

# ANNUAL REPORT 2010 – 11

## 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
BudBud, Burdwan-713 403. West Bengal	Office - 0343 2513651	Fax - 0343 2513651	kvkburdwan@gmail.com

### 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
	Office	Fax	
Barrackpore, Kolkata - 700 120. West Bengal	033-25356124	033- 25350415	crijaf-wb@nic.in

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

Name	Telephone / Contact		
	Residence	Mobile	Email
DR. F. H. RAHMAN	09432955117	09433586026	fhrhmancal@gmail.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>th</sup> March, 2011)

S N	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay Scale with present basic	Date of joining	Permanent/temporary	Category (SC/ST/BC/Others)
1	Programme Coordinator	Dr. F. H. Rahman	Prog. Coordinator	Soil Science	Rs. 37400- 67000 Grade Pay - 9000 Basic - Rs. 46400	10.04.2007	Permanent	GEN
2	Subject Matter Specialist	Dr. Dipankar Ghorai	SMS/ T-6	Agriculture	Rs. 15600-39100 Grade Pay - 5400 Basic - Rs. 23640	26.04.2006	Permanent	GEN
3	Subject Matter Specialist	Mr. Golam Ziauddin	SMS/ T-6	Fisheries	Rs. 15600-39100 Grade Pay - 5400 Basic - Rs. 23640	28.04.2006	Permanent	GEN
4	Subject Matter Specialist	Dr. Chandrakanta Jana	SMS/ T-6	AH&VS	Rs. 15600-39100 Grade Pay - 5400 Basic - Rs. 22950	29.04.2006	Permanent	GEN
5	Subject Matter Specialist	Dr. Subrata Sarkar	SMS/ T-6	Horticulture	Rs. 15600-39100 Grade Pay - 5400 Basic - Rs. 23640	04.05.2006	Permanent	GEN
6	Computer Programmer	Sk. Golam Rasul	Prog. Assistant (Computer) / T-4	Computer	Rs. 9300-34800 Grade Pay - 4200 B. Pay - 15210	10.04.2006	Permanent	GEN
7	Programme Assistant	Mr. Sandipan Garai	Prog. Assistant / T-4	Agriculture	Rs. 9300-34800 Grade Pay - 4200 B. Pay - 15210	18.04.2006	Permanent	OBC
8	Farm Manager	Mr. Soumya Sarathi Kundu	Prog. Assistant (Farm Manager)/T-4	Agriculture	Rs. 9300-34800 Grade Pay - 4200 B. Pay - 14760	06.01.2007	Permanent	GEN
9	Accountant / Superintendent	Mr. Baidyanath Mukhopadhyay	Assistant	Admin.	Rs. 9300-34800 Grade Pay - 4200 B. Pay - 15210	15.03.2006	Permanent	GEN
10	Stenographer	Mr. Sushanta Dey	Stenographer Grade- III	Admin.	Rs.5200-20200 G. P. - 2400, B. Pay - 11170	20.03.2006	Permanent	GEN
11	Driver	Mr. Joydeep Pal	Driver - cum - mechanic / T-1	Tech.	Rs.5200-20200 G. P. - 2000, B. Pay - 8820	06.07.2006	Permanent	GEN

12	Driver	Mr. Santi Nath Pal	Driver- cum - mechanic / T-1	Tech.	Rs.5200-20200 G. P. - 2000, B. Pay - 8820	10.07.2006	Permanent	OBC
13	Supporting staff	Mr. Shyamal Bhanja	Supporting staff	Peon	Rs. 5200-20200 G. P. - 1800, B. Pay - 7890	25.02.2006	Permanent	GEN
14	Supporting staff	Mr. Anup Das	Supporting staff	Cook	Rs. 9300-34800 Grade Pay - 4200 B. Pay - 15210	01.03.2006	Permanent	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	Not yet started	Completed up to plinth level	Completed up to lintel level	Completed up to roof level	Totally completed	Plinth area (Sq.m)	Source of funding
1.	Administrative Building					Completed	552	ICAR
2.	Farmers Hostel					Completed	306	ICAR
3.	Staff Quarters (6)					Completed but yet to take over	400	ICAR
4.	Demonstration Units (2)							
	Portable carp hatchery					Under construction		ICAR
	Integrated farming system					Under construction		ICAR
	Greenhouse					Completed		RKVY
	Drip irrigation in fruit orchard					Completed		ATMA
	Feed grinding machine					Completed		ATMA
	Vermicompost unit					Completed		ATMA
5	Fencing					Completed	925 m	ICAR
6	Rain Water harvesting structure					Completed	6000 sq.m.	MGNR EGS
7	Threshing floor					Yet to start		
8	Farm godown					Yet to start		

9.	Others					-	
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**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	-	8381	84831 since its possession from PSB, Shantiniketan on 08.05.2006	In running condition
Tractor	01.04.1999	-	165 hrs	608 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
LCD TV	2010-11	13110	In working condition
Digital Camera	2010-11	14790	In working condition

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

S.N	Date	Number of Participants	Salient Recommendations	Action taken
8 <sup>th</sup> SAC Meeting	08.03. 2011	40	<ul style="list-style-type: none"> <li>JRO 204 variety of jute should be tried for demonstration.</li> <li>Emphasis should be given in the area of integrated farming system.</li> <li>Micronutrient like Boron and Molybdenum should be used more in crop like potato</li> <li>Area coverage under SRI should be more</li> <li>Vegetable seedlings to be produced in larger quantity for distribution among farmers.</li> <li>Farmers' feedback should be taken prior to chalking out strategies.</li> <li>Foundation seed should be produced by KVK</li> </ul>	To be Followed

*Proceedings of the Eighth proceeding of Scientific Advisory Committee of Krishi Vigyan Kendra, Burdwan, held on 9<sup>th</sup> March, 2011- See Annexure - I*

## 2. DETAILS OF DISTRICT (2010-11)

### 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)	<p>I Chhotonagpur Plateau and Garhjat hills, hot dry sub humid ecosystem with red &amp; laterite soils and LGP 150-180 days covering the blocks of Durgapur &amp; Asansol. Main crops are, paddy, mustard, vegetables, pulse etc. The area covers 186154 ha</p> <p>II. Moist and sub humid ecosystem with alluvial soil with LGP of 180-200 days covering the blocks of Burdwan (N), Burdwan (S), Kalna &amp; Katwa, Main crops paddy, mustard, sesame, potato, jute, vegetables etc. The area covers 517532 ha</p>

(Source: NBSS&LUP (ICAR),, 2008, 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., 2008)

### 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	14.6	44.6	30.47
02	Aman paddy	417.2	1365.5	32.73
03	Boro paddy	207.2	558.4	26.95
04	Wheat	2.2	4.8	21.99
05	Pulses	1.3	1.1	8.80
06	Oilseeds	42.0	42.1	10.01
07	Jute & other fibres **	15.5	282.8	18.7
08	Potato	43.4	921.2	212.49
09	Chilli (dry)	2.6	3.7	14.13
10	Ginger	0.1	0.3	18.87

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

(Source: District statistical handbook, 2008, 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, 2008-09)

### 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			

<i>Indigenous</i>	99931	420 MT (Meat)	
Rabbits			
<b>Poultry</b>			
Hens			
<i>Desi</i>	4624236	2672.40 lakh egg	85 no. eggs/year
<i>Improved</i>			
<b>Ducks</b>	1778834		
Turkey and others	27981		
<b>Fish</b>			
<i>Marine</i>			
<i>Inland</i>	50448.19	36029.787	3250
Prawn			

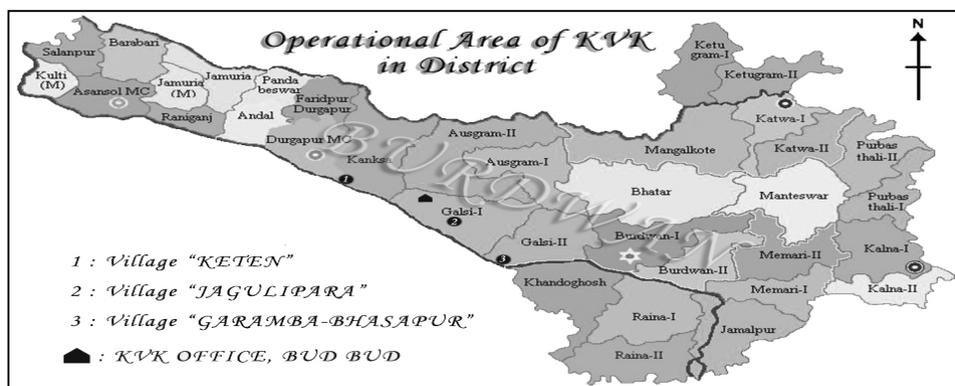
(Source: Livestock population, W.B., Animal Resources Development Department, 2008)

## 2.7 Details of Operational area/ Villages

S.N	Taluk	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1	Dur gap ur	Kanksa	Keten (Ghosh para, Bauri para and Pan para)	Paddy, potato, mustard, sesame, lentil, vegetable, cattle, poultry, duck, goat, fish	<p><b><u>Bio-physical</u></b>  <b>Low productivity of all major crops</b></p> <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> <p><b>Inadequate descriptive/prolific breed of livestock</b>  <b>Poor feed resources</b></p> <p><b><u>Socio- economic</u></b>  <b>Lack of credit facilities</b>  <b>Lack of awareness regarding good agronomic /husbandry practices</b>  <b>Very restricted livelihood option</b></p>	<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	Dur gap ur	Galsi-I	Jaguli para (Mollap ara and Bauripara)	Kharif Paddy, boro paddy, mustard, cattle, poultry, duck, goat, fish	<p><b><u>Bio-physical</u></b>  <b>Low productivity of all major crops</b></p> <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> <p><b>Lesser extent of crop diversification</b></p> <p><b>Low productivity of livestock &amp; poultry</b>  <b>Poor feed resources</b></p> <p><b><u>Socio-economic</u></b>  <ul style="list-style-type: none"> <li>• Lack of credit facilities</li> <li>• Inadequate house hold income generation</li> </ul> </p>	<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.	Burd wan North	Galsi-II	Garamb a-Bhasapur	Aus paddy, kharif paddy, jute, potato, mustard, vegetable cattle, poultry, Goat, fish	<p><b><u>Bio-physical</u></b>  <b>Low productivity of all major crops</b></p> <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> <p><b>Lesser extent of crop diversification</b></p> <p><b>Low productivity of livestock &amp; poultry</b>  <b>Poor feed resources</b></p> <p><b><u>Socio-economic</u></b>  <ul style="list-style-type: none"> <li>• Lack of credit facilities</li> <li>• Inadequate house hold income generation</li> </ul> </p>	<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>
4.	Dur gap ur	Galsi-I	Manikb azar-Jharul	Paddy, potato, mustard, sesame, lentil, vegetable, cattle, poultry, duck, goat, fish	<p><b><u>Bio-physical</u></b>  <b>Low productivity of all major crops</b></p> <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> <p><b>Lesser extent of crop diversification</b></p> <p><b>Low productivity of livestock &amp; poultry</b>  <b>Poor feed resources</b></p> <p><b><u>Socio-economic</u></b>  <ul style="list-style-type: none"> <li>• Lack of credit facilities</li> <li>• Inadequate house hold income generation</li> </ul> </p>	<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>

## 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



## TECHNICAL ACHIEVEMENTS

### 3. A. Details of target and achievement of mandatory activities by KVK during 2010-11

OFT				FLD			
1				2			
Number of OFTs		Number of farmers		Number of FLDs		Number of farmers	
Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
5	5	34	34	116	116	116	116

Training				Extension activities			
3				4			
Number of Courses		Number of Participants		Number of activities		Number of participants	
Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
90	90	2492	2492	694	694	7554	7554

Seed production (q)		Planting material (Nos.)	
5		6	
Target	Achievement	Target	Achievement
250	250 (KVK farm seed production)	-	-
6500	6500 (village seed production)		

#### 3.1.A Details of each On Farm Trial to be furnished in the following format

(Total number of OFT conducted - 05 Nos.)

##### OFT 1:

1. Title of On farm Trial : **Evaluation of performance of different varieties of jute under rainfed and medium upland situation of Burdwan**
2. Problem diagnose : Low productivity of jute due to non use of improved varieties
3. Details of technologies selected for **assessment/refinement** : **Farmers' practice:** JRO 524  
**Technology - 1** to be assessed: JRO 8432  
**Technology - 2** to be assessed: JBO 2003 H  
**Technology - 3** to be assessed: S 19
4. Source of technology : CRIJAF, Barrackpore
5. Production system : 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 : **Assessment of weed control and water management technologies in kharif rice under System of Rice Intensification (SRI) in medium upland situation of Burdwan district**
  2. Problem diagnose : It is observed that a gradual decline in productivity of rice
  3. Details of technologies selected for **assessment/refinement** : **Farmers' practice:** Farmers' practice  
**TO1 to be assessed:** Alternate wetting and drying + chemical weeding  
**TO2 to be assessed:** Alternate wetting & drying + mechanical weeding  
**TO3 to be assessed:** Conventional water management+chemical weeding
  4. Source of technology : ANGRAU, Hyderabad
  5. Production system : 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 & their reaction : Through training and field level demonstration. Farmers were highly motivated by the performance
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*\* Transplanting will be done at 10-12 days old seedling with spacing 25 cm x 25 cm*

### OFT 3:

1. Title of On farm Trial : **Evaluation of different varieties of okra in Burdwan district**
  2. Problem diagnose : Low productivity of okra due to non use of improved and hybrid varieties
  3. Details of technologies selected for **assessment/refinement** : **Farmers' practice:** local variety  
**Technology - 1** to be assessed: Hybrid 1 (OH 597)  
**Technology - 2** to be assessed: Hybrid 2 (152)  
**Technology - 3** to be assessed: Hybrid 3 (Bhindi No.10)
  4. Source of technology : BCKV
  5. Production system : Rainfed rice based production system
  6. Performance of the Technology with performance indicators : On going
  7. Final recommendation for micro level situation : On going
  8. Constraints identified and feedback for research : On going
  9. Process of farmers participation and their reaction : On going
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#### **OFT 4:**

1	Title of On farm Trial	<b>Evaluation of performance of supplemented feeding in lactating cross bred cow in Burdwan district</b>
2	Problem diagnose	Poor milk yield in crossbred cow is due to imbalanced feed supplementation
3	Details of technologies selected for <b>assessment/refinement</b>	<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 (0.75 kg) (locally available) <b>Technology 2 to be assessed:</b> Farmers' practice + concentrate home made feed * (1.5 kg)
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-33 %, mustard oil cake-30 %, rice husk-34 % mineral mixture-2% and common salt- 1%. It was supplemented @ 1.5 kg daily in lactating crossbred 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 @ 1.5kg/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 but sudden change in ingredients of feed will hamper the feed intake and acceptability of feed

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#### **OFT 5:**

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/refinement</b>	<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.

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## B. TECHNOLOGY ASSESSMENT AND REFINEMENT IN DETAIL

### OFT 1: Varietal trial

**Problem definition:** Low productivity of jute due to non use of improved varieties

**Technology assessed or refined (as the case may be):** introduction of improved varieties of jute

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 also make significant difference in productivity was another point to be established. Five farmers were selected for the on farm trial with varieties of JRO 8432, JBO 2003H and S - 19 besides farmers' practiced JRO 524 variety which goes by the trade name of Maharashtra 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. JRO 8432 was also found to be very promising.

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

Technology option	No. of trials	Yield component		Yield (q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs./ha)	Net Return (Rs / ha)	BC Ratio
		Plant height (cm)	Base diameter (cm)					
Farmers' practice: JRO 524	5	205	1.68	21.3	32300	59640	27340	1.85
TO- 1 : JRO 8432		216	1.45	26.7	32300	74760	42460	2.31
TO2: JBO 2003H		235	1.32	29.2	32300	81760	49460	2.53
TO3: S 19		215	1.42	26.8	32300	75040	42740	2.32
CD(P=0.05)		7.41	NS	2.94	-	-	-	-

## OFT 2: System of Rice Intensification (SRI)

**Problem definition:** A gradual decline in productivity of rice

**Technology assessed or refined (as the case may be):** Assessment of weed control and water management technologies in SRI:

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. Alternate wetting and drying and mechanical weeding is recommended in SRI technology. It was observed that there are many areas in the district where farmers can not go for alternate wetting and drying, be it for infrastructural, economic or land situation causes. Another notable point in SRI is the use of chemical means in suppressing weeds instead of mechanical suppressing as is advocated by the notable proponents of this system like Dr. Norman Uphoff from Cornell University. With this in mind the present OFT was designed to suit farmers' likings. It was observed (Table 2) that alternate wetting and drying could significantly improve upon the productivity over conventional water management, whereas there was no significant difference in yield when chemical means of weed control is perpetrated instead of the originally promulgated concept of mechanical weeding. Another notable observation from this trial was the highly significant increment in productivity in TO3, where conventional water management was done with chemical weeding, over farmers' practice.

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

Technology option	No. of trials	Data related to problem addressed		Effective tillers/hill	Yield (q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs./ha)	Net Return (Rs/ ha)	BC Ratio
		Initial soil Status (kg/ha)	Final soil status (kg/ha)						
<b>Farmers' Practice:</b>	5	N 250, P 32, K 220	N 248, P 32, K 224	11.3	50.4	26120	50400	24280	1.93
<b>TO1</b> Alternate wetting and drying + chemical weeding			N 245, P 30, K 220	18.5	68.5	29025	68500	39475	2.36
<b>Technology - 2</b> Alternate wetting and drying + mechanical weeding			N 239, P 28, K 220	19.7	70.2	29575	70200	40625	2.37
<b>Technology - 3</b> Conventional water management + chemical weeding			N 234, P 34, K 225	15.4	60.8	27445	60800	33355	2.22
CD(P=0.05)				2.31**	2.62 **	-	-	-	-

**OFT 3: Varietal trial****Problem definition:** Low productivity of okra due to non use of improved varieties**Technology assessed or refined (as the case may be):** introduction of hybrid varieties of okra

The use of local varieties is the main cause of low yield of okra. At the same time high susceptibility of such cultivar to YVMV also reduce the yield potentiality of okra. The object of the OFT was to show the farmers that hybrid varieties can augment yield to a substantial extent. Besides, use of hybrid can tolerate the YVMV that is also a point to be established. Three different hybrid was tried among them Bhindi No. 10 was best in respect of yield as well as tolerant to YVMV.

**Table: effect of yield on using of improved varieties of okra**

Technology option	No. of trials	Data related to problem addressed	Yield components	Yield (q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs./ha)	Net Return (Rs / ha)	BC Ratio
		YVMV Disease incidence (%)						
Farmers' practice: local variety	10	23.4		80	20000	48000	28000	2.4
TO1: Hybrid 1 (OH 597)		13.6		110	25450	66000	40550	2.59
TO2: Hybrid 2 (152)		14.2		120	25450	72000	46550	2.82
TO3: Hybrid 3 (Bhindi No.10)		11.5		125	25450	75000	49550	2.94
CD(P=0.05)		3.45		4.23				

#### OFT 4: Animal nutrition

**Problem definition:** Poor milk yield in cross bred cow is due to imbalanced feed supplementation

**Technology assessed or refined (as the case may be):** Supplemented feeding

Home made cattle feed was formulated by using locally available feed ingredients like broken wheat -33 parts, mustard oil cake-30 parts, rice husk-34 parts, common salt-1 part and mineral mixture- 2 parts. It was supplemented in lactating crossbred cow under farmers' management condition @ 1.5 kg/ 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.

Technology option	No. of trials	Data related to problem addressed	Production per unit (Avg. milk yield in Kg/ lactation/cow)	Gross Cost (Rs. / unit)	Gross return (Rs. / unit)	Net Return (Profit) in (Rs. / unit)	BC Ratio
		Lactation day					
Farmers' practice: Feeding of rice polish (1-2 kg), soaked straw (5-6 kg) and grazing	7	195	315.29	4882	5516	634	1.13
TO1= Farmers' practice + soaked oil cake (0.75 kg) (locally available)		207	684.86	6861	11046	4185	1.61
TO2= Farmers' practice + concentrate home made feed (1.5kg)		217	850.21	8202	13615	5413	1.66
CD (P=0.05)		2.35	5.67	-	-	-	-

## OFT 5: Integrated farming

**Problem definition:** Inefficient performance of available perennial pond based production system is due to non efficient utilization of natural resources

**Technology assessed or refined (as the case may be):** Resource utilization and generation of income from several enterprises

The main objective of integrated farming was utilization of all possible resource available to the farmer for maximization of income from different source and at the same time proper utilization of bund area. 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.

**Table:**

Technology option	No. of trials	Data related to problem addressed			Poultry Yield egg/bird/annum	Duckery Yield egg/bird/annum	Cost of cultivation (Rs./ha)	Gross return (Rs./ha)	Net Return (Rs / ha)	BC Ratio
		Fish yield q/ha	Tissue culture banana Yield q/ha	Vegetable yield q/ha						
FP: Farmers' practice (Fish farming)	7	19.21	-	-	-	-	25350	50850	25500	2.00
TO1: Crop+ fish + poultry farming		22.2	690	270	175	-	72000	182000	110000	2.52
TO2: Crop+ fish + duck farming		21.1	680	257	-	158	74500	172000	97500	2.30
SEm±		0.65	0.23	0.45						
CD(P=0.05)		3.21	6.21	4.55						

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.

### 3.2 Achievements of Frontline Demonstrations

A. Details of FLDs implemented during 2009-10 (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	Jute	Weed management	Mechanical+ chemical weeding	Pre kharif 10	2	2	12	-	0	12	-
2	Jute	Fertiliser management	INM	Pre kharif 10	2	2	12	-	1	13	-
3.	Jute	Improved variety	JBO 2003H	Pre kharif 10	2	2	12	-	1	13	-
4.	Jute	Package demonstration	Improved Package	Pre kharif 10	0.5	0.5	3	-	-	3	-
5.	Jute	Improved method	Line sowing	Pre kharif 10	0.5	0.5	3	-	-	3	-
6.	Rice	Production technology	Rice	kharif 10	1.0	1.0	1	-	9	10	-
7.	Potato	Disease management	Soil application of <i>Trichoderma viridae</i> and spraying of Metalaxyl+ Mancozeb	Rabi, 10	1.0	1.0	5	-	5	10	-
8.	Brinjal	Insect management	Pheromone Traps	Rabi, 10-11	0.5	0.5	10	-	5	15	-
9.	Rice bean (fodder)	Fodder production	Improved production technology	Kharif 10	0.2	0.2	-	-	5	5	-

#### 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)					
Jute	Pre kharif 10	Irrigated	Sandy loam	255	38	153	Paddy	14.5.10	20.8.10	--	--
Jute	Pre kharif 10	Irrigated	Sandy loam	212	42	172	vegetables	14.4.10	22.7.10	--	--
Jute	Pre	Irrigated	Sandy	190	61	169	Paddy	14.5.10	30.8.10	--	--

	kharif 10		loam								
Jute	Pre kharif 10	Irrigated	Sandy loam	232	37	17	Paddy	20.5.10	4.9.10	--	--
Jute	Pre kharif 10	Irrigated	Sandy loam	223	38	172	Paddy	14.5.10	25.8.10	--	--
Rice	kharif 10	Irrigated	Clay loam	245	21	276	Fallow	2.7.10	15.11.10	-	-
Potato	Rabi, 10	Irrigated	Sandy loam	220	45	190	Paddy	10.11.10	12.3.11	-	-
Brinjal	Rabi, 10-11	Irrigated	Sandy loam	220	45	170	Paddy	20.09.10	25.02.11	-	-
Rice bean (fodder)	Kharif 10	Rainfed	Clay loam	230 - 315	27 - 45	215 - 320	Vegetables/ No crop	28.09.10- 29.09.10	05.11.10 - 14.12.10	--	--

### Performance of FLD

#### Oilseeds:

Frontline demonstrations on oilseed crops

Crop	Thematic Area	Name of the technology demonstrated	No. of Farmers	Area (ha)	Yield (q/ha)		% Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
					Demo	Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
<b>Total</b>															

\* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

\*\* BCR= GROSS RETURN/GROSS COST

#### Pulses

Frontline demonstration on pulse crops

Crop	Thematic Area	Name of the technology demonstrated	No. of Farmers	Area (ha)	Yield (q/ha)		% Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
					Demo	Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
<b>Total</b>															

\* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

\*\* BCR= GROSS RETURN/GROSS COST

**Maize, cotton and lentil as special programme**  
Frontline demonstration on maize, cotton and lentil

Crop	Thematic Area	Name of the technology demonstrated	No. of Farmers	Area (ha)	Yield (q/ha)		% Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)					
					Demo	Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR		
<b>Total</b>																	

\* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

\*\* BCR= GROSS RETURN/GROSS COST

**Other crops**

Category and Crop	Thematic area	Name of the technology demonstrated	No. of Farmer	Area (ha)	Yield (q/ha)		% change in yield	Other parameters		*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
					Demonstration	Check		Demo	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Cereals																	
Rice	Production technology	SRI	10	1.0	75.6	51.2	48	Please see the tables below		26600	75600	49000	2.84	25200	51200	26000	2.03
Vegetable crops																	
Potato	Disease management	<i>Trichoderma viridae</i>	10	1.0	326	290	12.3	Please see the tables below		47200	126000	78800	2.66	45800	112500	66700	2.45
Brinjal	Pest management	Pheromone trap	15	0.5	246.5	231	6.7			41250	234660	193410	5.69	45000	190280	145280	4.23
Flower crops																	
Fodder crops																	
Rice bean	Varietal trial	Bidhan 1	5	0.2	239.8	194	23.6			6419	13189	6770	2.05	6350	10670	4320	1.68
Fibre crops																	

Jute	Weed management	Mechanical+ chemical weeding	12	2	26.4	23.1	14	Please see the tables below	31500	73920	42420	2.35	30500	64680	34180	2.12
Jute	Nutrient management	INM	13	2	24.1	22.7	6		30900	67480	36580	2.18	30500	63560	33060	2.08
Jute	Varietals trial	Improved variety	13	2	29.7	23.5	26		30900	83160	52260	2.69	30500	65800	35300	2.16
Jute	Production technology	Package demonstration	3	0.5	27.5	22.9	20		30300	77000	46700	2.54	30500	64120	33620	2.10
Jute	Production technology	Line sowing	3	0.5	24.9	22.8	9		31300	69720	38420	2.23	30500	63840	33340	2.09
Others (pl.specify)																
<b>Total</b>			<b>83</b>	<b>9.7</b>												

\* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

\*\* BCR= GROSS RETURN/GROSS COST

• **Data on parameters: Rice (Production technology)**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Rice	Plant height (cm)	115.6	102.8
	Effective tiller/hill	19.3	10.8
	No. of filled grains/panicle	145	129
	Panicle length (cm)	22.4	18.9
	Test weight (g)	21.9	21.4

• **Data on parameters: potato (Disease management)**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Potato	Late blight disease incidence (%)	7	13
	Yield of tubers (q/ha)	326	290

• **Data on parameters: Brinjal (Insect management)**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
	% pest infestation	6	22
	Yield (q/ha)	246.5	231

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

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Rice bean	Leaflet length (cm)	11.29	7.80
	Leaflet width (cm)	8.17	5.40
	Total yield (q/ha)	239.8	194

- **Data on parameters: Jute (Weed management)**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Jute	Plant height (cm)	287	264
	Base diameter (cm)	1.15	1.25
	Weed biomass (q/ha)	6.54	15.82

- **Data on parameters: Jute (Nutrient management)**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Jute	Plant height (cm)	292	254
	Base diameter (cm)	1.25	1.27

- **Data on parameters: Jute (Improved variety)**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Jute	Plant height (cm)	325	273
	Base diameter (cm)	1.12	1.37

- **Data on parameters: Jute (Package demonstration)**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Jute	Plant height (cm)	286	275
	Base diameter (cm)	1.12	1.24

- **Data on parameters: Jute (Line sowing)**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Jute	Plant height (cm)	281	264
	Base diameter (cm)	1.17	1.23

## Livestock

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No. of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.)				*Economics of check (Rs.)				
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR	
Dairy																		
Cow	Nutrient management	Mineral mixture	10	10	402.83*	284.35*	41.6			4331	6445	2114	1.49	4045	4549	449		1.10
Buffalo																		
Poultry																		
Goat	Nutrient management	feed supplementation in pregnant doe	10	10	1225**	852.5**	43.4			1331/kid	294/kid	160/kid	2.2	113/kid	204/kid	91.2/kid		1.8
Duckery																		
<b>Total</b>																		

\* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

\*\* BCR= GROSS RETURN/GROSS COST

- \*Milk yield ( kg/lactation ). \*\*Birth wt of kid in gm./kid)

## Fisheries

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No. of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.)				*Economics of check (Rs.)				
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR	
Common carps			2	2	12.5 q/ha	9 q/ha	38.9 % over local chk			24300	48500	24200	1.99	20500	34200	13700		1.66
Others (pl.specify)		Minor carp ( <i>Labeo bata</i> )	10	10	7 q/ha	5 q/ha	40% over conv. practice			23000	56000	33000	2.43	21000	45000	24000		2.14
		<b>Total</b>	<b>12</b>	<b>12</b>														

\* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

\*\* BCR= GROSS RETURN/GROSS COST

### Other enterprises

Category	Name of the technology demonstrated	No. of Farmer	No. of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.) or Rs./unit				*Economics of check (Rs.) or Rs./unit				
				Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR	
Oyster mushroom																	
Button mushroom																	
Vermicompost																	
Sericulture																	
Apiculture																	
Others (pl. specify)																	
<b>Total</b>																	

\* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

\*\* BCR= GROSS RETURN/GROSS COST

### Women empowerment

Category	Name of technology	No. of KVKs	No. of demonstrations	Name of observations	Demonstration	Check
<b>Women</b>						
Pregnant women						
Adolescent Girl						
Other women						
<b>Children</b>						
Neonats						
Infants						
Children						

### Farm implements and machinery

Name of the implement	Crop	Name of the technology demonstrated	No. of KVKs	No. of Farmer	Area (ha)	Filed observation (output/man hour)		% change in major parameter	Labor reduction (man days)				Cost reduction (Rs./ha or Rs./Unit ect.)				
						Demonstration	Check										

\* Economics to be worked out based total cost of production per unit area and not on critical inputs alone. \* BCR= GROSS RETURN/GROSS COST

### Demonstration details on crop hybrids

Crop	Name of the Hybrid	No. of farmers	Area (ha)	Yield (kg/ha) / major parameter			Economics (Rs./ha)			
				Demo	Local check	% change	Gross Cost	Gross Return	Net Return	BCR
<b>Cereals</b>										
Bajra										
Maize										
Paddy										
Sorghum										
Wheat										
Others (pl.specify)										
<b>Total</b>										
<b>Oilseeds</b>										
Castor										
Mustard										
Safflower										
Sesame										
Sunflower										
Groundnut										
Soybean										
Others (pl.specify)										
<b>Total</b>										
<b>Pulses</b>										
Greengram										
Blackgram										
Bengalgram										
Redgram										
Others (pl.specify)										
<b>Total</b>										
<b>Vegetable crops</b>										
Bottle gourd										
Capsicum										
Cucumber										

Tomato										
Brinjal										
Okra										
Onion										
Potato										
Field bean										
Others (pl.specify)										
<b>Total</b>										
<b>Commercial crops</b>										
Cotton										
Coconut										
Others (pl.specify)										
<b>Total</b>										
<b>Fodder crops</b>										
Napier (Fodder)										
Maize (Fodder)										
Sorghum (Fodder)										
Others (pl.specify)										
<b>Total</b>										

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

**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
Jute	Pre kharif,2010	1. Seed/Variety	Medium upland	325	273	26
		2. Bio-fertilizer				
		3. Fertilizer management				
Potato	Rabi 2010	4. Plant Protection (Disease management)	Medium upland	326	290	12.3% over local check
Brinjal	Rabi 2010	Insect management	Medium upland	246.5	231	6.7
Jute	Pre kharif,2010	5. Combination of components (Line sowing)	Medium upland	281	264	9

**Technical Feedback on the demonstrated technologies**

S. No	Crop	Feed Back
1.	<b>Jute</b> (Weed management)	Quizalofop ethyl is not effective against <i>Cyperus rotundus</i> . Wheel hoe works very well
2.	<b>Jute</b> (Fertiliser management)	FYM is not available in recommended quantity. Alternative cheap organic sources should be tried
3.	<b>Jute</b> (Improved variety)	The variety is excellent and seed of the same variety should be made available in market
4.	<b>Jute</b> (Package demonstration)	Yields better quality fibre in the improved method. The mechanical fibre extractor should be improved upon to suit farmers' likings
5.	<b>Jute</b> (Improved method)	Although a fair quantity of seed remains unutilized for being left in the seed drums, still requires much less seed than in broadcasting. Very well suited when used in community basis.
6.	<b>Rice</b> (Production technology)	Row spacing should be more than 25x25 cm to easing out cono weeder application. Clay soil is not very suited for its application whereas in sandy loam soil it works finely. Option for chemical weed suppression should be tried.
7.	<b>Potato</b> (disease management)	Soil application of <i>Trichoderma viridae</i> is effective in controlling late blight disease. Plants treated with <i>Trichoderma</i> remained healthy at the very last stage where as others succumbed
8.	<b>Brinjal</b>	Use of pheromone trap significantly reduced the incident of fruit and shoot borer in brinjal thus leading to increase in yield

**Farmers' reactions on specific technologies**

S. No	Crop	Feed Back
1.	<b>Jute</b> (Weed management)	Annexure II
2.	<b>Jute</b> (Fertiliser management)	Annexure III
3.	<b>Jute</b> (Improved variety)	Annexure IV
4.	<b>Jute</b> (Package demonstration)	Annexure V
5.	<b>Jute</b> (Improved method)	Annexure VI
6.	<b>Rice</b> (Production technology)	Annexure VII
7.	<b>Potato</b> (Disease management)	Annexure VIII
8.	<b>Brinjal</b> (Insect management)	Annexure IX

## Extension and Training activities under FLD

S. N.	Activity	No. of activities organised	Dates	Number of participants	Remarks
1	Field days	1			
2	Farmers Training	3			
3	Media coverage	--	--	--	

### 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	
		SC			ST			OTHERS				
		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	1	10	00	10	00	00	00	20	00	20	30	
Seed production	1	10	00	10	05	00	05	15	00	15	30	
Nursery management												
Integrated Crop Management	2	20	00	20	05	00	05	35	00	35	60	
Fodder production												
Production of organic inputs	1	15	00	15	00	00	00	15	00	15	30	
Others, if any												
<b>II Horticulture</b>												
<b>a) Vegetable Crops</b>												
Production of low volume & high value crops	2	20	00	20	00	00	00	40	00	40	60	
Off-season vegetables	2	20	00	20	00	00	00	30	00	30	50	
Nursery raising	1	08	02	10	00	00	00	10	05	15	25	
Exotic vegetables like Broccoli												
Export potential vegetables												
Grading and standardization												
Protective cultivation (Green Houses, Shade Net etc.)												
Others, if any												
<b>b) Fruits</b>												
Training and Pruning												
Layout and Management of Orchards												
Cultivation of Fruit	1	08	02	10	00	00	00	10	05	15	25	
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	1	10	0	10	05	00	05	15	00	15	30
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											
Poultry Management											
Piggery Management											
Rabbit Management											
Disease Management											
Feed management											
Production of quality animal products	1	05	00	05	00	00	00	05	00	05	10
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											
Storage loss minimization techniques											
Value addition	2	00	13	03	00	07	07	00	25	25	45

Income generation activities for empowerment of rural Women											
Location specific drudgery reduction technologies											
Rural Crafts											
Women and child care	1	00	07	07	00	03	03	00	10	10	20
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	1	10	00	10	00	00	00	20	00	20	30
Integrated Disease Management											
Bio-control of pests and diseases											
Production of bio control agents and bio pesticides	2	20	00	20	00	00	00	40	00	40	60
Others, if any	2	20	00	20	00	00	00	40	00	40	60
<b>VIII Fisheries</b>											
Integrated fish farming	1	05	05	10	00	00	00	15	05	20	30
Carp breeding and hatchery mgt.											
Carp fry and fingerling rearing											
Composite fish culture	2	11	09	20	00	00	00	31	09	40	60
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											
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	1	05	02	07	00	00	00	10	03	13	20
Formation and Management of SHGs											
Mobilization of social capital											
Entrepreneurial development of farmers/youths											
WTO and IPR issues	1	03	02	05	00	00	00	10	05	15	20
Others, if any	1	03	02	05	00	00	00	10	05	15	20
<b>XI Agro-forestry</b>											
Production technologies											
Nursery management											
Integrated Farming Systems											
<b>XII Others (Pl. Specify)</b>											
<b>TOTAL</b>	<b>27</b>	<b>203</b>	<b>44</b>	<b>247</b>	<b>15</b>	<b>10</b>	<b>25</b>	<b>371</b>	<b>72</b>	<b>443</b>	<b>715</b>
<b>(B) RURAL YOUTH</b>											
Mushroom Production	2	20	00	20	20	00	20	20	00	20	60
Bee-keeping											
Integrated farming											
Seed production	3	09	00	09	00	00	00	21	00	21	30
Production of organic inputs											
Integrated Farming											
Planting material production											
Vermi-culture											
Sericulture											
Protected cultivation of vegetable crops											
Commercial fruit production											
Repair and maintenance of farm machinery and implements											
Nursery Management of Horticulture crops											
Training and pruning of orchards											
Value addition											
Production of quality animal products											
Dairying											
Sheep and goat rearing											
Quail farming											
Piggery											
Rabbit farming											
Poultry production	1	10	10	20	00	00	00	10	00	10	30
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	1	08	04	12	00	00	00	14	04	18	30
<b>TOTAL</b>	<b>7</b>	<b>47</b>	<b>14</b>	<b>61</b>	<b>20</b>	<b>0</b>	<b>20</b>	<b>65</b>	<b>4</b>	<b>69</b>	<b>150</b>
<b>(C) Extension Personnel</b>											
Productivity enhancement in field crops	1	10	00	10	00	00	00	15	00	15	25
Integrated Pest Management	1	10	00	10	00	00	00	15	00	15	25
Integrated Nutrient management											
Rejuvenation of old orchards											
Protected cultivation technology											
Formation and Management of SHGs	1	07	03	10	00	00	00	15	05	20	30
Group Dynamics and farmers organization											
Information networking among farmers	1	07	03	10	00	00	00	10	00	10	20
Capacity building for ICT application											
Care and maintenance of farm machinery and implements											
WTO and IPR issues											
Management in farm animals	1	10	00	10	00	00	00	20	00	20	30
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	1	10	00	10	00	00	00	15	00	15	25
Gender mainstreaming through SHGs	1	07	03	10	00	00	00	10	00	10	20
Any other											
<b>TOTAL</b>	<b>7</b>	<b>61</b>	<b>9</b>	<b>70</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>100</b>	<b>5</b>	<b>105</b>	<b>175</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	
<b>I Crop Production</b>											
Weed Management											
Resource Conservation Technologies											
Cropping Systems											
Crop Diversification	1	10	00	10	00	00	00	20	00	20	30
Integrated Farming											
Water management											
Seed production											
Nursery management	1	10	00	10	05	00	05	15	00	15	30
Integrated Crop Management	1	05	00	05	05	00	05	20	00	20	30
Fodder production											
Production of organic inputs											
Others, if any											
<b>II Horticulture</b>											
<b>a) Vegetable Crops</b>											
Production of low volume & high value crops											
Off-season vegetables											
Nursery raising											
Exotic vegetables like Broccoli											

Export potential vegetables												
Grading and standardization												
Protective cultivation (Green Houses, Shade Net etc.)												
Others, if any	2	20	00	20	00	00	00	40	00	40	60	
<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	1	10	00	10	00	00	00	20	00	20	30	
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	30	30	60	00	00	00	20	10	30	90
Poultry Management											
Piggery Management											
Rabbit Management											
Disease Management	1	10	00	10	00	00	00	10	10	20	30
Feed management	2	05	15	20	00	00	00	18	22	40	60
Production of quality animal products	1	10	05	15	00	00	00	10	05	15	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	1	00	10	10	00	05	05	00	10	10	25
Designing and development for high nutrient efficiency diet	1	00	07	07	00	03	03	00	10	10	20
Minimization of nutrient loss in processing											
Gender mainstreaming through SHGs											
Storage loss minimization techniques											
Value addition											
Income generation activities for empowerment of rural Women											
Location specific drudgery reduction technologies											
Rural Crafts											
Women and child care											
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	1	10	00	10	00	00	00	20	00	20	30
Others, if any											
<b>VII Plant Protection</b>											
Integrated Pest Management	1	10	00	10	00	00	00	20	00	20	30
Integrated Disease Management											
Bio-control of pests and diseases	1	10	00	10	00	00	00	20	00	20	30
Production of bio control agents and bio pesticides											
Others, if any	2	20	00	20	00	00	00	40	00	40	60
<b>VIII Fisheries</b>											
Integrated fish farming											
Carp breeding and hatchery mgt.											
Carp fry and fingerling rearing	1	05	03	08	00	00	00	17	05	22	30
Composite fish culture	2	13	11	24	00	00	00	32	04	36	60
Hatchery management and culture of freshwater prawn	1	06	06	12	00	00	00	14	04	18	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											
<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											
Entrepreneurial development of farmers/youths											
WTO and IPR issues											
Others, if any											
<b>XI Agro-forestry</b>											
Production technologies											
Nursery management											
Integrated Farming Systems											
<b>XII Others (Pl. Specify)</b>											
<b>TOTAL</b>	24	184	87	271	10	8	18	336	80	416	705
<b>(B) RURAL YOUTH</b>											
Mushroom Production	2	20	00	20	20	00	20	20	00	20	60
Bee-keeping											
Integrated farming											
Seed production	1	10	00	10	05	00	05	15	00	15	30
Production of organic inputs	1	03	00	03	07	00	07	10	00	10	20
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>4</b>	<b>33</b>	<b>00</b>	<b>33</b>	<b>32</b>	<b>00</b>	<b>32</b>	<b>45</b>	<b>00</b>	<b>45</b>	<b>110</b>	
<b>(C) Extension Personnel</b>												
Productivity enhancement in field crops												
Integrated Pest Management												
Integrated Nutrient management	1	10	00	10	00	00	00	15	00	15	25	
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												
Information networking among farmers	1	07	03	10	00	00	00	10	00	10	20	
Gender mainstreaming through SHGs												
Any other (Pl. Specify)												
<b>TOTAL</b>	<b>2</b>	<b>17</b>	<b>3</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>25</b>	<b>0</b>	<b>25</b>	<b>45</b>	

**C) Consolidated table (ON and OFF Campus)**

Thematic Area	No. of Courses	No. of Participants									Grand Total	
		Others			SC			ST				
		M	F	T	M	F	T	M	F	T		
<b>(A) Farmers &amp; Farm Women</b>												
<b>I Crop Production</b>												
Weed Management												
Resource Conservation Technologies												
Cropping Systems												
Crop Diversification	1	10	00	10	00	00	00	20	00	20	30	
Integrated Farming												
Water management	1	10	00	10	00	00	00	20	00	20	30	
Seed production	1	10	00	10	05	00	05	15	00	15	30	
Nursery management	1	10	00	10	05	00	05	15	00	15	30	
Integrated Crop Management	3	25	00	25	10	00	10	55	00	55	90	
Fodder production												
Production of organic inputs	1	15	00	15	00	00	00	15	00	15	30	
Others, if any												
<b>II Horticulture</b>												
<b>a) Vegetable Crops</b>												
Production of low volume & high value crops	2	20	00	20	00	00	00	40	00	40	60	

Off-season vegetables	2	20	00	20	00	00	00	30	00	30	50
Nursery raising	1	08	02	10	00	00	00	10	05	15	25
Exotic vegetables like Broccoli											
Export potential vegetables											
Grading and standardization											
Protective cultivation (Green Houses, Shade Net etc.)											
Others, if any	2	20	00	20	00	00	00	40	00	40	60
<b>b) Fruits</b>											
Training and Pruning											
Layout and Management of Orchards											
Cultivation of Fruit	1	08	02	10	00	00	00	10	05	15	25
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	1	10	00	10	00	00	00	20	00	20	30
Soil and Water Conservation											
Integrated Nutrient Management	1	10	0	10	05	00	05	15	00	15	30

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	30	30	60	00	00	00	20	10	30	90
Poultry Management											
Piggery Management											
Rabbit Management											
Disease Management	1	10	00	10	00	00	00	10	10	20	30
Feed management	2	05	15	20	00	00	00	18	22	40	60
Production of quality animal products	2	15	05	20	00	00	00	15	05	20	40
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	1	00	10	10	00	05	05	00	10	10	25
Designing and development for high nutrient efficiency diet	1	00	07	07	00	03	03	00	10	10	20
Minimization of nutrient loss in processing											
Gender mainstreaming through SHGs											
Storage loss minimization techniques											
Value addition	2	00	13	13	00	07	07	00	25	25	45
Income generation activities for empowerment of rural Women											
Location specific drudgery reduction technologies											
Rural Crafts											
Women and child care	1	00	07	07	00	03	03	00	10	10	20
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	1	10	00	10	00	00	00	20	00	20	30
Others, if any											
<b>VII Plant Protection</b>											
Integrated Pest Management	2	20	00	20	00	00	00	40	00	40	60
Integrated Disease Management											

Bio-control of pests and diseases	1	10	00	10	00	00	00	20	00	20	30
Production of bio control agents and bio pesticides	2	20	00	20	00	00	00	40	00	40	60
Others, if any	4	40	00	40	00	00	00	80	00	80	120
<b>VIII Fisheries</b>											
Integrated fish farming	1	05	05	10	00	00	00	15	05	20	30
Carp breeding and hatchery mgt.											
Carp fry and fingerling rearing	1	05	03	08	00	00	00	17	05	22	30
Composite fish culture	4	24	20	44	00	00	00	63	13	76	120
Hatchery management and culture of freshwater prawn	1	06	06	12	00	00	00	14	04	18	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											
<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	1	05	02	07	00	00	00	10	03	13	20
Formation and Management of SHGs											
Mobilization of social capital											
Entrepreneurial development of farmers/youths											
WTO and IPR issues	1	03	02	05	00	00	00	10	05	15	20
Others, if any	1	03	02	05	00	00	00	10	05	15	20
<b>XI Agro-forestry</b>											
Production technologies											
Nursery management											
Integrated Farming Systems											
<b>XII Others (Pl. Specify)</b>											

<b>TOTAL</b>	51	387	131	518	25	18	43	7 0 7	152	859	1420
<b>Rural Youth</b>											
Mushroom Production	4	40	00	40	40	00	40	40	0 0	40	120
Bee-keeping											
Integrated farming											
Seed production	4	19	00	19	05	00	05	36	0 0	36	60
Production of organic inputs	1	03	00	03	07	00	07	10	0 0	10	20
Integrated Farming											
Planting material production											
Vermi-culture											
Sericulture											
Protected cultivation of vegetable crops											
Commercial fruit production											
Repair and maintenance of farm machinery and implements											
Nursery Management of Horticulture crops											
Training and pruning of orchards											
Value addition											
Production of quality animal products											
Dairying											
Sheep and goat rearing											
Quail farming											
Piggery											
Rabbit farming											
Poultry production	1	10	10	20	00	00	00	10	0 0	10	30
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	1	08	04	12	00	00	00	14	0 4	18	30
<b>TOTAL</b>	11	80	14	94	52	00	52	110	0 4	114	260
<b>(C) Extension Personnel</b>											
Productivity enhancement in field crops	1	10	00	10	00	00	00	15	0 0	15	25
Integrated Pest Management	1	10	00	10	00	00	00	15	0 0	15	25
Integrated Nutrient management	1	10	00	10	00	00	00	15	0 0	15	25

									0		
Rejuvenation of old orchards											
Protected cultivation technology											
Formation and Management of SHGs	1	07	03	10	00	00	00	15	0 5	20	30
Group Dynamics and farmers organization											
Information networking among farmers	2	14	06	20	00	00	00	20	0 0	20	40
Capacity building for ICT application											
Care and maintenance of farm machinery and implements											
WTO and IPR issues											
Management in farm animals	1	10	00	10	00	00	00	20	0 0	20	30
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	1	10	00	10	00	00	00	15	0 0	15	25
Gender mainstreaming through SHGs	1	07	03	10	00	00	00	10	0 0	10	20
Any other (Pl. Specify)											
<b>TOTAL</b>	<b>9</b>	<b>78</b>	<b>12</b>	<b>90</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>125</b>	<b>5</b>	<b>130</b>	<b>220</b>

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

Date	Clientele	Title of Training	Duration in days	Venue	Number of participants			Number of SC/ST		
					Male	Female	Total	Male	Female	Total
10.08.10	PF	Improved production technology of Jute	1	Off	30	0	30	10	0	10
17.08.10	PF	Rice cultivation through SRI	1	Off	30	0	30	10	0	10
17.08.10	PF	Nursery management in vegetable crops	1	On	18	7	25	8	2	10
19.08.10	PF	Need for soil testing and soil test based fertilizer application	1	Off	30	0	30	10	0	10
19.08.10	PF	Seed treatment and nursery management of <i>kharif</i> paddy	1	Off	30	0	30	15	0	15
20.08.10	PF	Integrated nutrient management for enhancement of paddy productivity and better soil health	1	On	30	0	30	15	0	15
20.08.10	PF	Preparation of organic pesticides and its application	1	On	30	0	30	10	0	10
20.08.10	PF	Use of mulch in horticultural crops	1	On	30	0	30	10	0	10
21.08.10	PF	Impact and utilization of biofertilizers	1	On	30	0	30	10	0	10
21.08.10	PF	Schedule of fertilization and liming in fish culture ponds.	1	On	20	10	30	6	6	12
21.08.10	PF	Feeding practices of goat	1	Off	8	22	30	0	10	10
21.08.10	PF	Care of new born kids	1	On	10	20	30	10	20	30
23.08.10	PF	Aquatic weeds and algal blooms in fish ponds, their control and utilization	1	On	25	5	30	7	5	12
23.08.10	PF	Rearing pond preparation and management.	1	Off	22	8	30	5	3	8
24.08.10	PF	Disease management and prophylactic measures in composite fish culture ponds	1	Off	22	8	30	5	3	8
24.08.10	PF	Value addition of locally available fruits	1	Off	0	20	20	0	10	10
26.08.10	PF	Design and development for high nutrient efficiency diet	1	On	0	20	20	0	10	10
26.08.10	PF	Design and development of low cost nutritious diet	1	On	0	25	25	0	15	15
26.08.10	PF	Design and development for high nutrient efficiency diet	1	Off	0	20	20	0	10	10
27.08.10	PF	Weaning food for infant of age group 6-12 months	1	On	0	20	20	0	10	10
27.08.10	PF	Integrated Pest Management (IPM) in rice	1	Off	30	0	30	10	0	10
27.08.10	PF	Water management through micro irrigation	1	Off	13	7	20	3	2	5
28.08.10	PF	Care of new born calf	1	On	20	10	30	10	5	15
28.08.10	PF	Animal shed disinfection	1	On	20	10	30	10	0	10
30.08.10	PF	Use of fibre extractor in extraction of fibre	1	Off	30	0	30	10	0	10

30.08.10	PF	Management of fruit & shoot borer of brinjal	1	On	30	0	30	10	0	10
19.10.10	PF	Cultivation techniques of rice bean	1	On	10	0	10	5	0	5
19.10.10	RY	Poultry rearing	1	On	20	10	30	10	10	20
20.10.10	PF	Paddy seed production technology	1	Off	30	0	30	15	0	15
20.10.10	EF	Improved fertilizer management in oilseeds and pulses to augment productivity	1	Off	25	0	25	10	0	10
21.10.10	PF	Feeding techniques of mineral mixture for dairy cow	1	Off	15	15	30	5	5	10
23.10.10	PF	Improved cultivation of tissue culture banana	1	On	18	7	25	8	2	10
23.10.10	PF	Improved production technology of tomato	1	On	30	0	30	10	0	10
26.10.10	PF	Improved production technology of potato	1	Off	30	0	30	10	0	10
26.10.10	PF	Effects of liming in fish ponds	1	Off	20	10	30	6	6	12
28.10.10	RY	Seed production techniques of major vegetable crops	1	On	10	0	10	3	0	3
28.10.10	EF	Preparation of organic pesticides and its application	1	On	25	0	25	10	0	10
30.10.10	PF	Integrated duck-cum-fish farming in back yard pond	1	On	20	10	30	5	5	10
30.10.10	RY	Air breathing fish culture	1	On	22	8	30	8	4	12
02.11.10	PF	NADEP compost production	1	On	30	0	30	15	0	15
02.11.10	RY	Paddy seed production technology	1	On	30	0	30	15	0	15
04.11.10	PF	Monoculture of freshwater Prawn	1	Off	20	10	30	6	6	12
04.11.10	PF	Pest Management through Bio-pesticides	1	Off	30	0	30	10	0	10
09.11.10	PF	WTO and IPR issue	1	On	13	7	20	3	2	5
09.11.10	EF	Formation and management of self help groups	1	On	22	8	30	7	3	10
09.11.10	PF	Disease management and prophylactic measures in composite fish culture ponds	1	On	22	8	30	8	0	8
15.01.11	PF	Home made cattle feed preparation	1	Off	20	10	30	10	2	17
21.01.11	PF	Care of doe during pregnancy	1	On	10	20	30	5	10	15
21.01.11	EF	Immunization schedule for animals	1	On	30	0	30	10	0	10
24.01.11	PF	Identification of major diseases of potato	1	Off	30	0	30	10	0	10
24.01.11	PF	Pest Management in Potato	1	Off	30	0	30	10	0	10
25.01.11	PF	Pest Management in Potato	1	Off	30	0	30	10	0	10
25.01.11	PF	Pest Management in Mustard	1	Off	30	0	30	10	0	10
02.02.11	PF	Pest Management in Mustard	1	Off	30	0	30	10	0	10
02.02.11	RY	Vermicompost production at farmers level	1	Off	20	0	20	10	0	10
04.02.11	PF	Improved production technology of lentil	1	On	30	0	30	15	0	15

04.02.11	PF	Improved production technology of sesame	1	On	30	0	30	10	0	10
09.02.11	PF	Improved production technology of ground nut	1	Off	30	0	30	10	0	10
09.02.11	EF	Role of information networking among farmers	1	Off	20	0	20	10	0	10
10 - 11.02.11	RY	Oyster Mushroom Cultivation	2	On	60	0	60	40	0	40
14.02.11	PF	Improved production technology of okra	1	On	25	0	25	10	0	10
14.02.11	PF	Management of major pest and diseases of Cucurbits	1	On	25	0	25	10	0	10
17.02.11	EF	Vermicompost production & its utilization for soil health	1	On	25	0	25	10	0	10
17.02.11	RY	Seed production techniques of major vegetable crops	1	On	10	0	10	3	0	3
28.02.11	RY	Seed production techniques of major vegetable crops	1	On	10	0	10	3	0	3
28.02.11	PF	Post harvest processing of vegetables.	1	On	0	20	20	0	10	10
02.03.11	PF	Group dynamics and farmers' organization	1	On	15	5	20	5	2	7
02.03.11	EF	Gender main streaming through SHG	1	On	20	0	20	10	0	10
03 - 04.03.11	RY	Improved Production Technology of Oyster Mushroom Cultivation	2	Off	60	0	60	40	0	40
16.03.11- 22.03.11	RY	Jute handicrafts preparation for Self employment	7	Off	175	0	175	70	0	70

**(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	-	175	175	SHG	2	16	08

(\*) 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.	Green House: Production technology	Hi-tech horticulture	March 11	2	PF	2	62	30	0	8	62	38	100	RKVY
2.	Micro irrigation technology in horticulture	Micro irrigation in horticulture	March 11	2	PF	2	56	44	0	0	56	44	100	ATMA
3.	Methodology for implementation of MGNREGS activities	Convergence of NREGS	June 10	1	EF	1	40	5	3	0	43	5	48	MGNREGS
4.	Training on Horticulture under MGNREGS	Hi-tech horticulture and Project preparation	October 10	1	PF	1	7	1	0	17	7	18	25	MGNREGS
5.	Fish cultivation through SHG	Fish farming	October 10	1	PF	1	0	4	1	32	1	36	37	MGNREGS
6.	Integrated farming through SHG	Integrated farming	October 09	1	RY	1	10	7	4	23	14	30	44	MGNREGS
7.	Hygienic meat processing	Food processing	March 11	1	EF	1	75	35	-	-	75	35	110	IICPT
8.	Cottage level entrepreneurship Dev	Women Empowerment	March 11	1	EF	1	-	-	40	25	40	35	75	IICPT
Total				10		10	250	126	48	105	298	241	539	

### 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	10	240	60	300	-	-	-	240	60	300
Kisan Mela										
Kisan Ghosthi										
Exhibition	1	650	250	900	50	10	60	700	260	960
Film Show	15	300	150	450	50	-	50	350	150	500
Method Demonstrations (seed drill/ jute fibre extractor/ cono weeder)	3	110	25	135	6	4	10	116	29	145
Farmers Seminar	5	80	20	100	45	05	50	125	25	150
Workshop										
Group meetings										
Lectures delivered as resource persons	8	260	90	350	40	10	50	300	100	400
Newspaper coverage	8									
Radio talks										
TV talks	5									
Popular articles	2									
Extension Literature	10	725	170	895				725	170	895
Advisory Services	372	350	65	415				350	65	415
Scientific visit to farmers field	82	651	137	788				651	137	788
Farmers visit to KVK	75	814	195	1009				814	195	1009
Diagnostic visits	45	34	11	45				34	11	45
Exposure visits	4	150	50	200				150	50	200
Ex-trainees Sammelan										
Soil health Camp										
Animal Health Camp	18	635	245	880 families				635	245	880 families
Agri mobile clinic										
Soil test campaigns	1	30	0	30				30	0	30
Farm Science Club Conveners meet	15	130	10	140	10	0	10	140	10	150
Self Help Group Conveners meetings	5	40	110	150				40	110	150
Mahila Mandals Conveners meetings	3	0	30	30				0	30	30
Celebration of important days (specify)	(2) 15 <sup>th</sup> August and 26 <sup>th</sup> April (World Vet. Day)	95	42	137				95	42	137
Any Other (seed village sensitization programme)	2	97	25	122	5	0	5	102	25	127
Technology week	1	100	68	168	-	-	-	100	68	168
SAC meeting	1	60	5	65	10	0	10	70	5	75
<b>Total</b>	<b>694</b>	<b>5551</b>	<b>1758</b>	<b>7309</b>	<b>216</b>	<b>29</b>	<b>245</b>	<b>5767</b>	<b>1787</b>	<b>7554</b>

### 3.5 Production and supply of Technological products

#### a. Village seed

Sl. No.	Crop	Variety	Quantity (q)	Value (Rs.)	Provided to No. of Farmers
CEREALS	Paddy	MTU 7029, Swarna Sub 1, Gotra Bidhan 1, Naveen, Sahabhagi, IET 5656	6500		-
OILSEEDS	--	--	--	--	--
PULSES	--	--	--	--	--
VEGETABLES	--	--	--	--	--
FLOWER CROPS	--	--	--	--	--
OTHERS (Specify)	--	--	--	--	--

#### b. KVK farm

Sl. No.	Crop	Variety	Quantity (q)	Value (Rs.)	Provided to No. of Farmers
CEREALS	Paddy	MTU 7029	210		Not yet sold
PULSES					
VEGETABLES	Tomato seedling	Avinash 2	7500 nos.	4800	50
	Coloured capsicum	Oreble & Bomby	24 q of capsicum	50000	-
FLOWER CROPS					
Spices & plantation crop					
OTHERS (Specify)	-	-	-	-	-

#### PLANTING MATERIALS

Sl. No.	Crop	Variety	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
FRUITS	--	--	--	--	--
SPICES	--	--	--	--	--
VEGETABLES	--	--	--	--	--
FOREST SPECIES	--	--	--	--	--
ORNAMENTAL CROPS	--	--	--	--	--
PLANTATION CROPS	--	--	--	--	--
Others (specify) 1					

#### Production of Bio-Products

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

#### Production of LIVESTOCK

Sl. No.	Type	Breed	Quantity		Value (Rs.)	Provided to No. of Farmers
			(Nos)	Kgs		
Cattle	--	--	--	--	--	--
SHEEP AND GOAT	--	--	--	--	--	--
POULTRY	Duck feed	KC		185	2220	18
FISHERIES	IMC advanced Fingerling	Rohu, catla mrigal	-	463	16980	45

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

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

(B) Literature developed/published :

Item	Title	Authors name	Number
Research papers	-	-	4
Technical reports	-	-	-
News letters		-	-
Technical Bulletin	1. Hygienic poultry meat processing	C. Jana, F. H. Rahman, S. Sarkar, SG Chowdhury, B Roy, G Mahapatra	1
Popular articles	Cultivation of Rice bean and its impact in animal nutrition, <i>Sarsamachar</i>	C. K. Jana, S. Garai and F. H. Rahman	2
	Improved Method of Oyster Mushroom Cultivation, <i>Adhunik Phasal</i>	S Garai & F.H. Rahman	
Extension literature	1. Seed village and seed production 2. Preparation of Vegetable seedling 3. Organic pesticide preparation and its application 4. System of rice intensification - an alternative system 5. Pest and disease of paddy 6. Vaccination schedule for animal 7. Rearing of Khaki Campbell duck 8. Preventive measures against PPR 9. Induced breeding of Indian Major Carps 10. Clean milk production 11. Oyster mushroom - a profitable enterprise 12. Ricebean-impact in animal nutrition	F.H.Rahman, D. Kiumar & B.S.Mahap[atra S. Sarkar S. Sarkar D. Ghorai S. Garai & SS Kundu C. Jana C.Jana C.Jana G. Ziauddin S.Sethy S. Garai C. Jana	12
Others (Pl. specify)			
<b>TOTAL</b>	<b>Nineteen (19)</b>		

#### C) Details of Electronic Media Produced: Two (2)

S. No.	Type of media (CD / VCD / DVD / Audio-Cassette)	Title of the programme	Number
1.	CD	Documentary film on KVK Burdwan: <i>An overview of KVK Burdwan</i>	1
2.	CD	ICT Tool Kit	1

#### D) Details of personnel development

Title of training/ winter school	Venue and date	Scientists attended
National workshop on agriculture extension management	Dept. of EES, Visva-Bharati, Santiniketan. Dec. 4-5, 2010	Mr. S. Garai

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

#### 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 Barddhaman as well as West Bengal.

The net area under pisciculture in Barddhaman 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 come 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 gram in 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.

### 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 a 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**

**1. Region Specific Mineral Mixture for Deshi Cow:** The region specific mineral mixture for cattle formulated by KVK Burdwan has been very promising in augmenting milk yield in lactating deshi cow and is ready for commercialization for widespread adoption

**2. Home feed preparation technology for dairy raisers :** The technology for the preparation of Home made feed by using locally available feed ingredients has been disseminated through training and demonstration of the Feed mixture and feed grinder. The centre has created free access facility for using unit for preparing their own feeds as and when they need. By this way they are able to meet up the nutrition requirement of their livestock as well as they reduce the cost of milk/meat/egg production

**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 iarrhe. 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 iarrhea of cattle and goat
4	Goat and Cattle	Black pepper is mixed with <b>ghee</b>	For treatment of fever (HS)

		and fed to the affected animals.	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

**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 – 4 so far (*one during the year*)
- ii. No. of farm families selected- 1057 *during the year*
- iii. No. of survey/PRA conducted- 5 (*One PRAs during the year*)

**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
Shaker	One	

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

Details	No. of Samples	No. of Farmers	No. of Villages	Amount realized
Soil Samples	254	254	7	-
Water Samples	26	20	4	-
Total	280	274	11	-

### 3.13 Activities of rain water harvesting structure and micro irrigation system

No of training programme	No of demonstrations	No of plant material produced	Visit by the farmers	Visit by the officials
Four nos. (Micro irrigation)	One demonstration unit at KVK farm	-	200	10
Four nos. (Rain water harvesting )	Two demo unit at KVK	-	200	30

### 3.14 Technology week celebration

Type of activities	No of activities	No. of participants	Related crop/livestock technology
Training	4	400	Greenhouse technology, Vermicompost, meat processing, entrepreneurship dev
Field visit	3	250	SRI, Micro irrigation, Greenhouse, vermicompost, animal feed preparation etc
Farmer-scientist interaction	2	150	SRI technology, paddy seed production

### 3.15 In RAWE programme is KVK is involved?

KVK organized FET programme for ARS trainees

No of ARS trained	No of days stayed
Six (06)	21

### 3.16 NICRA Project

Programme implemented	No. of village covered	No. of beneficiary covered	Amount of fund received	Amount of fund utilized

### 3.17 List of visitors including the officials of ZPD and DEE

Date	Name of the person	Purpose of visit
23.05.2010	O. S. Meena, IAS, District Magistrate, Burdwan	MGNREGS activities
23.05.2010	M. K. Gandhi, IAS Addl. District Magistrate, Burdwan	MGNREGS activities
23.05.10 09.06.10, 18.06.10	Arindam Neogi, S.D.O/ District Nodal Officer, MGNREGS, Burdwan	MGNREGS activities
23.05.10, 14.07.10, 25.10.10, 08.03.11	Prof. B. S. Mahapatra, Director, CRIJAF	KVK activities
14.07.10, 25.01.11, 08.03.11	Dr. S. Ghosal Chaudhuri, P. S. & Head of Ag. Ext., CRIJAF	KVK activities
18.06.2010	Mr. Saurav Kumar, Training Manager, NIRD, Hyderabad	MGNREGS activities
18.06. 2010	Sajal Ghosh, DPD (Ag.), DRDC, Burdwan	MGNREGS activities
18.06.2010	Sanatan Sen, BDO, Ausgram-II, Burdwan	MGNREGS activities
18.06.2010	Biswanath Maity, FEO, Ausgram-II, Burdwan	MGNREGS activities
18.06.2010	Dr. Swadesh Kr. Dey, Assistant Director (ARD), Burdwan	MGNREGS activities
18.06.2010	Dr. Binoy Karak, BLDO, Khandoghosh, Burdwan	MGNREGS activities
18.06.2010	Dr. M. Tudu, BLDO, Galsi-I, Burdwan	MGNREGS activities
18.06.2010	Dr. A. K. Patra, BLDO, Ausgram-II, Burdwan	MGNREGS activities
18.06.2010	Mrs. Basabdutta Gupta, BDO, Galsi-II, Burdwan	MGNREGS activities
18.06.2010	Samir Karfa, ADA (Adm.), Galsi-II, Burdwan	MGNREGS activities
18.06.2010	Dr. N. Maiti, BLDO, Kanksa, Burdwan	MGNREGS activities
18.06.2010	Dinobondhu Gayen, Jt. BDO, Kanksa, Burdwan	MGNREGS activities

18.06.2010	Joydev Badyakar, Saha Sabhapati, Kanksa	MGNREGS activities
18.06.2010	Srikrishna Ghosh, APO, Kanksa, Galsi	MGNREGS activities
18.06.2010	Abhra Chakraborty, FEO, Galsi-I	MGNREGS activities
18.06.2010	S. Chattopadhyay, FEO Kanksa, Burdwan	MGNREGS activities
18.06.2010	Shyamal Dutta, DDA (Adm.), Burdwan	MGNREGS activities
18.06.2010	P. K. Mondal, ADA(Jute), Burdwan	MGNREGS activities
18.06.2010	Dr. S. Shit, DHO, Burdwan	MGNREGS activities
18.06.2010	Dr. Subodh Kundu, ADA (Adm.), Galsi-I	MGNREGS activities
18.06.2010	Mr. S. Chatterjee, ADA(Seed), Burdwan	MGNREGS activities
18.06.2010	Mr. N. Kar, BDO, Galsi-I, Burdwan	MGNREGS activities
18.06.2010	P. P. Sarkar, Jt. BDO, MGNREGS Cell, Burdwan	MGNREGS activities
22.09.10	Sub-Divisional Officer, Durgapur	MGNREGS activities
06.01.2011	Dr. Rangan Banerjee, ADA (Adm.), Monteshwar	Exposure visit
08.03.2011	Prof. B. S. Mahapatra, Director, CRIJAF	VIII th SAC Meeting
08.03.2011	Dr. P. G. Karmakar, Head Crop Imp, CRIJAF	VIII th SAC Meeting
08.03.2011	Dr. S. Ghoshal Chaudhuri, Head, Ag Ext, CRIJAF	VIII th SAC Meeting
08.03.2011	Mr. Shyamal Dutta, DDA (Adm.), Burdwan	VIII th SAC Meeting
08.03.2011	Dr. Supriyo Ghatak, ADA (Pl. Protection), Burdwan	VIII th SAC Meeting
08.03.2011	Dr. Subodh Kundu, ADA (Adm.) Galsi- I	VIII th SAC Meeting
08.03.2011	Mr. Samir Karfa, ADA (Adm.) Galsi-II	VIII th SAC Meeting
08.03.2011	Mr. Samir Kr. Ghosh, ADA (Adm.), Seed Certification,	VIII th SAC Meeting
08.03.2011	Dr. B. Maity, Jt. Director, ARD, Burdwan	VIII th SAC Meeting
08.03.2011	Dr. T. K. Ghosh, Asstt. Director, Reg. Research Lab, ARD,	VIII th SAC Meeting
08.03.2011	Mr. Partha Mandal, AGM, NABARD, Burdwan	VIII th SAC Meeting
08.03.2011	Mr. Sajal Saha, DFO (N), Burdwan	VIII th SAC Meeting
08.03.2011	Mr. P. K. Dhar, Ex-DFO, Burdwan	VIII th SAC Meeting
08.03.2011	Dr. Amit Bera, Scientist-InCharge, CSRSJAF, Bud Bud	VIII th SAC Meeting
08.03.2011	Dr. Jawahar Lal, Scientist, CSRSJAF Bud Bud	VIII th SAC Meeting
08.03.2011	Mr. G. K. Shome, Asstt. Eng, MGNREGS, Burdwan	VIII th SAC Meeting
08.03.2011	Mr. Mainak Bhattacharjee, TO, MGNREGS, Burdwan	VIII th SAC Meeting
08.03.2011	Mr. Sanjay Ghosh, Panagarh, Meghdoot Welfare Society	VIII th SAC Meeting
10.03.2011	Prof. B. Roy, Dept. of Animal Nutrition, WBUAFS, Kolkata	Trg. Prog.
10.03.2011	Prof. S. Biswas, Dept. of APTM, WBUAFS, Kolkata	Trg. Prog.
10.03.2011	Dr. R. Mahendran, Scientist, IICPT, Tamilnadu	Trg. Prog.
11.03.2011	Mrs. Archana Barat, SMS (Home Sc.) CADC KVK Bankura	Trg. Prog.
16.03.2011	Mrs. Sukla Basu, Master Resource Person	Trg. Prog.

#### 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	57	85	-	1600
Introduction of cultivation of jute in new areas	54	80	-	15000/ha
Cultivation of Oyster mushroom in new areas	280	25	-	1000/month
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)*

1. System of Rice Intensification – better yield, less labour & cost effective - Wide coverage of SRI technology: this technology has been widely adopted in several

villages (10 nos.) of Burdwan district. Farmers are getting yield in the range of 6.5 to 7.5 t /ha by adopting this technology.

2. Region specific mineral mixture - This technology improves milk yield, fat % and reproductive performance and better performance of *Deshi cow* through supplementation of region specific mineral mixture. Presently five villages of the district have been practicing this technology.
3. Seed replacement rate enhanced and Seed treatment of different crops has been come in practice through out the district.
4. Seed Village Programme initiated in different blocks of Burdwan which covers around 300 ha area under paddy seed cultivation.
5. Mass vaccination against PPR disease of goat in four villages in the district has been in practice.

**4.3 Details of impact analysis of KVK activities carried out during the reporting period  
Impacts of the different efforts by the KVK during 2010-11 which are hereunder:**

1. Replacement of older varieties of the crops like jute, Mustard etc by Improved varieties of JBO 2003H, JRO 8432, S19 and WBBN1 respectively
2. System of Rice Intensification - better yield, less labour & cost effective - Wide coverage of SRI technology
3. Integrated Farming System- More return from per unit land -Widespread dissemination of Integrated Farming System approach
4. Region specific mineral mixture - Improved milk yield, fat % and reproductive performance and better performance of *Deshi cow* through supplementation of this - Widespread dissemination of this technology
5. Seed replacement rate enhanced & Seed treatment of different crops has been come in practice
6. Use of biofertilizer and biopesticide has been increased
7. Crop diversification i.e. introduction of jute, vegetables in the cropping system
8. Cultivation of off season vegetable - came into practice
9. Soil test based fertilizer application - came into practice
10. Preparation of Jute handicraft - Six of the trainees (Five female and one male) are generating income through handicraft preparation
11. Preparation of Kantha Stitch - Five of the trainees are supplementing family income
12. Vermicompost production - Eight village level production units have been formed
13. Mushroom cultivation - Twenty village level production units have been formed for domestic consumption
14. Self help group - Fifty four (54) SHGs have been formed and actively working in collaboration with KVK and NABARD
15. Seed Village Programme initiated in different blocks of Burdwan which covers around 300 ha area under paddy seed cultivation.

#### 4.4 Details of innovations recorded by the KVK

Thematic area : ITK refinement

Management of animal diseases through refined ITK



Jagulipara, Galsi-I ,  
Burdwan  
(M) 9232794153  
Graduate;  
10 acre land holding

Sk. Sheikh Soyebe, 32 years old farmer of Burdwan district of West Bengal helped the fellow animal rearers through a modified ITK.

**Description and utility:** Diarrhea and foot and mouth disease are quite prevalent in the district causing death of a large number of cattle. A refinement of the ITK in this regard by Sk. Soyebe through feeding paste of branch of *lonka suti* (a local herb) (2 tsf for adult cow and 1 for goat) in semi-solid form to the affected animals for 2 days cured diarrhea of cattle. For controlling foot and mouth disease he applies the decoction (after cooling) externally on the affected part after boiling leaves and twigs (20g) of neem in water (1 liter)(till the colour of leaves turn fade). Though this application is yet to be scientifically tested but a few fellow farmers are successfully practicing this refined ITK to cure their animals.



Lanka Shuti



FMD before treatment



Healthy Cattle after treatment

#### 4.5 Details of entrepreneurship development by the KVK

KVK conducted different trainings and demonstration on the following topics for entrepreneurship development

- Preparation of Jute handicraft - Six of the trainees (Five female and one male) are generating income through handicraft preparation
- Preparation of Kantha Stitch - Five of the trainees (female) are supplementing family income
- Vermicompost production - Eight village level production units have been formed
- Mushroom cultivation - Twenty village level production units have been formed for domestic consumption

#### 4.6 Any other initiative taken by the KVK

- **One Trial on Brown manuring conducted in KVK experimental farm in collaboration with CIMMYT :** One on station demonstration was conducted at KVK, Burdwan in an area of 0.4 ha on brown manuring in rice. The rice cultivar used was MTU 7029. Pre germinated paddy seed (@25 kg/ha) was broadcasted alongwith *sesbania* (@30 kg/ha) in soil after giving one shallow ploughing on 25.6.10. 1/4<sup>th</sup> of 75% recommended N (80 kg ha<sup>-1</sup>) and 75% recommended P and K (40 kg ha<sup>-1</sup>) were applied as basal. No herbicide was used before sowing. Half of the 75% recommended N was applied after 45 days after sowing (DAS) and rest was applied at 70 DAS. Herbicide 2,4-diethyl ester was applied two times, one after 30 DAS and another at 45 DAS. Sesbania was fully destroyed 55 DAS. Water management was done in conventional manner. It was found that productivity increase due to brown manuring was marginal (1.3 %) which may not speak in favour of brown manuring over conventional method of cultivation, but when benefit: cost ratio is considered, brown manuring was found to be much more effective over conventional method in diminishing cost of cultivation (B : C ratio of 1.15 as compared to 0.74 in conventional). The main reason for diminished cost of cultivation was much less

fuel requirement for main field preparation. Also the labour requirement is also less in brown manuring (152 nos.) as compared to conventional (170 nos.). Brown manuring has another advantage in regards of soil quality preservation and remediation. In conventional rice cultivation puddling has to be done to break down soil aggregates, reduce macro-porosity, disperse the clay fraction, and form a dense zone of compaction (i.e. 'plough pan') at depth. In addition to facilitating transplanting, puddling serves several functions including weed control and to reduce deep percolation losses of water.

- Implementation of Integrated Farming System (a model which was developed by KVK) in various ponds excavated in different villages of Burdwan District under MGNREGS scheme with the help of MGNREGS workers
- Workshop conducted with Indian Metrological Department, Govt of India at KVK on Effect of Climate on Agriculture and after that we collect the weather forecast from them and circulate the various stake holders for aware of the farmers of the Burdwan district about the weather forecast for next five days and accordingly they can plan fro their crop management.

#### 4.7 Area not covered by the above or constraints or new proposal for XII plan

N/A

### 5.0 LINKAGES

#### 5.1 Functional linkage with different organizations

Name of organization	Nature of linkage
ATMA	<ul style="list-style-type: none"> <li>• Governing body and management committee member</li> <li>• Conducting Farm school, trainings, demonstration etc.</li> </ul>
RKVY	<ul style="list-style-type: none"> <li>• Governing body and management committee member</li> <li>• Adhoc projects etc.</li> <li>• Training programmes on Greenhouse technology and micro irrigation on horticulture</li> </ul>
MGNREGS	<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>
NABARD	Farmers club, Credit facility for farmers
Indian Metrological Deptt.	Weather forecasting etc.
Bidhan Chandra Krishi Viswavidyalaya, Mohanpur	Time to time planning execution; Planting material collection Bio fertilizers collection; Resource persons
West Bengal University of Animal and Fishery Science	Feed and milk sample analysis
State Department of Agriculture, Burdwan	Time to time planning execution
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>
National Seed Corporation, State Seed Corporation,	Foundation and certified paddy and potato seed etc.
Department of Fisheries, Govt. of W.B	Fish fingerlings supply; Training on fish culture, management Awareness camp on subsidized loan scheme
CIFA, Bhubaneswar	Supply and Installation of Carp Hatchery
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
CBI, SBI & RRBs ,Burdwan Region	Farmers club, Credit facility for farmers
NGOs	Farmers' tour , Training etc
Indian Inst. of Crop Processing Technology, Thanjavur	Collaborative workshop cum training programme for meat workers and for rural youth and women for entrepreneurship development
Inst. of Engg. & Tech. of Burdwan	KVK is member of Management Committee of CDTP

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	Purpose of programme	Date/ Month of initiation	Funding agency	Amount (Rs.)
Adhoc project on Green House	Growing high value crops under green house	April, 2010	RKVY	8,85,000
Innovative projects and CD dev.	Establishment of different demonstration units for farmers	June 2010	ATMA	6,80,000
Workshop cum Training on Meat Processing	Awareness for hygienic meat processing for the Butchers	March, 2011	Indian Inst. of Crop Processing Technology, Thanjavur	-
Workshop cum Training on small scale entrepreneur development	Awareness prog. For farm women for small scale entrepreneurship development	March, 2011	Indian Inst. of Crop Processing Technology, Thanjavur	-
Workshop for MGNREGS workers	Convergence programme of MGNREGS for implementation of various schemes	June, 2010	MGNREGS Burdwan	-

**6. PERFORMANCE OF INFRASTRUCTURE IN KVK**

**6.1 Performance of demonstration units (other than instructional farm)**

Sl. No.	Demo Unit	Year of estt.	Area	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	
1.	Portable carp hatchery	Under Construction							
2.	Integrated farming system	Under Construction							
3.	Greenhouse	2010	1008	Orebelle,	Colour	20	28000	41000	

			sq.m	Bomby	Capsicum				
4.	Drip irrigation in fruit orchard	2011	1 ha	Fruit orchrd	-	-	-	-	Orchard is at early stage
5.	Vermi-compost unit	2010	480 sq.ft	Compost					Worms just released

### 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)	15.07.2010	10.12.2010	5 ha	MTU 7029	Certified seed	210 q	55,000		Not yet sold
Colour Capsicum	1.09.2010	Upto 1.03.2011	1008 sq.m	Orebelle, Bomby	Colour Capsicum	20 q	28000	41000	
Vegetables seedlings (tomato)	12.09.2010	10.10.2010	-	Avinash 2	seedling	7500 nos.	1500	4800	

### 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	

### 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 10	--	--	--
May 10	--	--	--
June 10			--
July 019	100	100	--
August 10	120	120	--
September 10	75	75	--
October 10	50	50	--
November 10	50	50	--
December 10	100	100	--
January 11	55	55	--
February 11	50	50	--
March 11	200	200	

## 6.6 Utilization of staff quarters

Whether staff quarters has been completed:

Completed and under process for taking over

No of staff quarters: Six (06)

Date of completion: March 2011

### Occupancy

Months	Q I	Q II	Q III	Q IV	Q V	Q VI

## 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 2011
	Kharif 2010	Rabi 2010-11	Kharif 2010	Rabi 2010-11	
Inputs					Rs. 7,000.00
Extension activities					
TA/DA/POL etc.					
TOTAL					

\* FLD on mustard conducted from contingency and results given in the page no 34

### 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 2011
	Kharif 2010	Rabi 2010-11	Kharif 2010	Rabi 2010-11	
Inputs					Rs. Nil
Extension activities					
TA/DA/POL etc.					
TOTAL	-				

### 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 2011
	Kharif 2010	Rabi 2010-11	Kharif 2010	Rabi 2010-11	
Inputs					Nil
Extension activities					
TA/DA/POL etc.					
TOTAL					

## 7.5 Utilization of KVK funds during the year 2010-11 till date

### 7.5 A. Utilization of KVK funds during the year 2010-11

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>	70.00	70.00	54.45
2	<b>Traveling allowances</b>	1.45	1.45	1.23
3	<b>Contingencies ( A+B+C+D+E+F+G+H+I+J)</b>	8.00		
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	3.33	3.33	2.87
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)	3.32	3.32	2.23
E	Training of extension functionaries			
F	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	0.60	0.60	0.40
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	0.36
H	Maintenance of buildings			
I	Establishment of Soil, Plant & Water Testing Laboratory			
J	Library			
<b>TOTAL (A)</b>		<b>79.45</b>	<b>79.45</b>	<b>61.54</b>
<b>B. Non-Recurring Contingencies</b>				
1	<b>Works</b>	-	--	--
2	<b>Equipments including SWTL &amp; Furniture</b>	14.30	14.30	0.77
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>2.47</b>	<b>0.84</b>
<b>GRAND TOTAL (A+B)</b>		<b>93.82</b>	<b>93.82</b>	<b>62.38</b>

## 7.6 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 2008 to March, 2009	1,19,090	29400/-	1,39,468/-	9022 /-
April 2009 to March 2010	9022 /-	2,63,036/-	2,31,496./-	40,562 /-
April 2010 to March 2011	40,562/-	1,95,480/-	2,40,522.00	(-) 4480.00 plus Rs. 5,00,000 in kind of seed

## 7.7 Any other significant achievements (provide full details with action photograph)

7.8 Number of SHGs formed by KVKs/associated with SHGs formed by other organizations. 54 nos.