhyakhanda, Dakabara	Sugarcane, paddy, groundnut, banana, mushroom, fresh water prawn, ornamental fish, backyard poultry, Yam and elephant foot yam	Reduction in cane yield due to borer damage Increasing cost of production and reducing yield response High production cost and low pod yield due to initial weed infestation Low yield from traditional types with damage due to winds. No/ underutilization of paddy straw and sugarcane baggage. Low income from fish culture with less export value No income from backyard of house Acrid quality of local cultivars and low yield from yam and EFY	High rate of borer infestation in sugarcane Less use of organic manure Low yield of groundnut Development of high yielding Tissue cultured banana plantation Income generation activities for empowerment of rural women Scientific culture practice with pond and tank based freshwater Unemployed rural youths with non professional avenue income generation High return from improved tuber crops
7	Ranpur	Ranpur	Akhupadar	banana, paddy, moong, blackgram, vegetable	Low yield from traditional types with damage due to winds.	Tissue cultured banana plantation

2.7 Priority thrust areas

S. No	Thrust area
1.	Varietal substitution in paddy, particularly for rainfed upland and medium land types.
2.	Crop diversification from paddy to pulse (Arhar), oilseed (Sunflower, ground nut) sugarcane and tuber crop based cropping systems
3.	Integrated nutrient management by incorporation of crop residues/forest litters, green manuring, improvised composting and balanced use of inorganic and biofertilisers.
4.	Popularizing ecofriendly pesticides and biocontrol agents and IPM practices for borers in sugarcane and brinjal.
5.	Revolutionizing fresh water fish farming by including freshwater prawn (Scampi) in Composite pisciculture system.
6.	Empowerment of rural youth and SHGs through remunerative agro based enterprises like value addition of fruits and vegetables, mushroom production, bee keeping, floriculture and poultry farming.
7.	Rejuvenating mango and cashew orchards and developing Alternative Land Use system model.
8.	Scientific method of fish production with freshwater prawn culture, integrated farming system research and ornamental fish culture
9.	Income generation from backyard poultry for economic upliftment.

3. TECHNICAL ACHIEVEMENTS

3.1. A. Abstract of interventions undertaken

Sl. 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.	Low yield of groundnut, colocassia	Groundnut	High production cost	Weed control in colocassia	Weed control in groundnut	Integrated weed control in groundnut IPM in pulses Use of bio inoculants in pulses	-	Group meeting, personal contact	Seeds, herbicides
2.	Low productivity of paddy	Paddy	Increasing cost of production and reducing yield response	System of rice intensification	-	-	-	Group meeting, personal contact	Seeds
3.	Intercropping system	Intercrops	Mono cropping failure occurs in rainfed upland. Intercrops will be an insurance against failure of main crop and judicious utilization of land.	-	-	Intercropping in rainfed upland kharif paddy	Farming system approach in organic farming.	-	-
4.	Low cost of inputs in sugarcane	Sugarcane	Low yield in sugarcane	Method of planting in sugarcane	-	Planting technique in sugarcane	Sugarcane production technology	-	-
5.	Organic fertilizer production	Vermicompost, organic waste recycling, Azolla, BGA	Farmers are not well conversant with the production technology of organic fertilisers. -	-	Enrichment of rural compost.	Vermicompost production technology Organic waste recycling and production of enriched compost. Production and marketing of azolla and BGA	-	-	-
6.	Less use of organic manure	Paddy	Poor crop yield due to low nitrogen deficiency	Green manuring in rainfed medium land paddy.	Green manuring in lowland paddy	Green manuring in direct seeded kharif paddy	Nutrient mgmt in organic farming	Group meeting, persuasion & personal contact	Seed of dhanicha, vermicompost
7.	Less fertiliser use efficiency in paddy, sugarcane and moong	Paddy Sugarcane moong	Nitrogen loss by application of Urea Less fertiliser use efficiency in moong	-	Fertiliser management in moong.	Nitrogen mgmt inspring planted sugarcane Use of fertilizer broadcaster	Management of acid soil	Group meeting	Nimin

8.	Seed production	Sunflower	Low seed setting	-	-	Hand pollination to Increase seed setting in sunflower	-	-	-
9.	Low yield of groundnut, Sugarcane, pulses	sugarcane	High production cost and low pod yield due to initial weed infestation and pest incidence.	Weed management in greengram.	Weed control in sugarcane.	Integrated weed mgmt in spring planted sugarcane	-	Group discussion	Herbicide
10.	Development of high yielding Tissue cultured banana plantation	Banana	Low yield from traditional types with damage due to winds.	-	Tissue cultured Banana plantation		-	Night meeting & discussion	Tissue cultured banana saplings
11.	Introduction of high variety of Ginger & turmeric	Ginger & turmeric	Very low yield from traditional variety with high fiber content and no use of orchard space	Performance of different crops under shade	Varietal substitution in turmeric Varietal substitution in ginger	1. Value addition of turmeric through curing 2. Raised bed planting of ginger and turmeric.	-	Village survey and field visit	Supply of Ranga, Rasmi, roma and Suroma high yielding variety of turmeric
12.	Rejuvenation of old and senile mango orchards	Mango	Old and senile orchards bear little or no fruit	-	-	Rejuvenation of old and sick mango orchards	Orchard mgt. with particular reference to rejuvenation of old orchards	Survey, field visit and discussion	-
13.	Control of fruit drop in coconut	Coconut	High fruit drop incidence in coconut	-	Introduction of hybrid coconut	-	-	Survey, field visit and discussion	Hybrid coconut saplings
14.	Cashew orchard mgt.	Cashew nut	Poor mgt. of cashew orchards with no use of intercropping space	Intercropping in cashew orchards	-	Care and maintenance of existing cashew orchards	-	Survey, field visit and discussion	Supply of cassava seedlings
15.	Employment generation for unemployed rural youth	-	Low employment rate of rural youth	-	-	1. Propagation technique for raising improved fruit saplings.	Commercial floriculture	Survey, field visit and discussion, Film show	Supply of quality vegetable seedlings and saplings of mango and papaya.

16.	Off season vegetable cultivation	Vegetables	Low return from seasonal crop	-	-	1. Raising of kharif onion 2. Raising of cauliflower/cabbage as a cash crop	Protected cultivation of high value offseason crop.	Survey, field visit and discussion, Discussion with marketing channel operatives	Supply of quality vegetable seedling
17.	Hybrid papaya cultivation	Papaya	High percentage of male and low yield from traditional variety	-	Introduction of hybrid papaya (Red lady)	-	-	Survey, field visit and discussion, Film show	Red lady saplings
18.	Control of wilt in brinjal	Brinjal	Wilting a major problem	Performance of wilt resistance high yielding variety of brinjal	-	Wilt management in solanaceae crops.	-	-	seedling
19	High return from improved tuber crops	Yam, Elephant foot yam	Low yield from traditional and non acrid varieties	-	1. Introduction of improved yam 2. Introduction of Elephant foot yam	-	-	Survey, field visit and discussion, Film show	Supply of <i>Hatikhojia</i> and <i>Gajendra</i>
20	High return from organically produced products	-	Low yield and damage to soil due to excessive use of in-organic fertilizers and chemicals	-	-	-	Organic vegetable production Use of bio pesticides and botanicals for pest mgmt. on organic farming.	Group discussion and persuasion	-
21	Large scale of damage in cauliflower	Cauliflower	DBM is the serious pest which threatens cole crop cultivation in the locality.	-	-	Pest mgmt. in cole crops	-	Group discussion	Chemicals
22	Involve high cost in weed mgt. of groundnut	Groundnut	High mortality due to fungal wilt at early stages of crop growth	Biological control of groundnut wilt	-	Wilt mgt. in groundnut	-	Group discussion	Bio-pesticide
23	High cost involvement with chemical control of stem borer	Paddy	Reduction of yield due to stem borer attack	-	-	Management of stem borer in paddy	-	Group discussion	Bio-agents

24	High rate of borer infestation in sugarcane	Sugarcane	Reduction in cane yield due to borer damage	Management of termite and early shoot borer.	Biological control of sugarcane borers	IPM in sugarcane Pest mgmt in sugarcane	-	Group discussion	Bio-agents
25	Injudicious use of chemical pesticides increases fruit and fruit borer attack in brinjal. Wilting is a major threat.	Brinjal	Yield reduction and poor market value due to fruit and shoot borer attack. High mortality due to wilting.	-	IPM for fruit and shoot borer and wilt complex in brinjal	IPM for fruit and shoot borer in brinjal IPM in brinjal	-	Group discussion	Bio-pesticides & eco friendly chemicals
26.	Mgt. of field rats	Mgt. of field rats	Large scale of crop damage due to field rats	-	Mgt. of field rats	Rodent Management in Agriculture Control of house and field rats		News paper – 1	Zinc phosphide,
27	Low yield of paddy	Paddy	Decline in productivity of existing paddy variety due to poor NUE and increasing pest menace	-	Production stability and profit maximization in medium land paddy	IPM for control in BPH in rice		Group discussion	Botanicals, Bio-agents and eco friendly pesticide
28	Scientific culture practice with pond and tank based freshwater	Freshwater prawn (Scampi)	Low income from fish culture with less export value	-	Freshwater prawn culture	Freshwater prawn culture	-	Exposure visit, video show	<i>M rosenbergii</i> (Scampi) seed
29	Unemployed rural youths with non professional avenue income generation	Ornamental fish	Nil income from backyard of house	-	Ornamental fish culture	Ornamental fish culture Preparation of aquarium	-	Booklet on ornamental fish, Personal contact	Ornamental fish as brooder.
30	Integrated farming system resources for agricultural allied activities along with pisciculture	Fish fingerling Duckery Tissue culture banana papaya Hybrid coconut	Low income from pond based pisciculture unit	-	Pond based farming system	Integrated fish and prawn culture Pond development and management in fish culture	-	Video show, group discussion	Fingerling(IM C) Duckery Tissue culture banana(Bantal a Papaya,coconut
31	Water resources for multiple fish culture	Fish yearling	Low income from single culture practice	-	-	Fish fry, fingerling and yearling production	-	Discussion in Krishi sampark melas	-
32	Removal of predatory fishes, feed management enhanced fish prodn.	Indian major carps and exotic carps	Low yield from fish mortality and no supplementary feed	-	-	Predatory and weed fish management Feeding management in fish pond Aquatic weed control. Control of EUS.	-	Group discussion	-
33	Backyard poultry rearing	Vanaraja dual purpose poultry	Low yield in terms of meat and egg from desi birds	-	Backyard poultry rearing	Backyard poultry.	-	Motivation and personal contact	Vanaraja chicks of 21 days old

34	Income generation activities for rural women	Mushroom	1. No/ underutilization of paddy straw and sugarcane baggage. 2. High market demand 3. Under utilization of leisure time of housewives.	1. Alternate substrates for paddy straw mushroom production. 2. Performance of paddy straw mushroom under orchard shades.	1. Cultivation of paddy straw mushroom 2. Introduction of oyster mushroom	1. Commercial cultivation of paddy straw mushroom 2. Commercial cultivation of oyster mushroom 3. Mushroom production for rural employment.	-	T.V talk, Group discussion, personal visits and persuasion	Spawn and polythene.
35	Value addition to vegetables	Tomato	Market value goes down at peak period of production season.	-	-	Value addition to tomato	-	Personal contact, farm and home visits	Chemicals and edible colours
36	Value addition to fruits	Mango	Market value goes down to the maximum during peak period of production.	-	-	Value addition to mango	-	Personal contact, persuasion	Chemical and edible colours
37	Drudgery reduction for women in agril.	-	Drudgery associated with women in agriculture	-	-	Use of paddy thresher and winnower	-	Group discussion	-
38	Mal nutrition due to lack of balance diet among children.	-	Mal nutrition due to lack of balance diet among children.	-	-	Supplementary diet for pre-school children.	-	Group discussion	-
39	Fuel scarcity	-	1. Over exploitation of natural forest. 2. Use of cow dung for fuel purpose leading to scarcity of FYM.	-	-	Use of solar cooker to overcome fuel scarcity.	-	Group discussion	-
40	Household food security by kitchen gardening.	Vegetable and fruit cultivation in kitchen garden	1. No/ underutilization of backyard space. 2. Non availability of daily fresh vegetables 3. Nutritional deficiency is prominent	-	Development of nutritional garden	-	-	-	Seedlings and seeds of vegetables and fruits
41	Household treatments of minor ailments	Medicinal plants	1. Happening of minor health problems in daily life. 2. Non availability of instant medical facilities	-	Medicinal plants for home garden	Medicinal plants for home garden	-	-	Seedlings
42	Storage loss minimization	Cereals, pulses and vegetables	1. loss of food grains is maximum during storing	-	Safe storage of pulses	1. Control of store grain pests. 2. Control of house rats	-	-	Poisons and traps
43	Enhancement of soil health	Soil health	Gradual deterioration of soil health	-	-	Vermicompost production	-	-	-

44	Raising Eucalyptus clones for meeting pulp and industrial wood demand	<i>Eucalyptus</i>	Locally grown Eucalyptus has slower growth rate and high lignin content and branchy nature	Performance of Eucalyptus clones	-	Growing Eucalyptus for industrial use. Industrial plantation of eucalyptus, bamboo, mangium and gamhar.	-	-	JK Clones 420 Nos. Conventional potted seedlings 420 Nos.
45	Meeting requirement of fuel wood and timber	<i>Acacia mangium</i>	Risk and uncertainty in rainfed farming system and bunds remaining unutilized	-	Bund plantation of high value fast growing timber crop	Growing Acacia mangium for profit maximization	-	-	Mangium seedling – 360 Nos.
46	Natural resource mgt. through JFM.	Teak	Heavy pressure on natural forest for timber and fuel wood	-	Plantation for community support	-	Natural resource mgt. Environmental pollution.	-	Teak – 620 Nos.
47	Raising of multipurpose tree species in backyard to meet the demand of timber, fuel wood & fodder	<i>Acacia mangium</i> <i>A. auriculiformis</i> Teak	Devastation of conserved forest for home consumption of timber fuel wood and fodder	-	Homestead forestry	Agroforestry systems for rainfed as well as irrigated agro-ecosystem	-	-	Teak – 300 Nos. A. auriculiformis – 240 Nos. A. mangium- 60 Nos.
48	Production of quality planting material	<i>Bambusa nutans</i> , & <i>Bambusa vulgaris</i>	Insufficient quality planting materials	-	-	Propagation of bamboo through culm cutting method. Development and maintenance of forest nursery and raising of quality propagation material.	Bamboo plantation technology.	-	-
49	Watershed management	Watershed component	Lack of proper management of watershed components.	-	-	-	Concept of watershed and its management.	-	-
50	Capacity Building of Rural Youth.	-	Rural youth are not capable enough in agril. & allied activities.	-	-	1. Organizing Farmers' Club 2. Effective formation of SHG for boosting rural economy 3. Group dynamics in farmers organisation 4. Group approach in NRM and Conservation 5. Importance of formation & mgmt. for SHG.	-	-	-

51	Upgrading knowledge of extension personnel	-	The working knowledge of extension personnel requires upgradation.	-	-	-	1. Technique of conducting Field Demonstration. 2 Agro-consultancy services for entrepreneurship development. 3. Community involvement in successful organic farming.	-	-
52	Income generation	Bee Keeping	Unemployment of rural youth	-	Bee Keeping	Bee keeping for self employment	-	Booklet – 1 News paper – 1	Bee colony and smoker

3.1. B/C.

Details of each On Farm Trial to be furnished in the following format

OFT- 1

1. Title of on-farm trials : **Method of planting in sugarcane**
2. Problem diagnose : High density planting which increases the seed cost
3. Details of technologies selected for assessment/refinement : Putting 2 two buded sets in a pit of 1ft x1ft size with 4ft x 2ft spacing.
4. Source of technology : IISR, Lakhnow, 2002
5. Production system and thematic area : Integrated crop mgt.
6. Performance of the Technology with Performance indicators : Yield, economics.
7. Final recommendation for micro level situation : **Results awaited**
8. Constraints identified and feedback for research :
9. Process of farmers participation and their reaction : Pit method of planting done by the farmers in a group.

Results

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment
1	2	3	4	5	6	7
Sugarcane	Irrigated Medium land	High density planting which increases the seed cost	Method of planting in sugarcane	10	Putting 2 two buded sets in a pit of 1''ft x1''ft size with 4ft x 2ft spacing.	-

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

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16
Farmer's practice** Normal trench method			

of planting.			
Technology Assessed** Putting 2 two buded sets in a pit of 1''ft x1''ft size with 4ft x 2ft spacing.			
Technology refined**			

OFT 2

1. Title of on-farm trials : **Green manuring in rainfed medium land paddy**
2. Problem diagnose : Incorporation is difficult in absence of rain at 30-45 DAS
3. Details of technologies selected for assessment/refinement : Knipping at knee height stage
4. Source of technology : CRRI, 1998
5. Thematic area : Integrated crop management
6. Performance of the Technology with performance indicators : Yield
7. Final recommendation for micro level situation : Sowing of 15 kg. of dhanicha seeds per ha with paddy seeds and beushaning 45 DAS
8. Constraints identified and feedback for research : Irratic rainfall often create problem for beushaning in time.
9. Process of farmers participation and their reaction : Field operation done by farmers in group in presence of scientist

Results

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment
1	2	3	4	5	6	7
Paddy	Rainfed medium land	Poor crop yield due to low nitrogen efficiency	Green manuring in rainfed medium land paddy	10	T1- only paddy T2-Seeds of dhanicha 15 kg/ha were sown with paddy seeds	Yield

* 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	F.P-23.52q/ha Demn.-27.12q/ha	Farmers are satisfied with green manuring Dhanicha in paddy cultivation.	-	-

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16
Farmer's practice** Paddy seeds only sown	F.P-23.52q/ha	F.P-3074/-	F.P-1.58
T.A – Dhanicha seeds were sown with paddy seeds & knipping is done at knee high stage	Treatment.-27.12q/ha	Treatment-5005/-	Treatment-1.77

OFT- 3

1. Title of on-farm trials : **System of rice intensification**
2. Problem diagnose : Increasing cost of production and reducing yield response
3. Details of technologies selected for assessment/refinement : Planting of 10 to 12 days of old seedling of high yielding or hybrid seed, one seedling per hill with a spacing of 25 X 25 cm.
4. Source of technology : APAU, 1998
5. Thematic area : Integrated crop management
6. Performance of the Technology with performance indicators : No. of tillers per hill, Yield
7. Final recommendation for micro level situation : Planting of 10 to 12 days of old seedling of high yielding or hybrid seed, one seedling per hill with a spacing of 25 X25 cm.
8. Constraints identified and feedback for research : Raising seedling(mat) , maintaining spacing & transplanting properly
9. Process of farmers participation and their reaction : Farmers directly involved from training to completion of the experiment

Results

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment
1	2	3	4	5	6	7
Paddy	Irrigated medium land	Increasing cost of production and reducing yield response	System of rice intensification	6	T ₁ -Normal Practice T ₂ -Planting of 10 to 12 days old seedling of high yielding, one seedling per hill with a spacing of 25 X 25 cm	No. of tillers per hill

Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement done	Justification for refinement
8	9	10	11	12
Yield	F.P-27.03q/ha Demn.-40.43q/ha	Nursery raising and transplanting needs more skill development	-	-

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16
F.P – 30 to 45 days old seedling, 3 to 4 seedling per hill and HYV with random spacing.	F.P-27.03q/ha	F.P-5,100/-	F.P-1.72
Planting of 10 to 12 days of old seedling of high yielding v/s, one seedling per hill with a spacing of 25x25 cm	Treatment.-40.43q/ha	Treatment-11,050/-	Treatment-2.21

OFT-4

1. Title of on-farm trials : **Weed management in greengram.**
2. Problem diagnose : Severe weed infestation reduced seed yield & profitability
3. Details of technologies selected for assessment/refinement : Application of Quizalofop –Ethyle 5%ec @ 1lt/ ha after

- 30days of sowing
4. Source of technology : OUAT, 2003
 5. Production system and thematic area : Weed management.
 6. Performance of the Technology with performance indicators : No of weeds/ m², seed yield
 7. Final recommendation for micro level situation : Application of Quizalofop –Ethyle 5%ec @ 1lt/ ha between 10-30 days of sowing.
Constraints identified and feedback for research : Moongs seeds are randomly broadcasted therefore plant population is not maintained and lot of monocot and dicot weeds infested moong crop which ultimately affects the crop yield.
 8. Process of farmers participation and their reaction : Farmers applied herbicides under direct supervision of Scientists and satisfied with the performance of herbicides.

Results

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment
1	2	3	4	5	6	7
Greengram	Rain fed upland	Severe weed infestation reduced seed yield & profitability	Weed management in greengram	5	Application of Quizalofop –Ethyle 5%ec @ 1lt/ ha between 10-30days of sowing.	Weed no/m ² Yield

* 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
F.P * 76 nos/m ²	F.P-3.83q/ha Demn.-5.95q/ha	Chemical weed control in greengram has been accepted by the farmers	-	-
Treatment- 18 nos/m ²				

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	
Farmers practice**	3.83q/ha	3074/-	1.53
T.A* Application of Quizalofop –Ethyle 5%ec @ 1lt/ ha after 30days of sowing	5.95q/ha	5005/-	1.77

OFT-5

1. Title of on-farm trials : **Weed control in colocasia**
2. Problem diagnose : Heavy weed infestation in early growth stage of colocasia reduced the yield.
3. Details of technologies selected for assessment/refinement : Application of Quizalofop-Ethyle 5%ec @ 1lt/ ha after 30days of sowing.
4. Source of technology : OUAT, BBSR
5. Production system and thematic area : Weed management
6. Performance of the Technology with performance indicators : No of weeds/m²
7. Final recommendation for micro level situation : Application of Quizalofop –Ethyle 5%ec @ 1lt/ ha between 10-30 days of sowing.
8. Constraints identified and feedback for research :
9. Process of farmers participation and their reaction : Farmers are trained before execution of experiment and directly involved in a group

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment
1	2	3	4	5	6	7
Colocasia	Irrigated up/Medium land	Heavy weed infestation in early growth stage of colocasia reduced the yield	Weed control in colocasia	10	Application of Quizalofop – Ethyle 5%ec @ 1lt/ ha between 10-30days of sowing.	Yield

* 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
F.P *	F.P. 113.12 q/ha	-	-	-
Treatment	T.A. 128.12 q/ha			

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	
Farmers practice** Manual weeding	113.12 q/ha	16560	1.41
T.A* Application of Quizalofop –Ethyle 5%ec @ 1lt/ ha after 30days of sowing	128.12 q/ha	23360	1.57

OFT-6

1. Title of on-farm trials : **Management of termite and ESB in sugarcane**
2. Problem diagnose : Termite and ESB attack in early stage causes significant yield lose in sugarcane
3. Details of technologies selected for assessment/refinement : Soil application of regent (Fipronil 0.3% granules)@ 20kg/ha at planting.
4. Source of technology : UPCSR,2005
5. Production system and thematic area : Integrated pest mgt.
6. Performance of the Technology with performance indicators : Yield
7. Final recommendation for micro level situation :
8. Constraints identified and feedback for research
9. Process of farmers participation and their reaction : Farmers applied pesticides under direct supervision of scientists.

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment
1	2	3	4	5	6	7
Sugarcane	Irrigated/Medium land	Termite and ESB attack in early stage causes significant yield lose in sugarcane	Management of termite and ESB in sugarcane	5	Soil application of regent (Fipronil 0.3% granules)@ 20kg/ha at planting.	Yield, No of dead hearts/m2 & economics

*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
F.P *	Not harvested	-	-	-
Treatment				

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	
Farmers practice** No treatment	-	-	-
T.A* Soil application of regent (Fipronil 0.3% granules) @ 20kg/ha at planting.	-	-	-

OFT- 7

1. Title of on-farm trials : **Biological control of groundnut wilt**
2. Problem diagnose : High mortality due to fungal wilt at early stages of crop growth
3. Details of technologies selected for assessment/refinement : Treatment with Tricoderma viridae @ 4gm. In 10 ml of water for 1kg seed and spraying plant with 5gm/lt of water
4. Source of technology : OUAT, 2001
5. Thematic area : Biological control of pest and disease
6. Performance of the Technology with performance indicators : Percentage of germination of seeds and no. of mortality of plants, yield.
7. Final recommendation for micro level situation : Treatment with Tricoderma viridae @ 4gm. In 10 ml of water for 1kg seed and spraying plant with 5gm/lt of water
8. Constraints identified and feedback for research : Late control by application of bio pesticides.
9. Process of farmers participation and their reaction : Farmers applied bio-pesticide under direct supervision of the scientist and satisfied with the performance of the pesticides.

Results

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment
1	2	3	4	5	6	7
Groundnut	Rainfed upland	High mortality due to fungal wilt at early stages of crop growth	Biological control of groundnut wilt	10	T1-No treatment T2- Treatment with Tricoderma viridae @ 4gm. In 10 ml of water for 1kg seed and spraying plant with 5gm/lt of water	Percentage of germination of seeds and no. of mortality of plants.

* 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
Germination percentage increased by 25%	Yield-7.28q/ha	Tricoderma viridae is quite effective in controlling wilt in groundnut.	-	-

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	
Farmers practice** spraying of Bavistine	6.12q/ha	2950/-	1.32
Treatment with Tricoderma viridae @ 4gm. In 10 ml of	7.28q/ha	5030/-	1.50

water for 1kg seed and spraying plant with 5gm/ltr of water			

OFT 8

1. Title of on-farm trials : **Alternate substrate for paddy straw mushroom production.**
2. Problem diagnose : Higher cost of paddy straw and its scarcity.
3. Details of technologies selected for assessment/refinement : Paddy straw and sugarcane baggage in 1:1 ratio
4. Source of technology : CTMRT, Bhubaneswar, 2001
5. Thematic area : Mushroom production
6. Performance of the Technology with performance indicators : Yield and economics
7. Final recommendation for micro level situation : Paddy straw mushroom can be economically cultivated by using paddy straw and sugarcane baggage @ 1:1 ratio.
8. Constraints identified and feedback for research : (i) Sterilization of baggage against ants
(ii) other species of paddy straw mushroom may be tried using the substrates for assessing production and productivity.
(iii) Economy of that species may be calculated.
9. Process of farmers participation and their reaction : (i) Collection, integration and bedding technique in presence of scientists
(ii) Using combine substrates of paddy straw and sugarcane baggage for paddy straw mushroom cultivation is economical without sacrificing yield

Results

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment
1	2	3	4	5	6	7
Paddy straw mushroom	Rice based system	Higher cost of paddy straw and its scarcity	Alternate substrates for paddy straw mushroom production	10	T ₁ - only paddy straw T ₂ -Paddy straw and sugarcane baggage in 1:1 ratio	Technical (Yield) Economic Farmers reaction Feedback

Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement done	Justification for refinement
8	9	10	11	12
1.52 kg per bed Rs. 26/- per bed Economically acceptable Paddy straw and sugarcane baggage can be utilized combinely for paddy straw mushroom cultivation.	The yield of paddy straw mushroom is economically acceptable though production from combine substrates is slightly low	Economically acceptable	-	-

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16
Farmer's practice**	1.61 kg per bed	Rs. 34/- per bed	2.15
Technology assessed **	1.52 kg per bed	Rs. 35/- per bed	2.34
Technology refined**	-	-	-

OFT 9

1. Title of on-farm trials : **Performance of Paddy Straw Mushroom under orchard shade**
2. Problem diagnose : Lack of infrastructure for economical cultivation of paddy straw mushroom
3. Details of technologies selected for assessment/refinement : Under mango orchard
4. Source of technology : CTMRT, Bhubaneswar
5. Thematic area : Mushroom production
6. Performance of the Technology with performance indicators : Yield and economics
7. Final recommendation for micro level situation : Paddy straw mushroom can be cultivated under orchard shade.
8. Constraints identified and feedback for research : Performance of paddy straw mushroom under rain condition is hampered due to rotting. Resistant strains may be identified.
9. Process of farmers participation and their reaction : Cultivation of paddy straw mushroom under orchard shade is encouraging.

Results

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment
1	2	3	4	5	6	7
Paddy straw mushroom	Orchard shade	Lack of infrastructure for Paddy straw mushroom production	Performance of Paddy straw mushroom under orchard shade.	5	T ₁ Normal condition T ₂ Paddy straw mushroom cultivation under orchard shade	Yield Economics Farmers reaction Feedback

Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement done	Justification for refinement
8	9	10	11	12
1.45 kg per bed Rs. 30/- per bed Economically acceptable Orchard shade can be utilized for paddy straw mushroom cultivation.	Though Paddy straw mushroom production under orchard shade is slightly less than normal housing condition it may be practice for biggners without any investment for infrastructure.	Economically not acceptable	-	-

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16
Farmer's practice**	1.58 kg per bed	Rs. 33/- per bed	2.11
Technology assessed **	1.45 kg per bed	Rs. 28/- per bed	1.93
Technology refined**	-	-	-

OFT 10

1. Title of on-farm trials : **Intercropping in cashew orchard**
2. Problem diagnose : Under utilized space in cashew orchards
3. Details of technologies selected for assessment/refinement : Intercrop planting can augment income.
4. Source of technology : CTCRI (Bhubaneswar center), 2003
5. Thematic area : Management of orchard
6. Performance of the Technology with performance indicators : **Results awaited**
7. Final recommendation for micro level situation : Recommended for planting in cashew orchards
8. Constraints identified and feedback for research : Low consumption of cassava in Orissa condition.
9. Process of farmers participation and their reaction : Very very enthusiastic to get something out of nothing

Results

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment
1	2	3	4	5	6	7
Cashew	Orchard based	High gestation period of cashew	Intercropping in cashew orchard	10	T ₁ monocrop	Yield
					T ₂ Intercrop	Economics

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

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16
Farmer's practice**			
Technology assessed**			
Technology refined**			

OFT 11

1. Title of on-farm trials : **Performance of different crops under shade**
2. Problem diagnose : Under utilized mango orchards
3. Details of technologies selected for assessment/refinement : Cultivation of different set tolerant cash crops.
4. Source of technology : CHES, Bhubaneswar, 2003
5. Thematic area : Management of orchard
6. Performance of the Technology with performance indicators : The crop is coming up well
7. Final recommendation for micro level situation : Results awaited

8. Constraints identified and feedback for research : Poor availability of Planting material
9. Process of farmers participation and their reaction : Very very enthusiastic

Results

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment
1	2	3	4	5	6	7
Mango	Orchard based	Low land use efficiency	Performance of different crops under shade	10	T ₁ monocrop	Yield
					T ₂ Intercrop	Economics

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

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16
Farmer's practice**			
Technology assessed**			
Technology refined**			

OFT 12

1. Title of on-farm trials : **Performance of wilt resistant high yielding variety of brinjal**
2. Problem diagnose : Wilt susceptibility low yielding local variety
3. Details of technologies selected for assessment/refinement : Use of wilt resistant high yielding variety **swarna syamali**
4. Source of technology : HARP, Ranchi, 2006
5. Thematic area : Vegetables
Production and management technology
6. Performance of the Technology with performance indicators : Results awaited
7. Final recommendation for micro level situation : **Results awaited**
8. Constraints identified and feedback for research : Unavailability of wilt resistant varieties available.
9. Process of farmers participation and their reaction : Very enthusiastic to get a relief from wilt damage.

Results

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	Upland/medium land	Wilt susceptible to low yielding local variety	Performance of wilt resistant high yielding variety of brinjal.	10	T ₁ Control	Yield
					T ₂ Swarna syamali	Economics

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

Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16
Farmer's practice**			
Technology assessed**			
Technology refined**			

OFT-13

1. Title of on-farm trials : **Studies on high yielding clones of Eucalyptus species.**
2. Problem diagnose : Locally raised Eucalyptus has longer rotation period high lignin contents & branching in nature
3. Details of technologies selected for assessment/refinement : Use of JK clones for plantation with proper management
4. Source of technology : JK Paper Mills, Raygada, 2001
5. Thematic area : Production technology
6. Performance of the Technology with performance indicators : **Height – Results awaited**
dbh/collar diameter – Results awaited
Number of branches - Results awaited
Coppicing habit - After 4th year
7. Final recommendation for micro level situation :
8. Constraints identified and feedback for research : In this 1st year of plantation termite attack is the major cause of mortality.
9. Process of farmers participation and their reaction : Farmers are trained before plantation programme and plantation work done in a group approach

Results

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment
1	2	3	4	5	6	7
Eucalyptus	Rainfed upland & med land	Locally raised Eucalyptus has longer rotation period, high lignin content & branchy in nature	Studies on high yielding clones of eucalyptus	7	Fast growing, less branchy, less lignin content, eucalyptus clones are grown with proper management	(i) Height–Upto 4 th yr (ii) dbh/collar diameter–Upto 4 th yr (iii) No. of branches –Upto 4 th yr (iv) Coppicing habit - After 4 th year

* 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
For 8 month old seedlings. Clones height-70cm. Clones collar diameter 1.5cm Potted seedlings ht.-45cm	8 month old seedlings shows faster growth of clones. Detail growth of clones will be assessed after harvesting i.e after 4 th year of plantation.	Clones are growing faster than conventional potted seedlings but requires regular irrigation from January onwards during the fast year of plantation and the clones are more susceptible to termite attack	-	-

Potted seedling collar diameter.		than conventional seedlings.		
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Technology Assessed / Refined	*Production per unit	Net Return (Profit) in Rs. / unit	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

List of technologies demonstrated during previous year and popularized during 2006-07 and recommended for large scale adoption in the district

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.	Integrated crop management	Green manuring in direct seeded kharif paddy	Training, leaf lets, exposure visit, video show, news paper	15	200	190
2.	Cropping system	Varietal substitution in paddy	Training, leaf lets, exposure visit, news paper	12	110	150
3.	Crop diversification	Pyara cropping of field pea	Training, leaf lets, exposure visit, news paper	9	100	140
4.	Fruits Cultivation of fruits	Cultivation of Tissue cultured banana	Training, Farm Visit, Exposure visit, Film show	22	52	20
5	Fruits Cultivation of fruits	Cultivation of high yielding variety of papaya	Training, Farm Visit, Exposure visit, Film show	15	80	18
6	Fruits Cultivation of fruits	Introduction of Hybrid Coconut	Training, Farm Visit, Exposure visit, Film show	5	40	4
7	Tuber crops Production and management technology	Introduction of improved yam Var. Hatikhojia	Training, Farm Visit, Exposure visit, Film show	10	120	14
8	Tuber crops Production and management technology	Crop substitution with arrowroot.	Training leaf lets, exposure visit,	-	-	-
9	Spices Production and management technology	Introduction of improved Turmeric var. roma, suroma, ranga, rashmi	Training, Farm Visit, Exposure visit, Film show	12	34	5
10	Spices Production and management technogy	Introduction of improved Ginger Var. suprava	Training, Farm Visit, Exposure visit, Film show	5	27	3
11	Integrated pest mgt.	Integrated pest management in rice	Training, leaf lets, exposure visit, video show, news paper	10	150	100
12	Biocontrol of pest and diseases	Biological control of sugarcane borers	Training, leaf lets, exposure visit, video show, news paper	20	200	160
13	Bee keeping	Bee keeping for rural youth	Training, leaf lets, exposure visit, video	6	16	80 units

			show, news paper			
14	Integrated pest management	Integrated pest management in brinjal	Training, leaf lets, exposure visit, video show, news paper	10	100	70
15	Integrated pest management	Microbial control of tomato fruit and shoot borer	Training, leaf lets, exposure visit, video show, Kisan mela	8	50	30
16	Freshwater prawn culture	Freshwater prawn culture	Trainings, exposure visit, kisan mela, video show	15	25	25
17	Breeding and culture of ornamental fishes	Ornamental fish culture	Trainings, exposure visit, kisan mela, video show	7	32	14 unit
18	Integrated fish farming	Pond based farming system	Trainings, exposure visit, kisan mela, video show	15	37	21
19	Backyard poultry management	Backyard poultry rearing	Trainings, exposure visit, kisan mela, video show	17	58	43 unit
20	Income generation activity for empowerment of rural women	Paddy straw mushroom cultivation	Leaf let, Poster, Training, Group discussion, TV talk, New paper coverage	17	590	-
21	Household food security by kitchen gardening and nutritional gardening	Nutritional gardening	Leaf let, Poster, Training, Group discussion, TV talk, New paper coverage	4	56	-
22	Medicinal and aromatic plants	Medicinal plants for home garden	Leaf let, Poster, Training, Group discussion, TV talk, New paper coverage	2	87	-
23	Income generation activity for empowerment of rural women	Oyster mushroom cultivation	Leaf let, Poster, Training, Group discussion, TV talk, New paper coverage	8	108	-

b. Details of FLDs implemented during 2007-08 (Information is to be furnished in the following three tables for each category i.e. cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.)

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	Green manuring in lowland kharif paddy	Integrated crop mgt.	Kharif 2007	3.6	3.6	2	18	20	-
2.	Groundnut	Weed control in groundnut	Weed mgt.	Kharif2007	1	0.8	0	5	5	-
3.	Moong	Fertilizer mgt. in moong	Integrated crop mgt.	Rabi2008	4ha	4ha	0	10	10	
4.	Sunflower	Micronutrient mgt. in sunflower	Weed mgt.	Rabi2008	4ha	4ha	2	8	10	
5.	Sugarcane	Weed mgt. in sugarcane	Weed mgt.	Rabi2008	4ha	4ha	0	8	10	
6.	Vermiculture	Enrichment of rural compost	Vermiculture	Rabi2008	10units	10 units	0	10	10	
7	Paddy	IPM	Production stability and profit maximization	Kharif2007	3.2	3.2	4	18	22	
8	Sugarcane	Biological control of pest and diseases	Bio control of pest and diseases	Kharif2007	2.4	2.4	0	7	7	
9	Paddy	Field loss minimization	Management of field rats	Rabi2008	0.4	0.4	0	4	4	
10	Brinjal	Integrated pest mgt.	Integrated pest mgt. for fruit and shoot borer and weed complex in brinjal.	Rabi2008	0.4	0.4	0	4	4	
11	Beekeeping	Beekeeping	Beekeeping	Rabi2008	10units	10 units	0	10	10	
12	Banana	Fruits Cultivation of fruits	Cultivation of Tissue cultured banana Bantala	Kharif 2007	0.40	0.45	0	8	8	
13	Papaya	Fruits Cultivation of fruits	Cultivation of hybrid papaya Red Lady	Kharif 2007	0.40	0.2	0	4	4	
14	Coconut	Fruits Cultivation of fruits	Hybrid coconut cultivation	Kharif 2007	0.6	0.6	5	5	10	
15	Yam	Tuber crops	Introduction of	Kharif 2007	0.04	0.06	8	2	10	.

		Production and management technology	improved yam Var Hatikhojia							
16	Elephant Foot Yam	Tuber crops Production and management technology	Introduction of Elephant foot yam var. Gajendra	Kharif 2007	0.02	0.01	10	-	10	Unavailability of planting material.
17	Turmeric	Spices Production and management technology	Introduction of improved turmeric Var. roma, suroma, ranga, rashmi	Kharif 2007	0.05	0.08	4	6	10	
18	Arrowroot	Production and mgt. technology.	Varietal substitution with arrowroot.	Summer 2008	0.5	0.5	25	-	25	
19	Prawn (Scampi)	Freshwater prawn culture	Freshwater prawn culture	Kharif2007	2	0.3	0	4	4	Fund
20	Ornamental fish	Breeding and culture of ornamental fishes	Ornamental fish culture	Kharif2007	10nos	10nos	0	10	10	
21	Indian major Carps	Integrated fish farming	Pond based farming system	Kharif2007	5nos 2Ha	3nos 1.4ha	1	2	3	Fund
22	Poultry	Backyard poultry management	Backyard poultry rearing	Kharif2007	20nos	20nos	14	6	20	
23	Pulses	Storage loss minimization technique	Safe storage of pulses	Kharif 2007	25 units	25 units	25	-	25	
24	Paddy straw mushroom	Income generation activities for empowerment of rural women	Cultivation of paddy straw mushroom	Kharif 2007	20 units	20 units	-	20	20	
25	Vegetables and fruits	Household food security by kitchen gardening and nutritional gardening	Development of nutritional garden	Kharif 2007	0.4	0.4	-	10	10	
26	Medicinal plants	Medicinal and aromatic plants	Medicinal plants for home garden	Kharif 2007	20 units	20 units	-	20	20	
27	Oyster Mushroom	Income generation activities for empowerment of rural women	Cultivation of oyster mushroom	Rabi 2007-08	20 Units	20 Units	0	20	20	
28	A.	Integrated farming	Growing of fast	Kharif 2007	3 ha	1.15 ha	-	4	4	Non availability of

	Mangium	system	growing tree sps Acacia mangium in the field bunds							sufficient planting material
29	Teak	Production technology	Plantation of teak in the community waste land of the villages with people participation	Kharif 2007	1 ha	0.25 ha	35	165	200 (entire village)	Non availability of sufficient planting material
30	A. mangium, A. auriculiformis Teak	Integrated farming system	Raising of multipurpose tree species in back yard for meeting the demand for fuel wood, timber & fodder	Kharif 2007	0.25 ha	0.25 ha	12	18	30	
31	Poultry	Backyard poultry management	Backyard poultry rearing	Rabi2007	20nos	20nos	20	-	20	

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 2007	Rainfed	Sandy loam to clay	Low	Medium	High	Paddy	15-20.6.07	20-25.9.07		
Groundnut	Kharif 2007	Rainfed	Sandy loam	Low	Medium	High	Vegetable	3-7.07.07	23-27.10.07		
Moong	Rabi 2008	Rainfed	Sandy loam	Low/medium	Low	medium	Paddy	2-5.01.08	10-14.3.08		
Sunflower	Rabi 2008	Rainfed	Sandy loam to clay	Low/medium	Low	medium	-	1-3.12.08	21-23.3.08		
Sugarcane	Rabi 2008	Irrigated	Sandy loam	Medium land	High	Upland	Paddy	3-8.2.08	Not harvested		
Vermiculture	Rabi 2008	Rainfed	Sandy loam to	-	-	-	-	20-28.3.08	Not harvested		

			clay								
Paddy	Kharif 2007	Rainfed	Sandy loam	Low/medium	Low	medium	Colocasia	1-7.07.07	6-13.10.07		
Sugarcane	Kharif 2007	Irrigated	Sandy loam to clay	Low/medium	Low	medium	-	4-10.1.07	10-25.10.07		
Paddy	Rabi 2008	Rainfed	Sandy loam	Low	Medium	High	Paddy	5-10.7.07	29.11.07 to 5.12.07		
Brinjal	Rabi 2008	Rainfed	Sandy loam to clay	Low	Medium	High	Vegetable	5-10.1.08	Not harvested		
Beekeeping	Rabi 2008	Rainfed	Sandy loam	-	-	-	-	15-30.3.08	Not harvested		
Paddy straw mushroom	Kharif 2007	Rainfed	Clay loamy	-	-	-	Unused space	18.7.07 – 20.7.07	30.07.07 – 10.08.07		
Vegetable and fruits	Kharif 2007	Rainfed	Loamy	Low	Medium	High	Fallow	17.08.07-22.9.07	2.9.07 onwards		
Medicinal plants	Kharif 2007	Rainfed	loamy	low	medium	High	fallow	23.08.07 – 31.08.07	continuing		
Oyster mushroom,	Rabi 2007-08	Rainfed	Sandy loam to clay	-	-	-	Unused space	28.11.07 - 30.11.07	18.12.07-12.1.08		
Banana	Kharif	Irrigated medium land	Loamy to clay loam	Low/medium	Low	medium	Fodder		15.8.07 to 21.8.07		
Papaya	Kharif	Irrigated medium land	Loamy	Low/medium	Low	medium	Vegetables		21.8.07 to 23.8.07		
Yam	Kharif	Rainfed upland	Alluvial soil	Low/medium	Low	medium	Rabi greengram	17.7.07 to 21.07.07	25.2.08 to 28.2.08		
Elephant foot Yam	Kharif	Rainfed upland	Alluvial soil	Low/medium	Low	medium	Rabi greengram	13.7.07 to 3.8.07	24.3.08		
Coconut	Kharif	Rainfed medium land	Loamy to clay loam	Low/medium	Low	medium	Fodder, vegetables	11.07.07 to 26.07.07	-		
Turmeric	Kharif	Rainfed sloppy upland	Loamy	Low/medium	Low	medium	Colocasia	3.07.07 to 15.07.07	23.02.08 to 3.03.08		

Arrowroot	Crop Substitution with arrowroot	Phulbani selection	Red latterite	Medium land	High	Upland	Paddy	30.1.08	-		
Acacia mangium	Kharif	Irrigated medium land	Sandy loam	Low/medium	Low	medium	Bunds remain fallow	29.08.07	After 5 th year of plantation.		
Teak	Kharif	Rainfed medium land	Sandy loam	Low/medium	Low	medium	Unutilised land	27.07.07	After 20years of plantation		
A. Mangium, A. auriculiformis Teak	Kharif	Irrigated backyard	Sandy loam	Low/medium	Low	medium	Vegetable growing boundary unutilized	10.08.07	5 th year of plantation onwards.		
Prawn	Kharif	Rainfed	Clay loam	-	-	-	IMC	24.8.07	Mar-April		
Ornamental fish	Kharif	Rainfed	Cemented tank	-	-	-	-	29.5.07	Sept onwards		
Fish	Kharif	Rainfed	Clay loam	-	-	-	IMC	July-Aug 07	Mar-june		
Poultry	Kharif	Rainfed med land	Backyard	-	-	-	Desi Bird	Sept 07	Mar onwards		
Poultry	Rabi	Rainfed med land	Backyard	-	-	-	Desi Bird	Feb 08	Sept 08 onwards		

Performance of FLD

Sl. No	Crop	Technology Demonstrated	Variety	No. of Farmers	Area (ha.)	Demo. Yield Qtl/ha			Yield of local Check Qtl./ha	Increase in yield (%)	Data on parameter in relation to technology demonstrated	
						H	L	A			Demo	Local
1	2	3	4	5	6	7	8	9	10	11	12	13
1.	Paddy	Integrated crop mgt.	Paddy Khandagiri	20	3.6ha	26.55	22.21	24.11	19.98	20.67	24.11	19.98
2.	Groundnut	Weed mgt.	Smruti	5	0.8ha	13.82	9.42	10.92	8.34	30.93	10.92	8.34
3.	Moong	Integrated crop mgt.	Tarm-1	10	4ha	6.20	5.58	5.78	3.98	45.22	5.78	3.98

4.	Sunflower	Weed mgt.	Jwalamukhi	10	4ha	14.75	11.23	12.37	10.97	12.76	12.37	10.97
5	Sugarcane	Weed mgt.	Co-6907	10	4ha	Not Harvested						
6	Vermiculture	Vermiculture	Eosin foitida	10	10units							
7	Paddy	Production stability and profit maximization	Khandagini & Udayagiri	22	3.2ha	33.03	26.55	30.12	24.21	24.41	30.12	24.21
8	Sugarcane	Bio control of pest and diseases	CO-6907	7	2.4ha	950.15	860.24	908.20	775.23	17.15	908.20	775.23
9	Paddy	Management of field rats	Pratikshya	10	-	45.35	40.18	42.53	38.89	9.35	42.53	38.89
10	Brinjal	Integrated pest mgt. for fruit and shoot borer and weed complex in brinjal.	Swarna syamali	4	10	Not harvested						
11	Beekeeping	Beekeeping	Apis cerena indica	10								
12	Banana	Cultivation of Tissue cultured banana	Bantala	8	0.452ha	390	310	367.5	150	146	367.5	150
13	Papaya	Cultivation of hybrid papaya	Red Lady	4	0.2ha	465	380	436	200	118	436	200
14	Yam	Introduction of improved yam	Hatikhojia	10	0.06	4.2kg/pit	3.1kg/pit	3.7kg/pit	-	-	-	-
15	Elephant foot Yam	Introduction of Elephant foot yam	Gajendra	10	0.01	5.3kg/pit	3.9kg/pit	4.8kg/pit	2.8kg/pit	70	4.8kg/pit	2.8kg/pit
16	Coconut	Hybrid coconut cultivation	WCT x MYD WCT x GB	10	0.4ha	-			-	-	-	-
17	Turmeric	Introduction of improved turmeric	roma, suroma, ranga, rashmi	10	0.08	91	63	85	52	60	85	52
18	ginger	Introduction of improved ginger	Phulbani selection	25	0.4	112		80	45	102	92.5	45
						92.5						

19	Prawn	Freshwater prawn culture	<i>M rosenbergii</i> (Scampi)	4	0.3	19.75	9.5	11.62	-	-	11.62	-
20	Ornamental fish	Ornamental fish culture	Live bearer(molly, guppy,swordtail, platy)	10	10units	200Pcs/ Month/ Unit	50Pcs/ Month /Unit	100Pcs /Month/Unit	-	-	110Pcs/Month/Unit	-
21	Fish	Pond based farming system	Indian major Carps	3	1.4	54.31	28.52	48.75	21.62	125.6%	48.75	21.6
22	Poultry	Backyard poultry rearing	Vanaraja	20	20units	6.5kg/bird (6month)	4kg/bird(6 month)	5.1kg/ bird (6 month)	1.3	292.3%	5.1Kg	1.3Kg
23	Greengram	Safe storage of pulses	Indigenous	25	25 units	98%	79%	92%	60%	32%	92%	60%
24	Paddy straw mushroom	Cultivation of paddy straw mushroom	Volvariella volvacea	20	20 units	1.92 kg/bed	1.13kg /bed	1.60kg /bed	-	-	1.60kg	-
25	Vegetable and fruits	Development of nutritional garden	High yielding	10	0.4	Result awaited						
26	Medicinal plants	Medicinal plants for home garden	Indigenous	20	20 units						Result awaited	
27	Oyster Mushroom	Introduction of oyster mushroom	Pleurotus sajarcaja	20	20 units	2.61 kg/bed	1.37kg /bed	1.56kg /bed				
28*	Acacia mangium	Growing of fast growing tree sps. Acacia mangium in field bunds	A. mangium	4	1.15	105cm	78cm	89cm	-	-	89cm	-
29*	Teak	Plantation of teak with proper management in the community waste land with people participation	Teak	All villager (200 Nos)	0.25	85cm	55cm	67cm	-	-	67cm	-
30*	A. Mangium,	Raising of multi purpose tree species in backyard for meeting the demand for fuel wood, timber & fodder	A. mangium	30	0.25	110cm	83cm	95cm	-	-	95cm	-
	A. auricul-formis		A. auriculformis			87cm	66cm	72cm	-	72cm	-	
	Teak		Teak			88cm	50cm	65cm	-	65cm	-	

* Data presented in the following serial nos 27,28,29 are height taken from 8 month old plantation.

Economic Impact (continuation of previous table)

Sl. No.	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	
	14	15	16	17	18	19	20
1	8100	7000	13550	10100	5450	3100	1.67
2	10900	10100	19500	15200	8600	5100	1.78
3	5900	5250	10207	8350	4307	3100	1.73
4	6250	5600	11900	9850	5650	4250	1.90
5	Not harvested	-	-	-	-	-	-
6	Not harvested	-	-	-	-	-	-
7	9100	7500	16200	11350	7100	3850	1.78
8	31200	30100	88200	75450	57000	44350	2.82
9	8300	7300	18500	15650	10200	8350	2.22
10	Not harvested	-	-	-	-	-	-
11	Not harvested	-	-	-	-	-	-
12	50,000	15,000	1,20,000	30,000	70,000	15,000	2.4
13	40,000	15,000	85,000	25,000	45,000	10,000	2.12
14	35,000	10,000	90,000	25,000	55,000	15,000	2.57
15	25,000	5,000	80,000	15,000	35,000	10,000	3.2
16	-	-	-	-	-	-	-
17	3,00,000	50,000	10,00,000	1,00,000	7,00,000	50,000	3.33
18	-	45,000	9,00,000	85,000	6,50,000	40,000	3.6
19	98,500	37,200(Fish)	2,20,780	68,900	1,22,280	31,700	2.24 1.85
20	700	-	2420	-	1720	-	3.45 -
21	48,600	32,500	82,900	50,160	34,300	28,060	1.70 1.54
22	1000	500	4800	1500	3800	1000	4.8 2.5
23	13/-	-	Rs.96/-	-	Rs.83/-	-	7.38
24	Rs.30/-per bed	-	Rs.64/-	-	Rs.34/-	-	2.13
25	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-
27	Rs.18/-per bag	-	Rs.62.40	-	Rs.44.40	-	3.47
28	Rs. 1800/- (Borne by KVK)	-	After 5 th year of plantation.	-	Results awaited	-	Results awaited
29	Rs. 3100/-	-	After 20years of plantation	-	Results awaited	-	Results awaited

	(Borne by KVK)					
30	Rs. 3000/- (Borne by KVK)	-	5 th year of plantation onwards.	-	Results awaited	Results awaited

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 2007	Dhanicha seeds	Rainfed	24.11	19.98	20.67
Groundnut	Kharif2007	Herbicides	Rainfed	10.92	8.34	30.93
Moong	Rabi2008	SSP, Rizobium culture	Rainfed	5.78	3.98	45.22
Sunflower	Rabi2008	Boron	Rainfed	12.37	10.97	12.76
Sugarcane	Rabi2008	Herbicides	Irrigated	Not harvested		
Vermiculture	Rabi2008	Polythene earthworm	Rainfed	Not harvested		
Paddy	Kharif2007	Neem oil, Biopesticifde chemical	Rainfed	30.12	24.21	24.41
Sugarcane	Kharif2007	Tricocard (T. Chilonis)	Irrigated	908.20	775.23	17.15
Paddy	Rabi2008	Zinc phosphite	Rainfed	42.53	38.89	9.35
Brinjal	Rabi2008	Biopesticide, Neem cake, Neem oil, P.trap	Rainfed	Not harvested		
Beekeeping	Rabi2008	Bee colony, smoker	Rainfed	Not harvested		
Banana	Kharif	Bantala(Tissue cultured)	Irrigated medium land	367.5	150	240
Papaya	Kharif	Red Lady	Irrigated medium land	436	200	200
Yam	Kharif	Hatikhojia	Rainfed upland	3.7kg/pit	-	-
Elephant foot Yam	Kharif	Gajendra	Rainfed upland	4.8kg/pit	2.8Kg/pit	100
Coconut	Kharif	WCT x MYD WCT x GB	Rainfed medium land	-		
Turmeric	Kharif	Roma, Suroma, Ranga, Rashmi	Rainfed sloppy upland	85	52	163
Ginger	Kharif	suprava	Rainfed upland	92.5	45	205
* <i>Acacia mangium</i>	Kharif	Seedling	Irrigated medium land	89cm	-	-
* Teak	Kharif	Seedling	Rainfed medium land	67cm	-	-
* <i>A. Mangium,</i> <i>A. auriculiformis</i> Teak	Kharif	Combination of seedlings	Backyard	95cm 72cm 65cm	-	-
Prawn	Kharif	Fresh water prawn SCAMPI seed (PL)	Rainfed low land	11.62	-	-
Ornamental fish	Kharif	Livebearer ornamental fish	Irrigated medium land	110nos/PM/tank	-	-

Fish	Kharif	Fish and horticultural seedling	Rainfed low land	35q	18.2q	92.3%
Poultry	Kharif	Backyard Vanaraja chicks	Rainfed upland	5.1Kg/bird	1.3kg/bird	292%
Poultry	Rabi	Backyard Vanaraja chicks	Rainfed upland	Results awaited	-	-

14. Data presented are height taken from 8 month old plantation.

Technical Feedback on the demonstrated technologies

Technology	Feed Back
Hybrid Papaya (Red Lady) Cultivation	The variety is best suited for table purpose and should not be sold in green stage
Cultivation of Improved Yam	Trailing gives best result
Cultivation of Turmeric/Ginger	Timely earthing-up is a must for better result
Cultivation of Ginger	Rotting problem can be overcome with rhizome treatment and application of neemcake
Performance of Acacia mangium	Farmer show keen interest to raise <i>Acacia mangium</i> in field bunds.
Development of community plantation	Active participation of the farmers of the village in managing the community plantation shows their keen interest for planting teak & maintaining it.
Multipurpose tree species for homesteads	Farmers are interested to plant multipurpose tree species in the backyard which will render them the timber, fuel wood and fodder requirement in the future.
Paddy straw mushroom	Paddy straw should be properly disinfected by hot water treatment.
Oyster mushroom	Oyster mushroom marketing needs more popularisation.
Biocontrol of pest & diseases of sugarcane	Sugarcane variety CO-86032 having high productivity suffers from more wilt and red rot in low lying areas.
Backward poultry rearing	Growth & survivability of Vanaraja poultry is good and will give a good engagement to the women farmer.
Fresh water prawn culture	Good scope for growth in the fresh water prawn culture in the district. The growth & survivability of prawn is good.
Pond based farming system	Farming system will enhance the economic condition of low and marginal farmers.
Safe storage of pulses	Pulses should be stored immediately after harvesting.
Bee keeping	Bee keeping has lot of scope as the district has good coverage of natural forest.
IPM for fruit and shoot borer & weed complex in brinjal	Timely application of pesticides & weedicides has good control over fruit & shoot borer & weed in brinjal.
Vermicompost	Vermicompost in tribal pockets of the district adjoining natural forest has a good future as abundant leaf & litters are available.
Green manuring in kharif paddy	Green manuring with dhanicha should be encouraged in the district.

Farmers' reactions on specific technologies

Technology	Feed Back
Biological control of sugarcane borers	Late control of sugarcane borers but giving good results
Biological control of paddy stem borer	Biological control should be incorporated with other control measures
IPM for fruit and shoot borer in brinjal	Very good control obtained
Biological control of groundnut wilt	Late control achieved
Weed control in groundnut	All weed flora not controlled by pendimethalene, other herbicide may be tried
Dhanicha as green manure	Dhanicha is a very good source of organic fertilisers
Introduction of Vanaraja backyard poultry	Interested for commercially culture of vanaraja poultry
Ornamental fish culture	Gold fish breeding interested
Integrated farming system	Interested for poultry in farming system
Fresh water prawn culture	Interested for prawn culture (Scampi) in large scale
Oyster mushroom cultivation	The taste of oyster mushroom is inferior to paddy straw mushroom.
Safe storage of pulses	This storage method should be tested in subsequent years.
Paddy straw mushroom cultivation	Spawn should be adequately available in the locality.
Development of nutritional garden	There should be water facility for the nutritional garden.
Development of medicinal plants	Medicinal garden is helpful to our families
Tissue culture banana Cultivation	Dwarf Cavendish suited for the district as it is less prone to wind damage
Hybrid papaya cultivation	Marketing is a problem for ripe papaya varieties
Cultivation of improved yam	It is well suited for bund planting
Cultivation of Elephant foot yam	Taste is good and can replace potato and yam
Intercropping in orchards	Should be promoted under cashew /mango plantations
Cultivation of Ginger	Rhizome rot resistant varieties should be developed

Extension and Training activities under FLD

Sl. No.	Activity	No. of activities organised	Date	Number of participants	Remarks
Crop Production					
1	Field days				
2	Farmers Training	2	10.05.07 27-28.07.07 30.08.07 04.12.07 06-07.02.08 18-19.02.08	21 21 25 20 20 25	
3	Media coverage	2			ETV Annadata Doordarshan
4	Training for extension functionaries	4	31.8.07 10-11.12.07 11-13.03.08 24.03.08	20 20 20 20	
Horticulture					
1	Field days	1	14.09.07	100	
2	Farmers Training	5	23.05.07 28.07.07 25.09.07- 26.09.07 24.03.08- 25.03.08 26.03.08- 27.03.08	25 25 25 25 25	
3	Media coverage	3			ETV Yuva Bharat ETV Annadata
4	Training for extension functionaries	1	19.03.08- 20.03.08	20	
Plant protection					
1	Field days	1	30.12.07	50	
2	Farmers Training	4	10-11.4.07 25.4.07 10-11.9.07 28-29.01.07 05.02.08 28-29.02.08 03-04.03.08 19-20.03.08	25 25 25 25 25 25 25 25	
3	Media coverage	2	25.8.07 15.10.07 12.12.07		ETV Annadata ETV Annadata ETV Annadata
4	Training for extension functionaries	1	22-23.11.07	20	
Fisheries					
1	Field days				
2	Farmers Training	11	19-21.04.07 17-19.05.07 10-11.09.07 20-21.09.07 4-5.6.07 16-17.8.07 4-6.10.07 16-17.10.07 18-19.2.08 17-18.3.08 25-26.3.08	22 20 25 25 25 25 20 20 25 25 20	
3	Media coverage	2	25.08.07		ETV Annadata

					ETV Annadata
4	Training for extension functionaries				
Home science					
1	Field days	-	-	-	-
2	Farmers Training	8	23-24.07.07 30-31.07.07 2-3.08.07 7-8.08.07 12-13.11.07 18-19.11.07 18.03.08	20 20 25 20 20 20 25 (150)	Demonstrations followed by training programmes are effective.
3	Media coverage	2	12.08.07 & -	-	E TV Annadata
Forestry					
1	Field days	1	21.09.07	50	On community plantation on teak.
2	Farmers Training	3	27.04.08- 28.04.08 26.07.07- 27.07.07 12.03.08- 15.03.08	25 25 20	
3	Media coverage				
4	Training for extension functionaries	2	30.11.07 18.12.07	20 20	

c. Details of FLD on Enterprises

(i) 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		

* 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		
Backyard poultry	Vanaraja	20	15	Growth	5.1kg/bird(6month)	1.3kg	292%	

* 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		
Mushroom	Vovanella Volvacea	20	20	Technical	1.6 kg/bed	-	100	Accepted enterprise
	P. Sajarcaju	20	20	Technical	1.4 kg/bag	-	100	Taste of oyster mushroom is less acceptable than P.S. mushroom
Apiary								
Sericulture								
Vermi compost								

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

A) ON Campus

Thematic Area	No. of Courses	Duration (days)	No. of Participants						Grand Total
			Others			SC/ST			
			Male	Female	Total	Male	Female	Total	
(A) Farmers & Farm Women									
I Crop Production									
Resource Conservation Technologies	1	3	25	0	25	0	0	0	25
Production and use of organic inputs	1	1	15	0	15	6	0	6	21
II Horticulture									
a) Vegetable Crops									
b) Fruits									
Rejuvenation of old orchards	1	2	25	0	25	0	0	0	25
c) Ornamental Plants									
d) Plantation crops									
e) Tuber crops									
f) Spices									
Production and Management technology	1	1	25	0	25	0	0	0	25
g) Medicinal and Aromatic Plants									
III Soil Health and Fertility Management									
IV Livestock Production and Management									
V Home Science/Women empowerment									
VI Agril. Engineering									
VII Plant Protection									
Integrated Pest Management	2	4	50	0	50	0	0	0	50
VIII Fisheries									
Feeding management in fish pond	1	2	15	0	15	1	4	5	20
Aquatic weed control	1	2	25	0	25	0	0	0	25
IX Production of Inputs at site									
X Capacity Building and Group Dynamics									
XI Agro-forestry									
Integrated Farming Systems	1	2	24	0	24	1	0	1	25
Production technology	1	2	8	5	13	5	7	12	25
TOTAL	10	19	212	5	217	13	11	24	241
(B) RURAL YOUTH									
Production of organic inputs	1	3	20	0	20	0	0	0	20
Mushroom Production	1	2	0	20	20	0	0	0	20
Value addition	1	2	0	5	5	0	15	15	20
Integrated pest management	1	2	12	2	14	1	5	6	20
Preparation of aquarium	1	3	22	0	22	0	0	0	22
Ornamental fish culture	1	2	20	0	20	0	0	0	20
Fish seed production	1	3	13	0	13	3	4	7	20
Industrial plantation	1	4	19	0	19	1	0	1	20
TOTAL	8	21	106	27	133	5	24	29	162
© Extension Personnel									
Bamboo production technology	1	2	18	0	18	2	0	2	20
Cropping systems	1	3	20	0	20	0	0	0	20
TOTAL	2	5	38	0	38	2	0	2	40

B) OFF Campus

Thematic Area	No. of Courses	Duration (days)	No. of Participants						Grand Total
			Others			SC/ST			
			Male	Female	Total	Male	Female	Total	
(A) Farmers & Farm Women									
I Crop Production									
Weed Management	2	4	41	0	41	4	0	4	45

Thematic Area	No. of Courses	Duration (days)	No. of Participants							Grand Total
			Others			SC/ST				
			Male	Female	Total	Male	Female	Total		
Integrated Farming	1	2	24	0	24	1	0	1	25	
Seed production	1	1	25	0	25	0	0	0	25	
Productivity enhancement in field crops	1	1	23	0	23	2	0	2	25	
Production and use of organic inputs	1	1	19	0	19	1	0	1	20	
Integrated nutrient management	1	2	25	0	25	0	0	0	25	
II Horticulture										
a) Vegetable Crops										
Intercropping										
Off-season vegetables	2	3	25		25	25		25	50	
b) Fruits										
Management of young plant/orchards	1	2	25		25				25	
Rejuvenation of old orchards	1	2	25		25				25	
c) Ornamental Plants										
d) Plantation crops										
e) Tuber crops										
f) Spices										
Processing and value addition	1	2	25		25				25	
g) Medicinal and Aromatic Plants										
Production and management technology	1	2	-	24	24	-	1	1	25	
III Soil Health and Fertility Management										
IV Livestock Production and Management										
Backyard poultry	1	2	0	0	0	0	25	25	25	
V Home Science/Women empowerment										
Storage loss minimization techniques	4	6	-	74	74	-	26	26	100	
Location specific drudgery reduction technologies	2	2	-	36	36	-	14	14	50	
Supplementary diet for pre-school children	1	1	-	-	-	-	25	25	25	
Use of solar cooker to overcome fuel scarcity	1	1	-	21	21	-	4	4	25	
VI Agril. Engineering										
VII Plant Protection										
Integrated Pest Management	5	9	73	0	73	42	10	52	125	
Integrated Disease Management	2	2	48	0	48	2	0	2	50	
(others) Control of house and field rats	2	2	39	8	47	2	1	3	50	
VIII Fisheries										
Freshwater prawn culture	1	2	0	9	9	0	16	16	25	
Integrated fish and prawn culture	1	2	15	0	15	10	0	10	25	
Pond construction management in fish culture	1	2	25	0	25	0	0	0	25	
Control of EUS	1	2	0	0	0	25	0	25	25	
IX Production of Inputs at site										
X Capacity Building and Group Dynamics										
XI Agro-forestry										
Production technologies	2	3	47	0	47	3	0	3	50	
XII Others (Pl. Specify)										
TOTAL	37	58	504	172	676	117	122	239	915	
(B) RURAL YOUTH										
Mushroom Production	6	12	40	74	114	0	6	6	120	
Vermi-culture	1	2	0	20	20	0	0	0	20	
Value addition	2	3	0	20	20	0	20	20	40	
Ornamental fisheries	1	3	20	0	20	0	0	0	20	
Leadership development and SHG formation	2	4	39	0	39	6	0	6	45	
Group dynamics	3	6	42	0	42	18	0	18	60	
TOTAL	15	33	141	114	255	24	26	50	305	
© Extension Personnel										

Thematic Area	No. of Courses	Duration (days)	No. of Participants						Grand Total
			Others			SC/ST			
			Male	Female	Total	Male	Female	Total	
Resource conservation technologies	1	1	16	0	16	4	0	4	20
Integrated crop management	1	1	18	0	18	2	0	2	20
Integrated Nutrient management	1	2	20	0	20	0	0	0	20
Biocontrol of pests and diseases	1	2	15	5	20	0	0	0	20
Rejuvenation of old orchards	1	2	18	2	20	0	0	0	20
Protected cultivation technology	1	1	21	4	25	0	0	0	25
Commercial floriculture	1	2	21	4	25	0	0	0	25
Group Dynamics and farmers organization	1	2	18	0	18	2	0	2	20
Extension methods	1	2	17	0	17	3	0	3	20
Enterprunership development	1	2	16	0	16	4	0	4	20
Reservoir fisheries management									
Natural resource management	1	1	18	0	18	2	0	2	20
Watershed management	1	1	20	0	0	0	0	0	20
Environmental pollution	1	1	19	0	19	1	0	1	20
TOTAL	13	20	237	15	252	18	0	18	270

C) Consolidated table (On and Off Campus)

Thematic Area	No. of Courses	Duration (days)	No. of Participants						Grand Total
			Others			SC/ST			
			Male	Female	Total	Male	Female	Total	
(A) Farmers & Farm Women									
I Crop Production									
Weed Management	2	4	41	0	41	4	0	4	45
Integrated Farming	1	2	24	0	24	1	0	1	25
Seed production	1	1	25	0	25	0	0	0	25
Productivity enhancement in field crops	1	1	23	0	23	2	0	2	25
Production and use of organic inputs	2	2	34	0	34	7	0	7	41
Integrated nutrient management	1	2	25	0	25	0	0	0	25
Resource conservation technology	1	3	25	0	25	0	0	0	25
II Horticulture									
a) Vegetable Crops									
Off-season vegetables	2	3	25	0	25	25	0	25	50
Intercropping									
b) Fruits									
Rejuvenation of old orchards	2	4	50	0	50	0	0	0	50
Mgmt. of young plantation / orchard	1	2	25	0	25	0	0	0	25
f) Spices									
Production and Management technology	1	1	25	0	25	0	0	0	25
Processing and value addition	1	2	25	0	25	0	0	0	25
III Soil Health and Fertility Management									
Production and use of organic inputs									
c) Ornamental Plants									
d) Plantation crops									
e) Tuber crops									
f) Spices									
g) Medicinal and Aromatic Plants									
Production and management technology	1	2	0	24	24	0	1	1	25
III Soil Health and Fertility Management									
IV Livestock Production and Management									
Backyard poultry	1	2	0	0	0	0	25	25	25
V Home Science/Women empowerment									
Storage loss minimization techniques	4	6	-	74	74	-	26	26	100
Location specific drudgery reduction technologies	2	2	-	36	36	-	14	14	50
Supplementary diet for pre-school children	1	1	-	-	-	-	25	25	25
Use of solar cooker to overcome fuel scarcity	1	1	-	21	21	-	4	4	25

Thematic Area	No. of Courses	Duration (days)	No. of Participants						Grand Total
			Others			SC/ST			
			Male	Female	Total	Male	Female	Total	
VI Agril. Engineering									
VII Plant Protection									
Integrated Pest Management	7	13	123	0	123	42	10	52	175
Integrated Disease Management	2	2	48	0	48	2	0	2	50
(others) Control of house and field rats	2	2	39	8	47	2	1	3	50
VIII Fisheries									
Feeding management in fish pond	1	2	15	0	15	1	4	5	20
Aquatic weed control	1	2	25	0	25	0	0	0	25
Freshwater prawn culture	1	2	0	9	9	0	16	16	25
Integrated fish and prawn culture	1	2	15	0	15	10	0	10	25
Pond constructions management in fish culture	1	2	25	0	25	0	0	0	25
Control of EUS	1	2	0	0	0	25	0	25	25
IX Production of Inputs at site									
X Capacity Building and Group Dynamics									
XI Agro-forestry									
Production technologies	3	5	55	5	60	8	7	15	75
Integrated Farming Systems	1	2	24	0	24	1	0	1	25
TOTAL	47	77	716	177	893	130	133	263	1156
(B) RURAL YOUTH									
Production of organic inputs	1	3	20	0	20	0	0	0	20
Mushroom Production	7	14	40	94	134	0	6	6	140
Value addition	3	5	0	25	25	0	35	35	60
Integrated pest management	1	2	12	2	14	1	5	6	20
Preparation of aquarium	1	3	22	0	22	0	0	0	22
Ornamental fish culture	2	5	40	0	40	0	0	0	40
Fish seed production	1	3	13	0	13	3	4	7	20
Industrial plantation	1	4	19	0	19	1	0	1	20
Vermi-culture	1	2	0	20	20	0	0	0	20
Leadership development and SHG formation	2	4	39	0	39	6	0	6	45
Group dynamics	3	6	42	0	42	18	0	18	60
TOTAL	23	54	247	141	388	29	50	79	465
(C) Extension Personnel									
Resource conservation technologies	1	1	16	0	16	4	0	4	20
Integrated crop management	1	1	18	0	18	2	0	2	20
Integrated Nutrient management	1	2	20	0	20	0	0	0	20
Biocontrol of pests and diseases	1	2	15	5	20	0	0	0	20
Rejuvenation of old orchards	1	2	18	2	20	0	0	0	20
Protected cultivation technology	1	1	21	4	25	0	0	0	25
Commercial floriculture	1	2	21	4	25	0	0	0	25
Group Dynamics and farmers organization	1	2	18	0	18	2	0	2	20
Extension methods	1	2	17	0	17	3	0	3	20
Enterprunership development	1	2	16	0	16	4	0	4	20
Reservoir fisheries management									
Natural resource management	1	1	18	0	18	2	0	2	20
Watershed management	1	1	20	0	20	0	0	0	20
Environmental pollution	1	1	19	0	19	1	0	1	20
Cropping systems	1	3	20	0	20	0	0	0	20
Bamboo production technology	1	2	18	0	18	2	0	2	20
TOTAL	15	25	275	15	290	20	0	20	310

Date	Clientele	Title of the training programme	Duration in days	Venue (Off / On Campus)	Number of participants Other			Number of SC/ST		
					Male	Female	Total	Male	Female	Total
10.5.07	Farmers and Farm Women	Green manuring Dhanicha in direct seeded kharif paddy	1	On	15	-	15	6	-	6

23-24.7.07	Farmers and Farm Women	Intercropping in rainfed upland kharif paddy	2	Off	11	-	11	14	-	14
27-28.7.07	Farmers and Farm Women	Integrated weed control in groundnut	2	Off	24	-	24	1	-	1
30.8.07	Farmers and Farm Women	Use of fertilizer broadcaster	1	Off	23	-	23	2	-	2
31.8.07	Extn. Personnel	Sugarcane production technology	1	Off	18	-	18	2	-	2
4.12.07	farmer	Use of bioinoculant in pulses	1	Off	19	-	19	1	-	1
10-11.12.07	Inservice	Nutrient management in organic farming	2	Off	20	-	20	-	-	-
12-13.12.07	farmers	Planting technique in sugarcane	2	On	25	-	25	-	-	-
06-07.2.08	farmer	Integrated weed mgmt. in spring planted sugarcane.	2	Off	17	-	17	3	-	3
18-19.2.08	Farmer	Nitrogen mgmt. in spring planted sugarcane	2	Off	25	-	25	-	-	-
28.02.08-01.03.08	Rural youth	Production and marketing of Azolla and BGA	3	On	20	-	20	-	-	-
11-13.03.08	Inservice	Farming system adopted in organic farming	3	On	20	-	20	-	-	-
24.03.08	Inservice	Management of acid soil	1	Off	16	-	4	4	-	4
29.03.08	Farmer	Hand pollination to increase seed setting in sunflower.	1	Off	25	-	25	-	-	-
10-11.04.07	Farmers and Farm Women	IPM for fruit and shoot borer in brinjal	2	Off	24	-	24	1	-	1
25.04.07	Farmers and Farm Women	Control of house and field rats	1	Off	24	-	24	1	-	1
25.07.07	Farmers and Farm Women	Wilt management in groundnut	1	Off	25	-	25	-	-	-
27.07.07	Farmers and Farm Women	Wilt management in solanaceous crops	1	Off	23	-	23	2	-	2
29.08.07	Farmers and Farm Women	Management of stem borer in rice	1	Off	24	-	24	1	-	1
30-31.08.07	Rural youth	Mushroom production for rural employment	2	Off	20	-	20	-	-	-
10-11.09.07	Farmers and Farm Women	IPM for control of BPH in rice	2	Off	25	-	25	-	-	-
21-22.09.07	Rural Youth	Mushroom production for rural employment	2	Off	19	-	19	1	-	1
22-23.11.07	Inservice	Use of bio pesticides and botanicals for pest management in organic farming	2	Off	15	5	20	-	-	-
10-11.12.07	Farmer	Pest mgmt in cole crop	2	On	25	-	25	-	-	-
28-29.01.08	farmer	Pest mgmt in sugarcane	2	On	25	-	25	-	-	-
05.02.08	farmer	Rodent mgmt in agriculture	1	Off	15	8	23	1	1	2
28-29.02.08	Rural youth	IPM in sugarcane	2	On	12	2	14	1	5	6
03-04.03.08	farmer	IPM in pulses	2	Off	-	-	-	20	5	25
19-20.03.08	Farmer	IPM in brinjal	2	Off	-	-	-	20	5	25
27-28.04.07	Farmers and Farm Women	Control of sotregain pests.	2	Off	-	25	25	-	-	-
14-15.05.07	Farmers and Farm Women	Control of house rats	2	Off	-	25	25	-	-	-
25.05.07	Rural – Youth	Value addition to mango	1	Off	-	-	-	-	20	20
23-24.07.07	Rural Youth	Commercial cultivation of paddy straw mushroom	2	Off	-	19	19	-	1	1
30-31.07.07	Rural Youth	Commercial cultivation of paddy straw mushroom	2	On	-	20	20	-	-	-
2-3.08.07	Farmers and Farm Women	Medicinal plants for home garden	2	Off	-	24	24	-	1	1
7-8.08.07	Rural Youth	Commercial cultivation of paddy straw mushroom	2	Off	-	20	20	-	-	-

20-21.09.07	Rural Youth	Vermi compost production	2	Off	-	20	20	-	-	-
12-13.11.07	Rural youth	Commercial cultivation of oyster mushroom	2	Off	-	20	20	-	-	-
18-19.12.07	Rural youth	Commercial cultivation of oyster mushroom	2	Off	-	15	15	-	5	5
30-31.1.08	Rural youth	Value addition to vegetables (Tomato)	2	On	-	5	5	-	15	15
13-14.2.08	Rural youth	Value addition to vegetables(Tomato)	-	Off	-	20	20	-	-	-
16.2.08	Farmers and Farm Women	Use of manual winnower	1	Off	-	25	25	-	-	-
25.2.08	Farmers and Farm Women	Control of house rats	1	Off	-	24	24	-	1	1
18.3.08	Farmers and Farm Women	ITK of store grain pests	1	Off	-	-	-	-	25	25
19.3.08	Farmers and Farm Women	Supplementary diet for pre-school children	1	Off	-	-	-	-	25	25
28.3.08	Farmers and Farm Women	Use of solar cooker to overcome fuel scarcity	1	Off	-	21	21	-	4	4
29.3.08	Farmers and Farm Women	Use of paddle operated paddy thresher	1	Off	-	11	11	-	14	14
16.10.07	farmer	Feeding management in fish pond	2	on	15	0	15	1	4	5
17.3.08	farmers	Aquatic weed control	2	on	25	0	25	0	0	0
4.10.07	Rural youth	Fish seed production	3	on	13	-	13	3	4	7
14.2.08	Farmers	Backyard poultry	2	off	0	0	0	0	25	25
19.04.07	Rural youth	Preparation of aquarium	3	On campus	22	0	22	0	0	0
17.05.07	Rural youth	Ornamental fish culture	3	Off campus	20	0	20	0	0	0
04.06.07	Farmer	Pond construction and management in fish culture	2	Off campus	25	0	25	0	0	0
16.08.07	Farmer	Predatory and weed fish management	2	Off campus	25	0	25	0	0	0
10.09.07	Farmer	Freshwater prawn culture	2	Off campus	0	25	25	0	16	16
20.09.07	Farmer	Integrated fish and prawn culture	2	Off campus	25	0	25	10	0	10
18.2.08	Farmers	Control of EUS	2	OFF	0	0	0	25	0	25
27.04.07-28.04.07	In Service	Commercial Floriculture	2	Off	22	3	25	0	0	0
23.05.07	Farmer	Raising of Kharif Onion	1	Off	25	0	25	0	0	0
26.07.07-27.07.07	Farmer	Raising cauliflower/cabbage as a catch crop	2	Off	0	0	0	25	0	25
28.07.07	Farmer	Raised bed planting of ginger and turmeric	1	On	25	0	25	0	0	0
30.08.07-31.08.07	Farmer	Rejuvenation of old and sick mango orchards	2	On	25	0	25	0	0	0
25.09.07-26.09.07	Farmer	Rejuvenation of old and sick mango orchards	2	Off	25	0	25	0	0	0
23.11.07	Inservice	Protected cultivation of high value season crop	1	off	21	04	25	0	0	0
19.11.07-22.11.07	Rural youth	Propagation technique for raising improved fruit sapling	4	Off	20	0	20	0	0	0
19.03.08-20.03.08	Inservice	Orchard mgmt. with reference to rejuvenation for old mango orchards	2	Off	18	2	20	0	0	0
24.03.08-25.03.08	Farmer	Care and maintenance of existing cashew orchard	2	Off	20	0	20	0	0	0
26.03.08-27.03.08	Farmer	Value addition to turmeric through curing	2	Off	21	0	21	4	0	4
27.04.07 & 28.04.07	Farmers	Growing Acacia mangium for profit maximization	2	Off campus	23	-	23	2	-	2
30.05.07	Farmers	Growing Eucalyptus industrial use	1	Off campus	24	0	24	1	0	1
26.07.07 & 27.07.07	Farmers	Agroforestry system for rainfed as well as irrigated Agro-ecosystem	2	On campus	23	0	23	2	0	2
15.10.07	Inservice	Environmental pollution	1	Off	19	0	19	1	0	1

				campus						
30.11.07	Inservice	Watershed management	1	Off campus	20	0	20	0	0	0
18.12.07	Inservice	Natural resource management	1	Off campus	18	0	18	2	0	2
17.03.08 & 18.03.08	Inservice	Bamboo plantation technology	2	On campus	18	0	18	2	0	2
19.03.08 & 20.03.08	Farmer	Propagation of bamboo through culm cutting method	2	On campus	8	5	13	5	7	12
12.03.08 & 15.03.08	Rural youth	Industrial plantation of eucalyptus, bamboo, mangium and gamhar	4	On campus	19	0	19	1	0	1
24.04.07 & 25.04.07	Rural youth	Organizing Farmers' Club	2	Off campus	11	0	11	9	0	9
26.07.07 & 27.07.07	Rural youth	Effective functioning of SHG for boosting rural economy	2	Off campus	23	0	23	2	0	2
27.09.07 & 28.09.07	Rural youth	Group approach in NRM and Conservation	2	Off campus	14	0	14	6	0	6
29.11.07 & 30.11.07	Inservice	Community involvement in successful organic farming.	2	Off campus	18	0	18	2	0	2
13.02.08 & 14.02.08	Inservice	Technique of conducting Field Demonstration	2	Off campus	17	0	17	3	0	3
19.02.08 & 20.02.08	Inservice	Agro-consultancy services for entrepreneurship development.	2	Off campus	16	0	16	4	0	4
28.02.08 & 29.02.08	Rural youth	Group dynamics in farmer organization	2	Off campus	17	0	17	3	0	3
01.03.08 & 02.03.08	Rural youth	Importance of formation and mgmt of SHG	2	Off campus	16	0	16	4	0	4

(D) Vocational training programmes for Rural Youth(01.04.07-31.03.08)

Crop / Enterprise	Identified Thrust Area	Training title*	Duration (days)	No. of Participants			Self employed after training			Number of persons employed elsewhere
				Male	Female	Total	Type of units	Number of units	Number of persons employed	
1. Bee keeping.	Abundant forest flora for Apiculture.	Bee keeping for self-employment	5	20	-	20	Homestead	30	6	-
2. Organic manures	Unutilization of organic wastes	Organic waste recycling and production of enriched compost.	5	15	5	20	Homestead	10	3	-
3. Vermicompost	Unutilised straws and other bio degradable products	Vermicompost production	5	20	0	20	Homestead	13	2	-
4. Forest nursery	Income generation activity for Rural Youth and production of quality propagation material.	Development and maintenance of forest nursery & raising of quality propagation material.	5	20	-	20	-	-	-	-

(E) Sponsored Training Programmes

Sl. No	Title	Thematic area	Month	Duration (days)	Client PF/R/Y/ EF	No. of courses	No. of Participants						Sponsoring Agency	
							Male		Female		Total			
							Others	SC/ST	Others	SC/ST	Others	SC/ST		Total
	Plasticulture Precision and precision farming farming		Dec.	2	Farmer	1	26	0	0	0	26	0	26	Dept. of horticulture

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	5	147	83	230	-	-	-	-	-	230
Kisan Mela	1	85	-	85	15	-	15	100	-	100
Kisan Ghosthi	2	20	10	30	10	5	15	30	15	45
Exhibition	1	120	80	200	-	-	-	-	-	200
Film Show	30	650	50	700	50	-	50	700	50	750
Method Demonstrations										
Farmers Seminar	1	300	50	350	10	5	15	310	55	365
Workshop										
Group meetings	62	352	105	457	13	1	14	365	106	471
Lectures delivered as resource persons	32	-	-	-	-	-	-	-	-	-
Newspaper coverage	28	-	-	-	-	-	-	-	-	-
Radio talks										
TV talks	14	-	-	-	-	-	-	-	-	-
Popular articles	10									
Extension Literature	4									
Advisory Services	220	350	150	500	26	20	46	376	170	546
Scientific visit to farmers field	349	260	60	320	19	20	39	279	70	349
Farmers visit to KVK	297	120	30	150	37	10	47	257	40	297
Diagnostic visits	153	110	10	120	21	12	33	131	22	153
Exposure visits										
Ex-trainees Sammelan										
Soil health Camp										
Animal Health Camp	1	166	-	166	7	-	173	173	-	173
Agri mobile clinic										
Soil test campaigns										
Farm Science Club Conveners meet	4	80	-	80	-	-	-	80	-	80
Self Help Group Conveners meetings	2	-	50	50	-	-	-	-	50	50
Mahila Mandals Conveners meetings	1	-	25	25	-	-	-	-	25	25
Celebration of important days (specify)	1	50	-	50	-	-	-	50	-	50
One stop aqua shop(OSA)	1	1	-	1						1
Total										

3.5 Production and supply of Technological products

SEED MATERIALS

Category	Crop	Variety	Quantity (qtl.)	Value (Rs.)	Provided to No. of Farmers
CEREALS					
OILSEEDS					
PULSES					
VEGETABLES					
FLOWER CROPS					
OTHERS (Specify)					

SUMMARY

Sl. No.	Crop	Quantity (qtl.)	Value (Rs.)	Provided to No. of Farmers
1	CEREALS			
2	OILSEEDS			
3	PULSES			
4	VEGETABLES			
5	FLOWER CROPS			
6	OTHERS(Paddy and Dhanicha)			
TOTAL				

PLANTING MATERIALS

Sl. No.	Crop	Variety	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
FRUITS	Pineapple sucker	Queen	150	375	5
	Papaya seedlings	Red lady	968	9680.00	9
	Lemon		1	11.00	1
	Banana sucker	Dwart cavendish	100	225.00	4
	Jackfruit	-	20	100.00	1
SPICES	Black Pepper	Panniyur 1 Panniyur 2 Kariamunda	121	605.00	4
	Dalchini		25	125.00	1
VEGETABLES					
	Drumstick seedlings	PKM-1	501	2505.00	4
	Brinjal seedlings	Utkal Anushree	2,300	690.00	6
	Tomato seedlings	Aravinda	10,500	3150.00	8
FOREST SPECIES					
	Teak	-	1400	7000.00	5
	Acacia mengium	-	420	2100.00	2
	A.ariculoformis	-	240	1200.00	1
ORNAMENTAL CROPS					
	Hybrid Balsam	Balsam tum thump mix	1000	300.00	1
	Rose		160	1920.00	5
PLANTATION CROPS					
	-	-	-	-	-
Others (specify)					
	Yam	Hatikhojia	1.5q	2250.00	1
	Elephant foot yam	Gajendra	50kg	750.00	1
	Cassava	Sriganga	100	250.00	1
	Mushroom	Paddy straw mushroom	10.5kg	525.00	3

SUMMARY

Sl. No.	Crop	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
1	FRUITS	1239	10,391	20
2	VEGETABLES	13,301	6,345	18
3	SPICES	146	730	5
4	FOREST SPECIES	2790	10,300	42 + community plantation
5	ORNAMENTAL CROPS	260	2,220	8
6	PLANTATION CROPS			
7	OTHERS		3,775	
	TOTAL	17736	33,761	59

BIOPRODUCTS						
Sl. No.	Product Name	Species	Quantity		Value (Rs.)	Provided to No. of Farmers
			No	(kg)		
BIOAGENTS	Earthworm	Eoesina foetida	2000		2000.00	1
BIOFERTILIZERS	Vermicompost	-	-	229.6kg	1722.00	7
BIO PESTICIDES						

SUMMARY

Sl. No.	Product Name	Species	Quantity		Value (Rs.)	Provided to No. of Farmers
			No	(kg)		
1	BIOAGENTS	Eoesina foetida	2000		2000.00	1
2	BIO FERTILIZERS	vermicompost		229.6kg	1722.00	7
3	BIO PESTICIDE					
	TOTAL		200.00	229.6kg	3722.00	8

LIVESTOCK

Sl. No.	Type	Breed	Quantity		Value (Rs.)	Provided to No. of Farmers
			(Nos)	Kgs		
Cattle						
Sheep and Goat						
Poultry	Backyard dual purpose	Vanaraja	879		26370.00	25
Fisheries		Gold fish	20		100.00	1
Others (Specify)						

SUMMARY

Sl. No.	Type	Breed	Quantity		Value (Rs.)	Provided to No. of Farmers
			Nos	Kgs		
1	CATTLE					
2	SHEEP & GOAT					
3	POULTRY	Vanaraja	879		26370.00	25
4	FISHERIES	Gold fish	20		100.00	1
5	OTHERS					
	TOTAL		899		26470.00	26

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

(A) KVK News Letter (Date of start, Periodicity, number of copies distributed etc.)

(B) Literature developed/published

Item	Title	Authors name	Number
Research papers	1. Stability of spilanthal in flowers of <i>spilanthos acmella</i> in different storage condition.	S. Nayak	1
	2. Sustainable aquaculture for farming system research.	A. K. Swain, G. Das, P. J. Mishra	1
	3. Utilisation of sugarcane baggage as an alternate substrate for economic mushroom production in	G. Subudhi, P. K. Prusty, P. J. Mishra	1

	Nayagarh district. 4. Vegetable and human health. 5. Concept paper on crop substitution : Growing of arrowroot in elephant damage prone up and medium land rice area of Nayagarh district.	G. Das & P. J. Mishra G. Das , P. J. Mishra & A. K. Swain	1 1
News letters			-
Technical bulletins(Booklet)	Byabasayika bhitire chatu chasa. Labhajanaka tissue culture kadali chasa. Madhura jala chingudi chasa. Byabasayika Mahumachi palana.	G Subudhi & P.J.Mishra G Das & P. J. Mishra. A.K.Swain & P.J. Mishra P.K.Prusti & P.J.Mishra	500 500 500 500
Extension literature	Akhu phasalare jala parichalana. Jia khata prastuti pranali. Labhajanaka Baunsa chasa. Swayam sahayaka gosthi parichalana.	P.J.Mishra , P.K. Banarjee & R.K. Bhol P.K.Prusti , G Das & P.J Mishra S.Nayak, B Parmanik & P.J Mishra P.K.Banarjee, G Subudhi & P.J.Mishra	500 500 500 500

(C) Details of Electronic Media Produced

S. No.	Type of media (CD / VCD / DVD / Audio-Cassette)	Title of the programme	Number
	Documentation of E TV and doordarshan coverage of KVK activities	1. Scientific production of mushroom	1
		2. T. C Banana and Hybrid papaya cultivation	1
		3. Integrated management for paddy stem borer	1
		4. Scientific production of Yam and Elephahant foot yam.	1
		5. Backyard poultry “ Banaraja” farming.	1
		6. Rearing technique of khaki campbell ducks	1
		7. Technique of Ornamental live bearer fish production.	1
		8. Integrated disease management in groundnut.	1
		9. Growing of Acacia mangium in field bunds.	1
		10. Raising of Bamboo through culm cutting method	1
		11. Fish Hatchery management technology	1
		12. Management of sugarcane crop in rainy season	1

		13. Micro nutrient management in maize	1
		14. Biological control of parthenium grasss	1

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

Tissue cultured banana and hybrid papaya cultivation

1. Name of the enterprise/practice/technology: Cultivation of tissue cultured banana & hybrid papaya.

2. Name & address of the farmer: Sri Bijaya Kishore Nayak; Village – Kantabania; Block – Nayagarh; P.O.- Balugaon; District – Nayagarh.

3. Initial status: The district of Nayagarh is situated in an area of 3, 94,110 hectares of land, of which major portion is covered with hilly terrains, dense forests and high lands. About 53,192 ha. of high lands (40% of total cultivated area) are covered with different field crops and vegetables in kharif season. Mostly traditional banana and papaya varieties are cultivated in high lands to a limited extent by farmers of the district. Tall type plantain varieties *Bantala* & *Mendhi bantala*; banana varieties *Champa*, *Chinichampa*, *Kathia* & *Patakapura* are generally cultivated by the farmers. Similarly local tall type papaya varieties are grown with improper management practice.

Kantabania, is a village situated at a distance of 8 kms. from the district head quarters. Two hundred farm families in the village, mostly small and marginal do cultivate sugarcane, paddy, groundnut, blackgram and vegetables in kharif season and undertake diary, goatery and pisciculture in small scale. Even though, good fertile high lands enriched with forest litter are available along with partial irrigation from the nearby *Panipoila* dam, none of the farmers cultivate banana and papaya. Though, there is an internal as well as external demand for banana and papaya, extensive commercial cultivation has never been followed. Low yield from local varieties, frequent disease & insect attack, wind and lodging problems are attributed to be the major reasons for non-adoption of these profitable ventures.

A young farmer of the village Sri Bijaya Kishore Nayak aged about 20 years, after leaving his studies at class Xth, helped his father in maintaining 4 nos. of buffaloes and cultivating paddy and fodder grass in 2 acres of irrigated high land round the year. From this business, his family could earn around thirty to thirty-five thousand rupees per annum.

4. KVK intervention (mandatory activities OFT, FLD, training etc. undertaken): Keeping in view the possibility of commercial banana and papaya cultivation in the well drained, fertile and irrigated high lands available in this particular village, it was decided to promote tissue cultured banana and hybrid papaya cultivation in 2006 kharif season. Accordingly, training programmes on '*Scientific method of tissue cultured banana cultivation*' and '*Hybrid papaya cultivation*' were organized in the village during March to May 2006. Exposure visit of the farmers to the KVK demonstration farm as well as front line demonstrations were also conducted.

5. Innovative extension approach: After being trained and visited the demonstration units, Sri Nayak was interested to cultivate tissue cultured banana and hybrid papaya in his 2 acres of high land and contacted Krishi Vigyan Kendra for necessary technical guidance. Feasibility survey of his land was done; necessary technical literature provided and linkage was facilitated with the Regional Plant Resources Centre, Bhubaneswar for getting quality planting materials. A lay out plan was also prepared for planting banana and papaya.

6. Details of the technology:

a. Initial land preparation: Ploughing, removal of weeds, laddering and leveling of the field.

b. Lay out & digging of Pit:

i) **For Tissue Cultured banana** = Pits of size 2ft. X 2ft. X 2ft. at a distance of 1.5m. dug out with field channel of 0.5m. wide along the slope.

ii) **For hybrid papaya** = Papaya was planted as a filler crop in between two plants of banana. Pits of size 50cm. X 50cm. X 50cm. were dug.

c. Manure & Fertilizer Application: Basal applications as well as top dressing of NPK fertilizers were done as per following schedule. Rings were done at 25-30cm. radius from the plant and fertilizers top dressed at a depth of 10-15cm. for both banana and papaya.

i) **For Tissue Cultured banana** = 10 kg. FYM, 250g. neem oil cake, 250g. sterameal and 625g. SSP per pit was mixed with the top soil and filled. Planting was done after 5-6 days at a depth of 20cm. After 2 month of planting, 150g of urea and 250g. of MOP was top dressed per plant. Then, after 4 months of planting only 250g. urea per plant was applied. The last dose of 250g. each of urea and MOP was applied after 6 months of planting.

ii) **For hybrid papaya** = Two to three baskets of FYM, 500g. of neem oil cake, 3.125kg. SSP, 140g. MOP and 100g. urea per pit was mixed with the top soil and filled. Planting was done after 5-6 days at a depth of 20cm. After every 2 month's interval, each plant was top dressed with 140g. MOP and 100g. urea.

d. Procurement of planting material: Tissue cultured banana plants variety *Dwarf Cavendish* and *Robusta* as well as gynodioecious hybrid papaya plants variety *Red Lady* were procured from the Regional Plant Resources Centre, Bhubaneswar and the Central Horticultural Experimentation Station, Bhubaneswar respectively. The planting was done during first week of June 2006.

e. Intercultural Operations: Regular hoeing, weeding and earthing up operations were undertaken at 2 month's interval. Need based irrigation and water management was also done. The unwanted early suckers of banana were removed.

g. Disease Prophylaxis: Prophylactic measures against wilting, leaf spot & bunchy-top diseases of banana as well as ring-spot, black spot, leaf curl, wilting and mosaic diseases of papaya were done by regular spraying and drenching of Bavistin @ 2g. per liter of water at 2 month's interval starting from 5th month of the crop. Similarly, need based spraying of monocrotophos @ 1.6ml. per liter of water was done 2 times at 15 days interval from starting of the infestation of thrips, jassids, aphids and white fly. Drenching of furadon @ 40g./plant in banana was done against stem borer attack.

7. Adoption of the technology & benefit to the farmer: From 2 ac. of banana and papaya cultivation following above scientific technology, Sri Nayak could earn Rs.50,000/- after 11th month of planting of banana and would expect to earn more from papaya and rest of banana. He is taking all care of the suckers (one each of the mother plant) for a second crop of banana and sold many to the local farmers for cultivation. He has expertise himself in this venture and is regarded as an advanced cultivator of the locality. The district horticulturist and the district agril.officer as well as many farmers of nearby villages have already visited his farm which has become a good demonstration site. Sri Nayak has developed his land in to a profitable enterprise. He was awarded in the O.U.A.T. Foundation Day Celebration 2007 for this success.

9. Farmer's reaction & feed back: The farmers of the village were surprised to see the extraordinary success in tissue cultured banana and hybrid papaya cultivation. But the local preference of yellow skin banana like *Champa*, *Chinichampa* & *Patakapura* especially for the purpose of worship reduced the price of tissue cultured banana. But the local people highly appreciated the taste and quality of *Robusta* and *Dwarf Cavendish* varieties. Marketing of so many bunch of banana matured at the same time was difficult for him. Constant watch

and ward of the crop in open field, without having fenced around was also another problem said by him. But his family was satisfied with the technology. He has constructed a shade near his farm and started fencing on a phased manner.

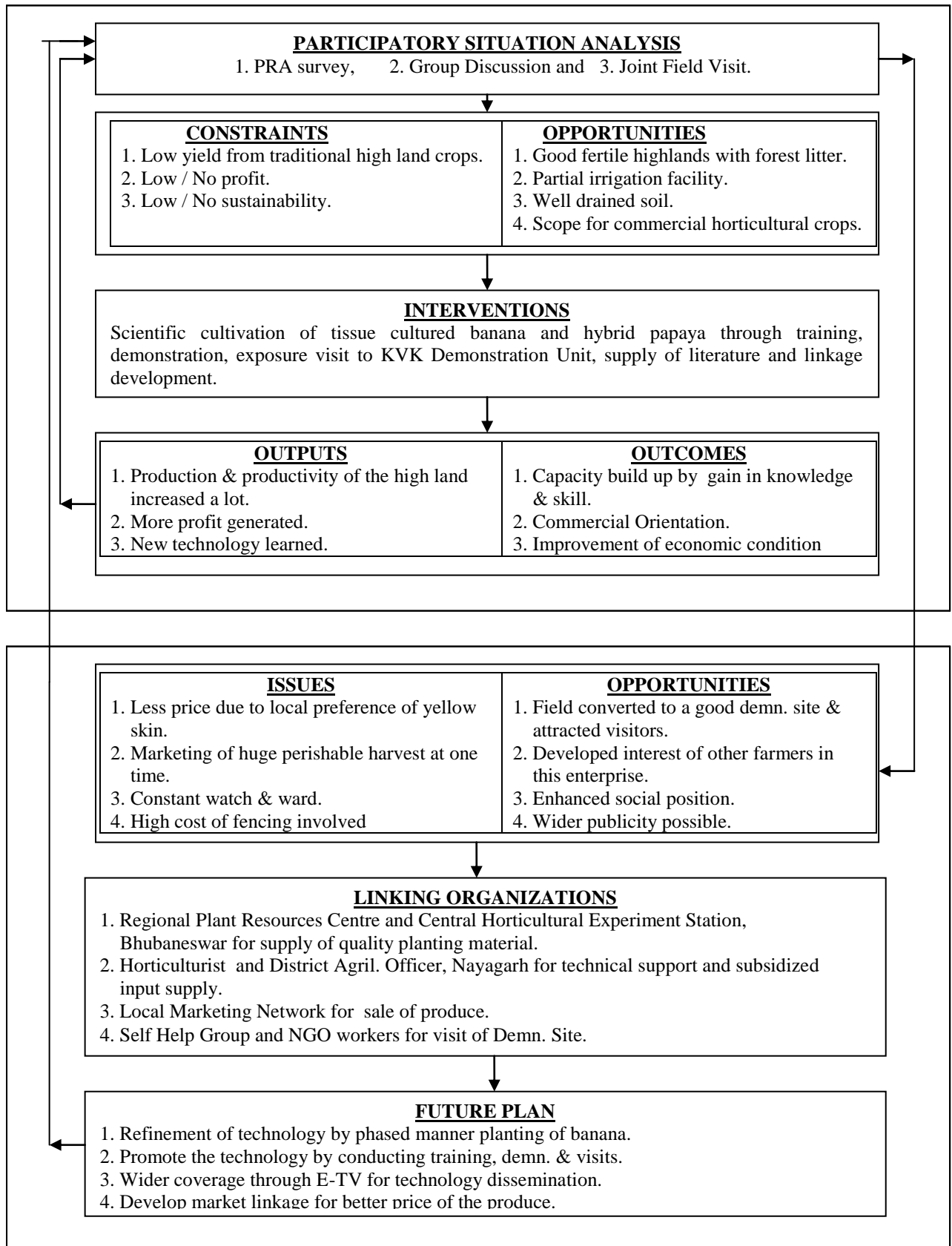
10. **Extent of Diffusion effect of the newly adopted technology:** Being inspired by the success of this technology, 3 young farmers in the village decided to start such commercial cultivation of banana & papaya during the next season. Now, Sri Nayak has not only become a successful farmer, but is acting as a farmer promoter in disseminating tissue cultured banana and hybrid papaya cultivation in the locality. His farm has become a real demonstration site not only for the farmers but also for the Self Help Groups and NGO workers. Thus, Sri Nayak has kindled the interest of many individuals and organizations of the locality to take up this enterprise as an attractive alternative to traditional farming.
11. **Follow up action by KVK:** KVK, Nayagarh has documented this successful intervention and developed plan to promote this technology. Trainings and demonstrations are to be conducted for orienting other farmers on this technology. KVK has also contacted E-TV for coverage of the technology for wider dissemination. Linkage with Wholesalers at Bhubaneswar and Cuttack cities will be developed to avoid marketing constraint of banana and to ensure better price. Refinement of the T.C.banana cultivation technology by planting in phased manner through On Farm Testing will be tried to avoid huge production at a time.

12. Action Photograph:



Sri Bijay Kishore Nayak in his Tissue cultured banana and hybrid papaya field.

8. Model of technology dissemination:



Fresh water prawn culture

- 1. Name of the enterprise/practice/technology:** Cultivation of fresh water prawn “*Scampi*”.
- 2. Name & address of the farmer:** Sri Kubera Jena; Village – Kantabania; Block – Nayagarh; P.O.- Balugaon; District – Nayagarh.
- 3. Initial status:** Good number of revenue/Gram Panchayat ponds covering 1626.33 ha. of water bodies are present in Nayagarh district. Similarly 1308.82 ha. of Non Govt./Private ponds are also available besides small & medium reservoirs, water harvesting structures, rivers and canal. Due to these water bodies, fresh water pisciculture is an important enterprise of the farmers. The annual fish production of the district is around 64,000 metric tones. Mostly, traditional pisciculture techniques with one year culture period are practiced by release of fry or fingerlings with inappropriate stocking density, without disease management and highly irregular manuring practice. Because of these, fish productivity of the district is very low.

Kantabania, is a village situated at a distance of 8 kms. from the district head quarters. Two hundred farm families in the village, mostly small and marginal do cultivate sugarcane, paddy, groundnut, black gram and vegetables in kharif season and undertake diary, goatery and pisciculture in small scale. Even though, 5 ponds of 3.2 ha. of total area are present in the village, intensive pisciculture is undertaken only in 2 ponds. Partial adoption of scientific management practices attributed to poor growth rate of fishes resulting low return from pisciculture. Complete utilization of the available water bodies could not be made for maximizing profit.

A 30 year old farmer of the village Sri Kubera Jena, after leaving his studies at class XIIth, has involved himself in cultivating sugarcane, paddy, groundnut and seasonal vegetables round the year in 3.5 acres of paternal field. He is also having 0.5 ac. of pond in which he practices composite pisciculture. Being an advanced farmer, he takes leadership role in the village in all sorts of activities. From this business, his family could earn around forty-five to fifty thousand rupees per annum.
- 4. KVK intervention (mandatory activities OFT, FLD, training etc. undertaken):** Keeping in view the possibility of getting more profit from the ponds in this particular village, it was decided to promote fresh water prawn “*Scampi*” culture in 2006 kharif season. Accordingly, training programme on “*Scientific method of fresh water prawn ‘Scampi’ culture*” was organized in the village during May 2006. A frontline demonstration was also conducted.
- 5. Innovative extension approach:** After being trained and visited the demonstration units, Sri Jena was interested for fresh water prawn culture in his 0.5 ac. of pond and contacted Krishi Vigyan Kendra for necessary technical guidance. His pond was investigated; relevant literature provided, technical guidance given and linkage was facilitated with Central Institute for Fresh water Aquaculture (CIFA), Bhubaneswar to get quality post larvae (PL) of *Scampi*. A plan was also prepared for renovation of the pond, water management, manuring & fertilizer application as well as feeding of culture .
- 6. Details of the technology:**
 - a. Initial pond preparation:** Destruction of trash fishes by mahua cake application @ 10 kg / ac.and application of Calcium Carbonate @ 100 kg. /ac. followed by removal of weeds.
 - b. Manure & Fertilizer Application:** N: P: K @ 80:60:240 kg. /ac. was applied through equal monthly doses Supplemented by *Pond Culture* @ 2kg/month.
 - c. Stocking of Post Larvae (PL):** In one corner of the pond, with the help of net & bamboo splits a nursery was developed for stocking 10,000 PL of *Scampi* up to 60 days till attainment of juvenile stage. Regular feeding, monitoring of growth & development was done & finally they were released in to the main culture pond.
 - d. Supplementary Feeding:** The daily feeding rate depends on the percentage of body weight of the juveniles. For 5-15g. of wet body weight, 7% feed is required daily. Similarly for 15-25g. and >25g wet body weights, 5% and

3% of feed is given respectively. The feed composition consists of a mixture of oil cake & rice bran at 1:2 ratios

with 0.2% addition of vitamins and mineral mix.

e. Provision of hide outs: Sufficient shelters (hide outs) are necessary in the pond to facilitate moulting of juveniles. Old tyres, broken earthen pots, pieces of pipes are evenly kept in side the pond for the purpose.

f. Disease Prophylaxis: Prophylactic measures against black spot and white tail diseases are taken. Monthly liming @ 20kg / ac. 7 days before manuring and application of Cifax @ 400 ml. / ac. in Nov. & Feb. has been done

7. Adoption of the technology & benefit to the farmer: From 0.5 ac. of fresh water prawn culture, after 8 months of management, Sri Jena could harvest 3.0qtls. of prawn of average 40g. body weight. By selling the produce to a wholesale dealer @ Rs.135/- per kg., he earned Rs.40, 500/-. After deducting all expenses, he could earn a net profit of Rs.30,000/-. Thus, after KVK intervention, he could learn the scientific practices of pond preparation, liming, fertilizer, oil cake, raw cow dung and micro nutrient application in fresh water prawn culture. This was done in the locality for the first time and as such generated lots of enthusiasm among the farmers of near by villages.

9. Farmer's reaction & feed back: The farmers of the village were surprised to see the success in fresh water prawn culture. Due to more preference of prawn by the local people, three times more price of prawns over fishes and more profit, many farmers have developed interest for fresh water prawn culture. Due to high summer temperature in the month of April, there was shortage of oxygen in the pond for which suddenly, high mortality was observed and the farmer had no way than to harvest the entire stock and sold at a lower price. Had there been no such occasion, the farmer had obtained much more price by harvesting it in phases.

10. Extent of Diffusion effect of the newly adopted technology: Being motivated by the success of fresh water prawn culture, four young farmers of the village decided to start the enterprise in next season. Now, Sri Jena has not only become a successful farmer, but is acting as a farmer promoter in disseminating the technology in the locality.

11. Follow up action by KVK: KVK, Nayagarh has documented this successful intervention and developed plan to promote this technology. Trainings and demonstrations are to be conducted for orienting other farmers on this technology. KVK has also contacted E-TV for coverage of the technology for wider dissemination. Linkage with Wholesalers at Bhubaneswaar and Cuttack cities will be developed to get better price. Refinement of the technology for maintenance of optimum oxygen concentration during hot summer days through On Farm Testing will be tried to avoid sudden mortality of prawns.

12. Action Photographs:

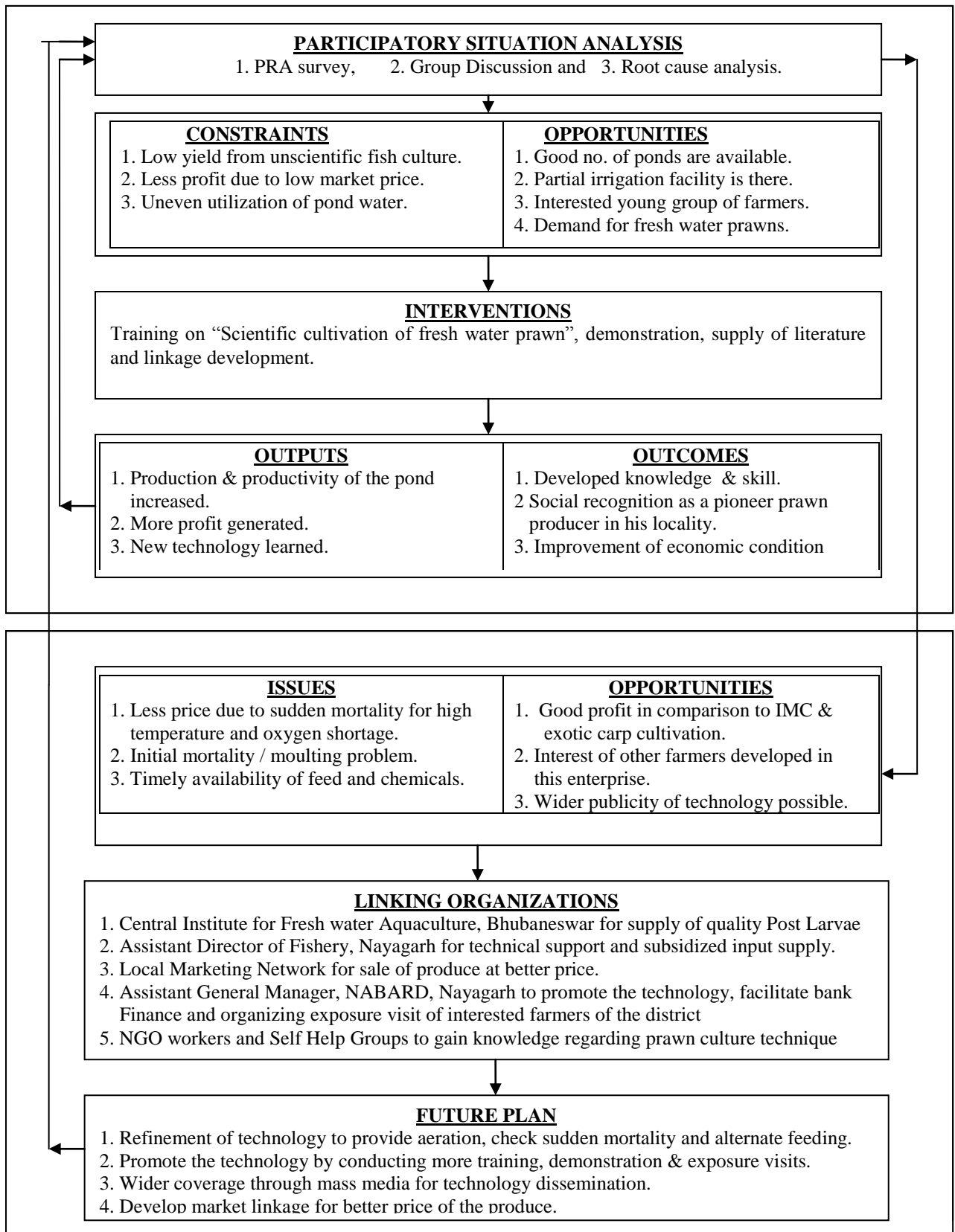


SMS (Fishery Sc.) & Farmers showing "Scampi"



A bumper harvest of fresh water prawn

8. Model of technology dissemination:



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

- i) Use of net in one corner of pond to act as nursery unit upto juvenile stages for freshwater prawn culture
- ii) Use of flower pot as fertilization substrate and base for growth of hydrilla plant in ornamental fish tank.
- iii.) Stocking of grass carp in prawn culture for pond fertilization.
- iv) Innovative carrying box for live fish transport.

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	Ginger	Spraying of goat urine	Control rhizome rot
2	Brinjal	Root pruning	Control little leaf
3	Brinjal	Wood Ash Dusting	Control aphids
4	Paddy	Sparying with cowdung water	Control initial blast

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

- Identification of courses for farmers/farm women: Group discussion, diagnostic survey, secondary source
- Rural Youth: PRA survey, Group discussion, farm and home visit, suggestions of line department officials
- Inservice personnel: suggestions of line department officials and NGO personnel, Group discussion, secondary sources

3.11 Field activities

- i. Number of villages adopted: 6
- ii. No. of farm families selected : 60
- iii. No. of survey/PRA conducted : 3

3.12. Activities of Soil and Water Testing Laboratory

Status of establishment of Lab : laboratory not yet established in the KVK.

4.0 IMPACT

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

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./Unit)	After (Rs./Unit)
Freshwater prawn culture	20	50	0	30,000
Ornamental fish culture	42	60	0	5000
Back yard poultry(vanaraja)	20	45	11000	18500
Tissue cultured banana plantation	30	80	10000	17500

4.2. Cases of large scale adoption

Freshwater prawn culture area after KVK's intervention has been increased from 0Ha to 25Ha within a span of 3 years

Ornamental fish culture very popularly adopted in rural youth sector for that one aqua shop for first time in the district developed

Tissue cultures banana plantation has become popular in the area
 Mushroom cultivation has become popular with SHGs in the district.
 Biological control of sugarcane borers.
 Control of DBM through IPM.

(Please furnish detailed information for each case)

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

5.0 LINKAGES

5.1 Functional linkage with different organizations

Name of organization	Nature of linkage
1. District Agril. Officer, Nayagarh.	Training, conducting FLD and OFT.
2. Horticulturist, Nayagarh	Training, conducting FLD and OFT.
3.FASCIMILE, Orissa, NGO, Nayagarh	Contact SHGs for training & demonstration
4. Collector & PD, DRDA, Nayagarh.	Campus development & drinking water provision
5.Zilla Parisad Office, Nayagarh	Participation in Block Development Programmes.
6. NABARD Office, Nayagarh.	SHG training, financial assistance to KVK trainees.
7.Lead Bank Officer, Nayagarh	Financial assistance to KVK trained SHGs & Youths.
8.FFDA, Nayagarah	Supply of Fish seed & training support
9.CDVO, Nayagarah	Training and consultancy services for poultry and duckery
10.DFO, Nayagarh	Training and consultancy.
11. ATMA, Nayagarh	SREP, training.
12. ICAR organizations (CIFA, CTCRI, CHES, CARI, NRCWA.	Supply of inputs and technical know how.
13. MPEDA, BBSR	Awareness camp.
14. NISWARTHA, SHRAVANI, CYDA (NGOs)	Training and consultancy
15. Rotary club	Seminar
16. NSCL	Technical guidance

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.)
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5.3 Details of linkage with ATMA : ATMA has been registered during September 2007

a) Is ATMA implemented in your district: Yes

S. No.	Programme	Nature of linkage	Remarks
1.	Nil	Programme coordinator as governing body member	-
2.		SMS as Deputy Project Director, ATMA.	-
3.		SMS as SREP member	-

5.4 Give details of programmes implemented under National Horticultural Mission

S. No.	Programme	Nature of linkage	Constraints if any
1.	The National Horticultural Mission Programme is being implemented by the Horticulturist in entire district.	KVK is a member in the District Co-ordination committee for technical support.	-

5.5 Nature of linkage with National Fisheries Development Board

S. No.	Programme	Nature of linkage	Remarks
1.	Training programme	Financial support	Proposal has been submitted
2.	Demonstration unit	-do-	-do-

6. PERFORMANCE OF INFRASTRUCTURE IN KVK

6.1 Performance of demonstration units (other than instructional farm)

Sl. No.	Demo Unit	Year of estt.	Area	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	
1.	Ornamental Fish Hatchery.	2006	4tanks	Live bearers	20	20	340	100	-
2.	Honey beehives.	2006	10 colonies	<i>A. cerana indica</i>	-	-	-	-	-
3.	Vermicompost unit	2006	4pits	<i>E. foetida</i>	-	229.6 kg	500	1722	-
4.	Azolla tank	2006	6 nos.	<i>A. caroliniana</i>	-	-	-	-	-
5.	Nusery for Forest specis	2007	0.04ha	<i>A. mangium</i> <i>A. ariculifer</i> mis Teak	-	2790 nos	6,000/-	10,300/-	-
6.	Green house renovated	2006	1	Seedlings, saplings of Mango, papaya, blackpepper etc. are raised.	-	-	-	-	-

6.2 Performance of instructional farm (Crops) including seed production

Sl. No	Crop	Area Covered (ha)	Variety	Date of sowing	Date of harvesting	Total production (please specify the unit of yield)/Nos	Cost of inputs (Rs)	Gross income (Rs)	Remarks
1.	Drumstick	0.03	PKM-1	9.7.06	18.11.08	100	200/-	500.00	-
2.	Mushroom	-	Paddy Straw & Oyster	25.7.07 To 8.12.07	15.8.07 To 19.12.07	10bed/bag	150/-	400.00	-
3.	Banana	0.06	Dwarf cavendish	13.8.06	12.5.07-23.7.07	100 dozen	8/-	800.00	-
4.	Nursery	0.04	<i>A. mangium</i> <i>A. ariculifer</i> mis Teak	17.5.07	28.7.07 to 10.8.07	2790	6,000/-	10,300/-	-

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	
	Vermicompost Earthworm	229.6kg 2000	600 500	1722 2000	

6.4 Performance of instructional farm (livestock and fisheries production)

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1	backyard poultry	Banaraja	rearing	879	15,000/-	26,370/-	

6.5 Utilization of hostel facilities

Accommodation available (No. of beds) : **Hostel not constructed**

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	OUAT branch	
With KVK	State Bank of India	Nayagarh	11383056681

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

Item	Released by ICAR		Expenditure		Unspent balance as on 1 st April 2008
	Kharif 2007	Rabi 2007 -08(Rs)	Kharif 2007	Rabi 2007-08	
Inputs	12,250/-	8,750/-	12,250/-	8,736/-	14/-
Extension activities	1575/-	1250/-	1575/-	1250/-	Nil
TA/DA/POL etc.	1750/-	1075/-	1640/-	1075/-	110/-
TOTAL	15,575/-	11,075/-	15,465/-	11,061/-	124/-

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

Item	Released by ICAR		Expenditure		Unspent balance as on 1 st April 2008
	Kharif 2007	Rabi 2007 -08	Kharif 2007	Rabi 2007-08	
Inputs	-	9190/-	-	9100/-	90/-
Extension activities	-	1315/-	-	1315/-	-
TA/DA/POL etc.	-	1615/-	-	1615/-	-
TOTAL	NIL	12120/-	NIL	12030/-	90/-

7.4 Utilization of funds under FLD on Cotton (Rs.) Not Applicable

Item	Released by ICAR		Expenditure		Unspent balance as on 1 st April 2008
	Kharif 2007	Rabi 2007 -08	Kharif 2007	Rabi 2007-08	
Inputs					
Extension activities					
TA/DA/POL etc.					
TOTAL	NIL	NIL	NIL	NIL	NIL

7.5 Utilization of KVK funds during the year 2007 -08

S. No.	Particulars	Sanctioned (Rs)	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	30,00,000	-	-
2	Traveling allowances	1,00,000	1,00,000	1,00,000
3	Contingencies	6,00,000	6,00,000	6,00,000
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)			85,017
B	POL, repair of vehicles, tractor and equipments			102368
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)			156640
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)			110733
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			90589
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)			27638
G	Training of extension functionaries			14400
H	Maintenance of buildings			
I	Establishment of Soil, Plant & Water Testing Laboratory			
J	Library			
k	Audit and monitoring			12615
TOTAL (A)		37,00,000		36,98,839
B. Non-Recurring Contingencies				
1	Works	23,95,000		23,27,319
2	Equipments including SWTL & Furniture	95,000	95,000	84,389
3	Vehicle (Four wheeler/Two wheeler, please specify)			
4	Library (Purchase of assets like books & journals)	-	-	-
TOTAL (B)		24,90,000		24,11,708
C. REVOLVING FUND		-		48,227
GRAND TOTAL (A+B+C)		61,90,000		61,58,774

7.5 Status of revolving fund (Rs. in lakhs) for the three years

Year	Opening balance as on 1 st April	Income during the year	Expenditure during the year	Net balance in hand as on 1 st April of each year
April 2004 to March 2005	-	-	-	-
April 2005 to March 2006	1.0	0.17120	0.06901	1.10219
April 2006 to March 2007	1.10219	0.21728	0.16500	1.15447
April 2007 to March 2008	1.15447	0.63950	0.48227	1.31170

8.0 Please include information which has not been reflected above (write in detail).

8.1 Constraints

- a. Administrative: - Adequate land with irrigation needed for seed production programme. Sanction of addl. Post for soil testing and bio control lab e.g. Soil Chemist, Lab Assistant, Lab Attendant.
- b. Technical: - Lack of demonstration units in the campus, establishment of soil testing and bio control lab, Audio-visual like, TV and CD player could improve the efficiency of trainings.
- c. Financial: - Provision for Motor cycle, establishment of demonstration units, training hall, laboratory etc., needed for utilization of manpower and serving the farmer community in a better way.

(Signature of Programme Coordinator)