

# ANNUAL REPORT

## 2009 – 10

### KRISHI VIGYAN KENDRA BURDWAN



#### KRISHI VIGYAN KENDRA

Central Research Institute for Jute & Allied Fibres (ICAR)

Budbud, Burdwan, W.B. 713 403

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## **GENERAL INFORMATION ABOUT THE KVK**

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

Name: Krishi Vigyan Kendra, Burdwan

Address	Telephone		E mail	Website
BudBud, Burdwan- 713 403. West Bengal	Office - 0343 2513651	Fax - 0343 2513651	kvkburdwan@gmail.com	<b>www.kvkcrijaf.org</b>

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

Name of Host organization: **Central Research Institute for Jute and Allied Fibres (ICAR)**

Address	Telephone		E mail	Website
	Office	Fax		
Barrackpore Kolkata- 700 120. West Bengal	033- 25356124	033- 25350415	crijaf-wb@nic.in	<b>www.crijaf.org</b>

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

Name	Telephone / Contact		
	Residence	Mobile	Email
DR. F. H. RAHMAN	09432955117	09433586026	fhrahmancal@gmail.com/rediffmail.com

**1.4. Year of sanction:** 2005 vide order No. 5-24 / 2002 – AE – I, dated April 01, 2005

### ***1.5. Staff Position (as on 31<sup>st</sup> March , 2010)***

Sl. No.	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay Scale with present basic	Date of joining	Category (SC/ST/BC/Others)
1	Programme Coordinator	Dr. F. H. Rahman	Prog. Coordinator	Soil Science	Rs. 15600-39100 Grade Pay - 8000 Basic – Rs. 32170	10.04.2007	GEN
2	Subject Matter Specialist	Mr. Dipankar Ghorai	SMS	Agriculture	Rs. 15600-39100 Grade Pay - 5400 Basic – Rs. 22950	26.04.2006	GEN
3	Subject Matter Specialist	Mr. Golam Ziauddin	SMS	Fisheries	Rs. 15600-39100 Grade Pay - 5400 Basic – Rs. 22950	28.04.2006	GEN
4	Subject Matter Specialist	Dr. Chandrakanta Jana	SMS	AH&VS	Rs. 15600-39100 Grade Pay - 5400 Basic – Rs. 22950	29.04.2006	GEN
5	Subject Matter Specialist	Dr. Subrata Sarkar	SMS	Horticulture	Rs. 15600-39100 Grade Pay - 5400 Basic – Rs. 22950	04.05.2006	GEN
6	Subject Matter Specialist	Dr. Manoj Kumar	SMS	Agriculture Extension	Rs. 15600-39100 Grade Pay - 5400 Basic – Rs. 22950	09.05.2006	OBC
7	Subject Matter Specialist	Ms. Sujata Sathy	SMS	Home Science	Rs. 15600-39100 Grade Pay - 5400 Basic – Rs. 22280	12.03.2007	SC
8	Programme Assistant	Mr. Sandipan Garai	Prog. Assistant	Agriculture	Rs. 9300-34800 Grade Pay - 4200 Basic – Rs. 14760	18.04.2006	OBC
9	Computer Programmer	Sk. Golam Rasul	Prog. Assistant (Computer)	Computer	Rs. 9300-34800 Grade Pay - 4200 Basic – Rs. 14760	10.04.2006	GEN

Sl. No.	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay Scale with present basic	Date of joining	Category (SC/ST/BC/Others)
10	Farm Manager	Mr. Soumya Sarathi Kundu	Prog. Assistant (Farm Manager)	Agriculture	Rs. 9300-34800 Grade Pay - 4200 Basic - Rs. 14330	06.01.2007	GEN
11	Accountant / Superintendent	Mr. Baidyanath Mukhopadhyay	OSA	--	Rs. 9300-34800 Grade Pay - 4200 Basic - Rs. 14760	15.03.2006	GEN
12	Stenographer	Mr. Sushanta Dey	Jr. Steno-cum-Computer Operator	--	Rs. 5200-20200 Grade Pay - 2400 Basic - Rs. 10840	20.03.2006	GEN
13	Driver	Mr. Joydeep Pal	Driver - cum - mechanic	--	Rs. 5200-20200 Grade Pay - 1900 Basic - Rs. 8460	06.07.2006	GEN
14	Driver	Mr. Santi Nath Pal	Driver- cum - mechanic	-	Rs. 5200-20200 Grade Pay - 1900 Basic - Rs. 8460	10.07.2006	OBC
15	Supporting staff	Mr. Shyamal Bhanja	Supporting staff	Peon	Rs. 4440-7440 Grade Pay - 1300 Basic - Rs. 6630	25.02.2006	GEN
16	Supporting staff	Mr. Anup Das	Supporting staff	Cook	Rs. 4440-7440 Grade Pay - 1300 Basic - Rs. 6630	01.03.2006	SC

**1.6. Total land with KVK (in ha) : 18 ha**

S. No.	Item	Area (ha)
1	Under Buildings	3.5
2.	Under Demonstration Units	2.5
3.	Under Crops	7.0
4.	Orchard/ Agro-forestry	2.0
5.	Others (Ponds)	3.0

### **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.	Administrative Building	ICAR	31.03.09	552	60.09 lakhs	-	-	Completed
2.	Farmers Hostel	ICAR	29.11.08	306	23.36 lakhs	-	-	Completed
3.	Staff Quarters (6)	ICAR	-			-	400	Under construction
4.	Demonstration Units (2)	ICAR	-	-	-	-	-	Under construction
5	Fencing	ICAR	08.02.2007	925 m	4.30 lac	-	-	-

**B) Vehicles**

Type of vehicle	Year of purchase	Cost (Rs.)	Kms. Run during the year	Total Kms. Run	Present status
TATA Sumo	01.04.1999	-	13975 kms	69240 since its possession from PSB, Shantiniketan on 08.05.2006	In running condition
Tractor	01.04.1999	-	442 hrs	496 since its possession from PSB, Shantiniketan on 08.05.2006	In running condition.

**C) Equipments & AV aids**

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Photo copier with stabilizer	2006-07	49499.00	In working condition
Flame photometer	2006-07	29813.00	In working condition
Spectrophotometer	2006-07	46283.00	In working condition
Shaker	2006-07	20756.00	In working condition
Hot air oven	2006-07	5344.00	In working condition
Hot plate	2007-08	14000.00	In working condition
Glass distillation unit	2007-08	28000.00	In working condition
Conductivity bridge	2007-08	10000.00	In working condition
pH meter	2007-08	9563.00	In working condition
Refrigerator	2007-08	12350.00	In working condition
Electronic balance	2007-08	12375.00	In working condition
Grinder	2007-08	19500.00	In working condition
Kjeldahl N analyser	2008-09	250474.00	In working condition
Generator	2008-09	68000.00	In working condition
FAX machine	2008-09	12080.00	In working condition
LCD projector	2008-09	109000.00	In working condition
Godrej Iron Chest	2008-09	9360.00	In working condition
Computer with accessories (2 Nos.)	2009 -10	49920.00	In working condition

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

S.N	Date	No. of Participants	Salient Recommendations	Action taken
1. 7 <sup>th</sup> SAC Meeting	09.09. 2009	54	<ul style="list-style-type: none"> <li>Location specific latest varieties of Jute, Paddy should be recommended</li> <li>Emphasis should be given in the area of integrated farming system.</li> <li>Mortality record should be kept in pre and post vaccination stage of animal</li> <li>New area of intervention should be taken for increasing productivity of animals.</li> <li>Improved varieties vegetable seedlings should be distributed timely to the farmers.</li> <li>Demonstration units should be made at KVK farm for better learning of farmers</li> <li>Training should be conducted for entrepreneurship development</li> <li>Participants should be classified category wise</li> <li>Farm mechanization should be encouraged</li> <li>Low water requiring precision paddy farming system should be propagated</li> </ul>	To be Followed

## **2. DETAILS OF DISTRICT (2009-10)**

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

S. No	Farming system/enterprise
1.	Rice production system
2.	Fishery
3.	Poultry
4.	Goatary
5.	Duckery
6.	Rice -vegetable-Rice production system
7.	Jute-rice production system

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

S. No	Agro-climatic Zone	Characteristics
1.	New Alluvium	Average annual rainfall 1300-1600 mm, Soil type- sandy loam, clay and clay loam, Soil depth 4-6 ft with medium to good water holding capacity, Neutral to acidic soil with good fertility.
2.	Old Alluvium	Average annual rainfall 1300-1500 mm, Soil type- sandy loam and clay loam Soil depth 4-6 ft with medium to good water holding capacity Neutral to acidic soil with good fertility
3.	Red and Lateritic	Average annual rainfall 1100-1400 mm, Soil type- sandy loam, coarse in texture Undulating land with low soil depth, sometimes hard layer present in sub surface Medium to highly acidic soil

(Source: Dept. of Agriculture, Govt. of W.B.)

S. N	Agro ecological situation	Characteristics
1.	Agro ecological sub region 12.3 under the AES 12.0 (Eastern Plateau)	I Chhotonagpur Plateau and Garhjat hills, hot dry sub humid ecosystem with red & laterite soils and LGP 150-180 days covering the blocks of Durgapur & Asansol. Main crops are, paddy, mustard, vegetables, pulse etc. The area covers 186154 ha
		II. Moist and sub humid ecosystem with alluvial soil with LGP of 180-200 days covering the blocks of Burdwan (N), Burdwan (S), Kalna & Katwa, Main crops paddy, mustard, sesame, potato, jute, vegetables etc. The area covers 517532 ha

(Source: NBSS&LUP (ICAR),, 2007, Nagpur )

### **2.3 Soil type/s**

S. No	Soil type	Characteristics	Area in ha
1.	Gangetic alluvial	Soil order is entisols. Sandy loam to clay loam, fine in texture, slightly acidic to neutral in reaction. Rich in potash and medium to rich in available plant nutrients.	206423
2	Vindhya alluvial	Soil order is entisol Sandy loam to clay loam, fine to moderate coarse in texture, acidic to neutral in reaction.	311000
3	Red and Lateritic	Soil orders are mainly alfisol and ultisol. Coarse gritty soil blended with rock fragment, mainly acidic in nature, reddish in color due to high level of iron, low in nitrogen, calcium, phosphate and other plant nutrient.	186054

(Source: Dept. of Agriculture, Govt. of W.B., 2006)

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

S. No	Crop	Area ('000 ha)	Production ('0000 q)	Productivity (q/ha)
01	Aus paddy	13.5	43.7	32.3
02	Aman paddy	419.5	1201.3	28.60
03	Boro paddy	209.8	722.0	34.40
04	Wheat	2.60	5.80	22.80
05	Pulses	1.4	1.40	8.80
06	Oilseeds	56.50	46.7	8.27
07	Jute & other fibres **	14.10	230.8	16.40
08	Potato	59.4	845.5	142.24
09	Chilli (dry)	2.5	3.6	14.36
10	Ginger	0.2	0.30	18.55
11	Suger cane	2.80	227.3	806.1

\*\* Production in 1000 bales of 180 kg each & productivity in bales/ha

(Source: District statistical handbook, 2007, Bureau of Applied Economics & Statistics, Govt. of West Bengal)

#### 2.5. Weather data (Avg. of 5 years)

Month	Rainfall (mm)	Temperature °C		Relative Humidity (%)
		Maximum	Minimum	
April	72.9	30.8	17.1	88
May	84.0	34.2	18.2	87
June	23.8	33.2	17.3	85
July	280.0	28.4	19.3	89
August	234.2	34.0	24.0	91
September	201.2	34.0	23.0	88
October	156.3	33.4	20.6	86
November	7.9	31.0	16.7	85
December	5.0	31.0	11.2	79
January	16.2	25.2	6.9	76
February	8.8	28.6	10.7	78
March	25.8	32.2	12.9	81

(Source: Agricultural Directorate, Burdwan Dist, 2003-07)

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

Category	Population	Production	Productivity
<b>Cattle</b>			
Crossbred	243633	464080 tonnes milk	280 kg milk /year
Indigenous	1486985		
Buffalo	120356	--	--
<b>Sheep</b>			
Crossbred			
Indigenous	175669	61.887 kg (wool)	
Goats	1408200	4000 MT (meat)	
<b>Pigs</b>			
Crossbred			
Indigenous	99931	420 MT (Meat)	
Rabbits			
<b>Poultry</b>			
Hens			
Desi	4624236	2672.40 lakh egg	85 no. eggs/year
Improved			
Ducks	1778834		
Turkey and others	27981		

(Source: Livestock Population West Bengal, Published by Animal Resources Development Department, Govt. of W.B., 2009)

Category	Area (ha)	Production (mt)	Productivity (kg/ha)
<b>Fish</b>			
Inland	50448.19	36029.787	3250
Prawn			

(Source: Annual report, 2007, Office of the Assistant Director of Fisheries, Meen bhavan, Burdwan)

## 2.7 Details of Operational area/ Villages April, 2009- March, 2010)

S.N	Taluk	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1	Durgapur	Kanksa	Keten (Ghosh para, Bauri para and Pan para)	Paddy, potato, mustard, sesame, lentil, vegetable, cattle, poultry, duck, goat, fish	<u>Bio-physical</u> <b>Low productivity of all major crops</b> <ul style="list-style-type: none"> <li>Non-availability of quality seed / planting materials</li> <li>Marginal soil</li> <li>Limited water resources for irrigation</li> <li>Indiscriminate and inappropriate use of chemical fertilizer</li> </ul> <b>Inadequate descriptive/prolific breed of livestock</b> <b>Poor feed resources</b> <u>Socio- economic</u> <b>Lack of credit facilities</b> <b>Lack of awareness regarding good agronomic /husbandry practices</b> <b>Very restricted livelihood option</b>	<ul style="list-style-type: none"> <li>Integration of good agronomic practices</li> <li>Providing quality seeds/planting materials</li> <li>Diversification of land use</li> <li>Soil health management like organic farming etc.</li> <li>Livestock productivity improvement and health care</li> <li>Efficient utilization of water bodies</li> <li>Entrepreneurship development</li> </ul>
2	Durgapur	Galsi-I	Jaguli para (Mollapara and Bauripara)	Kharif Paddy, boro paddy, mustard, cattle, poultry, duck, goat, fish	<u>Bio-physical</u> <b>Low productivity of all major crops</b> <ul style="list-style-type: none"> <li>Non-availability of quality seed materials</li> <li>High cost involvement for major crops</li> <li>Indiscriminate and inappropriate use of chemical fertilizers</li> <li>Low input of organics &amp; biofertiliser</li> </ul> <b>Lesser extent of crop diversification</b> <b>Low productivity of livestock &amp; poultry</b> <b>Poor feed resources</b> <u>Socio-economic</u> <ul style="list-style-type: none"> <li>Lack of credit facilities</li> <li>Inadequate house hold income generation</li> </ul>	<ul style="list-style-type: none"> <li>Providing quality seeds/planting material</li> <li>Diversification of land use</li> <li>Entrepreneurship development</li> <li>Organic farming</li> <li>Health care</li> <li>Improvement of women led vocations</li> <li>Popularization of balanced feeding practices</li> </ul>
3.	Burdwan North	Galsi-II	Garambha-Bhasapur	Aus paddy, kharif paddy, jute, potato, mustard, vegetable cattle, poultry, Goat, fish	<u>Socio-economic</u> <ul style="list-style-type: none"> <li>Lack of credit facilities</li> <li>Inadequate house hold income generation</li> </ul>	

## 2.8 Priority thrust areas

S. N	Thrust area
1	Integration of good agronomic practices for cultivation of field and vegetable crops for vertical agricultural growth
2	Production of quality seeds/planting materials for major agricultural crops like rice, jute, mustard and vegetable and fruit crops
3	Diversification of land use through cultivation of vegetables and other horticultural crops
4.	Soil health management like organic farming etc.
5.	Livestock productivity improvement and health care
6.	Efficient utilization of water bodies through composite fish culture and improved management practices
7.	Entrepreneurship development for family income generation



## 7. TECHNICAL ACHIEVEMENTS

### 3.1. A. Abstract of interventions undertaken

S N	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 ext. per. if any	Extensi on activiti es	Supply of seeds, planting materials etc.
1.	Improved agronomic practice	Mustard	Low yield	<ul style="list-style-type: none"> <li>Assessment of performance of Sulphur on productivity of mustard under rainfed and medium to low land situation of Burdwan district</li> </ul>	Package demonstration on mustard	<ul style="list-style-type: none"> <li>Improved fertilizer management in mustard</li> </ul>	--	One field day	Certified seed of var. WBBN 1, B 54, B-9, Fertilizers, plant protection chemicals
		Jute	High cost and low yield	<ul style="list-style-type: none"> <li>Evaluation of performance of different varieties of jute under rainfed and medium upland situation of Burdwan district</li> </ul>	Improved package	<ul style="list-style-type: none"> <li>Improved production technology of jute</li> <li>Use of fibre extractor in fibre extraction</li> </ul>	--	Field day, method demonstration	Certified seed of JRO 524, JRO 8432, JBO 2003H, S 19, Fertilizer & PPC
		Paddy	Low yield	<ul style="list-style-type: none"> <li>Assessment of performance of <i>kharif</i> rice under System of Rice Intensification (SRI) in medium upland situation of Burdwan district</li> </ul>		<ul style="list-style-type: none"> <li>Seed treatment and nursery management of <i>kharif</i> paddy</li> <li>Paddy seed production</li> <li>Rice cultivation through SRI</li> <li>Weed control of paddy</li> <li>Integrated nutrient management</li> </ul>	Rice cultivation through SRI	Farm school	Certified seed of MTU 7029, Fertilisers, cono weeder
		Lentil	Low yield	--	Package demonstration	<ul style="list-style-type: none"> <li>Improved production technology of lentil</li> </ul>	--	One field day	Certified seed of WBL 81, B 256, fertilizers and PPC
		Sesame	Low yield	--	Package demonstration	<ul style="list-style-type: none"> <li>Improved production technology of sesame</li> </ul>	--	--	Certified seed of IS 5, fertilizers and PPC



S N	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	Extensi on activiti es	Supply of seeds, planting materials etc.
		Potato	Low yield		Disease management of potato	<ul style="list-style-type: none"> <li>• Production problems of potato and their management</li> <li>• Identification of major diseases of potato &amp; their control</li> </ul>	--	--	PPC
		Tomato	Low yield of tomato due to use of local varieties	Evaluation of different varieties of tomato in Burdwan	--	<ul style="list-style-type: none"> <li>• Improved production technology of tomato</li> </ul>	--	--	Seedling
		Banana	Poor yield and long duration	--	Production technology of TCB	Improved production technology of TCB	--	--	TCB planting material
		Okra	Poor yield due to improper management	--	--	Improved production technology of okra	--	--	--
		Cucurbits	Poor yield due to improper management	--	--	Management of major pest and diseases of Cucurbits	--	--	--

S N	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	Extensi on activiti es	Supply of seeds, planting materials etc.
2.	Production of quality seeds/planting materials	Paddy	Lack of quality seeds	--	--	Seed production of paddy		--	Certified seed of MTU 7029
		Vegetable seedling	Lack of quality materials	--	--	Nursery management in vegetable crops	Preparation of organic pesticides and its application	--	Improved var. of tomato and brinjal
3.	Crop diversification	Rice bean (Fodder)	--	--	Package demonstration	Cultivation techniques of rice bean	-	Field day	Seed of Bidhan 1, fertilizer
		kitchen garden	--	Supplementation of diversified vegetables to farm families through kitchen garden	--	Management of nutrition garden	-	Farm school	Seeds of different vegetables
		Tissue culture banana	--	--	Production technology of TCB	Improved production technology of TCB	--	--	TCB planting material

S N	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	Extensi on activiti es	Supply of seeds, planting materials etc.
4.	Soil health management	Paddy	--		-	<ul style="list-style-type: none"> <li>• Vermicompost production technology</li> <li>• Need for soil testing and soil test based fertilizer application</li> <li>• NADEP compost production</li> <li>• Integrated nutrient management for enhancement of paddy productivity and better soil health</li> <li>• Preparation of organic pesticides and its application</li> <li>• Impact and utilization of biofertilizers</li> </ul>	•Vermicompost production technology	--	Biofertiliser/ vermicompos t
	Livestock productivity improvement	Cattle	Low milk yield and infertility; disease prevalence	Evaluation of performance of supplemented feeding in lactating deshi cow in Burdwan district	Feed manage ment in lactatin g cow	<ul style="list-style-type: none"> <li>• Care of new born calf</li> <li>• Cattle shed management and sanitation</li> <li>• Cultivation of maize as fodder</li> <li>• Feeding techniques of mineral mixture for dairy cattle</li> <li>• Home made cattle feed preparation</li> </ul>	Vaccination schedule for ruminants	Health camp on FMD	Mineral Mixture, feed and vaccine of FMD

S N	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.
5.		Goats and sheep	Malnutrition of doe	Assessment of strategic supplementation for pregnant doe in Burdwan district	PPR disease prevention	<ul style="list-style-type: none"> <li>•Feeding practice of doe</li> <li>•Care of new born kids</li> <li>•Care of doe during pregnancy</li> <li>•Preventive measures against PPR</li> </ul>		Vaccination camp against PPR & Goat Pox	Feed and vaccine of PPR & Goat Pox
		Pig	Poor growth rate			<ul style="list-style-type: none"> <li>• Pig production-with prolific breed</li> </ul>			
		Poultry (Hen)	Poor egg production	Integrated farming		<ul style="list-style-type: none"> <li>• Integrated farming</li> </ul>	--	Vacc. camp against RD	High laying capacity chicks and vaccine of RD
		Duck	Poor egg production			<ul style="list-style-type: none"> <li>• Vaccination schedule of ducks</li> <li>• Khaki Campbell duck rearing</li> </ul>	--	Vacc. camp against DP	Ducklings and vaccine of DP

6.	Efficient use of water bodies through fish culture	IMC	Poor fish production	Evaluation of formulated feed for increasing fish productivity under pond ecosystem of Burdwan	Management of minor carp ( <i>Labeo bata</i> )	<ul style="list-style-type: none"> <li>• Nutrient management in freshwater fish ponds</li> <li>• Nutritional requirement of IMC</li> <li>• Feed formulation &amp; management of IMC</li> <li>• Preparation and management of nursery pond</li> <li>• Aquatic weeds and algal blooms in fish ponds, their control and utilization</li> <li>• Rearing pond preparation and management.</li> <li>• Application of lime in fish culture</li> <li>• Feed formulation &amp; feed management of IMC</li> <li>• Integrated duck-cum-fish farming in back yard pond</li> </ul>	Sustainable aquaculture		Fish fry and advanced fingerling of IMC, cowdung
7.	Entrepreneurship development	Rural crafts	Lack of skill	--	--	<ul style="list-style-type: none"> <li>• Preparation of Jute handicrafts</li> <li>• Preparation of kantha stitch</li> </ul>	--		Raw materials
		Mushroom	Lack of knowledge and skill	--	Production of oyster mushroom	Mushroom cultivation practices	--	--	Spawn

**3.1. B. Details of each On Farm Trial to be furnished in the following format  
(Total number of OFT conducted – 10 Nos.)**

**OFT 1:**

1	Title of On farm Trial	<b>Evaluation of performance of different varieties of jute under rainfed and medium upland situation of Burdwan district</b>
2	Problem diagnose	Low productivity of jute due to non use of improved varieties
3	Details of technologies selected for assessment/ refinement	Farmers' practice: Village level local varieties Technology - 1 to be assessed: JRO 524 Technology - 2 to be assessed: JRO 8432 Technology - 3 to be assessed: JBO 2003 H Technology - 4 to be assessed: S 19
4	Source of Technology	CRIJAF, Barrackpore
5	Production system and thematic area	Rainfed rice based production system ; varietal trial
6	Performance of the Technology with performance indicators	Result indicated that JBO 2003H and S-19 yielded the most and were at par with JBO 2003H being the most cost-effective proposition.
7	Final recommendation for micro level situation	Farmers should replace existing varieties with newer varieties like S 19, JBO 2003H.
8	Constraints identified and feedback for research	Seed production of newer varieties need to be done
9	Process of farmers participation and their reaction	Through training and field level demonstration, field day Farmers were satisfied with the performance of the technology.

**OFT 2:**

1	Title of On farm Trial	<b>Assessment of performance of Sulphur on productivity of mustard under rainfed and medium to low land situation of Burdwan district</b>
2	Problem diagnose	Low productivity of mustard due to non use of nutrient mainly Sulphur
3	Details of technologies selected for assessment/ refinement	<b>Farmers' practice:</b> (60: 60: 45 kg NPK/ha through DAP, urea and MOP) <b>Technology - 1</b> to be assessed: 80: 40: 40: 30 kg NPKS/ha through urea, SSP and MOP <b>Technology - 2</b> to be assessed: 80: 40: 40: 26 kg NPKS/ha through urea, 20:20:0:13 and MOP <b>Technology - 3</b> to be assessed: 80: 40: 40: 20 kg NPKS/ha through urea, 10:26:26 and elemental Sulphur
4	Source of Technology	B. C. K. V., Mohanpur
5	Production system and thematic area	Rainfed rice based production system ; Nutrient management
6	Performance of the Technology with performance indicators	Sulfur application has significantly increased productivity of mustard. However, alike 1 <sup>st</sup> year, the use of different doses of S did not resulted in significant differences in productivity among themselves which may be attributed to the use of different sources of S.
7	Final recommendation for micro level situation	Farmers should use elemental sulfur or sulfur containing fertilizers
8	Constraints identified and feedback for research	Cheaper s-containing fertilizer should be made available
9	Process of farmers participation and their reaction	Through training and field level demonstration. Farmers were satisfied with the performance of the technology

**OFT 3:**

1	Title of On farm Trial	<b>Assessment of performance of <i>kharif</i> rice under System of Rice Intensification (SRI) in medium upland situation of Burdwan district</b>
2	Problem diagnose	Gradual decline in productivity of rice
3	Details of technologies selected for <b>assessment</b> / refinement	<b>Farmers' practice:</b> Conventional rice cultivation <b>Technology - 1 to be assessed:</b> Rice cultivation in alternate wetting and drying with chemical weeding (Pyrazosulfuron ethyl)* <b>Technology - 2 to be assessed:</b> Rice cultivation in alternate wetting and drying with mechanical weeding*
4	Source of Technology	ANGRAU, Hyderabad
5	Production system and thematic area	Irrigated rice production system; Resource conservation
6	Performance of the Technology with performance indicators	Much better than the conventional in respect to yield , economy and conserving water resource
7	Final recommendation for micro level situation	Farmers should adopt on large scale basis
8	Constraints identified and feedback for research	Lack of expertise
9	Process of farmers participation and their reaction	Through training and field level demonstration. Farmers were highly motivated by the performance

**OFT 4:**

1	Title of On farm Trial	<b>Evaluation of different varieties of tomato in Burdwan</b>
2	Problem diagnose	Low yield of tomato is one of the common problems to the farmers due to use of local varieties.
3	Details of technologies selected for <b>assessment</b> / refinement	Farmers' practice: local variety (Patharkuchi) Technology - 1 to be assessed:: Pusa Ruby Technology - 2 to be assessed: Arka Vikas
4	Source of Technology	B.C.K.V., Mohanpur
5	Production system and thematic area	Irrigated vegetable based, varietal trial
6	Performance of the Technology with performance indicators	Incorporation of HYVs like Pusa Ruby and Arka Vikas undoubtedly gave better results than the conventional ones. Arka vikas was the best in terms of fruit size and total yield.
7	Final recommendation for micro level situation	Improved high yielding varieties of tomato should be incorporated in the cropping system and Arka Vikas is one of them
8	Constraints identified and feedback for research	Lack of knowledge and availability of other high yielding varieties
9	Process of farmers participation and their reaction	Through training and field demonstration Farmers readily accepted the technology

**OFT 5:**

1	Title of On farm Trial	<b>Assessment of strategic supplementation for pregnant doe in Burdwan district</b>
2	Problem diagnose	Mal-nutrition of pregnant doe (Breed- Bengal Goat) leads to production of under -weight kid
3	Details of technologies selected for <b>assessment</b> /refinement	<b>Farmers' practice</b> (only grazing and used to offer kitchen waste ) <b>Technology - 1 to be assessed:</b> Feeding of homemade concentrate* @ 120 gm/day/goat throughout gestation <b>Technology - 2 to be assessed:</b> Feeding of homemade concentrate* @ 120gm/day/goat from 90 days of gestation to kidding
4	Source of Technology	West Bengal University of Animal and Fishery Sciences, Kolkata
5	Production system and thematic area	Semi intensive goat based production system ; nutrition management
6	Performance of the Technology with performance indicators	Feeding of homemade concentrate @ 120gm/day/goat from 90 days of gestation to kidding enhanced body weight of kid at birth.
7	Final recommendation for micro level situation	Feeding of homemade concentrate@ 120gm/day/goat from 90 days of gestation to kidding should be followed.
8	Constraints identified and feedback for research	Thorough mixing of feed ingredients is time consuming ; Feed should be used within one month for better efficiency
9	Process of farmers participation and their reaction	Through training and group discussion; feed preparation

**OFT 6:**

1	Title of On farm Trial	<b>Evaluation of performance of supplemented feeding in lactating deshi cow in Burdwan district</b>
2	Problem diagnose	Poor milk yield in deshi cow is due to imbalanced feed supplementation
3	Details of technologies selected for <b>assessment</b> /refinement	<b>Farmers' practice:</b> (Feeding of rice polish (1-2 kg), 5-6 kg soaked straw and grazing) <b>Technology 1 to be assessed:</b> Farmers' practice + soaked oil cake (0.5 kg) (locally available) <b>Technology 2 to be assessed:</b> Farmers' practice + concentrate home made feed * (1kg)
4	Source of Technology	IVRI, Izatnagar
5	Production system and thematic area	Cattle based under semi intensive system ; Nutrition management
6	Performance of the Technology with performance indicators	Homemade feed was formulated by using broken wheat-30 %, mustard oil cake-25 %, rice husk-42 % mineral mixture-2% and common salt- 1%. It was supplemented @ 1 kg daily in lactating deshi cow. Milk yield was significantly increased with enhancement of lactation period in supplemented group
7	Final recommendation for micro level situation	Daily supplementation of homemade cattle feed @ 1kg/day/head cow should be followed for increasing lactation yield in deshi cow
8	Constraints identified and feedback for research	Thorough mixing of feed ingredients is time consuming ; Feed should be used within one month for better efficiency
9	Process of farmers participation and their reaction	Through training , health camp and group discussion Feed intake by cattle is increased and quality of milk is improved



**OFT 7:**

1.	Title of On farm Trial	<b>Effect of various stocking densities of IMC on fish productivity under pond ecosystem of Burdwan</b>
2	Problem diagnose	Poor fish productivity in domestic small and medium sized ponds is due to improper number of stocked fishes.
3	Details of technologies selected for <b>assessment</b> /refinement	<b>Farmers' practice :</b> Stocking density 7500 nos. fish/ha without aeration <b>Technology - 1 to be assessed:</b> Stocking density 10000 nos. fish/ha without aeration <b>Technology - 2 to be assessed:</b> Stocking density 15000 nos. fish/ha without aeration
4	Source of Technology	IIT, Kharagpur
5	Production system and thematic area	Extensive fish based production system
6	Performance of the Technology with performance indicators	Standardization of stocking density of fishes plays a vital role in productivity of the pond
7	Final recommendation for micro level situation	Stocking density 15000 nos. fish/ha yielded best result
8	Constraints identified and feedback for research	Nil
9	Process of farmers participation and their reaction	Through training and awareness camp; very optimistic

**OFT 8:**

1.	Title of On farm Trial	<b>Evaluation of formulated feed for increasing fish productivity under perennial pond ecosystem of Burdwan</b>
2	Problem diagnose	Poor fish productivity in domestic small and medium sized ponds is due to improper feed management
3	Details of technologies selected for <b>assessment</b> /refinement	<b>Farmers' practice :</b> Without any application of feed <b>Technology - 1 to be assessed:</b> Formulated feed* @ 1 % of total fish biomass <b>Technology - 2 to be assessed:</b> Formulated feed* @ 3 % of total fish biomass [Stocking density 7500 nos. fish/ha]
4	Source of Technology	CIFA, Bhubaneswar
5	Production system and thematic area	Extensive fish based production system
6	Performance of the Technology with performance indicators	Application of feed is very much necessary for better growth rate of fish and sustainable higher production from small and semi-medium domestic ponds.
7	Final recommendation for micro level situation	Feed application @ 3 % of total fish biomass appeared to be more efficient among all options
8	Constraints identified and feedback for research	Farmers are not aware of application of formulated feed and its impact.
9	Process of farmers participation and their reaction	Through training and awareness camp

**OFT 9:**

1	Title of On farm Trial	<b>Evaluation of improved sickles for harvesting of paddy to minimize drudgery of farm women</b>
2	Problem diagnose	Low efficiency of farm women during harvesting paddy due to more drudgery
3	Details of technologies selected for <b>assessment</b> /refinement	<b>Farmers' practice :</b> Traditional sickle <b>Technology - 1 to be assessed:</b> Modified traditional sickle <b>Technology - 2 to be assessed:</b> Naveen sickle
4	Source of Technology	CIAE, Bhopal
5	Production system and thematic area	Rainfed rice based production system
6	Performance of the Technology with performance indicators	By using the Naveen sickle working heart rate reduced to 97.2 beats/min and harvesting of paddy was increased to 161.6 m <sup>2</sup> /hr in sickle modified with 180° angle with medium serrated blade, blade length 300 mm, height between handle and blade is 4 cm and diameter of the handle is 10 cm. It was also observed that cutting injury of fingers was less and comfort level was more in comparison to the traditional one.
7	Final recommendation for micro level situation	Naveen Sickle should be used to reduce drudgery
8	Constraints identified and feedback for research	Some refinement like handle diameter, sickle length should be so adjusted to suit the local laborers
9	Process of farmers participation and their reaction	Through training and demonstration. Cutting injury of fingers was less and comfort level was more in improved sickles.

**OFT 10:**

1.	Title of On farm Trial	<b>Evaluation of performance of crop - fish - livestock integrated farming on improving aquatic niche based production system</b>
2	Problem diagnose	Inefficient performance of available perennial pond based production system is due to non efficient utilization of natural resources
3	Details of technologies selected for <b>assessment</b> /refinement	<b>Farmers' practice:</b> Fish farming <b>Technology - 1 to be assessed:</b> Crop + fish + poultry * farming <b>Technology - 2 to be assessed:</b> Crop + fish + duck** farming
4	Source of Technology	BAU, Ranchi
5	Production system and thematic area	Fish based production system, Integrated farming approach
6	Performance of the Technology with performance indicators	Best performance of integrated production system was observed through cultivation of tissue culture banana in bund area and pasture feed poultry rearing as meat purpose with IMC fish cultivation in pond.
7	Final recommendation for micro level situation	Integrated approach through Crop + fish + poultry rearing was performed better among all others combination.
8	Constraints identified and feedback for research	It is labour intensive and need excess attention of farmers. It ensure better returns within a short period of time and area. One enterprise serves as insurance for the others.
9	Process of farmers participation and their reaction	Through training and awareness camp.

### 3.1. C. Results of On Farm Trials

#### OFT 1

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials *	Technology Assessed	Parameters of assessment	Data on the paramete r	Results of assessment	Feedback from the farmer	Any refine ment done	Justifica tion for refinem ent
1	2	3	4	5	6	7	8	9	10	11	12
Jute	Medium upland	Low yield Jute	Evaluation of performance of different varieties of jute under rainfed and medium upland situation of Burdwan district	4	Improved variety	<ul style="list-style-type: none"> <li>Yield attributing characters</li> <li>Yield</li> <li>Economics</li> </ul>	See table 1	Productivity of jute increased in newer varieties	<ul style="list-style-type: none"> <li>Seeds of newer varieties should be made available in market</li> <li>Improved quality seed is required</li> </ul>	No	

Technology Assessed	Production per unit (q/ha)	Net Return (Profit) in Rs. / ha	B:C Ratio
13	14	15	16
Farmers' practice: (60: 60: 45 kg NPK/ha through DAP)	21.5	4625	0.21
Technology - 1 to be assessed: JRO 524	23.5	7125	0.32
Technology - 2 to be assessed: JRO 8432	24.6	8500	0.38
Technology - 3 to be assessed: JBO 2003H	27.7	12375	0.56
Technology - 4 to be assessed: S 19	27.0	11500	0.52

Results:

**Table 1 Yield performance of different variety of jute**

Treatment	Plant height (cm)	Base diameter (cm)	Yield (q/ha)	Input cost (Rs/ha) *	Gross return (Rs/ha) **	B:C ratio
Local variety	210	1.72	21.5	22250	26875	0.21
JRO 524	218	1.68	23.5	22250	29375	0.32
JRO 8432	232	1.45	24.6	22250	30750	0.38
JBO 2003H	231	1.32	27.7	22250	34625	0.56
S-19	225	1.42	27.0	22250	33750	0.52
LSD at 5%	7.5	0.14	1.37	--	--	--

\* Although input cost varied among farmers in the range 10%, it was averaged and taken as constant

\*\* Gross return was calculated as Rs. 1250 /q and cost of sticks not included for various uses by farmers

The district of Burdwan is a minor jute growing district of West Bengal with only 15 thousand odd hectares under the crop having average productivity around 19 q/ha. The principal jute area is concentrated on the eastern fringes of the district in blocks of Katwa and Ketugram. Though jute is also practiced in fairly regular basis in villages located on or near the banks of river Damodar, which marks the southern boundary of the district. Bhasapur is one such village in Galsi - II block of the district under KVK's adoption. Productivity of jute, as divulged by villagers during participatory rural appraisal, is on the decline with cost of cultivation on the rise and as such villagers are slowly but surely alienating themselves from jute cultivation for it's being a rather cost-ineffective enterprise.

The object of the OFT was to show the farmers that improved varieties can augment yield to a substantial extent. Besides, use of improved quality seed can make also make significant difference in productivity was another point to be established. Four farmers were selected for the on farm trial with varieties of JRO 524, JRO 8432, JBO 2003H and S - 19 besides farmers' practiced locally available variety which goes by the trade name of Maharastra Nabin. Result indicated that JBO 2003H and S-19 yielded the most and were at par with JBO 2003H being the most cost-effective proposition.

**OFT 2 (2<sup>nd</sup> year)**

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials *	Technology Assessed	Parameters of assessment	Data on the paramete r	Results of assessment	Feedback from the farmer	Any refine ment done	Justifica tion for refinem ent
1	2	3	4	5	6	7	8	9	10	11	12
Mustard	Medium upland to lowland	Low yield of mustard	Assessment of performance of Sulphur on productivity of mustard under rainfed and medium to low land situation of Burdwan district	5	Nutrient management	<ul style="list-style-type: none"> <li>• Yield attributing characters</li> <li>• Yield</li> <li>• Economics</li> </ul>	See table 2	Productivity of mustard increased with application of Sulfur	Single super phosphate should be made more available	No	

Technology Assessed	Production per unit (q/ha)	Net Return (Profit) in Rs. / ha	B:C Ratio
13	14	15	16
Farmers' practice: (60: 60: 45 kg NPK/ha through DAP	10.25	5894	0.35
Technology - 1 to be assessed: 80: 40: 40: 30 kg NPKS/ha through urea, SSP and MOP	12.85	11207	0.66
Technology - 2 to be assessed: 80: 40: 40: 26 kg NPKS/ha through urea, 20:20:0:13 and MOP	12.55	10235	0.59
Technology - 3 to be assessed: 80: 40: 40: 20 kg NPKS/ha through urea, 10:26:26 and elemental sulphur	13.25	11400	0.64

Results:

**Table 2: Effect of suffer on yield performance of mustard**

Treatment	Plant height (cm)	No. of siliqua / plant	No. of seed /pod	Yield * (q/ha)	Input cost (Rs/ha)	Gross return (Rs/ha)	B:C ratio
FP	101.5	95.4	13	10.25	16656	22550	0.35
TO1	113.0	118.4	18	12.85	17063	28270	0.66
TO2	114.5	117.2	17	12.55	17375	27610	0.59
TO3	116.5	118.8	18	13.25	17750	29150	0.64
LSD	7.3*	5.25*	2.4**	0.85**	--	--	--

The OFT is a continuation from the previous year where application of SSP, 20:20:0:13 or elemental S resulted in significantly higher productivity as compared to FP and were more cost effective. Same kind of results were obtained in this year as well where sulfur application has significantly increased productivity of mustard. However, alike 1<sup>st</sup> year, the use of different doses of S did not resulted in significant differences in productivity among themselves which may be attributed to the use of different sources of S.

**OFT 3**

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials *	Technology Assessed	Parameters of assessment	Data on the paramete r	Results of assessment	Feedback from the farmer	Any refineme nt done	Justificati on for refinemen t
1	2	3	4	5	6	7	8	9	10	11	12
Rice	Medium upland	Declining rice productivity	Assessment of performance of <i>kharif</i> rice under System of Rice Intensification (SRI) in medium upland situation of Burdwan district	7	SRI	<ul style="list-style-type: none"> <li>Yield attributing characters</li> <li>Yield</li> <li>Economics</li> </ul>	See Table 3	Farmers benefited substantially in adoption of the SRI technology	Need to assess chemical weed control vis-à-vis mechanical weed control	Nil	

Technology Assessed	*Production per unit (q/ha)	Net Return (Profit) in Rs. / ha	B: C Ratio
<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
Farmers practice (60:60:45 kg NPK/ha)	43.56	15998	0.85
TO <sub>1</sub> : Recommended Practice *	47.26	18548	0.96
TO <sub>2</sub> : SRI	<b>76.85</b>	39230	1.76

**Table 3: Yield performance of rice in different methods of cultivation**

Technology options	Plant height (cm)	No. of effective tillers/hill	Panicle length (cm)	Yield * (q/ha)	Input cost (Rs./ha)	Gross return (Rs./ha)	B : C ratio
FP	97.2	11.4	23.4	43.56	18850	34848	0.85
TO1	106.3	13.5	24.5	47.26	19260	37808	0.96
<b>TO2</b>	114.4	23.5	32.6	<b>76.85</b>	22250	61480	1.76
LSD at 5%	2.35**	0.35**	2.24**	0.26**	-	-	-

Rice is the predominantly major crop of Burdwan. Farmers, in general, complain about declining rice productivity with increasing cost of cultivation thereby gradually making rice not as cost-effective proposition as would be earlier. SRI technology is gradually emerging as a way out of this. SRI, although originally identified as a organic based production system, in this case chemical fertilizer was supplemented with organic (vermicompost) and chemical pest control was adopted. Since vermicompost was procured @ Rs. 4.00 /kg and was applied at a rate of 1 tonnes /ha, cost of cultivation got enhanced by some extent. But since the farmers achieved productivity rise as much as 60%, not only the enhanced production cost was nullified, but it came out as hugely cost-effective technology.



**OFT 4**

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials *	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refine ment done	Justificati on for refineme nt
1	2	3	4	5	6	7	8	9	10	11	12
Tomato	Medium land under irrigated condition	Low yield of tomato is one of the common problems to the farmers due to use of local varieties	<b>Evaluation of different varieties of tomato in Burdwan</b>	7	High yielding varieties	<ul style="list-style-type: none"> <li>• Yield</li> <li>• No. of</li> <li>• Fruits/plant</li> <li>• Fruit weight</li> <li>• Cost effectiveness</li> </ul>	See table 4	Incorporation of HYVs like Pusa Ruby and Arka Vikas undoubtedly gave better results than the conventional ones. Arka vikas was the best in terms of fruit size and total yield.	Farmers readily accepted the technology	No	

Technology Assessed	*Production per unit (q/ha)	Net Return (Profit) in Rs. / ha	B:C Ratio
13	14	15	16
Farmers' practice: local variety (Patharkuchi)	25	62000	1.98
Technology - 1 to be assessed:: Pusa Ruby	28	77000	2.22
Technology - 2 to be assessed: Arka Vikas	32	97000	2.53

**Table 4. Performance of different varieties of tomato**

Technology options	Yield (t/ha)	No. of fruits/plant	Fruit weight (g)	Gross return (Rs)	Net return (Rs)	Benefit cost ratio
FP	25	22	45	125000	62000	1.98
T 1	28	45	35	140000	77000	2.22
T 2	32	30	65	160000	97000	2.53
CD (0.05)	1.96	3.25	6.57			
CD (0.01)	2.75	4.56	9.21			
SE d	0.90	1.49	3.01			

Most of the tomato growers in the study area used local varieties (Patharkuchi) which had very low bearing habits. Incorporation of HYVs like Pusa Ruby and Arka Vikas undoubtedly gave better results than the conventional ones. Arka vikas was the best in terms of fruit size and total yield.

#### OFT 5

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials *	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement done	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Goat	House hold farming with 4-6 goats of Bengal breed	Mal-nutrition of pregnant doe (Breed- Bengal Goat) leads to production of under -weight kid	Assessment of strategic supplementation for pregnant doe in Burdwan district	7	Strategic supplementation of pregnancy allowance	<ul style="list-style-type: none"> <li>• Body weight of kid at birth</li> <li>• Benefit cost ratio</li> </ul>	See table 5	Feeding of homemade concentrate@ 120gm/day/goat from 90 days of gestation to kidding enhanced body weight of kid at birth.	Most of beneficiaries expressed that body coat condition of pregnant doe was become very attractive	No	

Technology Assessed	*Production per unit (g) (Avg. birth wt of kid)	Net Return (Profit) in Rs./ unit	BC Ratio
<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
Farmers' practice (only grazing and used to offer kitchen waste )	1050	78	1.86
TO1: (Feeding of homemade concentrate @ 120 gm/day/goat from 120days of gestation to parturition )	1357	113	2.11
TO2: (Feeding of homemade concentrate @ 120 gm/day/goat from 90 days of gestation to parturition)	1335	136	2.19

*Table 5 Effect of supplemented feeding during pregnancy on birth weight of kid*

Technologies*	Birth wt of kid (g/kid)
FP	1050 <sup>b</sup>
TO1	1357 <sup>a</sup>
TO2	1335 <sup>a</sup>

a b c values with different superscripts differ significantly (P<0.05).

#### Technology details including farmers' practice

**Farmers' practice** :Grazing and feeding kitchen waste

**Technology - 1 to be assessed:** Feeding of homemade concentrate\* @ 120 gm/day/goat from 120 days of gestation to parturition

**Technolog - 2 to be assessed:** Feeding of homemade concentrate\* @ 120gm/day/goat from 90 days of gestation to parturition

\* The homemade concentrate is composed of 35 % broken wheat , 25 % mustard oil cake , 37% rice hush , 1 % salt and 2 % mineral mixture- with vitamins. Homemade goat feed was prepared with broken wheat-30 %, mustard oil cake -30 %, rice polish- 37 %, salt-1% and mineral mixture-2 % . Concentrate was supplemented @ 120 gm/day in pregnant doe of Bengal breed in wet form. Although TO1 and TO<sub>2</sub> were at par regarding birth weight of kid, benefit-wise TO<sub>2</sub> was found better.

### OFT 6 (2<sup>nd</sup> year)

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement done	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Cattle	House hold farming with 2-4 deshi cattle under traditional feeding practices	Poor milk yield in deshi cow is due to imbalanced feed supplementation	Evaluation of performance of supplemented feeding in lactating deshi cow in Burdwan district	7	Supplemented feeding	<ul style="list-style-type: none"> <li>Milk Yield</li> <li>Lactation period</li> <li>Feed intake</li> </ul>	See table 6	Milk yield was significantly increased with enhancement of lactation period by supplementing homemade feed @ 1kg/ day	Feed intake by cattle was increased and quality of milk was improved	No	

Technology Assessed	*Production per unit (Avg. milk yield in Kg/ lactation/cow)	Net Return (Profit) in Rs. (one cow/lactation)	B:C Ratio (Gross return : cost)
13	14	15	16
Farmers' practice: Feeding of rice polish (1-2 kg), soaked straw (5-6 kg) and grazing	263.29	274.35	1.07
TO1= Farmers' practice + soaked oil cake (0.5 kg) (locally available)	486.86	2367.9	1.47
TO2= Farmers' practice + concentrate home made feed (1kg)	681.64	3819.60	1.59

**Table 6: Effect of different technology options on milk yield lactation day and feed intake.**

Technology options	Milk yield ( kg/ lactation )	Lactation day	Feed intake (kg/day)
FP	263.29 <sup>c</sup>	195 <sup>b</sup>	4.34 <sup>b</sup>
TO1	486.86 <sup>b</sup>	207 <sup>a</sup>	6.23 <sup>a</sup>
TO2	681.64 <sup>a</sup>	217 <sup>a</sup>	6.37 <sup>a</sup>

a b c values with different superscripts in a row differ significantly (p<0.05).

Home made cattle feed was formulated by using locally available feed ingredients like broken wheat -30 parts, mustard oil cake-25 parts, rice husk-40 parts, rice bran- 2 parts, common salt-1 part and mineral mixture- 2 parts. It was supplemented in lactating deshi cow under farmers' management condition @ 1kg/ day/cow. Milk yield was significantly increased in supplemented group with homemade feed . Lactation day and feed intake were also enhanced significantly in compare to farmers' practice but no difference was observed between oilcake supplemented and homemade feed supplemented groups.

## OFT 7

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials *	Technology Assessed	Parameters of assessment	Data on the paramete r	Results of assessment	Feedback from the farmer	Any refinemen t done	Justifica tion for refinem ent
1	2	3	4	5	6	7	8	9	10	11	12
Fish	Medium or small sized domestic water bodies	Less or no feeding practices, leading to poor fish productivity in domestic small and medium sized ponds.	Effect of various stocking densities of IMC on fish productivity under pond ecosystem of Burdwan	7	Locally available IMC fish seeds	Length- weight data Yield performance	-	Proper stocking density is very much necessary for better growth rate of fish and thereby higher production from small and semi-medium domestic ponds.	Farmers are made aware of the proper stocking density in fish culture	No	NA

Fish is one of the major crops of Burdwan. Stocking density is not properly maintained in most of the ponds of the district. Fishfarmers do not get adequate yield owing to non scientific release of seed. Proper stocking density is very much necessary for better growth rate of fish and thereby higher production from small and semi-medium domestic ponds. Therefore the OFT is successful at showing the farmers that they will follow the stocking density used in our experiment.

13	14	15	16
	Production per unit area of pond/ annum (q/ha)	Net Return in Rs. ha <sup>-1</sup>	B:C Ratio (Gross return : cost)
<b>Farmers' practice :</b> Stocking density 7500 nos. fish/ha without aeration	8.03	10658	1.25
<b>Technology - 1 to be assessed:</b> Stocking density 10000 nos. fish/ha without aeration	12.61	20957	1.36
<b>Technology - 2 to be assessed:</b> Stocking density 15000 nos. fish/ha without aeration	13.03	25037	1.88

Objectives: The object of the OFT was to show them the efficacy of the slight change in stocking density will result higher productivity.  
To study the growth rate and yield performance of IMC fish in that particular pond ecosystem

Results obtained indicated that by optimizing stocking density results in increased the productivity. The OFT revealed that optimum stocking density gave the best result when applied @ 15000 fish/ ha.

#### OFT 8

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinem done
1	2	3	4	5	6	7	8	9	10	11
Fish	Medium or small sized domestic water bodies	Less or no feeding practices, leading to poor fish productivity in domestic small and medium sized ponds.	Evaluation of formulated feed for increasing fish productivity under pond ecosystem of Burdwan	7	Feed prepared locally available materials etc.	Length- weight data Yield performance	see table 8	Application of feed is very much necessary for better growth rate of fish and sustainable higher production from small and semi-medium domestic ponds.	Farmers are made aware of the application of formulated feed in fish culture	No

Fish is the predominantly major crop of Burdwan. Feed management practices among farmers are grossly unbalanced and without use of supplementary feed in most cases. Fish farmers do not get adequate yield owing to non scientific management practices especially feed management.

Application of formulated feed resulted in significantly higher productivity as compared to FP and was more cost effective. However the use of feed @3% resulted in significant differences in productivity. Therefore the OFT was also aimed at showing the farmers that they can use locally available feed ingredients which are cheap too.

13	14	15	16
	Production per unit area of pond/ annum (q/ha)	Net Return in Rs. ha <sup>-1</sup>	B:C Ratio (Gross return : cost)
<b>Farmers' practice :</b> (Stocking density 7500 nos. fish/ha) without any application of feed	9.03	13549	1.37
<b>Technology - 1 to be assessed:</b> Stocking density 7500 nos. fish/ha + Formulated feed* @ 1 % of total fish biomass	13.61	25894	1.68
<b>Technology - 2 to be assessed:</b> Stocking density 7500 nos. fish/ha + + Formulated feed* @ 3 % of total fish biomass	19.03	34267	1.88

Trial was conducted on standardization of different doses of cowdung application for increasing productivity freshwater ponds by culturing IMC.

FP= Farmers' practice (Stocking density 7500 nos fish/ha) without application of feed

TO1= Stocking density 7500 nos fish/ha + Formulated feed\* @ 1 % of total fish biomass in each replication.

TO2= Stocking density 7500 nos fish/ha + Formulated feed\* @ 3 % of total fish biomass in each replication.

Objectives: The object of the OFT was to show them the effectiveness of formulated feed in augmenting productivity.

To study the growth rate and yield performance of IMC fish in that particular pond ecosystem

Table – 8: Effect of formulated feed on fish production

Technology options	Length (mm)	Wt of fish (g)	Yield (q/ha)
FP	184.00 <sup>c</sup>	120.38 <sup>c</sup>	9.03 <sup>c</sup>
Tech option -1	237.19 <sup>b</sup>	181.52 <sup>b</sup>	13.61 <sup>b</sup>
Tech option - 2	297.13 <sup>a</sup>	253.70 <sup>a</sup>	19.03 <sup>a</sup>

\*Treatments are significantly different at 5% levels.

Results obtained indicated that by optimizing feed application, which was previously not applied, increased the productivity. The OFT revealed that application of formulated feed gave the best result when applied @ 3 % of total biomass of fish.

#### OFT 9 :

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farm women	Any refinement done	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Farm implement (Sickle)	Medium upland to lowland	Drudgery of farm women while harvesting of paddy with the traditional sickle	Evaluation of improved sickles for harvesting of paddy to minimize drudgery of farm women	7	Improved sickle	<ul style="list-style-type: none"> <li>Resting heart Rate</li> <li>Working Heart Rate</li> <li>Increase in heart beats/m<sup>2</sup> of area harvested</li> <li>Out put</li> </ul>	See table	By using the Naveen sickle working heart rate reduced to 97.2 beats/min and harvesting of paddy was increased to 161.6 m <sup>2</sup> /hr in modified sickle.	cutting injury of fingers was less and comfort level was more and also output increased in comparison to the traditional one	sickle with 180° angle between handle and blade, blade length 300 mm, height between handle and blade is 4 cm and diameter of the handle is 10 cm	As height of the farm women of West Bengal is less blade length kept 300mm. 180° angle between handle and blade for avoiding cutting injury, and for better grip the handle diameter was reduced to 10cm

Technology Assessed	*Production per unit ( Out put m <sup>2</sup> /hr )	Net Return (Profit) in Rs. / unit	B:C Ratio (Gross return : cost)
<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
Farmers' practice: Traditional sickle with no specific angle, minimum or no serration and very small or no height between the blade and handle of the sickle	121.7	1057	1.34
TO <sub>1</sub> = Improved sickle with 180° angle with big serrated blade, blade length 300-350mm, height between handle and blade is 4 cm and diameter of the handle is 11-12 cm	152.1	1380	1.58
TO <sub>2</sub> = Modified sickle with 180° angle with medium serrated blade, blade length 300 mm, height between handle and blade is 4 cm and diameter of the handle is 10 cm	161.6	1522	1.90

**Table: Ergonomic parameters**

Technology options	Resting heart Rate(Beats/min)	Working Heart Rate (Beats/min)	Increase in heart beats/m <sup>2</sup> of area harvested	Out put (m <sup>2</sup> /hr)
FP	72.6	108.6	36.0	121.7
TO <sub>1</sub>	72.5	97.2	24.7	152.1

Farmers' practice: Traditional sickle with no specific angle, minimum or no serration and very small or no height between the blade and handle of the sickle.

TO<sub>1</sub> = Naveen Sickle with 180° angle with big serrated blade, blade length 300-350mm, height between handle and blade is 4 cm and diameter of the handle is 11-12 cm

TO<sub>2</sub> = Modified sickle with 180° angle with medium serrated blade, blade length 300 mm, height between handle and blade is 4 cm and diameter of the handle is 10 cm

Most of the cases farm women of Burdwan Dist use the traditional sickle made by the local blacksmith without any specifications which cause lots of drudgery in harvesting paddy and often they suffer from different types of cutting injuries in their fingers. By using the Naveen sickle working heart rate reduced to 97.2 beats/min and harvesting of paddy was increased to 161.6 m<sup>2</sup>/hr in sickle modified with 180° angle with medium serrated blade, blade length 300 mm, height between handle and blade is 4 cm and diameter of the handle is 10 cm. It was also observed that cutting injury of fingers was less and comfort level was more in comparison to the traditional one.



**OFT 10 :**

Crop/enterprise	Farming situation	Problem Diagnosed	Title of OFT	No. of trials*	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement done	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Crop-Fish-Livestock	Fish cultivation in medium or small sized tanks without utilizing the bund area	Inefficient performance of available perennial pond based production system is due to non efficient utilization of natural resources	Evaluation of performance of crop – fish – livestock integrated farming on improving aquatic niche based production system	7	Resource utilization and generation of income from several commodities/enterprises	<ul style="list-style-type: none"> <li>Economics</li> <li>Yield</li> </ul>	See the table	Best performance of integrated production system was observed through cultivation of tissue culture banana in bund area and pasture feed poultry rearing with IMC fish cultivation in pond.	Integration of different enterprises gives better returns within a shortest possible time and area.	No	

Technology Assessed	*Production per unit (q/ha)	Net Return (Profit) in Rs./ ha	B:C Ratio
<b>13</b>			
FP- Farmers' practice (Fish farming)	See the table below	26080	2.0
TO1= Crop+ fish + poultry * farming		105737	2.40
TO2= Crop+ fish + duck * farming		102752	2.36

**Table10. Performance of different components of integrated farming**

Technology options	Fish Yield (q/ha)	TCB* Yield (q/ha)	Vegetables Yield (q/ha)	Poultry (egg/bird/annum)	Duckery (egg/bird/annum)	Gross return (Rs)	Net return (Rs)	Benefit cost ratio
FP	19.75	-	-	-	-	52150	26080	2.00
T O1	17.50	710	250	170	-	180857	105737	2.40
TO 2	17.00	700	245	-	160	178192	102752	2.36

\* TCB= tissue cultured banana

Unit size was 1 ha, out of this 0.75 ha and 0.25 ha were pond and cultivable area, respectively. Unit size of poultry (RIR) and duck (KC) were 15 in numbers each.

Best performance of integrated production system was observed through cultivation of tissue culture banana in bund area and pasture feed poultry rearing with IMC fish cultivation in pond in term of production and benefit cost ratio.

### 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 2008-09 (April to March) 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	Agronomic practice	Improved package of jute production	Training and demonstration	1	30	5

*Details of FLDs implemented during April, 2009-Mar. 2010 (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.	Mustard	Improved agronomic practice	Package	Rabi 09-10	6	6	8	0	30	38	-
2.	Sesame	Improved agronomic practice	Package	Rabi 09-10	4	4	5	0	25	30	
3.	Lentil	Improved agronomic practice	Package	Rabi 09-10	2	2	3	0	12	15	-
4.	Jute	Improved agronomic practice	Improved production technology	Pre kharif 09	2	2	10	-	0	10	-
5.	Potato	Scientific management of late blight disease	Component	Rabi 09	1.0	1.0	7	-	5	12	-
6.	Banana	Improved agronomic package	Package demonstration	Rabi 2008	0.8	0.8	2	-	5	7	-
7.	Rice bean (fodder)	Fodder production	Improved production technology	Kharif 09	0.2	0.2	-	-	5	5	-
8	Chilli	Disease management	Component	Rabi 09	0.5	0.5	07	-	02	09	-

### 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 (kg/ha)	P (kg/ha)	K (kg/ha)					
Mustard	Rabi 09-10	Irrigated	Clay loam	235 - 310	47 - 63	154 - 198	Paddy	15.11.09 - 17.11.09	15.02.10 - 22.2. 10	--	--
Sesame	Rabi 09-10	Irrigated	Sandy loam	190 - 254	42 - 65	167-189	Potato / Mustard	3.3.10	--	--	--
Lentil	Rabi 09-10	Irrigated	Sandy loam	180 - 255	44 - 76	179 - 235	Potato /Mustard	12.12.09	14.3.10	--	--
Jute	Pre kharif 09	Irrigated	Sandy loam	198 - 343	37 - 56	213 - 314	Paddy/vegetable /vegetables	12.4.09	24.8.2009	--	--
Potato	Rabi 09	Irrigated	Sandy loam	220 - 324	30- 64	195 - 298	Paddy /vegetables	15.11.2009	06.3.2010	--	--
Banana	Rabi 08	Rainfed	Clay loam	230 - 315	27 - 45	215 - 320	Vegetables	17.10.08	10.10.09 - 15.01.10	-	-
Rice bean (fodder)	Kharif 09	Rainfed	Clay loam	230 - 315	27 - 45	215 - 320	Vegetables	26.09.2009	06.11.09 - 7.12.09	--	--
Chilli	Rabi 09-10	Irrigated	Sandy loam	215-330	32-65	220-380	Paddy	22.11.2009	26.02.2010		

### Performance of FLD

Sl. No.	Crop	Technology Demonstrated	Variety	No. of Farmers	Area (ha.)	Demo. Yield (q/ha)			Yield of local Check (q/ha)	Increase in yield (%) over local check	Data on parameter in relation to technology demonstrated (q/ha)	
						H	L	A			Demo	Local
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Mustard	Package	WBBN 1	6	1	12.2	11.4	11.8	9.5	24	See below *	
2	Mustard	Package	B - 54	16	2.5	12.6	11.0	12.1	10.1	20	See below *	
3	Mustard	Package	B - 9	16	2.5	14.5	12.2	13.1	12.1	8	See below *	
4	Sesame	Package	IS 5	30	4	--	--	--	--	--	--	
5	Lentil	Package	WBL 81	7	1	11.4	10.8	11.2	9.5	18	See below *	
6	Lentil	Package	B -258	8	1	11.1	9.8	10.9	9.3	11	See below *	
7	Jute	Improved production technology	JRO 524	10	2	26.4	23.2	25.2	22.1	14	See below *	
8	Potato	Component demonstration (late blight disease)	Kufri Pokhraj	12	1	330	290	320	300	6.67	See below *	

		management)									
9	Banana	Package demonstration	G-9 (tissue cultured )	7	0.8	820	670	782	414	88.9	See below *
10	Rice bean (fodder)	Improved production technology	Bidhan 1	5	0.2	250	210	232	187.4	23.7	See below *
11	Chilli	Component demonstration (Chilli thrips management )	Bullet	9	0.5	106.5	86.25	96.0	76.5	25.5	See below *

**Economic Impact** (continuation of previous table)

Crop/	Average Cost of cultivation (Rs./ha)		Avg Gross Return (Rs./ha)		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return/ Gross Cost)
	Demo	Local Check	Demo	Local Check	Demonstration	Local Check	
	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
Mustard	17588	16850	25960	20900	8372	4050	Demo : 1.48, L. Chk.: 1.24
Mustard	17300	16850	26620	22220	9320	5370	Demo : 1.54, L. Chk.: 1.32
Mustard	17150	16850	28820	26620	11670	9770	Demo : 1.68, L. Chk.: 1.58
Sesame	--	--	--	--	--	--	--
Lentil	14820	13550	24640	20900	9820	7350	Demo : 1.66, L. Chk.: 1.54
Lentil	14970	13550	23980	20460	9010	6910	Demo : 1.60, L. Chk.: 1.51
Jute	20625	22800	30240	26520	9615	3720	Demo: 1.47, L. Check: 1.16
Potato	55200	57800	128000	12000	72800	62200	Demo: 2.31, L. Check: 2.07
Banana	92000	105000	276000	195500	184000	90500	Demo: 3.0, L. Check: 1.86
Rice bean (fodder)	5500	5418	11600	9370	6100	3952	Demo: 2.1, L. Check: 1.72
Chilli	112125	121125	384000	267750	271875	146625	Demo : 3.42, L. Check.: 2.21

**\* Data on parameters: Mustard (Component: Variety WBBN 1)**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Mustard	No. of branches/plant	12	11
	No. of siliqua/plant	103	97
	No. of seeds/pod	12	8
	Test weight (1000 grain) (g)	2.86	2.13
	Insect-pest incidence (%)	25	20
	Disease incidence (%)	Nil	Nil
	Plant height (cm)	130	91

**\* Data on parameters: Mustard (Package with cv. B 54)**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Mustard	No. of branches/plant	13	11
	No. of siliqua/plant	110	103
	No. of seeds/pod	11	10
	Test weight (1000 grain) (g)	2.54	2.23
	Insect-pest incidence (%)	5	15
	Disease incidence (%)	Nil	Nil
	Plant height (cm)	125	110

**\* Data on parameters: Mustard (Package with cv. B 9)**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Mustard	No. of branches/plant	14	10
	No. of siliqua/plant	115	104
	No. of seeds/pod	14	10
	Test weight (1000 grain) (g)	2.67	2.43
	Insect-pest incidence (%)	15	20
	Disease incidence (%)	Nil	Nil
	Plant height (cm)	120	112

**\* Data on parameters : Lentil (Package with B 256)**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Mustard	No. of branches/plant	--	--
	No. of siliqua/plant	125	110
	No. of seeds/pod	2	2
	Test weight (1000 grain) (g)	17.42	17.31
	Insect-pest incidence (%)	--	--
	Disease incidence (%)	30	35

**\* Data on parameters (continuation of previous table)**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Mustard (WBBN 1)	No. of branches/plant	--	--
	No. of siliqua/plant	135	110
	No. of seeds/pod	2	2
	Test weight (1000 grain) (g)	17.56	17.25
	Insect-pest incidence (%)	--	--
	Disease incidence (%)	20	25
	Plant height (cm)	--	--

**\* Data on parameters: Tissue cultured banana**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Banana	Flowering (months)	8	11
	Harvesting (months)	12	16
	Weight of bunch (kg)	34	18
	No. of hands/bunch	11	8
	No. of fingers/bunch	142	110
	Yield (q/ha)	782	414

**\* Data on parameters: Jute**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Jute	Plant height (cm)	294	256
	Base diameter (cm)	1.21	1.45
	Weed biomass (q/ha)	5.50	10.20

**\* Data on parameters: Potato**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Potato	weight of tubers/plant (g)	643	635
	Disease incidence (%)	5	8

**\* Data on parameters: Rice bean (as Fodder)**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Rice bean	Leaflet length (cm)	11.27	7.78
	Leaflet width (cm)	8.15	5.30
	Total yield (q/ha)	232	187.4

**\* Data on parameters: Chilli**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
	Yield (q/ha)	96.0	76.5
	Mean % reduction of thrips ( after 1 <sup>st</sup> spray)	80.95	56.23
	Mean % reduction of thrips (after 2 <sup>nd</sup> t spray)	83.07	62.66
	Mean % reduction of thrips (after 3 <sup>rd</sup> spray)	87.24	60.97

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
		1. Seed/Variety				
		2. Bio-fertilizer				
		3. Fertilizer management				
Potato	Rabi	4. Plant Protection (Disease management)	Medium upland	320	300	6.67% over local check
Chilli	Rabi	Insect management	Medium upland	96.0	76.5	25.5 % over local check
		5. Combination of components (Please specify)				

#### Technical Feedback on the demonstrated technologies

S. No	Crop	Feed Back
1.	Mustard	Although intervention with club root resistant variety (WBBN 1) improved yield in club root prone areas, it required longer duration and more insecticide. Need to develop shorter duration cultivars with enhanced pest resistance
2.	Jute	Seed production of newer and improved varieties need to be done for wider availability
3.	Lentil	Cultivar WBL 81 need to be widely propagated
4.	Potato	Specific Trichoderma strains need to be identified for controlling late blight of potato
5.	Banana	Cultivation of tissue cultured banana need to be popularized
6.	Rice bean (fodder)	Improved varieties need to be propagated for more green fodder yield
7.	Chilli	Timely inspection and proper management practices can minimize this pest

#### Farmers' reactions on specific technologies

S. No	Crop	Feed Back
1.	Mustard	Annexure III
2.	Jute	Annexure IV
3.	Lentil	Annexure V
4.	Potato	Annexure VI
5.	Banana	Annexure VII
6.	Rice bean (fodder)	Annexure VIII
7.	Chilli	Annexure IX

#### Extension and Training activities under FLD

S. N.	Activity	No. of activities organised	Dates	Number of participants	Remarks
1	Field days	4	15.09.09, 16.11.09, 16.2.2010 and 20.2.2010	240	Field days on jute, ricebean, mustard and lentil respectively
2	Farmers Training	4	24.07.09-25.07.09, 05.01.10 & 07.01.10	120	-
3	Media coverage	1	15.09.09	--	TV coverage on Jute retting

**c. Details of FLD on Enterprises**

**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, etc.	Performance parameters / indicators	* Data on parameter in relation to technology demonstrated (1. kg/lactation 2. no. of goat survive)		% change in the parameter	Remarks
					Demon.	Local check		
1. Cattle (Mineral mixture)	Desi cow	10	10	Milk yield	344.5	260.85	32.06	Lactation period in demo was increased over local check
2. Goat (PPR-vaccination)**	Bengal goat	52	400 (vaccinated)	Disease mortality	400	348	13.0	Mortality due to PPR was reduced upto 13% in vaccinated village.

*\* Milk production, meat production, egg production, reduction in disease incidence etc.*

**\*\* Detail report of PPR vaccination in goat**

Demonstrated village (Garamba)			Un vaccinated village ( Daskin Bhasapur)		
Mortality due to PPR disease before vaccination in 2007	Mortality due to PPR disease after vaccination in , 08	No of family covered	Mortality due to PPR disease before vaccination in 2007	Mortality due to PPR disease in , 08	No of family survey
12 % (48 nos. died out of 400 goats)	Nil	52	11.5 % (46 nos. died out of 400 goats)	13 % (52 died out of 400 goats )	55



**(iii) Other Enterprises**

Enterprise	Variety/ breed/Species/ others	No. of farmers	No. of Units	Performanc e parameters / Indicators	Data on parameter in relation to technology demonstrated		% change in the parameter	Rema rks
					Demon.	Local check		
Mushroom								
Apiary								
Sericulture								
Vermi compost								
Fish	Jayanti rohu	05	--	Fish productivi ty	9.77	9.20	6	Unit q/ha
Fish	<i>Pangus</i>	07	--	Fish productivi ty	4.0	3.1	29	Unit q/ha
Fish	Tilapia	10	--	Fish productivi ty	5.95	5.0	19	Unit q/ha

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

#### A. ON Campus

Thematic Area	No. of Courses	No. of Participants									Grand Total
		Others			SC			ST			
		M	F	T	M	F	T	M	F	T	
<b>I Crop Production</b>											
Weed Management											
Resource Conservation Technologies											
Cropping Systems											
Crop Diversification											
Integrated Farming											
Water management											
Seed production											
Nursery management	4	76	0	76	24	0	24	0	0	0	100
Integrated Crop Management											
Fodder production											
Production of organic inputs											
Others, if any	1	13	0	13	17	0	17	0	0	0	30
<b>II Horticulture</b>											
<b>a) Vegetable Crops</b>											
Production of low volume & high value crops											
Off-season vegetables											
Nursery raising	1	15	0	15	6	1	7	0	0	0	22
Exotic vegetables like Broccoli											
Export potential vegetables											
Grading and standardization											
Protective cultivation (Green Houses, Shade Net etc.)											
Others, if any	4	72	0	72	28	0	28	0	0	0	100
<b>b) Fruits</b>											
Training and Pruning											
Layout and Management of Orchards											
Cultivation of Fruit											
Management of young plants/orchards											
Rejuvenation of old orchards											
Export potential fruits											
Micro irrigation systems of orchards											
Plant propagation techniques											
Others, if any											
<b>c) Ornamental Plants</b>											
Nursery Management											
Management of potted plants											
Export potential of ornamental plants											
Propagation techniques of Ornamental Plants											
Others, if any											
<b>d) Plantation crops</b>											
Production and Management technology											
Processing and value addition											
Others, if any											
<b>e) Tuber crops</b>											
Production and Management technology											
Processing and value addition											

Others, if any											
<b>f) Spices</b>											
Production and Management technology											
Processing and value addition											
Others, if any											
<b>g) Medicinal and Aromatic Plants</b>											
Nursery management											
Production and management technology											
Post harvest technology and value addition											
Others, if any											
<b>III Soil Health and Fertility Management</b>											
Soil fertility management											
Soil and Water Conservation											
Integrated Nutrient Management											
Production and use of organic inputs											
Management of Problematic soils											
Micro nutrient deficiency in crops											
Nutrient Use Efficiency											
Soil and Water Testing											
Others, if any											
<b>IV Livestock Production and Management</b>											
Dairy Management	4	60	0	60	40	0	40	0	0	0	100
Poultry Management											
Piggery Management											
Rabbit Management											
Disease Management											
Feed management											
Production of quality animal products	1	17	2	19	5	6	11	0	0	0	30
Others, if any											
<b>V Home Science/Women empowerment</b>											
Household food security by kitchen gardening and nutrition gardening											
Design and development of low/minimum cost diet											
Designing and development for high nutrient efficiency diet											
Minimization of nutrient loss in processing											
Gender mainstreaming through SHGs	1	0	15	15	0	11	11	0	1	1	27
Storage loss minimization techniques	1	0	7	7	0	13	13	0	2	2	22
Value addition	1	0	12	12	0	11	11	0	0	0	23
Income generation activities for empowerment of rural Women											
Location specific drudgery reduction technologies											
Rural Crafts											
Women and child care	1	0	11	11	0	14	14	0	0	0	25
Others, if any											
<b>VI Agril. Engineering</b>											
Installation and maintenance of micro irrigation systems											
Use of Plastics in farming practices											
Production of small tools and implements											
Repair and maintenance of farm machinery and implements											

Small scale processing and value addition											
Post Harvest Technology											
Others, if any											
<b>VII Plant Protection</b>											
Integrated Pest Management											
Integrated Disease Management											
Bio-control of pests and diseases											
Production of bio control agents and bio pesticides											
Others, if any											
<b>VIII Fisheries</b>											
Integrated fish farming	1	14	0	14	6	0	6	0	0	0	20
Carp breeding and hatchery mgt.											
Carp fry and fingerling rearing											
Composite fish culture	5	93	0	93	33	0	33	0	0	0	126
Hatchery management and culture of freshwater prawn											
Breeding and culture of ornamental fishes											
Portable plastic carp hatchery											
Pen culture of fish and prawn											
Shrimp farming											
Edible oyster farming											
Pearl culture											
Fish processing and value addition											
Others, if any											
<b>IX Production of Inputs at site</b>											
Seed Production	1	18	0	18	5	6	11	0	0	0	29
Planting material production											
Bio-agents production											
Bio-pesticides production											
Bio-fertilizer production											
Vermi-compost production											
Organic manures production											
Production of fry and fingerlings											
Production of Bee-colonies and wax sheets											
Small tools and implements											
Production of livestock feed and fodder	5	40	0	40	30	0	30	0	0	0	70
Production of Fish feed											
Others, if any											
<b>X Capacity Building and Group Dynamics</b>											
Leadership development											
Group dynamics	2	29	9	38	13	7	20	0	1	1	59
Formation and Management of SHGs	4	52	0	52	48	0	48	0	0	0	100
Mobilization of social capital											
Entrepreneurial development of farmers/youths											
WTO and IPR issues	2	32	0	32	15	0	15	0	0	0	47
Others, if any											
<b>XI Agro-forestry</b>											
Production technologies											
Nursery management											
Integrated Farming Systems											
<b>XII Others (Pl. Specify)</b>											
<b>TOTAL</b>	<b>39</b>	<b>531</b>	<b>56</b>	<b>587</b>	<b>270</b>	<b>69</b>	<b>339</b>	<b>0</b>	<b>4</b>	<b>4</b>	<b>930</b>

<b>(B) RURAL YOUTH</b>											
Mushroom Production											
Bee-keeping											
Integrated farming											
Seed production	1	20	0	20	7	0	7	1	0	1	28
Production of organic inputs											
Integrated Farming											
Planting material production											
Vermi-culture	1	16	0	16	5	0	5	0	0	0	21
Sericulture											
Protected cultivation of vegetable crops											
Commercial fruit production											
Repair and maintenance of farm machinery and implements											
Nursery Management of Horticulture crops											
Training and pruning of orchards											
Value addition											
Production of quality animal products											
Dairying											
Sheep and goat rearing											
Quail farming											
Piggery											
Rabbit farming											
Poultry production	1	59	0	59	26	0	26	0	0	0	85
Ornamental fisheries	1	14	0	14	7	0	7	0	0	0	21
Para vets											
Para extension workers											
Composite fish culture											
Freshwater prawn culture											
Shrimp farming											
Pearl culture											
Cold water fisheries											
Fish harvest and processing technology											
Fry and fingerling rearing											
Small scale processing											
Post Harvest Technology											
Tailoring and Stitching											
Rural Crafts	7	0	105	105	14	49	63	0	7	7	175
Others, if any											
<b>TOTAL</b>	<b>11</b>	<b>109</b>	<b>105</b>	<b>214</b>	<b>59</b>	<b>49</b>	<b>108</b>	<b>1</b>	<b>7</b>	<b>8</b>	<b>330</b>
<b>(C) Extension Personnel</b>											
Productivity enhancement in field crops	1	18	0	18	2	0	2	0	0	0	20
Integrated Pest Management											
Integrated Nutrient management											
Rejuvenation of old orchards	1	4	24	28	0	10	10	0	1	1	39
Protected cultivation technology	1	21	5	26	4	0	4	0	0	0	30
Formation and Management of SHGs	1	2	13	15	5	2	7	1	2	3	25
Group Dynamics and farmers organization											
Information networking among farmers	1	20	0	20	2	0	2	0	0	0	22
Capacity building for ICT application	1	13	1	14	0	2	2	0	0	0	16
Care and maintenance of farm machinery and implements											
WTO and IPR issues											

Management in farm animals	1	18	0	18	0	0	0	0	0	0	18
Livestock feed and fodder production											
Household food security	1	0	24	24	0	5	5	0	1	1	30
Women and Child care	1	2	22	24	0	10	10	0	1	1	35
Low cost and nutrient efficient diet designing											
Production and use of organic inputs	1	1	11	12	3	13	16	1	1	2	30
Gender mainstreaming through SHGs											
Any other (Sustainable aquaculture)	4	54	25	79	5	7	12	0	1	1	92
<b>TOTAL</b>	<b>14</b>	<b>153</b>	<b>125</b>	<b>278</b>	<b>21</b>	<b>49</b>	<b>70</b>	<b>2</b>	<b>7</b>	<b>9</b>	<b>357</b>

## B. OFF Campus

Thematic Area	No. of Courses	No. of Participants									Grand Total
		Others			SC			ST			
		M	F	T	M	F	T	M	F	T	
I Crop Production											
Weed Management	1	17	0	17	15	0	15	0	0	0	32
Resource Conservation Technologies											
Cropping Systems											
Crop Diversification											
Integrated Farming											
Water management	2	36	0	36	28	0	28	0	0	0	64
Seed production											
Nursery management	2	58	0	58	2	0	2	0	0	0	60
Integrated Crop Management											
Fodder production											
Production of organic inputs											
Others, if any	1	38	0	38	2	0	2	0	0	0	40
II Horticulture											
a) Vegetable Crops											
Production of low volume & high value crops	1	15	0	15	16	0	16	1	0	1	32
Off-season vegetables											
Nursery raising											
Exotic vegetables like Broccoli											
Export potential vegetables											
Grading and standardization											
Protective cultivation (Green Houses, Shade Net etc.)	2	38	0	38	18	0	18	1	0	1	57
Others, if any											
b) Fruits											
Training and Pruning											
Layout and Management of Orchards											
Cultivation of Fruit	1	30	0	30	1	0	1	0	0	0	31
Management of young plants/orchards											
Rejuvenation of old orchards											
Export potential fruits											
Micro irrigation systems of orchards											
Plant propagation techniques											
Others, if any											
c) Ornamental Plants											
Nursery Management											
Management of potted plants											
Export potential of ornamental plants											

Propagation techniques of Ornamental Plants											
Others, if any											
<b>d) Plantation crops</b>											
Production and Management technology											
Processing and value addition											
Others, if any											
<b>e) Tuber crops</b>											
Production and Management technology	1	13	4	17	8	4	12	1	0	1	30
Processing and value addition											
Others, if any											
<b>f) Spices</b>											
Production and Management technology											
Processing and value addition											
Others, if any											
<b>g) Medicinal and Aromatic Plants</b>											
Nursery management											
Production and management technology											
Post harvest technology and value addition											
Others, if any											
<b>III Soil Health and Fertility Management</b>											
Soil fertility management	1	11	0	11	0	0	0	0	0	0	11
Soil and Water Conservation											
Integrated Nutrient Management											
Production and use of organic inputs											
Management of Problematic soils											
Micro nutrient deficiency in crops											
Nutrient Use Efficiency											
Soil and Water Testing											
Others, if any											
<b>IV Livestock Production and Management</b>											
Dairy Management	3	98	0	98	4	0	4	0	0	0	102
Poultry Management	2	0	50	50	5	12	17	1	2	3	70
Piggery Management	1	0	0	0	0	0	0	15	0	15	15
Rabbit Management											
Disease Management	2	56	0	56	29	0	29	1	0	1	86
Feed management	1	29	0	29	1	0	1	0	0	0	30
Production of quality animal products											
Others, if any											
<b>V Home Science/Women empowerment</b>											
Household food security by kitchen gardening and nutrition gardening											
Design and development of low/minimum cost diet											
Designing and development for high nutrient efficiency diet											
Minimization of nutrient loss in processing	1	0	27	27	0	3	3	0	0	0	30
Gender mainstreaming through SHGs											
Storage loss minimization techniques											
Value addition											
Income generation activities for empowerment of rural Women											
Location specific drudgery reduction technologies	1	0	1	1	0	14	14	0	0	0	15
Rural Crafts											

Women and child care											
Others, if any											
<b>VI Agril. Engineering</b>											
Installation and maintenance of micro irrigation systems											
Use of Plastics in farming practices											
Production of small tools and implements											
Repair and maintenance of farm machinery and implements											
Small scale processing and value addition											
Post Harvest Technology											
Others, if any											
<b>VII Plant Protection</b>											
Integrated Pest Management	2	49	0	49	10	0	10	1	0	1	60
Integrated Disease Management	2	56	0	56	14	0	14	0	0	0	70
Bio-control of pests and diseases	2	54	0	54	6	0	6	0	0	0	60
Production of bio control agents and bio pesticides											
Others, if any	2	37	3	40	14	4	18	2	0	2	60
<b>VIII Fisheries</b>											
Integrated fish farming	1	26	0	26	4	0	4	0	0	0	30
Carp breeding and hatchery mgt.	1	11	0	11	18	0	18	1	0	1	30
Carp fry and fingerling rearing	1	25	0	25	1	0	1	4	0	4	30
Composite fish culture	1	29	0	29	1	0	1	0	0	0	30
Hatchery management and culture of freshwater prawn	1	27	0	27	3	0	3	0	0	0	30
Breeding and culture of ornamental fishes											
Portable plastic carp hatchery											
Pen culture of fish and prawn											
Shrimp farming											
Edible oyster farming											
Pearl culture											
Fish processing and value addition											
Others, if any	2	51	0	51	18	0	18	1	0	1	70
<b>IX Production of Inputs at site</b>											
Seed Production											
Planting material production											
Bio-agents production											
Bio-pesticides production											
Bio-fertilizer production											
Vermi-compost production											
Organic manures production											
Production of fry and fingerlings											
Production of Bee-colonies and wax sheets											
Small tools and implements											
Production of livestock feed and fodder											
Production of Fish feed											
Others, if any											
<b>X Capacity Building and Group Dynamics</b>											
Leadership development											
Group dynamics											
Formation and Management of SHGs											
Mobilization of social capital	1	29	0	29	1	0	1	0	0	0	30



Entrepreneurial development of farmers/youths											
WTO and IPR issues											
Others, if any	1	33	0	33	23	0	23	0	0	0	56
<b>XI Agro-forestry</b>											
Production technologies											
Nursery management											
Integrated Farming Systems											
<b>XII Others (Pl. Specify)</b>											
<b>TOTAL</b>	<b>40</b>	<b>866</b>	<b>85</b>	<b>951</b>	<b>242</b>	<b>37</b>	<b>279</b>	<b>29</b>	<b>2</b>	<b>31</b>	<b>1261</b>
<b>(B) RURAL YOUTH</b>											
Mushroom Production	2	40	6	46	13	1	14	0	0	0	60
Bee-keeping											
Integrated farming											
Seed production	1	33	0	33	2	0	2	0	0	0	35
Production of organic inputs											
Integrated Farming											
Planting material production											
Rabbit farming											
Poultry production											
Ornamental fisheries											
Para vets											
Para extension workers											
Composite fish culture											
Freshwater prawn culture											
Shrimp farming											
Pearl culture											
Cold water fisheries											
Fish harvest and processing technology											
Fry and fingerling rearing											
Small scale processing											
Post Harvest Technology											
Tailoring and Stitching											
Rural Crafts											
Others, if any											
<b>TOTAL</b>	<b>3</b>	<b>73</b>	<b>6</b>	<b>79</b>	<b>15</b>	<b>1</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>95</b>
<b>(C) Extension Personnel</b>											
Productivity enhancement in field crops											
Integrated Pest Management											
Integrated Nutrient management											
Rejuvenation of old orchards											
WTO and IPR issues											
Management in farm animals											
Livestock feed and fodder production											
Household food security											
Women and Child care											
Low cost and nutrient efficient diet designing											
Production and use of organic inputs											
Gender mainstreaming through SHGs											
Any other (Pl. Specify)											
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

C) Consolidated table (ON and OFF Campus)

Thematic Area	No. of Courses	No. of Participants									
		Others			SC			ST			Grand Total
		M	F	T	M	F	T	M	F	T	
(A) Farmers & Farm Women											
I Crop Production											
Weed Management	1	17	0	17	15	0	15	0	0	0	32
Resource Conservation Technologies											
Cropping Systems											
Crop Diversification											
Integrated Farming											
Water management	2	36	0	36	28	0	28	0	0	0	64
Seed production											
Nursery management	6	134	0	134	26	0	26	0	0	0	160
Integrated Crop Management											
Fodder production											
Production of organic inputs											
Others, if any	2	51	0	51	19	0	19	0	0	0	70
II Horticulture											
a) Vegetable Crops											
Production of low volume & high value crops	1	15	0	15	16	0	16	1	0	1	32
Off-season vegetables											
Nursery raising	1	15	0	15	6	1	7	0	0	0	22
Exotic vegetables like Broccoli											
Export potential vegetables											
Grading and standardization											
Protective cultivation (Green Houses, Shade Net etc.)	2	38	0	38	18	0	18	1	0	1	57
Others, if any	4	72	0	72	28	0	28	0	0	0	100
b) Fruits											
Training and Pruning											
Layout and Management of Orchards											
Cultivation of Fruit	1	30	0	30	1	0	1	0	0	0	31
Management of young plants/orchards											
Rejuvenation of old orchards											
Export potential fruits											
Micro irrigation systems of orchards											
Plant propagation techniques											
Others, if any											
c) Ornamental Plants											
Nursery Management											
Management of potted plants											
Export potential of ornamental plants											
Propagation techniques of Ornamental Plants											
Others, if any											
d) Plantation crops											
Production and Management technology											
Processing and value addition											
Others, if any											
e) Tuber crops											
Production and Management technology	1	13	4	17	8	4	12	1	0	1	30
Processing and value addition											
Others, if any											

<b>f) Spices</b>												
Production and Management technology												
Processing and value addition												
Others, if any												
<b>g) Medicinal and Aromatic Plants</b>												
Nursery management												
Production and management technology												
Post harvest technology and value addition												
Others, if any												
<b>III Soil Health and Fertility Management</b>												
Soil fertility management	1	11	0	11	0	0	0	0	0	0	0	11
Soil and Water Conservation												
Integrated Nutrient Management												
Production and use of organic inputs												
Management of Problematic soils												
Micro nutrient deficiency in crops												
Nutrient Use Efficiency												
Soil and Water Testing												
Others, if any												
<b>IV Livestock Production and Management</b>												
Dairy Management	7	158	0	158	44	0	44	0	0	0	0	202
Poultry Management	2	0	50	50	5	12	17	1	2	3	3	70
Piggery Management	1	0	0	0	0	0	0	15	0	15	15	15
Rabbit Management												
Disease Management	2	56	0	56	29	0	29	1	0	1	1	86
Feed management	1	29	0	29	1	0	1	0	0	0	0	30
Production of quality animal products	1	17	2	19	5	6	11	0	0	0	0	30
Others, if any												
<b>V Home Science/Women empowerment</b>												
Household food security by kitchen gardening and nutrition gardening												
Design and development of low/minimum cost diet												
Designing and development for high nutrient efficiency diet												
Minimization of nutrient loss in processing	1	0	27	27	0	3	3	0	0	0	0	30
Gender mainstreaming through SHGs	1	0	15	15	0	11	11	0	1	1	1	27
Storage loss minimization techniques	1	0	7	7	0	13	13	0	2	2	2	22
Value addition	1	0	12	12	0	11	11	0	0	0	0	23
Income generation activities for empowerment of rural Women												
Location specific drudgery reduction technologies	1	0	1	1	0	14	14	0	0	0	0	15
Rural Crafts												
Women and child care	1	0	11	11	0	14	14	0	0	0	0	25
Others, if any												
<b>VI Agril. Engineering</b>												
Installation and maintenance of micro irrigation systems												
Use of Plastics in farming practices												
Production of small tools and implements												
Repair and maintenance of farm machinery and implements												
Small scale processing and value addition												
Post Harvest Technology												

Others, if any											
<b>VII Plant Protection</b>											
Integrated Pest Management	2	49	0	49	10	0	10	1	0	1	60
Integrated Disease Management	2	56	0	56	14	0	14	0	0	0	70
Bio-control of pests and diseases	2	54	0	54	6	0	6	0	0	0	60
Production of bio control agents and bio pesticides											
Others, if any	2	37	3	40	14	4	18	2	0	2	60
<b>VIII Fisheries</b>											
Integrated fish farming	2	40	0	40	10	0	10	0	0	0	50
Carp breeding and hatchery mgt.	1	11	0	11	18	0	18	1	0	1	30
Carp fry and fingerling rearing	1	25	0	25	1	0	1	4	0	4	30
Composite fish culture	6	122	0	122	34	0	34	0	0	0	156
Hatchery management and culture of freshwater prawn	1	27	0	27	3	0	3	0	0	0	30
Breeding and culture of ornamental fishes											
Portable plastic carp hatchery											
Pen culture of fish and prawn											
Shrimp farming											
Edible oyster farming											
Pearl culture											
Fish processing and value addition											
Others, if any	2	51	0	51	18	0	18	1	0	1	70
<b>IX Production of Inputs at site</b>											
Seed Production	1	18	0	18	5	6	11	0	0	0	29
Planting material production											
Bio-agents production											
Bio-pesticides production											
Bio-fertilizer production											
Vermi-compost production											
Organic manures production											
Production of fry and fingerlings											
Production of Bee-colonies and wax sheets											
Small tools and implements											
Production of livestock feed and fodder	5	40	0	40	30	0	30	0	0	0	70
Production of Fish feed											
Others, if any											
<b>X Capacity Building and Group Dynamics</b>											
Leadership development											
Group dynamics	2	29	9	38	13	7	20	0	1	1	59
Formation and Management of SHGs	4	52	0	52	48	0	48	0	0	0	100
Mobilization of social capital	1	29	0	29	1	0	1	0	0	0	30
Entrepreneurial development of farmers/youths											
WTO and IPR issues	2	32	0	32	15	0	15	0	0	0	47
Others, if any	1	33	0	33	23	0	23	0	0	0	56
<b>XI Agro-forestry</b>											
Production technologies											
Nursery management											
Integrated Farming Systems											
<b>XII Others (Pl. Specify)</b>											
<b>TOTAL</b>	<b>79</b>	<b>1397</b>	<b>141</b>	<b>1538</b>	<b>512</b>	<b>106</b>	<b>618</b>	<b>29</b>	<b>6</b>	<b>35</b>	<b>2191</b>
<b>(B) RURAL YOUTH</b>											
Mushroom Production	2	40	6	46	13	1	14	0	0	0	60
Bee-keeping											

Integrated farming											
Seed production	2	53	0	53	9	0	9	1	0	1	63
Production of organic inputs											
Integrated Farming											
Planting material production											
Vermi-culture	1	16	0	16	5	0	5	0	0	0	21
Sericulture											
Protected cultivation of vegetable crops											
Commercial fruit production											
Repair and maintenance of farm machinery and implements											
Nursery Management of Horticulture crops											
Training and pruning of orchards											
Value addition											
Production of quality animal products											
Dairying											
Sheep and goat rearing											
Quail farming											
Piggery											
Rabbit farming											
Poultry production	1	59	0	59	26	0	26	0	0	0	85
Ornamental fisheries	1	14	0	14	7	0	7	0	0	0	21
Para vets											
Para extension workers											
Composite fish culture											
Freshwater prawn culture											
Shrimp farming											
Pearl culture											
Cold water fisheries											
Fish harvest and processing technology											
Fry and fingerling rearing											
Small scale processing											
Post Harvest Technology											
Tailoring and Stitching											
Rural Crafts	7	0	105	105	14	49	63	0	7	7	175
Others, if any											
<b>TOTAL</b>	<b>14</b>	<b>182</b>	<b>111</b>	<b>293</b>	<b>74</b>	<b>50</b>	<b>124</b>	<b>1</b>	<b>7</b>	<b>8</b>	<b>425</b>
<b>(C) Extension Personnel</b>											
Productivity enhancement in field crops	1	18	0	18	2	0	2	0	0	0	20
Integrated Pest Management											
Integrated Nutrient management											
Rejuvenation of old orchards	1	4	24	28	0	10	10	0	1	1	39
Protected cultivation technology	1	21	5	26	4	0	4	0	0	0	30
Formation and Management of SHGs	1	2	13	15	5	2	7	1	2	3	25
Group Dynamics and farmers organization											
Information networking among farmers	1	20	0	20	2	0	2	0	0	0	22
Capacity building for ICT application	1	13	1	14	0	2	2	0	0	0	16
Care and maintenance of farm machinery and implements											
WTO and IPR issues											
Management in farm animals	1	18	0	18	0	0	0	0	0	0	18
Livestock feed and fodder production											
Household food security	1	0	24	24	0	5	5	0	1	1	30

Women and Child care	1	2	22	24	0	10	10	0	1	1	35
Low cost and nutrient efficient diet designing											
Production and use of organic inputs	1	1	11	12	3	13	16	1	1	2	30
Gender mainstreaming through SHGs											
Any other (Pl. Specify)	4	54	25	79	5	7	12	0	1	1	92
<b>TOTAL</b>	<b>14</b>	<b>153</b>	<b>125</b>	<b>278</b>	<b>21</b>	<b>49</b>	<b>70</b>	<b>2</b>	<b>7</b>	<b>9</b>	<b>357</b>

Note: Please furnish the details of training programmes as **Annexure in the proforma** given below

Date	Clientele	Title of the training programme	Duration in days	Venue (Off / On Campus)	Number of participants			Number of SC/ST		
					Male	Female	Total	Male	Female	Total
14.07.2009	PF	Minimization of nutrient loss during processing food products	01	Off		30	30		03	03
16.07.09	PF	System of rice intensification	01	On	30	0	30	17	0	17
15.07.09	PF	Preparation of mango squash	01	On	0	23	23	0	11	11
01.07.09	PF	Impact and utilization of Bio-fertilizer	01	Off	30	0	30	1	0	1
02.07.09	PF	Use of mulch in horticultural crops	01	Off	32	0	32	17	0	17
04.07.09	PF	Preservation of eggs	01	Off	0	21	21	0	1	1
06.07.09	PF	Care of new born kids	01	Off	30	0	30	0	0	0
07.07.09	PF	Care of new born calf	01	Off	30	0	30	2	0	2
18.07.09	PF	Mobilization of social capital	01	Off	30	0	30	1	0	1
09.07.09	PF	Induced breeding of IMC	01	Off	30	0	30	19	0	19
13.07.09	PF	Schedule of fertilization and liming in fish culture ponds	01	Off	30	0	30	1	0	1
14.07.09	PF	Rearing pond preparation and managements	01	Off	30	0	30	05	0	05
16.07.09	PF	Aquatic weeds and algal blooms in fish ponds, its control and utilization	01	Off	40	0	40	17	0	17
27.06.09 29.06.09	PF	Seed treatment and nursery management of paddy	02	Off	58	0	58	0	00	00
30.06.09 08.07.09	PF	System of rice intensification	02	Off	64	0	64	27	00	27
14.07.09	PF	Weed management of rice	01	Off	32	0	32	15	00	15
15.07.09	PF	Need for soil testing and soil test based fertilizer application	01	Off	12	0	12	0	0	0
01.09.09- 07.09.09	RY	Preparation of jute handicrafts	7	On	14	161	175	14	56	70
07.09.09, 12.01.10	RY	Seed production of major vegetable crops	2	On	57	0	57	13	06	19
08.09.09	PF	Nursery management of vegetable crops	1	On	22	0	22	7	0	7
06.10.09	PF	Paddy production technology	1	Off	35	0	35	2	0	2

16.07.09, 17.07.09, 19.07.09	PF	Cultivation techniques of Maize as fodder: impact in animal nutrition	3	On	46	0	46	21	0	21
24.08.09- 25.08.09	PF	Cultivation techniques of Rice bean as fodder: impact in animal nutrition	2	On	20	0	20	7	0	7
29.09.09- 01.10.09	RY	Khaki Campbell duck rearing	3	On	85	0	85	26	0	26
11.11.09	EF	Feeding of infant (after 5 months) with weaning food	1	On	0	35	35	0	11	11
17.02.10	EF	New generation vaccines and immunization schedule for animals	1	On	18	0	18	0	0	0
18.02.10	EF	Rice cultivation through SRI	1	On	20	0	20	2	0	2
18.02.10	EF	Role of information networking among farmers	1	On	22	0	22	2	0	2
19.02.10	EF	Inland aquaculture	1	On	22	0	22	2	0	2
23.02.10	EF	Preparation of organic pesticides and its application	1	Off	5	25	30	4	14	18
06.10.09	PF	Paddy seed production technology	1	Off	35	0	35	2	0	2
07.01.10	PF	Improved fertilizer management in Mustard	1	Off	40	0	40	2	0	2
13.01.10	RY	Training on vermin-compost production at farmers level	1	On	21	0	21	5	0	5
12.01.10	PF	Techniques of paneer preparation	1	On	22	8	30	5	6	11
11.01.10	PF	Polyculture of Indian major carp and fresh water prawn	1	On	26	0	26	9	0	9
14.01.10	PF	Culture of some freshwater ornamental fishes	1	On	21	0	21	7	0	7
08.10.09	PF	Balance diet and RDA of foods for expectant and nursing mothers	1	On	0	25	25	0	14	14
09.10.09	PF	Storage loss minimization of fruits and vegetables.	1	On	0	22	22	0	15	15
08.01.10	PF	Motivation and formation of women SHGs	1	On	0	27	27	0	12	12
22.12.09, 16.01.10	PF	Group dynamics and farmers' organization	2	On	42	17	59	13	8	21
23.12.09, 13.01.10	PF	WTO and IPR issue	2	On	47	00	47	15	0	15
15.09.09	PF	Drudgery reduction in harvesting paddy by using	1	On	0	15	15	0	14	14



		improved sickle								
22.01.10, 23.01.10	RY	Improved Production Technology of Oyster Mushroom Cultivation	2	On	53	07	60	13	1	14
23.10.09	PF	Effects of liming in fish ponds	1	Off	30	0	30	2	0	2
24.10.09	PF	Monoculture of freshwater Prawn	1	Off	30	0	30	3	0	3
16.01.10	PF	Integrated duck-cum-fish farming in back yard pond	1	Off	30	0	30	4	0	4
14.09.09	PF	Water management through micro irrigation	1	On	56	0	56	23	0	23
22.07.09, 23.07.09	PF	Integrated Pest Management (IPM) in rice	2	Off	60	0	60	11	0	11
23.09.09	PF	Pest Management through Bio-pesticides	1	On	30	0	30	5	0	5
08.12.09, 18.12.09	PF	Pest Management in Potato	2	Off	63	07	70	24	4	28
09.12.09, 17.12.09	PF	Pest Management in Mustard	2	Off	60	0	60	6	0	6
09.09.09	PF	Improved cultivation of tissue culture banana	1	Off	31	0	31	1	0	1
10.09.09	PF	Improved production technology of tomato	1	Off	30	0	30	5	0	5
05.01.10	PF	Improved production technology of potato	1	Off	30	0	30	17	0	17
06.01.10	PF	Identification of major diseases of potato	1	Off	26	4	30	9	4	13
25.09.09	PF	Feeding techniques of mineral mixture for dairy cow	1	Off	30	0	30	1	0	1
10.09.09, 11.09.09	PF	Animal shed disinfection at rainy season	2	Off	86	0	86	30	0	30
03.11.09	PF	Vaccination schedules for duck	1	Off	6	43	49	6	12	18
15.01.10	PF	Care of doe during pregnancy	1	Off	42	0	42	2	0	2

**(D) Vocational training programmes for Rural Youth**

Crop / Enterprise	Identified Thrust Area	Training title*	Duration (days)	No. of Participants			Self employed after training			Number of persons employed else where
				M	F	Total	Type of units	No. of units	Number of persons employed	
Jute handicrafts	Entrepreneurship development	Preparation of jute handicrafts	7	14	161	175	SHG	2	20	
Mushroom	House hold consumption	Mushroom cultivation	2	53	07	60	SHG	2	--	
Duck	Egg production	Khaki Campbell duck rearing	3	85	0	85	SHG	2	10	

\*training title should specify the major technology /skill transferred

**(E) Sponsored Training Programmes**

S.N	Title	Thematic area	Month	Duration (days)	Client PF/R/EF	No. of courses	No. of Participants							Sponsoring Agency
							Male		Female		Total			
					Oth	SC/ST	Oth	SC/ST	Oth	SC/ST	Total			
1.	Methodology for implementation of NREGS activities	Convergence of NREGS	July 09	1	EF	1	26	4	0	0	26	4	30	NREGS
2.	Improved crop production	Crop production	Sept, 09	4	PF	4	76	24	0	0	76	24	100	ATMA
3.	Improved horticultural crop production	Horticulture Production	Sept, 09	4	PF	4	72	28	0	0	72	28	100	ATMA
4.	Dairy management	Dairy management	Sept, 09	4	PF	4	60	40	0	0	60	40	100	ATMA
5	Improved fish culture technology	Fish farming	Sept, 09	4	PF	4	60	40	0	0	60	40	100	ATMA
6.	SHG and income generation	Strengthening of SHG	Sept, 09	4	PF	4	52	48	0	0	52	48	100	ATMA
7.	Effects of Climate change on agriculture	Stress management	Feb, 10	1	PF	1	42	5	0	0	42	05	47	ATMA

8.	Fish cultivation through SHG	Fish farming	August 09	1	PF	1	14	6	0	0	14	6	20	<b>NREGS</b>
9.	Training on NREGS personnel on Horticulture	Project preparation	August 09	1	EF	1	26	4	0	0	26	4	30	<b>NREGS</b>
10.	Fish farming through SHG	Fish farming	August 09	1	EF	1	14	6	0	0	14	6	20	<b>NREGS</b>
11.	Value addition techniques in fruit and vegetables	Value addition	Nov, 2009	1	EF	1	0	0	24	6	24	6	30	<b>NREGS</b>
12.	Management of SHG	SHG support	Nov, 09	1	EF	1	2	6	13	4	15	10	25	<b>NREGS</b>
13.	Inland Aquaculture	Fish farming	Nov, 09	1	EF	1	2	0	25	8	27	8	35	<b>NREGS</b>
14.	Integrated Pest Management	Disease management	Nov, 09	1	EF	1	4	0	24	11	28	11	39	<b>NREGS</b>
Total				<b>29</b>		<b>29</b>	<b>450</b>	<b>211</b>	<b>86</b>	<b>29</b>	<b>536</b>	<b>240</b>	<b>776</b>	

### 3.4. Extension Activities (including activities of FLD programmes)

Nature of Extension Activity	No. of activities	Farmers			Extension Officials			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Field Day	4	240	-	240	-	-	-	240	-	240
Kisan Mela										
Kisan Ghosthi										
Exhibition										
Film Show	10	150	200	330	30	20	50	180	220	400
Method Demonstrations (seed drill/ jute fibre extractor/ cono weeder)	3	105	15	120	5	1	6	110	16	126
Farmers Seminar	3	20	5	25	45	5	50	65	10	75
Workshop										
Group meetings										
Lectures delivered as resource persons	5	330	80	410	13	2	15	343	82	425
Newspaper coverage	10									
Radio talks										
TV talks	3									
Popular articles	3									
Extension Literature	10	677	160	837				677	160	837
Advisory Services	372	325	47	372				325	47	372
Scientific visit to farmers field	79	633	126	759				633	126	759
Farmers visit to KVK	60	780	180	960				780	180	960
Diagnostic visits	35	21	13	34	1	-	1	22	13	35
Exposure visits	4	50	0	50				50	0	50
Ex-trainees Sammelan										
Soil health Camp										
Animal Health Camp	16	558	340	898 families				558	340	898 families
Agri mobile clinic										
Soil test campaigns	1	30	-	30				30	-	30
Farm Science Club Conveners meet	12	120	10	130	5	-	5	125	10	135
Self Help Group Conveners meetings	10	0	130	130				0	130	130
Mahila Mandals Conveners meetings	3	0	20	20				0	20	20
Celebration of important days (specify)	(2) 15 <sup>th</sup> August and 26 <sup>th</sup> April (World Vet. Day)	34	56	90				34	56	90
Any Other (Seed village sensitization programme)	1	200	10	210	10	-	10	220	10	230
Technology week	1	251	83	334	25	8	33	276	91	367
<b>Total</b>	<b>647</b>	<b>4524</b>	<b>1475</b>	<b>5979</b>	<b>134</b>	<b>36</b>	<b>170</b>	<b>4668</b>	<b>1511</b>	<b>6179</b>

### 3.5 Production and supply of Technological products

#### A. SEED MATERIALS PRODUCED AT KVK FARM

Sl. No.	Crop	Variety	Quantity (q)	Value (Rs.)	Provided to No. of Farmers
<b>CEREALS</b>	Paddy	<i>MTU 7029</i>	150	2,25,000.00	200
<b>PULSES</b>					
<b>VEGETABLES</b>					
<b>FLOWER CROPS</b>					
<b>Spices &amp; plantation crop</b>					-
<b>OTHERS (Specify)</b>	Rice bean	<i>Bidhan-1</i>	0.25	-	-

#### SUMMARY

Sl. No.	Crop	Quantity (q)	Value (Rs.)	Provided to No. of Farmers
1	CEREALS (Rice)	150	2,25,000.00	200
2				
3				
4				
5.				
6.	Rice bean	0.25		
<b>TOTAL</b>		<b>150.25</b>	<b>2,25,000.00</b>	<b>200</b>

#### B. SEED MATERIALS PRODUCED THROUGH VILLAGE SEED PRODUCTION PROGRAMME

Sl. No.	Crop	Variety	Quantity (qtl.)	Value (Rs.)	Provided to No. of Farmers
CEREALS	Paddy	<i>MTU 7029</i>	500	6,00,000	75
OILSEEDS	--	--	--	--	--
PULSES	--	--	--	--	--
VEGETABLES	--	--	--	--	--
FLOWER CROPS	--	--	--	--	--
OTHERS (Specify)	--	--	--	--	--

#### PLANTING MATERIALS

Sl. No.	Crop	Variety	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
FRUITS	--	--	--	--	--
SPICES	Turmeric	<i>BH- 4</i>	0.40	1000	5
	Brinjal	<i>Muktokeshi</i>	3000	1200	80
VEGETABLES (seedlings)	Tomato	<i>Pusa ruby, Arka vikas</i>	1600	400	20
FOREST SPECIES	--	--	--	--	--
ORNAMENTAL CROPS	--	--	--	--	--
PLANTATION CROPS	--	--	--	--	--
Others (specify)					

### SUMMARY

Sl. No.	Crop	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
1	FRUITS	--	--	--
2	VEGETABLES	4600	1600	100
3	SPICES	0.4 p rhizome	1000	5
4	FOREST SPECIES	--	--	--
5	ORNAMENTAL CROPS	--	--	--
6	PLANTATION CROPS	--	--	--
7	OTHERS	--	--	--
	<b>TOTAL</b>		<b>2600</b>	<b>105</b>

### BIO PRODUCTS

Sl. No.	Product Name	Species	Quantity		Value (Rs.)	Provided to No. of Farmers
			No	(kg)		
	--	--	--	--	--	--
<b>BIOAGENTS</b>	--	--	--	--	--	--
<b>BIOFERTILIZERS</b>	--	--	--	--	--	--
<b>BIO PESTICIDES</b>	--	--	--	--	--	--

### SUMMARY

Sl. No.	Product Name	Species	Quantity		Value (Rs.)	Provided to No. of Farmers
			No	(kg)		
1	BIOAGENTS	--	--	--	--	--
2	BIO FERTILIZERS	--	--	--	--	--
3	BIO PESTICIDE	--	--	--	--	--
	<b>TOTAL</b>	--	--	--	--	--

### LIVESTOCK

LIVESTOCK						
Sl. No.	Type	Breed	Quantity		Value (Rs.)	Provided to No. of Farmers
			(Nos	Kgs		
Cattle	--	--	--	--	--	--
SHEEP AND GOAT	Goat	Bengal goat	6	67	6700	3
POULTRY						
FISHERIES	Advanced fish fingerlings	IMC	-	328	13120	20
Others (Specify)	--	--	--	--	--	--

### SUMMARY

Sl. No.	Type	Breed	Quantity		Value (Rs.)	Provided to No. of Farmers
			Nos	Kgs		
1	CATTLE	--	--	--	--	--
2	SHEEP & GOAT	<b>Bengal goat</b>	<b>6</b>	<b>67</b>	<b>6700</b>	<b>3</b>
3	POULTRY					
4	FISHERIES	IMC	-	328	13120	20
	<b>TOTAL</b>		<b>6</b>	<b>395</b>	<b>19820</b>	<b>23</b>

### 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 : *Annexure II*

Item	Title	Authors name	Number
Research papers	-	-	10
Technical reports	-	-	-
News letters	-	-	-
Technical bulletins	1. Towards profitable agriculture- A guide line for farmers	F. H. Rahman, D. Ghorai S. Sarkar, C. Jana S. Sarkar, G. Ziauddin, S.Sethy, M. Kumar S. Garai, SS Kundu	1
	2. Goat rearing- Strengthening rural economy	C. Jana, S. Sarkar and F. H. Rahman	1
Popular articles	Cultivation of Rice bean and its impact in animal nutrition, <i>Sarsamachar</i>	C. Jana, S. Garai and F. H. Rahman	1
	Oyster Mushroom - An income generating enterprise, <i>Bardhaman Jyoti</i>	S. Garai and F.H. Rahman	1
	Availability of Mushroom spawn and training centres, <i>Bardhaman Jyoti</i>	S. Garai and F.H. Rahman	1
Extension literature	1. Seed production & Seed village	F.H. Rahman, D. Kumar & B.S. Mahapatra	
	2. Organic pesticide preparation and its application	S. Sarkar	
	3. System of rice intensification – an alternative system	D. Ghorai	
	4. Vaccination schedule for animal	C. Jana	
	5. Improvement of straw quality	C.Jana	
	6. Preventive measures against PPR	C.Jana	
	7 Induced breeding of Indian Major Carps	G. Ziauddin	
	8. Clean milk production	S. Sethy	
	9. Availability of mushroom spawn and training centres	S. Garai	
	10. Ricebean-impact in animal nutrition	C. Jana	
Others (Pl. specify)			
<b>TOTAL</b>			<b>25</b>

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

#### C) Details of Electronic Media Produced :

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

#### D) Details of personnel development

Title of training/ winter school	Venue and date	Scientists attended
National workshop on orienting Home Science activities in KVKs	S. V. B. P. U. A. & T., Meerut	S. Sethy
Short training course on integrated farming system	PDCSR, Modipuram, UP from 17.08.09 to 23.08.09	Dr. M. Kumar

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

**A. Case Studies: Two Nos.**

**1. Commercial Fish Farming: A Case of Megha Self Help Group**

Rich in proteins, vitamins and mineral salts, fish is a valuable protective food. It forms an important constituent of the diet over considerable areas. The development of fisheries is, therefore, one of the most promising means of increasing income of the farmers and also improving the nutritional security of the peoples of Bardhaman as well as West Bengal.

The net area under pisciculture in Bardhaman district was 50448.19 ha with annual production of 36029.787 tonnes, considering the greater scope for fish farming as an effective tool for the livelihood improvement of rural masses of the district, the Krishi Vigyan Kendra Burdwan has planned different activities like trainings, demonstrations and farm school sponsored by ATMA on different aspects of fish farming for proper conservation and optimum utilization of inland fisheries resources of the district. High demands of fish with potential of good economic returns and easy accessibility to improved fish technologies are also catching the attention of entrepreneurs and progressive farmers.

After getting training and other technical help from Krishi Vigyan Kendra, the trainees' formed a group namely; *Megha Self Help Group* for commercial fish farming. Mr. Mazhar-ul-Ali resident of Simnori village and group leader of *Megha Self Help Group* was identified as one of the progressive fish farmer of the region. He, along with some other fish farmers of the adopted villages, were extensively trained on various improved techniques of fish farming like composite fish culture, induced breeding, maintenance of fish pond etc. earlier they were culturing fish in traditional manner with production of 1.2 t/ha and income of Rs. 50,000/annum per ha. After getting training, his group has produced nearly 18 tons of fish seed (fry) from 15 ha water area and there productivity and income has increased upto 2.2 t/ha and Rs. 1,00,000/annum per ha, respectively. Mr. Ali have now developed so much expertise that he is now being engaged by KVK and different self help groups as resource person on payment basis.

With motivation from this self help group, some other rural youths has came forward to take fish farming as potential enterprise and formed few small group which would get handsome income by this venture.

**2. Livelihood Improvement of Farm Women through Jute Handicraft and Kantha Stitch**

Jute was an alien crop for the farmers of the village Keten , the adopted village by KVK. Villagers were first motivated towards it's cultivation through mass awareness camps, group meetings, farmers' tour to Central Research Institute for Jute and Allied Fibres and training.

Besides farmers were shown the way of utilizing the jute fibre in various possible way – this time, farm women used jute fibre for handicrafts preparation for entrepreneurship. Selected farm women and school dropout girls were thoroughly trained in a seven days vocational training programme by KVK for preparation of jute handicrafts from fibre. After completion of the training two Mahila Mandals were formed and two members of the groups namely Namita Lohar and Tanushree Majhi mastered the skills so well that they started preparing crafts like jute bags, pen stands and other ornamental items themselves. The crafts were marketed in the gramini melas, women fairs and they earned incomes of Rs. 1400 and Rs. 1800 per year, respectively, thereby ensuring grater livelihood security for their families.

In another vocational training programme, 30 farm women were trained for seven days on 'Kantha stitch' in the Jagulipara village during June 2008 by the KVK with an eye to develop entrepreneurship among womenfolk of the village. After getting training two of the farm women namely, Mrs. Jyotsna Chowdhury and Sakila Begum who are the Group leaders of *Navodaya* SHG have generated Rs. 3300 per year each, to add to his family income.

To provide marketing opportunities to the members of these self help groups the Krishi Vigyan Kendra has arranged two rural *melas* in collaboration with NABARD which has created a huge potential of these products.



**B. Success story: Sustainable Income through Integrated farming System :  
A Case of Sk. Samsuddin**

Integrated multi component farming systems, where the wastes from one operation or subsystem can be used as input for other subsystems/enterprises can reduce the risks as well as costs of production; improve soil fertility, provide balance nutrition and ensure enhanced holistic yields as well as income.

This innovative and challenging programme was carried out by the Krishi Vigyan Kendra Burdwan and other programmes including training and demonstration were conducted by the KVK to evolve resource integrated farm designs appropriate for various farming situations.

During implementation of different programmes of Krishi Vigyan Kendra in Burdwan district, Sk. Samsuddin, small farmer of Tildanga village of Galsi-I block whose annual income was Rs.25000 from only his 1.5 ha cultivable land, although he was having two ponds of 0.2 ha, who showed keen interest in adopting new agricultural practices and started to regularly visit the KVK in different programmes and farm advisory services. During advisory service, the scientist of KVK suggested him to adopt integrated farming system approach and gave him a comprehensive plan for his farm and guided him at every step. According to this plan he started fish cultivation in those ponds and utilized bund area for fruit orchards like banana, guava etc.; vegetables like chilli, cauliflower, okra, tomato, turmeric, and fodder production as intercrops.

After getting trainings and exposure visit on different aspects of agriculture, he started vermicompost unit at his farm, then he planned to establish a cattle shed for getting raw material for vermicompost unit and better utilization of his farm by products. After establishing this cattle farm he started to sell the milk, excess vermicompost after fulfilling own farm requirement. Simultaneously, he started one goatery unit

Now he is earning an amount of Rs, 49,000/- yearly from his farm and inspiring other farmers to adopt this kind of intervention.

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

**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	Goat and Cattle	Paste of leaves of <b>kalmeg</b> is made in water which is drenched orally.	Deworming for cattle and goat
2	Cattle	Leaves and twigs (20g) of <b>neem</b> are boiled in water (1 liter) till the colour of leaves turn <b>iarrhe</b> . The decoction, after cooling, is applied externally on the affected area	To control Foot and mouth disease in cattle
3	Goat and Cattle	Paste of branch of <b>lonka suti</b> (2 for adult cow and 1 for goat) in semi-solid form is fed to the affected animals for 2 days	For treatment of <b>iarrhea</b> of cattle and goat
4	Goat and Cattle	Black pepper is mixed with <b>ghee</b> and fed to the affected animals.	For treatment of fever (HS) for cattle and goat
5	Goat and Cattle	Paste of <b>harjora</b> is applied on the affected area which is fixed by using bamboo stick	Setting of fractured bone of small and large animals
6	Buffalo	Paste of <b>raw turmeric and mustard cake</b> is applied on the affected area with rice glue on back	Swelling and pain in hump of buffalo
7	Paddy/ wheat	Dried neem leaves are placed in different layers of grain during storage	To check pest attack in paddy/ wheat during storage
8.	Bottle gourd	Spreading of <b>ash</b> over leaves of bottle gourd at early stage	To check pest attack in of bottle gourd

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

- Identification of courses for farmers/farm women :  
Through multidisciplinary PRA method and Group discussion
- Rural Youth  
Through multidisciplinary PRA method and Group discussion
- In-service personnel: Training and discussion using A/V aids

### 3.11 Field activities

- i. Number of villages adopted – 3 so far
- ii. No. of farm families selected- 1227
- iii. No. of survey/PRA conducted- 9

### 3.12. Activities of Soil and Water Testing Laboratory

#### Status of establishment of Lab :

1. Year of establishment : 2007- 2008
2. List of equipments purchased with amount :

Name of the equipment	Qty	Cost (Rs.)
Flame photometer	One	29813.00
Spectrophotometer	One	46283.00
Shaker	One	20756.00
Hot air oven	One	5344.00
Hot plate	One	14000.00
Glass distillation unit	One	28000.00
Conductivity bridge	One	10000.00
pH meter	One	9360.00
Refrigerator	One	12350.00
Electronic balance	One	12375.00
Grinder	One	19500.00
Kjeldahl N semi auto analyzer	One	250474.00

#### 3. Details of samples analyzed so far :

Details	No. of Samples	No. of Farmers	No. of Villages	Amount realized
Soil Samples	234	200	4	-
Water Samples	20	20	4	-
Total	254	220	4	-

## 4. 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)
Preparation of jute handicrafts	30	85	-	1600
Introduction of cultivation of jute in new areas	40	75	-	15000/ha
Cultivation of Oyster mushroom in new areas	40	50	-	-
Preparation of kantha stitch	30	80	-	3000/month
Introduction of Khaki Campbell duck	25	80	-	300/month
Fish fry and fingerling production	25	60	8000/ha	18000/ha

#### 4.2. Cases of large scale adoption

(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
Directorate of Agriculture, Govt. of W.B.	<ul style="list-style-type: none"> <li>Input supply for Seed village program</li> <li>Supply of new variety pulse and oil seed</li> </ul>
Animal Resource Development Department, Govt. of W.B.	<ul style="list-style-type: none"> <li>Ducklings supply</li> <li>Vaccination camp against FMD, PPR, Rani khet disease</li> <li>Health camp against infertility</li> </ul>
ATMA	<ul style="list-style-type: none"> <li>Governing body and management committee member</li> <li>SREP preparation</li> <li>Collaborative programmes:- <ul style="list-style-type: none"> <li>Farm School – 2 nos.</li> <li>Trainings – 05 nos.</li> <li>Demonstration – 10 nos.</li> <li>Trials – 05 nos.</li> </ul> </li> </ul>
RKVY	<ul style="list-style-type: none"> <li>Governing body and management committee member</li> <li>Adhoc projects on Green house etc.</li> </ul>
NREGS	<p>Convergence programmes were</p> <ul style="list-style-type: none"> <li>Training of NREGA technical staff on Vermi-compost, Rainwater harvesting, horticulture, Composite fish culture, Integrated farming</li> <li>Field demonstrations by KVKs on NREGA works on IMC culture, Duck rearing, integrated farming (Fish-livestock- horticulture)</li> <li>Skill development of NREGA workers under SGSY through Preparation of jute handicrafts, kantha-stitch.</li> </ul>
National Seed Corporation, State Seed Corporation,	Foundation and certified paddy and potato seed etc.
Department of Fisheries, Govt. of W.B	<ul style="list-style-type: none"> <li>Fish fingerlings supply</li> <li>Training on fish culture, management</li> <li>Awareness camp on subsidized loan scheme, fisherman identity card</li> </ul>
Bidhan Chandra Krishi Viswavidyalaya, Mohanpur	<ul style="list-style-type: none"> <li>Time to time planning execution</li> <li>Planting material collection</li> <li>Bio fertilizers collection</li> <li>Resource persons</li> </ul>
Vishwabharati University	<ul style="list-style-type: none"> <li>Trainings / demonstrations</li> </ul>
West Bengal University of Animal and Fishery Science	Feed and milk sample analysis
Regional Station for Forage Production Demonstration, Kalyani	Training and fodder seed collection
CIFA, Kalyani	Exposure visit
State Agricultural Management Extension Training Institute, Narendrapur	Training on SREP preparation for ATMA programme
NABARD, CBI, SBI & RRBs ,Burdwan Region	Farmers; club, Credit facility for farmers
NGOs like Men at Work, Ujjiban, SSSNS, Meghdhoot	Farmers' tour , Training etc

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

**5.2 List of 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.)
Adhoc project on Green house (RKVY)	June, 2009	RKVY, Burdwan	8,85,000.00
ATMA Farm School (2 nos.)	June - Sept, 2009	ATMA, Burdwan	1,00,000.00
ATMA Training and demonstration	Mar, 2009	ATMA, Burdwan	1,50,000.00
Training-of NREGS workers	July- Sept, 2009	NREGS, Burdwan	80,000.00
Innovative plan on agriculture and allied sector for Burdwan district	Dec, 2009	ATMA, Burdwan	4,80,000.00
Farmers' Scientist Interaction	January 2010	ATMA, Burdwan	40,000.00
Dev. of Electronic Media	Dec. 2009	ATMA, Burdwan	40,000.00

**5.3 Details of linkage with ATMA**

a) Is ATMA implemented in your district Yes (2007)

S. No.	Programme	Nature of linkage	Remarks
1	Governing body Meeting	Decision making on SREP and annual work plan as GB member	-
2	Management committee meeting	Approval for SREP, PRA and Accounts etc. as MC member	-
3	Master training on SREP preparation	Training attended at SAMETI	-
4	PRA	Collaborative programmes in SREP preparation	-
5.	Farm School (2 nos),.	Sponsorship	-
6.	Training, demonstration etc	Sponsorship	-
7.	Implementation of Innovative plan for Burwdan	Sponsorship	
8.	Farmers' Scientist Interaction	Sponsorship	

**5.4 Give details of programmes implemented under National Horticultural Mission**

S. No.	Programme	Nature of linkage	Constraints if any
1.	-	-	Not launched in Burdwan so far

**5.5 Nature of linkage with National Fisheries Development Board**

S. No.	Programme	Nature of linkage	Remarks
1.	Training and Demonstration on Composite Fish culture	Sponsorship	Rs. 82,250/- received from NFDB, Hyderabad for conducting programme

**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	

**6.2 Performance of instructional farm (Crops) including seed production**

Name Of the crop	Date of sowing/ transplanting	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Cost of inputs	Gross income	
Cereals (paddy)	15.08.2009	12.12.09	4.0	MTU 7029	Certified seed + Straw	150 q + 160 q	100,000	225000 + 10000	
Turmeric	01.03.09	25.02.10	200 sq.m	BH-4	TL seed	0.4 q	-	1000	
Floriculture	-	-	-	-	-	-	-	-	-

Vegetables (Brinjal)	10.09.09	03.10.09	-	Muktokeshi	seedling	3000 nos.		1200	
Vegetables (Tomato)	10.09.09	03.10.09	-	Pusa ruby, Arka vikas	seedling	1600 nos.		400	
Vegetables (Brinjal)	10.09.09	25.11.09 – 19.01.10	-	Muktokeshi	Vegetable	210 kg		1300	
Vegetables (Tomato)	10.09.09	25.11.09 – 19.01.10	-	Pusa ruby, Arka vikas	Vegetable	200 kg		1300	

### 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	

### 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	
	Fish fingerling	IMC	Fry and Fingerling	328 kg	6000	13120	-
	Goat	Bengal goat	Live goat	67 kg	6800	6700	Selling is in progress

### 6.5 Utilization of hostel facilities

Accommodation available (No. of beds) – 20

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
April 09	--	--	--
May 09	22	110 (5)	--
June 09	--	--	--
July 09	--	--	--
August 09	7	14 (2)	--
September 09	38	266 (7)	--
October 09	--	--	--
November 09	22	44 (2)	--
December 09	15	45 (3)	-
January 10	49	98 (2)	-
February 10	-	-	-
March 2010	5	100 (20)	-

## 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 Railway Station Branch, Barrackpore	Barrackpore	10391779335
With KVK	State Bank of India Mankar	Mankar	30466431682

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

Item	Released by ICAR		Expenditure		Unspent balance as on 1 <sup>st</sup> April 2009
	Kharif 2009	Rabi 2009-10	Kharif 2009	Rabi 2009-10	
Inputs	-	35000.00	-	28000.00	Rs. 7000.00
Extension activities	-	5000.00	-	5000.00	
TA/DA/POL etc.	-	7500.00	-	7500.00	
TOTAL	-	47500.00	-	40500.00	

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

Item	Released by ICAR		Expenditure		Unspent balance as on 1 <sup>st</sup> April 2009
	Kharif 2009	Rabi 2009-10	Kharif 2009	Rabi 2009-10	
Inputs	-	7000.00	-	7000.00	Nil
Extension activities	-	1000.00	-	1000.00	
TA/DA/POL etc.	-	1500.00	-	1500.00	
TOTAL	-	9500.00	-	9500.00	

### 7.4 Utilization of funds under FLD on Cotton (Rs. In Lakhs)

Item	Released by ICAR		Expenditure		Unspent balance as on 1 <sup>st</sup> April 2009
	Kharif 2009	Rabi 2009-10	Kharif 2009	Rabi 2009-10	
Inputs					
Extension activities					
TA/DA/POL etc.					
TOTAL					

### 7.5 Utilization of KVK funds during the year 2009-10 till date (April 09 – March,2010)

#### 7.5 A. Utilization of KVK funds during the year 2009-10

S. No.	Particulars	Sanctioned (Rs. In Lakh)	Released (Released in Lakh)	Expenditure (Rs. In Lakh)
<b>A. Recurring Contingencies</b>				
1	<b>Pay &amp; Allowances</b>	63.00	63.00	60.10
2	<b>Traveling allowances</b>	1.20	1.20	1.19
3	<b>Contingencies ( A+B+C+D+E+F+G+H+I+J)</b>	6.50		
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	2.25	2.25	2.25
B	POL, repair of vehicles, tractor and equipments			
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)			
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	2.90	2.90	2.56
E	Training of extension functionaries			
F	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	0.60	0.60	0.38
G	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	0.75	0.75	0.44
H	Maintenance of buildings			
I	Establishment of Soil, Plant & Water Testing Laboratory			
J	Library			
<b>TOTAL (A)</b>		<b>70.70</b>	<b>70.70</b>	<b>66.92</b>
<b>B. Non-Recurring Contingencies</b>				
1	<b>Works</b>	4.75	4.75	--
2	<b>Equipments including SWTL &amp; Furniture</b>	2.40	2.40	1.89
3	<b>Vehicle</b> (Four wheeler/Two wheeler, please specify)	--	--	--
4	<b>Library</b> (Purchase of assets like books & journals)	0.07	0.07	0.07
<b>TOTAL (B)</b>		<b>7.22</b>	<b>7.22</b>	<b>1.96</b>
<b>GRAND TOTAL (A+B)</b>		<b>77.92</b>	<b>77.92</b>	<b>68.88</b>

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

Year	Opening balance as on 1 <sup>st</sup> April (Rs)	Income during the year (Rs)	Expenditure during the year (Rs)	Net balance in hand as on 1 <sup>st</sup> April of each year (Rs)
April 2004 to March 2005	-	-	-	-
April 2005 to March 2006	100,000	-	-	-
April 2006 to March 2007	100,000	18974/-	19309/-	99665/-
April 2007 to March 2008	99,665	83106/-	63681/-	1,19,090/-
April 2008 to March, 2009	1,19,090	29400/-	1,39,468/-	9022/-
April 2009 to March, 2010	9022/-	2,57,436/-	2,43,166/-	23,292 /-

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

**8.1 Constraints - Nil**

- (a) Administrative- Nil
- (b) Financial- Nil
- (c) Technical- Nil

## SUMMARY TABLES

### 1 Details of Technology assessment and refinement

**Table 1A:** Abstract on the number of technologies assessed in respect of crops

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Varietal Evaluation				1	1					2
Seed / Plant production										
Weed Management										
Integrated Crop Management										
Integrated Nutrient Management		1								1
Integrated Farming System					1					1
Mushroom cultivation										
Drudgery reduction	1									1
Farm machineries										
Value addition										
Integrated Pest Management										
Integrated Disease Management										
Resource conservation technology	1									1
Small Scale income generating enterprises										
<b>TOTAL</b>	<b>2</b>	<b>1</b>		<b>1</b>	<b>2</b>					<b>6</b>

**Table 1 B:** Abstract on the number of technologies refined in respect of crops

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Varietal Evaluation										
Seed / Plant production										
Weed Management										
Integrated Crop Management										
Integrated Nutrient Management										



Integrated Farming System										
Mushroom cultivation										
Drudgery reduction										
Farm machineries										
Post Harvest Technology										
Integrated Pest Management										
Integrated Disease Management										
Resource conservation technology										
Small Scale income generating enterprises										
<b>TOTAL</b>										

**Table 1 C: Abstract on the number of technologies assessed in respect of livestock enterprises**

Thematic areas	Cattle	Poultry	Piggery	Rabbitary	Fisheries	TOTAL
Evaluation of Breeds						
Nutrition Management	2				1	3
Disease of Management						
Value Addition						
Production and Management					1	1
Feed and Fodder						
Small Scale income generating enterprises						
<b>TOTAL</b>	2				2	4

**Table 1 D: Abstract on the number of technologies refined in respect of livestock enterprises**

Thematic areas	Cattle	Poultry	Piggery	Rabbitary	Fisheries	TOTAL
Evaluation of Breeds						
Nutrition Management						
Disease of Management						
Value Addition						
Production and Management						
Feed and Fodder						
Small Scale income generating enterprises						
<b>TOTAL</b>						

**Table - 1 E Details of technology refined**

Crop / Enterprise	Technology Assessed	No. replications	Technology refined	Result justifying the refinement

## 2. Details of Frontline Demonstrations

**Table - 2 A Front Line Demonstrations on Oilseed Crops**

Crop	Technology Demonstrated	No. of Farmers	Area (ha.)	Demo. Yield	Local Check	Increase in yield (%)	Data on parameter in relation to technology demonstrated	Average Net Return (Profit) (Rs./ha)	Benefit-Cost Ratio
							Demo   Local		
Mustard	Full Package	6	1	11.8	9.5	24	Given in Page No. 35	8372	Demo : 1.48, L. Chk.: 1.24
Mustard	Full Package	16		12.1	10.1	20	Given in Page No 35	9320	Demo : 1.54, L. Chk.: 1.32
Mustard	Full Package	16		13.1	12.1	8	Given in Page No.35	11670	Demo : 1.68, L. Chk.: 1.58
sesame	Full Package	30		--	--	--		--	--

**Table - 2 B Front Line Demonstrations on Pulse Crops**

Crop	Technology Demonstrated	No. of Farmers	Area (ha.)	Demo. Yield	Local Check	Increase in yield (%)	Data on parameter in relation to technology demonstrated	Average Net Return (Profit) (Rs./ha)	Benefit-Cost Ratio Cost)
							Demo   Local		
Lentil	Full Package	7	1	11.2	9.5	18	Given in Page No. 35	9820	Demo : 1.66, L. Chk.: 1.54
Lentil	Full Package	8	1	10.9	9.3	11	Given in Page No. 35	9010	Demo : 1.60, L. Chk.: 1.51

**Table - 2 C Front Line Demonstrations on Other Crops**

Crop	Technology Demonstrated	No. of Farmers	Area (ha.)	Demo. Yield (q/ha)	Local Check	Increase in yield (%)	Data on parameter in relation to technology demonstrated	Average Net Return (Profit) (Rs./ha)	Benefit-Cost Ratio
							Demo   Local		
Jute	Improved package	10	2	25.2	22.1	14	Given in Page No.35	9615	Demo: 1.47, L. Check: 1.16
Potato	Component demonstration (late blight disease management)	12	1	320	300	6.67% over local check	Given in Page No.35	72800	Demo: 2.31, L. Check: 2.07
Banana	Package	7	08	782	414	88.9	Given in Page No 36	18400	Demo: 3.0, L. Check: 1.86

Rice bean (as fodder)	Improved package	5	0.2	232	187.4	23.7 % over local check	Given in Page No. 36	6100	Demo: 2.1, L Check: 1.72
Chilli	Component demonstration	9	0.5	96.0	76.5	25.5	Given in Page No. 36	271875	Demo : 3.42, L. Check.: 2.21

*Table - 2 D Front Line Demonstrations on Other enterprises*

Enterprise	Variety/ breed /Species /others	No. of farmers	No. of Units	Size of Unit	Parameter indicators	Data on parameter in relation to technology demonstrated *		% change in the parameter	Remarks
						Demon.	Local check		
Cattle	Deshi cow	10	10	1	Milk yield	344.5	260.85	32.06	Lactation pd in was increased over local check (Unit kg/lac)
Goat (PPR disease management)	Bengal goat	50	1	400 goats	Mortality	400	348	13.00	Mortality due to PPR was reduced upto 13% in vaccinated village. (unit-survive/village)
Fish	Jayanti rohu	05	--		Fish yield	9.77	9.20	6	Unit q/ha
Fish	<i>Pangus</i>	07	--		Fish yield	4.0	3.1	29	Unit q/ha
Fish	Tilapia	10	--		Fish yield	5.95	5.0	19	Unit q/ha

### 3. Details of training programmes conducted:

**Table - 3 A Area-wise distribution of On + Off Campus Training Courses for Farmers and Farm Women (regular + sponsored)**

Thematic Area	No. of Courses	No. of Participants									Grand Total
		Others			SC			ST			
		M	F	T	M	F	T	M	F	T	
(A) Farmers & Farm Women											
I Crop Production											
Weed Management	1	17	0	17	15	0	15	0	0	0	32
Resource Conservation Technologies											
Cropping Systems											
Crop Diversification											
Integrated Farming											
Water management	2	36	0	36	28	0	28	0	0	0	64
Seed production											
Nursery management	6	134	0	134	26	0	26	0	0	0	160
Integrated Crop Management											
Fodder production											
Production of organic inputs											
Others, if any	2	51	0	51	19	0	19	0	0	0	70
II Horticulture											
a) Vegetable Crops											
Production of low volume & high value crops	1	15	0	15	16	0	16	1	0	1	32
Off-season vegetables											
Nursery raising	1	15	0	15	6	1	7	0	0	0	22
Exotic vegetables like Broccoli											
Export potential vegetables											
Grading and standardization											
Protective cultivation (Green Houses, Shade Net etc.)	2	38	0	38	18	0	18	1	0	1	57
Others, if any	4	72	0	72	28	0	28	0	0	0	100
b) Fruits											
Training and Pruning											
Layout and Management of Orchards											
Cultivation of Fruit	1	30	0	30	1	0	1	0	0	0	31
Management of young plants/orchards											
Rejuvenation of old orchards											
Export potential fruits											
Micro irrigation systems of orchards											
Plant propagation techniques											
Others, if any											
c) Ornamental Plants											
Nursery Management											
Management of potted plants											
Export potential of ornamental plants											
Propagation techniques of Ornamental Plants											
Others, if any											
d) Plantation crops											
Production and Management technology											
Processing and value addition											
Others, if any											
e) Tuber crops											
Production and Management technology	1	13	4	17	8	4	12	1	0	1	30

Processing and value addition												
Others, if any												
<b>f) Spices</b>												
Production and Management technology												
Processing and value addition												
Others, if any												
<b>g) Medicinal and Aromatic Plants</b>												
Nursery management												
Production and management technology												
Post harvest technology and value addition												
Others, if any												
<b>III Soil Health and Fertility Management</b>												
Soil fertility management	1	11	0	11	0	0	0	0	0	0	0	11
Soil and Water Conservation												
Integrated Nutrient Management												
Production and use of organic inputs												
Management of Problematic soils												
Micro nutrient deficiency in crops												
Nutrient Use Efficiency												
Soil and Water Testing												
Others, if any												
<b>IV Livestock Production and Management</b>												
Dairy Management	7	158	0	158	44	0	44	0	0	0	0	202
Poultry Management	2	0	50	50	5	12	17	1	2	3		70
Piggery Management	1	0	0	0	0	0	0	15	0	15		15
Rabbit Management												
Disease Management	2	56	0	56	29	0	29	1	0	1		86
Feed management	1	29	0	29	1	0	1	0	0	0		30
Production of quality animal products	1	17	2	19	5	6	11	0	0	0		30
Others, if any												
<b>V Home Science/Women empowerment</b>												
Household food security by kitchen gardening and nutrition gardening												
Design and development of low/minimum cost diet												
Designing and development for high nutrient efficiency diet												
Minimization of nutrient loss in processing	1	0	27	27	0	3	3	0	0	0		30
Gender mainstreaming through SHGs	1	0	15	15	0	11	11	0	1	1		27
Storage loss minimization techniques	1	0	7	7	0	13	13	0	2	2		22
Value addition	1	0	12	12	0	11	11	0	0	0		23
Income generation activities for empowerment of rural Women												
Location specific drudgery reduction technologies	1	0	1	1	0	14	14	0	0	0		15
Rural Crafts												
Women and child care	1	0	11	11	0	14	14	0	0	0		25
Others, if any												
<b>VI Agril. Engineering</b>												
Installation and maintenance of micro irrigation systems												
Use of Plastics in farming practices												
Production of small tools and implements												
Repair and maintenance of farm machinery and implements												

Small scale processing and value addition											
Post Harvest Technology											
Others, if any											
<b>VII Plant Protection</b>											
Integrated Pest Management	2	49	0	49	10	0	10	1	0	1	60
Integrated Disease Management	2	56	0	56	14	0	14	0	0	0	70
Bio-control of pests and diseases	2	54	0	54	6	0	6	0	0	0	60
Production of bio control agents and bio pesticides											
Others, if any	2	37	3	40	14	4	18	2	0	2	60
<b>VIII Fisheries</b>											
Integrated fish farming	2	40	0	40	10	0	10	0	0	0	50
Carp breeding and hatchery mgt.	1	11	0	11	18	0	18	1	0	1	30
Carp fry and fingerling rearing	1	25	0	25	1	0	1	4	0	4	30
Composite fish culture	6	122	0	122	34	0	34	0	0	0	156
Hatchery management and culture of freshwater prawn	1	27	0	27	3	0	3	0	0	0	30
Breeding and culture of ornamental fishes											
Portable plastic carp hatchery											
Pen culture of fish and prawn											
Shrimp farming											
Edible oyster farming											
Pearl culture											
Fish processing and value addition											
Others, if any	2	51	0	51	18	0	18	1	0	1	70
<b>IX Production of Inputs at site</b>											
Seed Production	1	18	0	18	5	6	11	0	0	0	29
Planting material production											
Bio-agents production											
Bio-pesticides production											
Bio-fertilizer production											
Vermi-compost production											
Organic manures production											
Production of fry and fingerlings											
Production of Bee-colonies and wax sheets											
Small tools and implements											
Production of livestock feed and fodder	5	40	0	40	30	0	30	0	0	0	70
Production of Fish feed											
Others, if any											
<b>X Capacity Building and Group Dynamics</b>											
Leadership development											
Group dynamics	2	29	9	38	13	7	20	0	1	1	59
Formation and Management of SHGs	4	52	0	52	48	0	48	0	0	0	100
Mobilization of social capital	1	29	0	29	1	0	1	0	0	0	30
Entrepreneurial development of farmers/youths											
WTO and IPR issues	2	32	0	32	15	0	15	0	0	0	47
Others, if any	1	33	0	33	23	0	23	0	0	0	56
<b>XI Agro-forestry</b>											
Production technologies											
Nursery management											
Integrated Farming Systems											
<b>XII Others (Pl. Specify)</b>											
<b>TOTAL</b>	<b>79</b>	<b>1397</b>	<b>141</b>	<b>1538</b>	<b>512</b>	<b>106</b>	<b>618</b>	<b>29</b>	<b>6</b>	<b>35</b>	<b>2191</b>

**Table - 3 B Area-wise distribution of On + Off Campus Training Courses for Rural Youth (regular + sponsored + vocational)**

Thematic Area	No. of Courses	No. of Participants									Grand Total
		Others			SC			ST			
		M	F	T	M	F	T	M	F	T	
Mushroom Production	2	40	6	46	13	1	14	0	0	0	60
Bee-keeping											
Integrated farming											
Seed production	2	53	0	53	9	0	9	1	0	1	63
Production of organic inputs											
Integrated Farming											
Planting material production											
Vermi-culture	1	16	0	16	5	0	5	0	0	0	21
Sericulture											
Protected cultivation of vegetable crops											
Commercial fruit production											
Repair and maintenance of farm machinery and implements											
Nursery Management of Horticulture crops											
Training and pruning of orchards											
Value addition											
Production of quality animal products											
Dairying											
Sheep and goat rearing											
Quail farming											
Piggery											
Rabbit farming											
Poultry production	1	59	0	59	26	0	26	0	0	0	85
Ornamental fisheries	1	14	0	14	7	0	7	0	0	0	21
Para vets											
Para extension workers											
Composite fish culture											
Freshwater prawn culture											
Shrimp farming											
Pearl culture											
Cold water fisheries											
Fish harvest and processing technology											
Fry and fingerling rearing											
Small scale processing											
Post Harvest Technology											
Tailoring and Stitching											
Rural Crafts	7	0	105	105	14	49	63	0	7	7	175
Others, if any											
TOTAL	14	182	111	293	74	50	124	1	7	8	425

**Table - 3 C Area-wise distribution of On + Off Campus Training Courses for In-service Extension Personnel (regular + sponsored )**

Thematic Area	No. of Courses	No. of Participants									
		Others			SC			ST			Grand Total
		M	F	T	M	F	T	M	F	T	
(C) Extension Personnel											
Productivity enhancement in field crops	1	18	0	18	2	0	2	0	0	0	20
Integrated Pest Management											
Integrated Nutrient management											
Rejuvenation of old orchards	1	4	24	28	0	10	10	0	1	1	39
Protected cultivation technology	1	21	5	26	4	0	4	0	0	0	30
Formation and Management of SHGs	1	2	13	15	5	2	7	1	2	3	25
Group Dynamics and farmers organization											
Information networking among farmers	1	20	0	20	2	0	2	0	0	0	22
Capacity building for ICT application	1	13	1	14	0	2	2	0	0	0	16
Care and maintenance of farm machinery and implements											
WTO and IPR issues											
Management in farm animals	1	18	0	18	0	0	0	0	0	0	18
Livestock feed and fodder production											
Household food security	1	0	24	24	0	5	5	0	1	1	30
Women and Child care	1	2	22	24	0	10	10	0	1	1	35
Low cost and nutrient efficient diet designing											
Production and use of organic inputs	1	1	11	12	3	13	16	1	1	2	30
Gender mainstreaming through SHGs											
Any other (Pl. Specify)	4	54	25	79	5	7	12	0	1	1	92
TOTAL	14	153	125	278	21	49	70	2	7	9	357

**Table - 4 Numbers of Extension Activities and Beneficiaries**

Nature of Extension Activity	No. of activities	Farmers			Extension Officials			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Field Day	4	240	-	240	-	-	-	240	-	240
Kisan Mela										
Kisan Ghosthi										
Exhibition										
Film Show	10	150	200	330	30	20	50	180	220	400
Method Demonstrations (seed drill/ jute fibre extractor/ cono weeder)	3	105	15	120	5	1	6	110	16	126
Farmers Seminar	3	20	5	25	45	5	50	65	10	75
Workshop										
Group meetings										
Lectures delivered as resource persons	5	330	80	410	13	2	15	343	82	425
Newspaper coverage	10									
Radio talks										
TV talks	3									
Popular articles	3									
Extension Literature	10	677	160	837				677	160	837
Advisory Services	372	325	47	372				325	47	372
Scientific visit to farmers field	79	633	126	759				633	126	759
Farmers visit to KVK	60	780	180	960				780	180	960



Diagnostic visits	35	21	13	34	1	-	1	22	13	35
Exposure visits	4	50	0	50				50	0	50
Ex-trainees Sammelan										
Soil health Camp										
Animal Health Camp	16	558	340	898 families				558	340	898 families
Agri mobile clinic										
Soil test campaigns	1	30	-	30				30	-	30
Farm Science Club Conveners meet	12	120	10	130	5	-	5	125	10	135
Self Help Group Conveners meetings	10	0	130	130				0	130	130
Mahila Mandals Conveners meetings	3	0	20	20				0	20	20
Celebration of important days (specify)	(2) 15 <sup>th</sup> August and 26 <sup>th</sup> April (World Vet. Day)	34	56	90				34	56	90
Any Other (Seed village sensitization programme)	1	200	10	210	10	-	10	220	10	230
<b>Technology week</b>	1	251	83	334	25	8	33	276	91	367
<b>Total</b>	<b>647</b>	<b>4524</b>	<b>1475</b>	<b>5979</b>	<b>134</b>	<b>36</b>	<b>170</b>	<b>4668</b>	<b>1511</b>	<b>6179</b>

*Table - 5 A Productions of Seeds*

Sl. No.	Crop	Variety	Quantity (q)	Value (Rs.)	Provided to No. of Farmers
<b>CEREALS</b>	Paddy	MTU 7029	150	225000	200
<b>PULSES</b>					
<b>VEGETABLES</b>					
<b>FLOWER CROPS</b>					
<b>Spices &amp; plantation crop</b>					
OTHERS (Specify)	Rice bean	Bidhan-1	0.25	-	-

### SUMMARY

Sl. No.	Crop	Quantity (q)	Value (Rs.)	Provided to No. of Farmers
CEREALS	Rice	150	225000	200
VEGETABLES				
FLOWER CROPS				
Spice & plantation				
OTHERS (Specify)	Rice bean	0.25		

*Table - 5 B Production of planting/seedling materials of Fruits/Vegetables/Forest Species*

Sl. No.	Crop	Variety	Quantity (Nos.)	Value (in Rs.)	Provided to No. of Farmers
<b>I. FRUITS</b>					
Total					
<b>II. VEGETABLES</b>					
1	Brinjal seedling	Muktokeshi	3000 nos.	1200	80
2	Tomato	Pusa ruby, Arka vikas	1600 nos.	400	20
Total				1600	100
<b>III. SPICES</b>					
Total	Turmeric	BH 4	0.4 q rhizome	1000	5
<b>IV. FOREST SPECIES</b>					
Total					
<b>V. ORNAMENTAL CROPS</b>					
Total				-	-
<b>VI. PLANTATION CROPS</b>					
Total					
<b>VII. OTHERS</b>					

### SUMMARY

Sl. No.	Crop	Quantity (Nos.)	Value (in Rs.)	Provided to No. of Farmers
I	FRUITS			
II	Brinjal & tomato seedling	4600 nos.	1600	100
IV	Turmeric (Rhizome)	0.40	1000	5
V	ORNAMENTAL CROPS		-	-
TOTAL			2600	105

*Table -5 C Production of bio products*

Sl. No.	Product Name	Species	Quantity		Value (Rs.)	Provided to No. of Farmers
			No	(kg)		
	--	--	--	--	--	--
I. BIOAGENTS	--	--	--	--	--	--

<b>SUMMARY</b>
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Sl. No.	Product Name	Species	Quantity		Value (Rs.)	Provided to No. of Farmers
			No	(kg)		
I	BIOAGENTS	--	--	--	--	--
II	BIO FERTILIZERS	--	--	--	--	--

**Table 5**      *Livestock materials*

Sl. No.	Type	Breed	Quantity		Value (Rs.)	Provided to No. of Farmers
			(Nos)	Kgs		
II. SHEEP & GOAT	Goat	Bengal goat	6	67	6700	3
III. POULTRY						
IV. FISHERIES	IMC fry fingerling	Rohu, catla mrigal	-	328	13120	20

<b>SUMMARY</b>
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Sl. No.	Type	Breed	Quantity		Value (Rs.)	Provided to No. of Farmers
			Nos	Kgs		
I	CATTLE					
II	SHEEP & GOAT	Bengal Goat	6	67	6700	3
III	POULTRY					
IV	FISHERIES	Rohu, catla mrigal		328	13120	20
V	OTHERS					
	TOTAL			395	19820	23

Sd/

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