ANNUAL REPORT
2012 – 13

KRISHI VIGYAN KENDRA BURDWAN

KRISHI VIGYAN KENDRA
Central Research Institute for Jute & Allied Fibres (ICAR)
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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
Bud Bud, Burdwan-713 403. West Bengal	Office - 0343 2513651	Fax - 0343 2513651	kvkburdwan@gmail.com **Web:** www.kvkcrijaf.org.in

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 (till 30.11.12)	08961999370	09432955117	**fhrahmancal@gmail.com**
Dr. D. Ghorai (I/C) (from 01.12.12 till date)	03325772766	09433122515	dipankarghoraikvk@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 31th March, 2013)

SN	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	VACANT						
2	Subject Matter Specialist	Dr. Dipankar Ghorai	I/C PC and SMS	Agriculture	Rs. 15600-39100 Grade Pay - 5400 Basic – Rs. 25080	26.04.2006	**Permanent**	GEN
3	Subject Matter Specialist	Mr. Golam Ziauddin	SMS	Fisheries	Rs. 15600-39100 Grade Pay - 5400 Basic – Rs. 23640	28.04.2006	**Permanent**	GEN
4	Subject Matter Specialist	Dr. Chandrakanta Jana	SMS	AH&VS	Rs. 15600-39100 Grade Pay - 5400 Basic – Rs. 22950	29.04.2006	**Permanent**	GEN
5	Subject Matter Specialist	Dr. Subrata Sarkar	SMS	Horticulture	Rs. 15600-39100 Grade Pay - 5400 Basic – Rs. 25080	04.05.2006	**Permanent**	GEN
6	Subject Matter Specialist	Ms. Poli Saikia	SMS	Home Sc.	Rs. 15600-39100 Grade Pay - 5400 Basic – Rs. 21000	09.04.12	**Permanent**	OBC
7	Subject Matter Specialist	Dr. Monica S. Singh	SMS	Agril. Extn.	Rs. 15600-39100 Grade Pay - 5400 Basic – Rs. 21000	09.07.2012	**Permanent**	GEN
8	Computer	Sk Golam Rasul	Prog.	Computer	Rs. 9300-34800	10.04.2006	**Perman**	GEN

	Programmer		Assistant (Computer)		Grade Pay - 4600 B. Pay – 17040		**ent**	
9	Programme Assistant	Mr. Sandipan Garai	Prog. Assistant	Agriculture	Rs. 9300-34800 Grade Pay - 4600 B. Pay – 17040	18.04.2006	**Perman ent**	OBC
10	Farm Manager	Mr. Soumya Sarathi Kundu	Prog. Assistant (Farm Manager)	Agriculture	Rs. 9300-34800 Grade Pay - 4200 B. Pay – 15670	06.01.2007	**Perman ent**	GEN
11	Accountant / Superintendent	Mr. Baidyanath Mukhopadhyay	Assistant	--	Rs. 9300-34800 Grade Pay - 4200 B. Pay – 16140	15.03.2006	**Perman ent**	GEN
12	Stenographer	Mr. Sushanta Dey	Stenographer Gr - III	--	Rs.5200-20200 G. P. – 2400, B. Pay – 11860	20.03.2006	**Perman ent**	GEN
13	Driver	Mr. Joydeep Pal	Driver – cum - mechanic	--	Rs.5200-20200 G. P. – 2400, B. Pay – 10070	06.07.2006	**Perman ent**	GEN
14	Driver	Mr. Santi Nath Pal	Driver– cum - mechanic	--	Rs.5200-20200 G. P. – 2400, B. Pay – 10070	10.07.2006	**Perman ent**	OBC
15	Supporting staff	Mr. Shyamal Bhanja	Supporting staff	Peon	Rs. 5200-20200 G. P. – 1800, B. Pay - 8380	25.02.2006	**Perman ent**	GEN
16	Supporting staff	Mr. Anup Das	Supporting staff	Cook	Rs. 5200-20200 G. P. – 1800, B. Pay - 8380	01.03.2006	**Perman ent**	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. N.	Name of building	Not yet started	Complete d up to plinth level	Complete d up to lintel level	Completed up to roof level	Totally completed	Plinth area (Sq.m)	Source of fund
1.	Administrative Building					Completed	552	ICAR
2.	Farmers Hostel					Completed	306	ICAR
3.	Staff Quarters (6)					Completed	400	ICAR
4.	Demonstration Units (6)							
	Integrated farming system					Completed		ICAR
	Greenhouse					Completed		RKVY
	Drip irrigation in fruit orchard					Completed		ATMA

	Feed grinding machine					Completed		ATMA
	Vermicompost unit					Completed		ATMA
	Portable carp hatchery					Completed		ICAR
5	Fencing					Completed	925 m	ICAR
6	Rain Water harvesting structure					Completed	6000 sq.m.	MGNREGS
7	Threshing floor							
8	Farm godown							
9.	Deep tube well					Completed		ICAR

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	-	23991	87488 since its possession from PSB, Shantiniketan on 08.05.2006	In running condition
Tractor	01.04.1999	-	130 hrs	829 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
Atomic absorption spectrophotometer	2012-13	944832.00	To be installed shortly
CRIJAF Nail weeder	2012-13	3400.00	In working condition
Fax machine	2012-13	14980.00	In working condition

Farm implements			
Brush cutter	2011-12	22360.00	In working condition
Seed drill	2011-12	66500.00	In working condition
Rotovator	2011-12	107120.00	In working condition
Sprayer	2011-12	7300.00	In working condition
Paddy thresher	2011-12	12000.00	In working condition
Power reaper	2011-12	85476.00	In working condition

1.8.A) Details SAC meeting conducted in the year

S.N	Date	Number of Participants	Salient Recommendations	Action taken
1	12.04.2012	56	*1.* Concerted effort of KVK and line departments for holistic development. 2. More diversification of production 3. KVK should have more involvement in the RKVY programmes. 4. Village seed production programmes of cultivars other than popular ones must be appraised for marketing beforehand. 5. KVK may initiate bio-village programme under RKVY. 6. Low cost technologies should be promoted by KVK 7. Farmers' filed samples should be collected by KVK personnel for better reproducibility. 8. More no. of villages to be adopted. 9. Farm implements may be demonstrated in the farmers field.	-

Proceedings of the Ninth Scientific Advisory Committee held on Apr 12, 2012 **- See Annexure - I**

2. DETAILS OF DISTRICT (2012-13)

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
8.	Fish-duck-banana production system

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

S. No	**Agro-climatic Zone**	**Characteristics**
1.	New Alluvium	Average annual rainfall 1300-1600 mm, Soil type- sandy loam, clay and clay loam, Soil depth 4-6 ft with medium to good water holding capacity, Neutral to acidic soil with good fertility.
2.	Old Alluvium	Average annual rainfall 1300-1500 mm, Soil type- sandy loam and clay loam Soil depth 4-6 ft with medium to good water holding capacity

		Neutral to acidic soil with good fertility
3.	Red and Lateritic	Average annual rainfall 1100-1400 mm, Soil type- sandy loam, coarse in texture Undulating land with low soil depth, sometimes hard layer present in sub surface Medium to highly acidic soil

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

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

(Source: NBSS&LUP (ICAR),, 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 pady	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, 2011, Bureau of Applied Economics & Statistics, Govt. of West Bengal)

2.5. Weather data (Avg. of 5 years)

Month	Temp ˚C		R.H. % (Noon)	Rain (mm)
	Max	Min		
April	30.6	18.5	87	70.9
May	34.0	19.1	88	85.0
June	33.6	17.9	86	21.6
July	35.1	25.4	86	364.9
August	33.9	25.3	82	203.0
September	34.3	24.1	79	268.5
October	33.3	23.3	69	71.0
November	29.5	18.4	57	0.0
December	25.5	11.1	49	0.0
January	24.5	7.2	75	15.5
February	29.2	12.1	76	12.1
March	31.2	11.8	82	23.6

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

Category	Population	Production	Productivity
Cattle			
Crossbred	243633	464080 tonnes milk	280 kg milk /year
Indigenous	1486985		
Buffalo	120356	--	--
Sheep			
Crossbred			
Indigenous	175669	61.887 kg (wool)	
Goats	1408200	4000 MT (meat)	
Pigs			
Crossbred			
Indigenous	99931	420 MT (Meat)	
Rabbits			
Poultry			
Hens			
Desi	4624236	2672.40 lakh egg	85 no. eggs/year
Improved			
Ducks	1778834		
Turkey and others	27981		
Fish			
Marine			
Inland	50448.19	36029.787	3250
Prawn			

(Source: Livestock population, W.B., Animal Resources Development Department, 2009)

2.7 Details of Operational area / Villages

S.N	Taluk	Block	Village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1	Durgapur	Kanksa	Keten (Ghosh para, Bauri para and Pan para)	Paddy, potato, mustard, sesame, lentil, vegetable, cattle, poultry, duck, goat, fish	***Bio-physical*** **Low productivity of all major crops** • Non-availability of quality seed / planting materials • Marginal soil • Limited water resources for irrigation • Indiscriminate and inappropriate use of chemical fertilizer **Inadequate descriptive/prolific breed of livestock** **Poor feed resources** ***Socio- economic*** **Lack of credit facilities** **Lack of awareness regarding good agronomic /husbandry practices** **Very restricted livelihood option**	• Integration of good agronomic practices • Providing quality seeds/planting materials • Diversification of land use • Soil health management like organic farming etc. • Livestock productivity improvement and health care • Efficient utilization of water bodies • Entrepreneurship development
2	Durgapur	Galsi-I	Jaguli para (Mollapara and Bauripara), Silla, Ramgopalpur, Atpara, Raipur	Kharif Paddy, boro paddy, mustard, fodder, cattle, poultry, duck, goat, fish	***Bio-physical*** **Low productivity of all major crops** • Non-availability of quality seed materials • High cost involvement for major crops • Indiscriminate and inappropriate use of chemical fertilizers • Low input of organics & biofertiliser **Lesser extent of crop diversification** **Low productivity of livestock & poultry** **Poor feed resources** ***Socio-economic*** • Lack of credit facilities • Inadequate house hold income generation	• Providing quality seeds/planting material • Diversification of land use • Entrepreneurship development • Organic farming • Health care • Improvement of women led vocations • Popularization of balanced feeding practices
3.	Burdwan North	Galsi-II	Garamba-Bhasapur	Aus paddy, kharif paddy, jute, potato, mustard, vegetable cattle, poultry, Goat, fish		
4.	Durgapur	Galsi-I	Manikbazar-Jharul, Nurkona	Paddy, potato, mustard, sesame, lentil, vegetable, cattle, poultry, duck, goat, fish, pig		

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
8.	Empowerment of women through post harvest operation

TECHNICAL ACHIEVEMENTS

3. A. Details of target and achievement of mandatory activities by KVK during 2012-13

OFT				FLD			
1				2			
Number of OFTs		Number of farmers		Number of FLDs		Number of farmers	
Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
07	07	50	50	110	139	110	139

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
61	113	2500	2876	500	948	7000	12700

Seed production (q)		Planting material (Nos.)	
5		6	
Target	Achievement	Target	Achievement
200	200 (at KVK farm)	50000 nos. Of seedlings of tomato, cauliflower, brinjal etc.	70000
1000	1100 (at village)		

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

(Total number of OFT conducted – 06 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 district**
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: JBO 128 **Technology - 2** to be assessed: JRO 204 **Technology - 4** to be assessed: JRO 8432
4	Source of Technology	CRIJAF
5	Production system and thematic area	Rainfed rice based production system
6	Performance of the Technology with performance indicators	**Results indicated that as regards productivity JRO 204 and JRO 128 produced significantly more fibre and were at par followed by JRO 8432**
7	Final recommendation for micro level situation	JRO 204 and JRO 128 is to be promoted
8	Constraints identified and feedback for research	Seed is not easily available in the market
9	Process of farmers participation and their reaction	Through training, demonstration, field day. Farmers were very much encouraged by the performance of the newer varieties as well as the quality of the seeds

OFT 2:

1	Title of On farm Trial	**Assessment of performance SRI under different modes of nutrition in medium upland soils of Burdwan**
2	Problem diagnose	Inadequate productivity
3	Details of technologies selected for **assessment**/refinement	**FP**: Conventional rice cultivation **TO1:** Integrated nutrition in SRI (25% through organic+75% inorg.) **TO2:** Inorganic nutrition in SRI
4	Source of Technology	ANGRAU
5	Production system and thematic area	Rainfed rice based production system
6	Performance of the Technology with performance indicators	**The SRI technology increased yield to the tune of 32-36 % and was doubly remunerative**
7	Final recommendation for micro level situation	SRI technology to be followed
8	Constraints identified and feedback for research	Water logging is a major problem. Need to evolve location specific modification.
9	Process of farmers participation and their reaction	Through training , demonstration, farmer field school. Farmers were very much encouraged by the performance of the newer varieties as well as the quality of the seeds

OFT 3:

1.	Title of On farm Trial	**Evaluation of different varieties of tomato in Burdwan district**
2.	Problem diagnose	Low productivity of tomato due to non use of location specific suitable hybrid varieties
3.	Details of technologies selected for **assessment**/refinement	**Farmers' practice:** JK Deshi (F1) **Technology -** 1 to be assessed: Avinash 3 (F1) **Technology -** 2 to be assessed: Abhilash *(*F1*)*
4.	Source of technology	BCKV
5.	Production system	Rainfed rice based production system
6.	Performance of the Technology with performance indicators	**Result indicated that Most of the Tomato growers in the study area used locally available hybrid (JK Deshi) which had low bearing habits and yield. Introduction of hybrids like Abinash 3 and Abhilash gave better results than the conventional ones. Abhilash was the best in terms of yield as well as production economy.**
7.	Final recommendation for micro level situation	Farmers should replace existing varieties with the varieties like Avinash 3, abhilash etc.
8.	Constraints identified and feedback for research	High cost and non availability of specific hybrid seeds
9.	Process of farmers participation and their reaction	Through training and field level demonstration Farmers were satisfied with the performance of the technology.

OFT 4:

1	Title of On farm Trial	**Evaluation of performance of different poultry breeds in Burdwan district under backyard farming.**
2	Problem diagnose	Poor egg production in poultry birds is due to use of local, non descriptive breed
3	Details of technologies selected for **assessment**/refinement	**Farmers' practice:** Local breed **Technology 1 to be assessed:** *Rhode Island Red (RIR)* **Technology 2 to be assessed:** *Vanaraja*
4	Source of Technology	WBUAFS, Kolkata
5	Production system and thematic area	Livestock and poultry based production system, Breed evaluation
6	Performance of the Technology with performance indicators	Vanaraja breed performed well in term of adoptability and growth rate at this farming situation
7	Final recommendation for micro level situation	Vanaraja may be reared as rural poultry breed for dual purpose under low input system at this agro-climatic condition with minimum health care approaches.
8	Constraints identified and feedback for research	Males are more fighting in nature; Growth of Vanaraja birds impressed the farmers
9	Process of farmers participation and their reaction	Through training , health camp and group discussion Growth of the Vanaraja is faster than RIR

OFT-5:

1	Title of On farm Trial	**Evaluation of performance of different pig breeds in Burdwan district under low input system.**
2	Problem diagnose	Poor meat production in pig is due to use of non descriptive breed
3	Details of technologies selected for **assessment**/refinement	**Farmers' practice:** Local breed **Technology 1 to be assessed:** White Yorkshire **Technology 2 to be assessed:** Ghungroo
4	Source of Technology	NRC on Pig, Assam
5	Production system and thematic area	Livestock and poultry based production system, Breed evaluation
6	Performance of the Technology with performance indicators	White Yorkshire performed well in term of growth rate upto selling but ghungroo is much prolific and easily manage by tribal community using low input system
7	Final recommendation for micro level situation	Concerning significantly higher litter size, Ghungroo pig may be recommended at tribal area with low input system but trial should be continued for another one year to observe litter size in subsequent fallowing
8	Constraints identified and feedback for research	In tribal area, there is scarcity of feed to meet the nutritional requirement of heavy breed like white Yorkshire; Litter size of ghungroo pig impressed the farmers and acceptability of meat of this breed is more among their community.
9	Process of farmers participation and their reaction	Through training , health camp and group discussion Piglet mortality ghungroo pig after weaning was less as compared to White Yorkshire

OFT 6:

1	Title of On farm Trial	**Effect of various stocking densities of IMC on fish productivity under pond ecosystem of Burdwan**
2	Problem diagnose	Poor fish productivity in domestic small and medium sized ponds is due to improper number of stocked fishes.
3	Details of technologies selected for **assessment**/refinement	**Farmers' practice :** Stocking density 7500 nos. fish/ha **Technology - 1 to be assessed:** Stocking density 10000 nos. fish/ha **Technology - 2 to be assessed:** Stocking density 15000 nos. fish/ha
4	Source of Technology	IIT, Kharagpur
5	Production system and thematic area	Extensive fish based production system, density evaluation
6	Performance of the Technology with performance indicators	Stocking density @15000/ha performed better in terms of growth rate and total yield at this farming situation
7	Final recommendation for micro level situation	Need further observation for one year
8	Constraints identified and feedback for research	Nil
9	Process of farmers participation and their reaction	Through training , group discussion Positive about the optimum stocking density.

OFT-7:

1	Title of On farm Trial	**Supplementation of diversified vegetables to farm families through kitchen garden**
2	Problem diagnose	Two-three cucurbit plants in kitchen garden is practiced in village fail to supplement the farm families' vegetable requirement, leading to buy vegetables from market at a higher price. At the same time the land adjacent to the household become unutilized.
3	Details of technologies selected for **assessment**/ refinement	FP- Farmers' practice (only cucurbits) with mannuring **TO1= Diversified vegetables (cucurbits, brinjal, chilli, tomato, okra, bean and GLV) with mannuring** **TO1= Diversified vegetable(cucurbits, brinjal, chilli, tomato, okra, bean and GLV)+ mannuring +Fertilizers**
4	Source of Technology	ICAR
5	Production system and thematic area	Semi intensive, adjacent to the household , Increase production of the garden and nutritious vegetables improve diet of farm families
6	Performance of the Technology with performance indicators	Better than the conventional in respect to total yield and availability of diversified vegetables
7	Final recommendation for micro level situation	Diversified vegetables should be grown with good manuring
8	Constraints identified and feedback for research	Problem of grazing and availability of quality seed. Farm women were realizing the fact of supplementing the diversified vegetables for daily diet by doing kitchen gardening
9	Process of farmers participation and their reaction	Through training and awareness camp. Positive and satisfactory.

3. 1. 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 21 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. Jurjuti-Bajpara is one such village in Galsi – II block of the district. Productivity of jute, as divulged by villagers is on the decline due to non availability of improved varieties as well as good quality seed.

The On Farm Trial was conducted in five farmers' fields, namely, Amal Sarkar, Nityananda sarkar, Manoranjan Roy, Shankar Sarkar and Gautam Biswas, of village Jurjuti-Bajpara, Galsi-II, each of them being considered as a replication. Results indicated that as regards productivity JRO 204 (31.15 q/ha) and JRO 128 (30.25 q/ha) produced significantly more fibre and were at par followed by JRO 8432 (27.13 q/ha).

Table 1: 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)					
FP: JRO 524 (Locally available seed)	5	255	1.32	24.48	36420	44064	7644	1.21
TO1:JRO 128		312	1.38	30.25	36420	54450	18030	1.50
TO2: JRO 204		324	1.36	31.15	36420	56070	19650	1.54
TO3: JRO 8432		286	1.38	27.13	36420	48834	12414	1.34
LSD at 5%		20.45	NS	2.15				

OFT2: Assessment of performance SRI under different modes of nutrition in medium upland soils of Burdwan

Problem definition: Inadequate productivity of paddy

Technology assessed or refined (as the case may be): 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. It was observed (Table 2) that there was nearly 32% increase in SRI with 100% inorganic nutrition while the respective increment for SRI with 75% inorganic + 25% organic nutrition was 36% over FP although both being statistically at par.

Table 2: Yield performance of rice in different methods of cultivation

Technology option	No. of trials	Yield (q/ha)	Cost of cultivation Rs./ha)	Gross return (Rs./ha)	Net Return (Rs / ha)	BC Ratio
TO 1: Farmers' practice	7	52.45	38750	62940	21690	1.53
TO 2: *SRI* with 100% inorganic nutrition		68.72	36250	82464	45589	2.24
TO 3: *SRI* with 75% inorganic + 25% organic nutrition		70.25	37500	84300	46175	2.21
LSD at 5%		**2.51**				

OFT 3: Vareital trials

Problem definition: Low productivity of tomato due to non use of improved and hybrid varieties

Technology assessed or refined (as the case may be): introduction of hybrid varieties of tomato

The use of local varieties is the main cause of low yield of tomato. Most of the Tomato growers in the study area used locally available hybrid (JK Deshi) which had low bearing habits and yield. Introduction of hybrids like Abinash 3 and Abhilash gave better results than the conventional ones. Abhilash was the best in terms of yield as well as production economy.

Table 3: effect of yield on using of improved varieties of okra

Technology option	No. of trials	Yield (t/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs./ha)	Net Return (Rs / ha)	BC Ratio
Farmers' practice : JK Deshi (F1)	10	27.15	82500	192570	110070	2.33
TO 1: Abinash 3 (F1)		30.50	85600	213500	127900	2.49
TO 2: Abhilash (F1)		34.20	85600	239400	153800	2.79
CD(P=0.05)		2.10				

OFT 4: Poultry breed Evaluation under backyard farming (2nd year)

Problem definition: Poor egg production in poultry birds is due to use of local and non descriptive breed of poultry

Technology assessed or refined (as the case may be): ***Adoption of improved rural poultry breed under backyard management practice***

Rural poultry breeds were evaluated under backyard management practices by KVK Burdwan. The trial was conducted in two adopted villages with Local breed, Vanaraja and RIR. The trial is continuing and the birds are in laying condition. Only 6 months egg production data have been presented but adoptability and growth rate of Vanaraja breed are very much attractive to the farmers. There was no significant ($p<0.05$) difference in number of egg production between two improved breeds but weight of egg of RIR breed was significantly higher. The fighting habit of Vanaraja breed helps to adopt in free range farming situation in compare to RIR. The Vanaraja breed of poultry are more capable to search feed in free range system.

Table 4.A. : Effect of different technology options on productivity of egg.

Technology Assessed	*Production per unit (Avg. egg production/10 hen/6 month)	Cost of rearing (Rs./10 hen)	Gross return (Rs./10 hen)	Net Return (Profit) in Rs. (10 hen/yr)	B:C Ratio (Gross return : cost)
Farmers' practice: Local breed	532.9[b]	1800	2131.6	331.60	1.18
TO1= *Rhode Island Red (RIR)*	1142.9[a]	2350	5714.5	3364.5	2.43
TO2= V*anaraja*	1090.2[a]	2330	5451.0	3121	2.33

Table 4.B. : Effect of different technology options on egg production, age of 1st laying and wt at laying.

Technology options	Egg production (egg/10 hen/6 month	Age of 1st laying (wk)	Wt of egg (g)
FP	532.9[b]	25.86 [a]	36.14[c]
TO1	1142.9[a]	23.00[b]	52.43[a]
TO2	1090.2[a]	23.14[b]	49.86[b]

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

OFT 5: Evaluation of performance of different pig breeds in Burdwan under low input system

Problem definition: Poor body growth performance in pig is due to use of non descriptive breed of pig under low input system.

Technology assessed or refined (as the case may be): ***Adoption of improved pig breed under low input management practice***

Pig breeds were evaluated under low input management system by KVK Burdwan in tribal area. The trial was conducted in one adopted villages with non descriptive breed, White Yorkshire and Ghungroo breed in low cost housing and feed management practice. Pigs were maintained on boiled weeds and rice polish, hotel waste, different unused vegetables and strategic feed supplementation.

There was significantly ($p<0.05$) higher in body weight at selling (at the age of 6 month) in white Yorkshire breed but litter size at birth was significantly higher in ghungroo pig under low input system.

Table 5.A. : Effect of different technology options on productivity of pig.

Technology Assessed	*Production per unit Body wt at selling in Kg (at six month age)	Cost of rearing (Rs./pig)	Gross return (Rs./pig)	Net Return (Profit) in (Rs./pig)	B:C Ratio (Gross return : cost)
Farmers' practice: Local breed	30.43^{c}	2550	3043	493	1.19
TO1= White Yorkshire	57.29^{a}	3600	5129	2129	1.59
TO2= Ghungroo	40.43^{b}	3200	4043	843	1.26

Table 5.B. : Effect of different technology options on body wt (Kg) and litter size at birth.

Technology options	Body wt at selling in Kg (at six month age)	Litter size at birth
FP	30.43^{c}	4.7^{c}
TO1	57.29^{a}	8.14^{b}
TO2	40.43^{b}	11.14^{a}

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

OFT 6: IMC culture

Problem definition: ***low fish*** production of IMC is due to poor management of stocking density of fingerlings.

Technology assessed or refined (as the case may be): Stocking density evaluation of IMC

IMC fish fingerlings were evaluated under extensive management practices by fishers of Burdwan district. The trial was conducted with fingerlings of IMC. The trial is very successful in farming condition of Burdwan 9 months fish production data have been presented but results of this trial is very much encouraging to the farmers.

Table 6.A. : Effect of different technology options on productivity of fish

Technology Assessed	*Production per unit (Avg. fish production in q/ha/yr)	Cost of production (Rs./ha)	Gross return (Rs./ha)	Net Return (Profit) in Rs./ha/yr)	B:C Ratio (Gross return : cost)
Farmers' practice : (Stocking density 7500 nos. fish/ha)	9.03	64042	90300	26258	1.41
Technology – 1 to be assessed: Stocking density 10000 nos. fish/ha	13.61	74780	136100	61320	1.82
Technology – 2 to be assessed: Stocking density 15000 nos. fish/ha	16.03	77439	160300	82861	2.07

Fish is the predominantly major crop of Burdwan . Stocking density management practices among farmers are grossly unbalanced and without use of knowledge of maximum carrying capacity. Fish farmers do not get adequate yield owing to nonscientific management practices stocking density management.

Stocking optimum density of fish resulted in significantly higher productivity as compared to FP. However the practice of 15000 nos. per ha of fingerling resulted in significant differences in productivity. Therefore the OFT was also aimed at showing the farmers that they can stock the OFT stocking density i.e., 15000/ha.

Table 6.B.: Effect of stocking density on fish production

Technology options	Length (mm)	Wt of fish (gm)	Yield (q/ha)
FP	184.00 ^{c}	120.38^{c}	9.03^{c}
Tech option -1	237.19 ^{b}	181.52^{b}	13.61^{b}
Tech option - 2	297.13 ^{a}	253.70^{a}	16.03^{a}

*Treatments are significantly different at 5% levels.

OFT 7: Kitchen garden

Problem definition: Low productivity and hence consumption vegetables in daily diet

Technology assessed or refined (as the case may be): Kitchen garden with diversified vegetables and manuring

Table 7.A. : Effect of different technology options on economics of cultivation

Technology Assessed	**Cost of production (Rs./ha)**	**Gross return (Rs./ha)**	**Net Return (Profit) in Rs./ha/yr)**	**B:C Ratio (Gross return : cost)**
FP- Farmers' practice (only cucurbits) with mannuring	51000	107100	56100	2.1
TO1= Diversified vegetables (cucurbits, brinjal, chilli, tomato, okra, bean and GLV) with mannuring	89020	163800	100800	2.6
TO1= Diversified vegetable(cucurbits, brinjal, chilli, tomato, okra, bean and GLV)+ mannuring +Fertilizers	104561	182000	117000	2.8

Table 7.B. : Effect of different technology options on productivity of diversified vegetables in kitchen garden

Crops	Production (kg) within 120 sqm of garden			production (t/ha)			Avg. Cumulative productivity (kg/ha)		
	FP	TO1	TO2	FP	TO1	TO2	FP	TO1	TO2
Pumpkin	68	25.3	30.6	17	19	23	11.33	10.38	12.48
Bitter Gourd	32	10.6	13.3	8	8	10			
Ridge gourd	36	10	12	9	7.5	9			
Brinjal	-----	29.3	31.3	----	22	23.5			
Tomato	-----	26.6	29.3	----	20	22			
Chilli	-----	4	8	----	3	6			
Okra	-----	6.7	9.3	---	5	7			
Cowpea	----	8	10	---	6	7.5			
Palak	----	4	6	---	3	4.5			

3.2 Achievements of Frontline Demonstrations

A. Details of FLDs implemented during 2012-13 (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	Improved variety	JRO 204	Pre kharif 12	10	10	40	-	25	65	-
2.	Rice	Improved technology	SRI	kharif 12	1	1	2	1	2	5	-
3.	Lentil	Improved variety	WBL 81	Rabi 2012-13	1	1	2	-	5	7	
4.	Tissue culture banana	Production technology	Tissue cultured	Through out the year (Kharif sowing)	1	1	2		5	7	
5	Mango	Crop diversification	Langra, Himsagar	Through out the year	1	1.5	4	0	4	8	
6	Guava	Crop diversification	L-49	Through out the year	1	1.5	4	0	3	7	
7	Rice bean (fodder)	Fodder production	Improved production technology	Kharif 12	0.2	0.2	-	-	5	5	-
8	Oat (fodder)	Fodder production	Improved production technology	Rabi 12-13	0.2	0.2	1	-	4	5	
9	Berseem (Fodder)	Fodder production	Improved production technology	Rabi 12-13	0.2	0.2	1	-	4	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 12	Irrigated	Sandy loam	198	54	234	Potato	03.04.12 – 05.05.12	22.07.12 – 25.08.12	--	--
Rice	kharif 12	Irrigated	Clay loam	220	78	356	Fallow	15.6.12	01.11.12	-	-
Lentil	Rabi 2012-13	Irrigated	Clay loam	250	24	358	Rice	20.11.12	27.01.13		
Tissue culture banana	kharif 12	Irrigated	Clay loam	Crop standing, result awaited							

Mango (8) var. Langra, Himsagar	kharif 12	Irrigated	Clay loam	Crop standing, result awaited							
Guava (7) L 49	kharif 12	Irrigated	Clay loam	Crop standing, result awaited							
Rice* bean (fodder)	Kharif 12	Rainfed	Clay loam	230 – 315	27 – 45	215 – 320	Vegetables/ No crop	27.06.12-01.07.12	25.08.12-30.08.12;25.09.12 and 26.10.12	-	-
Oat (fodder)*	Rabi 12-13	Irrigated	Clay loam	230 – 315	27 – 45	215 – 320	Paddy	01.12.12-05.12.12	01.02.13-10.02.13 ;01.03.13;31.03.13		
Berseem * (Fodder)	Rabi 12-13	Irrigated	Clay loam	230 – 315	27 – 45	215 – 320	Paddy	01.12.12-05.12.12	20.01.13-1.02.13 ;28.02.13		
IFS	Year round	--	--	-	-	-	-		Year round	--	--

*** multi cut fodder**

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
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total															

* 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
Lentil	Varietal	Improved variety	7	1	8.15	6.65	22.5	9750	24450	14700	2.51	9750	19950	12200	2.04
Total	**Varietal**	**Improved variety**	**7**	**1**	**8.15**	**6.65**	**22.5**	**9750**	**24450**	**14700**	**2.51**	**9750**	**19950**	**12200**	**2.04**

* 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
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* 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	5	1	68.2	51.2	33	Please see the tables below		35000	75020	40020	2.14	38125	56320	18195	1.48
Flower crops	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rice bean (Fodder)	Production technology	Bidhan 1	5	0.2	243	193.4	25.64	See in table		7766	15795	8029	2.03	7570	12571	5001	1.66
Oat (fodder)	Production technology	Kent	5	0.2	408	358	13.9	See in table		8800	18360	9560	2.09	8700	16110	7410	1.85
Berseem (Fodder)	Production technology	Wardan	5	0.2	467	389.6	19.8	See in table		11300	23350	12050	2.07	11000	19480	8480	1.77
Fibre crops (Jute)	Varietals trial	Improved variety	65	10	28.9	23.7	22	Please see the tables below		34375	52020	17645	1.51	35200	42660	7460	1.21
Others (Tissue cultures banana)	**Production technology**	Improved variety (*Grand naine*)	**10**	**1**	Result awaited												
Mango	**Production technology**	Langra, Himsagar	**8**	**1**	Result awaited												

Guava	**Production technology**	L 49	**7**	**1**	Result awaited
	Total		**110**	**14.6**	

* 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: Jute (**Improved variety:jro 204)

Crop	**Parameters**	**Data on parameter in relation to technology demonstrated**	
		Demo	**Local**
Jute	Plant height (cm)	264	234
	Base diameter (cm)	1.25	1.22

*** Data on parameters: Rice (**SRI)

Crop	**Parameters**	**Data on parameter in relation to technology demonstrated**	
		Demo	**Local**
Rice	Plant height (cm)	115	113
	Effective tiller/hill	20.4	11.2
	No. of filled grains/panicle	184	139
	Panicle length (cm)	23.1	16.9
	Test weight (g)	23.4	20.1

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

Crop	**Parameters**	**Data on parameter in relation to technology demonstrated**	
		Demo	**Local**
Rice bean	Leaflet length (cm)	11.56	9.51
	Leaflet width (cm)	8.20	5.32
	Dry Matter %	15.4	14.9
	Total yield (q/ha)	243	193.4

*** Data on parameters: Oat (as Fodder)**

Crop	**Parameters**	**Data on parameter in relation to technology demonstrated**	
		Demo	**Local**
Oat	Plant length (cm)	120	109
	Dry Matter %	20.65	19.54
	Crude protein (%) on Dry matter basis	10.50	10.30
	Total yield (q/ha)	408	358

*** Data on parameters: Berseem (as Fodder)**

Crop	Parameters	Data on parameter in relation to technology demonstrated	
		Demo	Local
Berseem	Plant length (cm)	92	85
	Dry Matter %	14.09	13.90
	Crude protein (%) on Dry matter basis	19.02	18.85
	Total yield (q/ha)	467	389.60

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
Cattle	Nutrition management	Mineral mixture	10	10	492.4	346.2	42.2	211	183	6545	12803.7	6258	1.96	6270	9002.5	2732.5	1.43
Cattle	Nutrition management	Home made feed	10	10	546.7	351.0	55.7	212	183	7230	14215.5	6985.5	1.97	6230	9127.3	2897.3	1.46
Buffalo	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Poultry	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
goat	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Duckery	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total			**20**	**20**													

* 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

IMC	Feed management	Economically cheap, locally available feed ingredients	5	5	15 q/ha	10 q/ha	50	-	-	87209	150000	62791	1.72	67567	100000	32433	1.48
	Total																

* 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)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total																

* 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
Women	-	-	-	-	-	-
Pregnant women	-	-	-	-	-	-
Adolescent Girl	-	-	-	-	-	-
Other women	-	-	-	-	-	-
Children	-	-	-	-	-	-
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
Cereals	-	-	-	-	-	-	-	-	-	-
Bajra	-	-	-	-	-	-	-	-	-	-
Maize	-	-	-	-	-	-	-	-	-	-
Paddy	-	-	-	-	-	-	-	-	-	-
Sorghum	-	-	-	-	-	-	-	-	-	-
Wheat	-	-	-	-	-	-	-	-	-	-
Others (pl.specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
Oilseeds	-	-	-	-	-	-	-	-	-	-
Castor	-	-	-	-	-	-	-	-	-	-
Mustard	-	-	-	-	-	-	-	-	-	-
Safflower	-	-	-	-	-	-	-	-	-	-
Sesame	-	-	-	-	-	-	-	-	-	-
Sunflower	-	-	-	-	-	-	-	-	-	-
Groundnut	-	-	-	-	-	-	-	-	-	-
Soybean	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
Pulses	-	-	-	-	-	-	-	-	-	-
Greengram	-	-	-	-	-	-	-	-	-	-
Blackgram	-	-	-	-	-	-	-	-	-	-
Bengalgram	-	-	-	-	-	-	-	-	-	-

Redgram	-	-	-	-	-	-	-	-	-	-
Others (pl.specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
Vegetable crops	-	-	-	-	-	-	-	-	-	-
Bottle gourd	-	-	-	-	-	-	-	-	-	-
Capsicum	-	-	-	-	-	-	-	-	-	-
Cucumber	-	-	-	-	-	-	-	-	-	-
Tomato	-	-	-	-	-	-	-	-	-	-
Brinjal	-	-	-	-	-	-	-	-	-	-
Okra	-	-	-	-	-	-	-	-	-	-
Onion	-	-	-	-	-	-	-	-	-	-
Potato	-	-	-	-	-	-	-	-	-	-
Field bean	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
Coconut	-	-	-	-	-	-	-	-	-	-
Others (pl.specify)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-
Fodder crops	-	-	-	-	-	-	-	-	-	-
Napier (Fodder)	-	-	-	-	-	-	-	-	-	-
Maize (Fodder)	-	-	-	-	-	-	-	-	-	-
Total	-	-	-	-	-	-	-	-	-	-

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

Technical Feedback on the demonstrated technologies

S. N.	Crop	Feed Back
1.	**Jute (**Improved variety)	High yield and good quality fibre
2.	**Rice (**Production technology)	Cono weeder is not very effective in clay to clay loam soils. Herbicide can be effective for weed management. In such case row transplanting would not be required leading to reduced cost of cultivation.
3.	Lentil	The variety is good but not resistant against wilt
4.	Cattle (home made feed)	Malnutrition checked to some extent and milk yield higher
5.	Cattle (Mineral mixture)	Wt. of calf increased and calving interval reduced
6.	Rice bean (package)	Better yield
7.	Oat	Poor availability of fodder seed at times

Farmers' reactions on specific technologies

S. No	Crop	Feed Back
1.	Jute	Annexure II
2.	Rice	Annexure III
3.	Lentil	Annexure IV
4.	Rice bean	Annexure V
5	Berseem	Annexure VI
6.	Home made feed	Annexure VII
7.	Mineral mixture	Annexure VIII

Extension and Training activities under FLD

S. N.	Activity	No. of activities organised	Dates	Number of participants	Remarks
1	Field days	6		230	
2	Farmers Training	7			
3	Media coverage	1	22.10.12	-	

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

A. ON Campus

Thematic Area	No. of Courses	No. of Participants									
		OTHERS			SC			ST			Grand Total
		M	F	T	M	F	T	M	F	T	
I Crop Production											
Weed Management											
Resource Conservation Technologies											
Cropping Systems											
Crop Diversification											
Integrated Farming											
Water management											
Seed production	3	80	0	80	10	0	10	0	0	0	90
Nursery management											
Integrated Crop Management											
Fodder production											
Production of organic inputs											
Others, if any											
II Horticulture											
a) Vegetable Crops											
Production of low volume & high value crops											
Off-season vegetables											
Nursery raising	3	30	0	30	15	0	15	0	0	0	45
Exotic vegetables like Broccoli											
Export potential vegetables											
Grading and standardization											
Protective cultivation (Green Houses, Shade Net etc.)											
Others, if any (Production technology of vegetables)	1	21	0	21	9	0	9	0	0	0	30
b) Fruits											
Training and Pruning											
Layout and Management of Orchards											
Cultivation of Fruit											
Management of young plants/orchards											
Rejuvenation of old orchards											
Export potential fruits											
Micro irrigation systems of orchards											
Plant propagation techniques	3	19	0	19	11	0	11	0	0	0	30
Others, if any											
c) Ornamental Plants											
Nursery Management											
Management of potted plants											
Export potential of ornamental plants											
Propagation techniques of Ornamental Plants											
Others, if any											
d) Plantation crops											
Production and Management technology											
Processing and value addition											
Others, if any											
e) Tuber crops											
Production and Management											

technology											
Processing and value addition											
Others, if any											
f) Spices											
Production and Management technology											
Processing and value addition											
Others, if any											
g) Medicinal and Aromatic Plants											
Nursery management											
Production and management technology											
Post harvest technology and value addition											
Others, if any											
III Soil Health and Fertility Management											
Soil fertility management											
Soil and Water Conservation											
Integrated Nutrient Management											
Production and use of organic inputs											
Management of Problematic soils											
Micro nutrient deficiency in crops											
Nutrient Use Efficiency											
Soil and Water Testing											
Others, if any											
IV Livestock Production and Management											
Dairy Management	3	35	5	40	20	0	20	0	0	0	60
Poultry Management											
Piggery Management											
Rabbit Management											
Disease Management											
Feed management											
Production of quality animal products											
Others, if any											
V Home Science/Women empowerment											
Household food security by kitchen gardening and nutrition gardening											
Design and development of low/minimum cost diet											
Designing and development for high nutrient efficiency diet											
Minimization of nutrient loss in processing											
Gender mainstreaming through SHGs											
Storage loss minimization techniques											
Value addition	3	0	65	65	0	25	25	0	0	0	90
Income generation activities for empowerment of rural Women											
Location specific drudgery reduction technologies											
Rural Crafts											
Women and child care											
Others, if any											
VI Agril. Engineering											

Installation and maintenance of micro irrigation systems											
Use of Plastics in farming practices											
Production of small tools and implements											
Repair and maintenance of farm machinery and implements											
Small scale processing and value addition											
Post Harvest Technology											
Others, if any											
VII Plant Protection											
Integrated Pest Management	3	75	0	75	15	0	15	0	0	0	90
Integrated Disease Management											
Bio-control of pests and diseases											
Production of bio control agents and bio pesticides											
Others, if any											
VIII Fisheries											
Integrated fish farming	3	64	0	64	20	0	20	6	0	6	90
Carp breeding and hatchery mgt.											
Carp fry and fingerling rearing											
Composite fish culture											
Hatchery management and culture of freshwater prawn											
Breeding and culture of ornamental fishes											
Portable plastic carp hatchery											
Pen culture of fish and prawn											
Shrimp farming											
Edible oyster farming											
Pearl culture											
Fish processing and value addition											
Others, if any											
IX Production of Inputs at site											
Seed Production											
Planting material production											
Bio-agents production											
Bio-pesticides production											
Bio-fertilizer production											
Vermi-compost production											
Organic manures production											
Production of fry and fingerlings											
Production of Bee-colonies and wax sheets											
Small tools and implements											
Production of livestock feed and fodder											
Production of Fish feed											
Others, if any											
X Capacity Building and Group Dynamics											
Leadership development											
Group dynamics											
Formation and Management of SHGs											
Mobilization of social capital											
Entrepreneurial development of farmers/youths											
WTO and IPR issues	1	15	10	25	5	0	5	0	0	0	30

Others, if any											
XI Agro-forestry											
Production technologies											
Nursery management											
Integrated Farming Systems											
XII Others (Pl. Specify)											
TOTAL	**23**	**339**	**80**	**419**	**105**	**25**	**130**	**6**	**0**	**6**	**555**
(B) RURAL YOUTH											
Mushroom Production											
Bee-keeping											
Integrated farming											
Seed production	3	75	0	75	10	0	10	5	0	5	90
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											
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											
TOTAL	**3**	**75**	**0**	**75**	**10**	**0**	**10**	**5**	**0**	**5**	**90**
(C) Extension Personnel											
Productivity enhancement in field crops											
Integrated Pest Management											
Integrated Nutrient management											
Rejuvenation of old orchards											
Protected cultivation technology											

Formation and Management of SHGs											
Group Dynamics and farmers organization											
Information networking among farmers											
Capacity building for ICT application											
Care and maintenance of farm machinery and implements											
WTO and IPR issues											
Management in farm animals	3	15	15	30	10	2	12	0	3	3	45
Livestock feed and fodder production											
Household food security											
Women and Child care	3	0	59	59	0	16	16	0	15	15	90
Low cost and nutrient efficient diet designing											
Production and use of organic inputs											
Gender mainstreaming through SHGs											
Any other(Resource Conservation Technologies)	2	45	0	45	14	0	14	1	0	1	60
TOTAL	**8**	**60**	**74**	**134**	**24**	**18**	**42**	**1**	**18**	**19**	**195**

B. OFF Campus

Thematic Area	**No. of Courses**	No. of Participants									
		Others			**SC**			**ST**			**Grand Total**
		M	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**	
I Crop Production											
Weed Management											
Resource Conservation Technologies	1	25	0	25	5	0	5	0	0	0	30
Cropping Systems											
Crop Diversification											
Integrated Farming											
Water management											
Seed production											
Nursery management											
Integrated Crop Management	3	81	0	81	9	0	9	0	0	0	90
Fodder production											
Production of organic inputs	2	45	0	45	15	0	15	0	0	0	60
Others, if any											
II Horticulture											
a) Vegetable Crops											
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											
b) Fruits											
Training and Pruning											
Layout and Management of Orchards	3	25	5	30	7	3	10	3	2	5	45
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											
c) Ornamental Plants											
Nursery Management											
Management of potted plants											
Export potential of ornamental plants											
Propagation techniques of Ornamental Plants											
Others, if any											
d) Plantation crops											
Production and Management technology											
Processing and value addition											
Others, if any											
e) Tuber crops											
Production and Management technology											
Processing and value addition											
Others, if any											
f) Spices											
Production and Management technology											
Processing and value addition											
Others, if any											
g) Medicinal and Aromatic Plants											
Nursery management											
Production and management technology											
Post harvest technology and value addition											
Others, if any											
III Soil Health and Fertility Management											
Soil fertility management											
Soil and Water Conservation											
Integrated Nutrient Management											
Production and use of organic inputs											
Management of Problematic soils											
Micro nutrient deficiency in crops											
Nutrient Use Efficiency											
Soil and Water Testing	3	80	0	80	10	0	10	0	0	0	90
Others, if any											
IV Livestock Production and Management											
Dairy Management											
Poultry Management	2	30	5	35	15	5	20	3	2	5	60
Piggery Management											
Rabbit Management											
Disease Management	2	40	5	45	10	5	15	0	0	0	60
Feed management	3	75	0	75	15	0	15	0	0	0	90
Production of quality animal products											
Others, if any											
V Home Science/Women empowerment											
Household food security by kitchen gardening and nutrition gardening	3	0	70	70	0	20	20	0	0	0	90
Design and development of low/minimum cost diet											

Designing and development for high nutrient efficiency diet	3	0	75	75	0	15	15	0	0	0	90
Minimization of nutrient loss in processing											
Gender mainstreaming through SHGs											
Storage loss minimization techniques											
Value addition											
Income generation activities for empowerment of rural Women	3	0	65	65	0	25	25	0	0	0	90
Location specific drudgery reduction technologies											
Rural Crafts											
Women and child care											
Others, if any											
VI Agril. Engineering											
Installation and maintenance of micro irrigation systems											
Use of Plastics in farming practices											
Production of small tools and implements											
Repair and maintenance of farm machinery and implements											
Small scale processing and value addition											
Post Harvest Technology											
Others, if any											
VII Plant Protection											
Integrated Pest Management	4	110	0	110	10	0	10	0	0	0	120
Integrated Disease Management											
Bio-control of pests and diseases											
Production of bio control agents and bio pesticides	3	74	0	74	16	0	16	0	0	0	90
Others, if any											
VIII Fisheries											
Integrated fish farming	2	50	0	50	10	0	10	0	0	0	60
Carp breeding and hatchery mgt.											
Carp fry and fingerling rearing	2	51	0	51	9	0	9	0	0	0	60
Composite fish culture											
Hatchery management and culture of freshwater prawn											
Breeding and culture of ornamental fishes											
Portable plastic carp hatchery											
Pen culture of fish and prawn											
Shrimp farming											
Edible oyster farming											
Pearl culture											
Fish processing and value addition											
Others, if any											
IX Production of Inputs at site											
Seed Production											
Planting material production											
Bio-agents production											
Bio-pesticides production											
Bio-fertilizer production											
Vermi-compost production											
Organic manures production											
Production of fry and fingerlings											

Production of Bee-colonies and wax sheets											
Small tools and implements											
Production of livestock feed and fodder											
Production of Fish feed											
Others, if any											
X Capacity Building and Group Dynamics											
Leadership development											
Group dynamics											
Formation and Management of SHGs	3	70	10	80	7	3	10	0	0	0	90
Mobilization of social capital											
Entrepreneurial development of farmers/youths											
WTO and IPR issues											
Others, if any											
XI Agro-forestry											
Production technologies											
Nursery management											
Integrated Farming Systems											
XII Others (Pl. Specify)											
TOTAL	**44**	**776**	**235**	**1015**	**148**	**76**	**224**	**6**	**4**	**10**	**1245**
(B) RURAL YOUTH											
Mushroom Production											
Bee-keeping											
Integrated farming											
Seed production	3	85	0	85	5	0	5	0	0	0	90
Production of organic inputs											
Integrated Farming											
Planting material production											
Rabbit farming											
Poultry production											
Ornamental fisheries											
Para vets											
Para extension workers											
Composite fish culture											
Freshwater prawn culture											
Shrimp farming											
Pearl culture											
Cold water fisheries											
Fish harvest and processing technology											
Fry and fingerling rearing											
Small scale processing											
Post Harvest Technology											
Tailoring and Stitching											
Rural Crafts											
Others, if any											
TOTAL	**3**	**85**	**0**	**85**	**5**	**0**	**5**	**0**	**0**	**0**	**90**
(C) Extension Personnel											
Productivity enhancement in field crops											
Integrated Pest Management											
Integrated Nutrient management											
Rejuvenation of old orchards											
WTO and IPR issues											
Management in farm animals											

Livestock feed and fodder production											
Household food security											
Women and Child care											
Low cost and nutrient efficient diet designing											
Production and use of organic inputs											
Information networking among farmers											
Gender mainstreaming through SHGs											
Any other (Pl. Specify)											
TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

C) Consolidated table (ON and OFF Campus)

Thematic Area	**No. of Courses**	No. of Participants									
		Others			**SC**			**ST**			**Grand Total**
		M	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**	
(A) Farmers & Farm Women											
I Crop Production											
Weed Management											
Resource Conservation Technologies	1	25	0	25	5	0	5	0	0	0	30
Cropping Systems											
Crop Diversification											
Integrated Farming											
Water management											
Seed production	3	80	0	80	10	0	10	0	0	0	90
Nursery management											
Integrated Crop Management	3	81	0	81	9	0	9	0	0	0	90
Fodder production											
Production of organic inputs	2	45	0	45	15	0	15	0	0	0	60
Others, if any											
II Horticulture											
a) Vegetable Crops											
Production of low volume & high value crops											
Off-season vegetables											
Nursery raising	3	30	0	30	15	0	15	0	0	0	45
Exotic vegetables like Broccoli											
Export potential vegetables											
Grading and standardization											
Protective cultivation (Green Houses, Shade Net etc.)											
Others, if any (Production technology of vegetables)	1	21	0	21	9	0	9	0	0	0	30
b) Fruits											
Training and Pruning											
Layout and Management of Orchards	3	25	5	30	7	3	10	3	2	5	45
Cultivation of Fruit											
Management of young plants/orchards											
Rejuvenation of old orchards											
Export potential fruits											
Micro irrigation systems of orchards											
Plant propagation techniques	3	19	0	19	11	0	11	0	0	0	30
Others, if any											
c) Ornamental Plants											
Nursery Management											
Management of potted plants											
Export potential of ornamental plants											

Propagation techniques of Ornamental Plants											
Others, if any											
d) Plantation crops											
Production and Management technology											
Processing and value addition											
Others, if any											
e) Tuber crops											
Production and Management technology											
Processing and value addition											
Others, if any											
f) Spices											
Production and Management technology											
Processing and value addition											
Others, if any											
g) Medicinal and Aromatic Plants											
Nursery management											
Production and management technology											
Post harvest technology and value addition											
Others, if any											
III Soil Health and Fertility Management											
Soil fertility management											
Soil and Water Conservation											
Integrated Nutrient Management											
Production and use of organic inputs											
Management of Problematic soils											
Micro nutrient deficiency in crops											
Nutrient Use Efficiency											
Soil and Water Testing	3	80	0	80	10	0	10	0	0	0	90
Others, if any											
IV Livestock Production and Management											
Dairy Management	3	35	5	40	20	0	20	0	0	0	60
Poultry Management	2	30	5	35	15	5	20	3	2	5	60
Piggery Management											
Rabbit Management											
Disease Management	2	40	5	45	10	5	15	0	0	0	60
Feed management	3	75	0	75	15	0	15	0	0	0	90
Production of quality animal products											
Others, if any											
V Home Science/Women empowerment											
Household food security by kitchen gardening and nutrition gardening	3	0	70	70	0	20	20	0	0	0	90
Design and development of low/minimum cost diet											
Designing and development for high nutrient efficiency diet	3	0	75	75	0	15	15	0	0	0	90
Minimization of nutrient loss in processing											
Gender mainstreaming through SHGs											
Storage loss minimization techniques											
Value addition	3	0	6	65	0	25	25	0	0	0	90

			5								
Income generation activities for empowerment of rural Women	3	0	65	65	0	25	25	0	0	0	90
Location specific drudgery reduction technologies											
Rural Crafts											
Women and child care											
Others, if any											
VI Agril. Engineering											
Installation and maintenance of micro irrigation systems											
Use of Plastics in farming practices											
Production of small tools and implements											
Repair and maintenance of farm machinery and implements											
Small scale processing and value addition											
Post Harvest Technology											
Others, if any											
VII Plant Protection											
Integrated Pest Management	7	185	0	185	25	0	25	0	0	0	210
Integrated Disease Management											
Bio-control of pests and diseases											
Production of bio control agents and bio pesticides	3	74	0	74	16	0	16	0	0	0	90
Others, if any											
VIII Fisheries											
Integrated fish farming	5	114	0	114	30	0	30	6	0	6	150
Carp breeding and hatchery mgt.											
Carp fry and fingerling rearing	2	51	0	51	9	0	9	0	0	0	60
Composite fish culture											
Hatchery management and culture of freshwater prawn											
Breeding and culture of ornamental fishes											
Portable plastic carp hatchery											
Pen culture of fish and prawn											
Shrimp farming											
Edible oyster farming											
Pearl culture											
Fish processing and value addition											
Others, if any											
IX Production of Inputs at site											
Seed Production											
Planting material production											
Bio-agents production											
Bio-pesticides production											
Bio-fertilizer production											
Vermi-compost production											
Organic manures production											
Production of fry and fingerlings											
Production of Bee-colonies and wax sheets											
Small tools and implements											
Production of livestock feed and fodder											
Production of Fish feed											
Others, if any											

X Capacity Building and Group Dynamics											
Leadership development											
Group dynamics											
Formation and Management of SHGs	3	70	10	80	7	3	10	0	0	0	90
Mobilization of social capital											
Entrepreneurial development of farmers/youths											
WTO and IPR issues	1	15	10	25	5	0	5	0	0	0	30
Others, if any											
XI Agro-forestry											
Production technologies											
Nursery management											
Integrated Farming Systems											
XII Others (Pl. Specify)											
TOTAL	**67**	**1115**	**315**	**1430**	**253**	**101**	**354**	**12**	**4**	**16**	**1800**
Rural Youth											
Mushroom Production											
Bee-keeping											
Integrated farming											
Seed production	6	160	0	160	15	0	15	5	0	5	180
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											
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											
TOTAL	**6**	**160**	**0**	**160**	**15**	**0**	**15**	**5**	**0**	**5**	**180**
(C) Extension Personnel											
Productivity enhancement in field crops											
Integrated Pest Management											
Integrated Nutrient management											
Rejuvenation of old orchards											
Protected cultivation technology											
Formation and Management of SHGs											
Group Dynamics and farmers organization											
Information networking among farmers											
Capacity building for ICT application											
Care and maintenance of farm machinery and implements											
WTO and IPR issues											
Management in farm animals	3	15	15	30	10	2	12	0	3	3	45
Livestock feed and fodder production											
Household food security											
Women and Child care	3	0	59	59	0	16	16	0	15	15	90
Low cost and nutrient efficient diet designing											
Production and use of organic inputs											
Gender mainstreaming through SHGs											
Any other(Resource Conservation Technologies)	2	45	0	45	14	0	14	1	0	1	60
TOTAL	**8**	**60**	**74**	**134**	**24**	**18**	**42**	**1**	**18**	**19**	**195**

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
16.03.13	**PF**	Rice cultivation through SRI	1	Off	30	00	30	07	00	07
09.07.12-11.07.12	**PF**	Improved production technology of Jute	3	Off	90	00	90	21	00	21
01.10.12	**PF**	Vermicompost production at farmers level	1	Off	30	00	30	04	00	04
03.10.12	**PF**	NADEP compost production	1	Off	30	00	30	03	00	03
11.06.12-13.06.12	**PF**	Nursery management in vegetable crops	3	On	40	05	45	04	01	05
02.07.12-04.07.12	**PF**	Layout and Management of Orchards	3	Off	40	05	45	04	01	05
01.08.12-03.08.12	**PF**	Plant propagation techniques of sub-tropical fruit crops	3	On	30	00	30	02	00	02
15.10.12, 17.10.12, 18.10.12	**PF**	Need for soil testing and soil test based fertilizer application	3	Off	90	00	90	15	00	15
07.07.12, 21.07.12, 28.07.12	**PF**	Home made cattle feed preparation	3	On	40	20	60	10	05	15
23.06.12, 30.06.12	**PF**	Care & handling of day old chicks	2	Off	40	20	60	11	06	17
04.08.12, 11.08.12	**PF**	Animal shed disinfection	2	Off	42	18	60	12	04	16
23.07.12-25.07.12, 20.03.13	**PF**	Integrated Pest Management (IPM) in rice	4	Off	120	00	120	27	00	27
06.08.12-08.08.12	**PF**	Preparation of organic pesticides and its application	3	On	90	00	90	24	00	24
15.06.12, 16.08.12, 18.08.12	**PF**	Integrated duck-cum-fish farming in back yard pond	3	On	80	10	90	15	02	17
17.08.12	**PF**	Rearing pond preparation and management	1	Off	30	00	30	09	00	09
25.08.12	**PF**	Preparation and management of nursery pond	1	Off	30	00	30	08	00	08
21.03.13	**PF**	WTO and IPR issues in agriculture	1	On	30	00	30	05	00	05

24.09.12-26.09.12	RY	Paddy seed production technology	3	On	90	00	90	10	00	10
10.07.12-11.07.12	EF	Rice cultivation through SRI	2	On	60	00	60	11	00	11
15.03.13, 20.03.13, 22.03.13	EF	New generation vaccine and immunization schedule for poultry	3	On	35	10	45	11	05	16
02.11.12, 03.11.12, 05.11.12	RY	Green house cultivation of high value vegetables	3	On	45	00	45	10	00	10
29.10.12-31.10.12, 03.11.12, 14.11.12, 17.11.12, 24.11.12	RY	Broiler farming	7	On	98	07	105	28	07	35
02.11.12-08.11.12	RY	Vocational training on Preparation of kantha stitch	7	Off	00	210	210	00	70	70
21.06.12-23.06.12	EF	Training on developing different teaching aid materials for anganwadi workers	3	On	00	90	90	00	45	45
08.10.12-10.10.12	PF	Management of homestead nutritional garden	3	Off	00	90	90	00	42	42
26.07.12-28.07.12	PF	Balance diet for rural women & children. Concerned about food adulteration, food poisoning & safe food practices.	3	Off	00	90	90	00	27	27
30.07.12-01.08.12	PF	Preparation of different recipes i.e. mixed vegetable pickle, sauce, jam & jelly & its proper packaging.	3	On	00	90	90	00	36	00
27.09.12-29.09.12	PF	Formation of SHG and capacity building	3	Off	72	18	90	12	03	15
18.03.13	PF	Improved production technology of cucurbits	1	On	30	00	30	09	00	09
18.10.12-20.10.12	PF	Women empowerment	3	Off	00	90	90	00	27	27
23.07.12-25.07.12, 20.03.13	**PF**	Integrated Pest Management (IPM) in rice	3	On	90	00	90	20	00	20
30.10.12-01.11.12	RY	Seed village	3	Off	90	00	90	21	00	21
15.09.12, 22.09.12,	PF	Cultivation technique of Rice bean	3	Off	84	06	90	21	03	24

29.09.12										
27.06.12-29.06.12	PF	Paddy seed production technology	3	On	90	00	90	18	00	18
22.09.12, 29.09.12	PF	Integrated fish farming	2	Off	60	00	60	15	00	15
25.10.12, 05.11.12	PF	Carp fry and fingerling rearing	2	Off	60	00	60	15	00	15

(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	
Kantha stitch	Entrepreneurship development	Vocational training on Preparation of kantha stitch	7	00	210	210	SHG	2	16	10
Vegetables	Protected cultivation	Green house cultivation of high value vegetables	3	45	00	45	Individuals	Project submitted at district level for consideration		-
Broiler	Entrepreneurship development	Broiler farming	7	98	07	105	Individuals	7	7	-

(*)Training title should specify the major technology /skill transferred

(E) Sponsored Training Programmes

S.N	Title	Thematic area	Month	Duration (days)	Client	No. of courses	No. of Participants							Sponsoring Agency
					PF/RY/EF		Male		Female		Total			
							Oth	SC/ST	Oth	SC/ST	Oth	SC/ST	Total	
1.	Method of castration of male kids	Management in farm animals	March, 2013	2	PF	1	50	06	00	00	50	06	56	**ATMA, Burdwan**
2.	Agriculture development and policy planning	Agricultural planning and development	May, 2012	1	EF	1	35	03	00	00	35	03	38	**DDA, Burdwan**

3.	Paddy seed production	Seed production	October, 2012	3	PF	3	52	08	00	00	52	08	60	**ATMA, Katihar**
4.	SRI technology of paddy	Resource Conservation Technologies	March, 2013	1	PF	1	20	02	00	00	20	02	22	**ISAP, Asansol**
5.	Cultivation of TCB	Fruit Cultivation	March, 2013	3	PF	3	60	06	00	00	60	06	66	**ATMA, Burdwan**
6.	Composite fish culture	Composite fish culture	March, 2013	3	PF	3	91	08	00	00	91	08	99	**ATMA, Burdwan**
Total				**13**		**12**	**308**	**33**	**00**	**00**	**308**	**33**	**341**	

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	06	200	00	200	30	00	30	230	00	230
Kisan Mela										
Kisan Ghosthi										
Exhibition	02	2500	700	3200	40	10	50	2540	710	3250
Film Show	20	600	200	800	50	00	50	650	200	850
Method Demonstrations **(jute fibre extractor/ cono weeder/ castration)**	03	82	11	93	07	05	12	90	15	105
Farmers Seminar	05	80	20	100	45	05	50	125	25	150
Workshop										
Group meetings										
Lectures delivered as resource persons	15	675	55	730	00	00	00	675	55	730
Newspaper coverage	08									
Radio talks										
TV talks	02									
Popular articles										
Extension Literature	04	400	40	440	00	00	00	400	40	440
Advisory Services	425	455	35	490	00	00	00	455	35	490
Scientific visit to farmers field	125	805	190	995	00	00	00	805	190	995
Farmers visit to KVK	205	2500	506	3006	00	00	00	2500	506	3006
Diagnostic visits	52	40	12	52	00	00	00	40	12	52
Exposure visits	03	140	00	140	00	00	00	140	00	140
Ex-trainees Sammelan										
Soil health Camp										
Animal Health Camp	12	450	250	700 families	00	00	00	450	250	700 families
Agri mobile clinic	25	750	50	800	00	00	00	750	50	800
Soil test campaigns	02	45	00	45	00	00	00	45	00	45
Farm Science Club Conveners meet	17	145	15	160	15	00	15	160	15	175
Self Help Group Conveners meetings	06	40	110	150	00	00	00	40	110	150
Mahila Mandals Conveners meetings	5	00	42	42	00	00	00	00	42	42
Celebration of important days (Republic Day, Independence Day, World Vet. Day, World Food Day, National Nutrition Day)	5	295	20	315	05	00	05	300	20	320
Any Other										
Technology week										
SAC meeting	1	10	05	15	25	00	25	35	05	40
Total	**948**	**10212**	**2261**	**12473**	**217**	**20**	**237**	**10430**	**2280**	**12710**

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	1100	-	
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 (Certified seed)	MTU 7029	200	**Not yet sold**	
PULSES					
VEGETABLES					
FLOWER CROPS					
Spices & plantation crop					
OTHERS (Oat as fodder seed)	Oat	Kent	0.5	-	-

PLANTING MATERIALS

Sl. No.	Crop	Variety	Quantity (Nos.)	Value (Rs.)	Provided to No. of Farmers
FRUITS	--	--	--	--	--
SPICES	--	--	--	--	--
VEGETABLES	Tomato, Cauliflower, brinjal seedling	Abhilash, trisha and bhangar respectively	70000 nos.	--	100
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	**Kid**	**Bengal goat**	**15**	**67**	**8700**	--
POULTRY						

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

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

(B) Literature developed/published : ***Annexure II***

Item	Title	Authors name	Number
Research papers	-	-	4
Technical reports	-	-	-
News letters		-	-
Technical Bulletin	1. technology for broiler production in hot and humid climate	C. Jana, S. Sarkar and F.H. Rahman	CRIJAF/KVK/2012/4
	2. Greenhouse production of capsicum in subtropical plains of India	S. Sarkar, S.S. Kundu, F. H. Rahman and B. S. Mahapatra	CRIJAF/KVK/2012/5
	3. Technology for broiler production in hot and humid climate	C. Jana and F. H. Rahman	Bulletin no. 31/2012
Popular articles			
Extension literature	1. Seed village and seed production 2. Preparation of Vegetable seedling 3. Vaccination schedule for animal 7. Rearing of Khaki Campbell duck 8. Preventive measures against PPR 9. Oyster mushroom – a profitable enterprise 10. Ricebean-impact in animal nutrition	F.H. Rahman, D. Kumar & B.S.Mahapatra S. Sarkar C. Jana C.Jana C.Jana S. Garai C. Jana	10
Others (Pl. specify)			
TOTAL	**Nineteen (19)**		

C) Details of Electronic Media Produced :

S. No.	Type of media (CD / VCD / DVD / Audio-Cassette)	Title of the programme	Number
1.			
2.			

D) Details of personnel development

Title of training/ winter school	Venue and date	Scientists attended
Winter school on "Entrepreneur development and value addition"	BCKV, Mohanpur, West Bengal. 11.12.12 to 31.12.12	Dr. M.S. Singh
Workshop on " participatory, monitoring and evaluation"	BCKV, Mohanpur, West Bengal. 30.01.13 to 31.01.13	Dr. M.S. Singh and Ms Poly Saikia
Workshop on "Training need assessment"	BCKV, Kalyani, West Bengal. 1st and 2nd March, 2013	Dr. C. Jana, Mr. S. Garai and Mr. S.S. Kundu

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

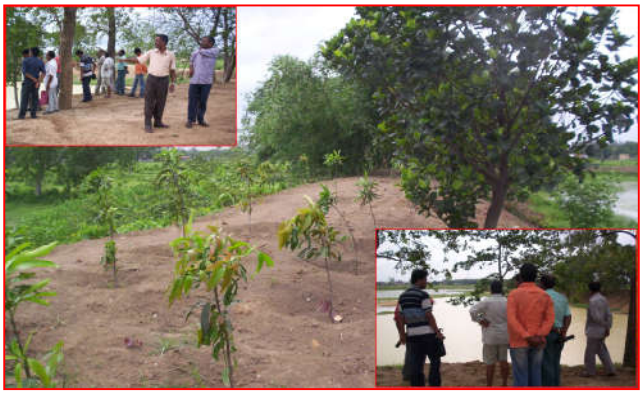
***Success stories*: Two Nos.**

Sustainable Income through Integrated farming System

Integrated farming systems is based on the principle where the wastes from one operation can be used as input for other and reduce the risks as well as costs of production; improves soil fertility, provide balance nutrition and ensure enhanced holistic yields as well as income.

Krishi Vigyan Kendra Burdwan developed an integrated model and disseminated it through trainings and demonstrations. The IFS model consists of Crop + fish + poultry and Crop + fish + duck farming technologies. 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. The model was taken up by MGNREGS cell, Burdwan and it was replicated in five different blocks of the district with the technical backstopping of KVK.

Sk. Shoyeb Hossain is a marginal farmer-cum-rural youth of village Jagulipara, Galsi-I of the district Burdwan. Although being a rural youth he has got a pragmatic view towards latest agricultural technologies and is keen to learn and as such he was chosen for developing the integrated farming system model in his backyard. He own one pond of 1 bigha with adjoining 1.5 bigha land including bund area. While the pond was mainly used for household purposes like washing with irregular or no pisciculture, the land area was used for growing seasonal vegetables for meeting the household needs and as a result he was hardly having any meaningful income from the resources. He was extensively trained by KVK personnel towards developing the same system in his backyard which he accomplished with success. To start with he was supplied with tissues cultured banana plantlets, vegetable seedlings, ducklings and IMC fingerlings. He developed a good banana orchard intercropped with vegetables like chili, tomato, brinjal, turmeric etc. Now he is earning an amount of Rs, 40,000/- yearly from his farm and inspiring other farmers to adopt this kind of intervention. He was awarded for his effort by ICAR during 2011.



It is worth mentioning here that this IFS model, developed by KVK, has gained such popularity in the area that the KVK has been entrusted by MGNREGS to replicate the same model in selected 200 ponds of the district. To start with KVK and state govt. personnel have selected initially 20 ponds in the blocks of Kanksa, Ausgram-1 & 2, Galsi- 1 &2, Khandaghosh etc.

2. Development of Model of Organic Farm

Sri Tapan Nandi is an organic farmer but he like himself to be called entrepreneur. He has not only developed his farm holistically but provides permanent employment to 12 person He grows organic rice on his farm using SRI method. According to him the production of rice grown using organic method is more then in traditionally grown rice using fertilizers. Normally per hectare yield of rice is 3-3.5 t/ha. He gets yield upto 5.5 t/ha. Scented rice (Govind bhog) produced by him has great demand in market. In addition to rice he grows fodder crops on his farm mostly leguminous.

This leguminous fodder crop not only increases the milk production but also add nitrogen to soil. On the North West side of farm he has planted Malaysian Sal tree. These work as wind break and protect farm from severe wind.

He also produces many seasonal organic vegetables through out the year like potato, chilly, brinjal, cauliflower, cabbage, cowpead and raddish which have great demand in local market.

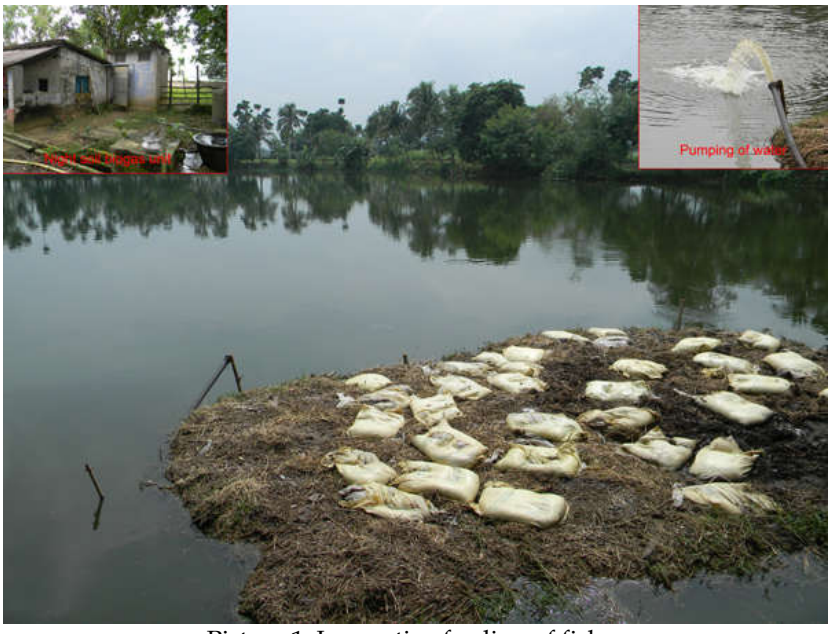
He has 17 crossbreed cows which on an average give 30-36 lit milk/ day. This milk is sold to Amul Dairy daily. Also he gets an additional income from fishing. His farm produce 10 tonnes fish annually.

He is more than just an organic farmer on grounds that apart from rescinding application of inorganics of all kind, he has reverted to using all possible forms of available organic material, wholly or in recycled manner for cultivation of crops on his farm ranging from biofertilisers, biopesticides, green manure, cow urine, vermicompost and vermiwash and even night soil, too! Apart from having a 4 cubic meter biogas unit from cow dung, he maintains a night soil biogas unit of 2 cubic meter, the slurry from which is utilized in feeding the fishes in the 4 acre pond in his farm. This is where he has been innovative. He has made one floating bed of half decomposed water hyacinth with night soil slurry (as shown in the picture) for feeding the fishes in one corner of his pond that resulted in augmented growth of the gluttonous fish species like grass carp and other major carps. The oxygen deficiency due to this composting is made up with creation of artificial waves through regular pumping of water and an electrical turbine. These artificial waves also increase fish production in winter by facilitating fish movement.

For this noteworthy work he has received many awards. Recently he was given a letter of appreciation by Prof, M.S. Swaminathan at Indian Science Congress 2013 held at Kolkata. He also received Krishi Samrat Samman (East region) in March, 2013 for his contribution in organic scented rice production.

Practical utility

There are many more such farms where there are sufficient numbers of laborers are engaged to generate night soil which can be utilized in this fashion profitably. Presently KVK Burdwan is exploiting the technology developed by him in other such farms in the district which is practicable apart from being environmentally benign.



Picture 1: Innovative feeding of fishes

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

1. Farmer field school (FFS) on SRI

One Farmers' Field School on System of Rice Intensification has been conducted with 20 farmers. Four farmers were selected each from 5 different villages, *viz., Keten* in Kanksa block (Sandy loam soil), *Sillaghat* in Galsi-I block (sandy loam soil), *Jharul* in Galsi-I block (Loamy soil), *Khanpara* in Galsi-I block (Clay loam soil) and *Atpara* in Galsi-I block (Clay loam soil) with one progressive farmer as Group Leader for each group in participatory mode. Farmers were taught the basics of SRI and were encouraged to made location specific changes in the management practices like age of seedling, seed bed preparation, fertilizer management, water management. The participants registered enhancement in productivity in the range of 15 – 54 % with average enhancement of 35%.

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. N.	Crop / Enterprise	ITK Practiced	Purpose of ITK
1	**Goat and Cattle**	Paste of leaves of **kalmeg** is made in water which is drenched orally.	Deworming for cattle and goat
2	**Cattle**	Leaves and twigs (20g) of **neem** 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 **lonka suti** (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 **ghee** and fed to the affected animals.	For treatment of fever (HS) for cattle and goat
5	**Goat and Cattle**	Paste of **harjora** 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 **raw turmeric and mustard cake** 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 – 10 so far ***(5 during the year)***
ii. No. of farm families selected- 1540 ***during the year***
iii. No. of survey/PRA conducted- 2 ***(One PRA during the year)***

3.12. Activities of Soil and Water Testing Laboratory

Status of establishment of Lab : Functioning

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	12000.00
Atomic absorption spectrophotometer	One	944832.00

3. Details of samples analyzed so far :

Details	No. of Samples	No. of Farmers	No. of Villages	Amount realized
Soil Samples	300	250	12	-
Water Samples	20	14	3	-
Total	320	264	15	-

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	-	270	15
Four nos. (Rain water harvesting)	Three demo unit at KVK	-	100	15

3.14 Technology week celebration

Type of activities	No of activities	No. of participants	Related crop/livestock technology

3.15 In RAWE programme is KVK is involved?

No of ARS trained	No of days stayed

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

Sl. No.	Name of VVIP/VIP	Date of visit	Purpose of visit
1.	Padmashree Dr.M. Mahadevappa	26.04.12	KVK evaluation as Chairman, QRT

2	Prof. B K Senapati	26.04. 12	KVK evaluation as Member, QRT
3	Dr. Jitendra Chauhan, GS, Society of Ext. Edu., Agra	04.05.12	Informal visit
4	Mr. Sanjoy Mitra, Chief Secretary, Govt. of West Bengal	09.02.13	KVK's exhibition
5	Dr. Soumen Kr. Mahapatra, M/o Irrigation	09.02.13	KVK's exhibition
6	Mrs. Ayesha Rani, SDO, Durgapur	10.02.13	KVK's exhibition
7	Mr. Malay Ghatak, M/o Agriculture	10.02.13	KVK's exhibition
8	Mr. Swapan Debnath, MOS, M & SSE	10.02.13	KVK's exhibition

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)
Paddy productivity augmentation through SRI	54	92	4000/bigha	7500/bigha
Preparation of jute handicrafts	57	85	-	1600 p.m
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

4.2. Cases of large scale adoption
(Please furnish detailed information for each case)

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

Impacts of the different efforts by the KVK during 2012-13 which are hereunder:

1. Replacement of older varieties of the crops like jute, Mustard etc by Improved varieties of JBO 2003H, JRO 8432, JRO 204 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 and 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 (female) 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

1. Innovative farmer: Sri Tapan Nandi, Memari 1, Burdwan

Development of Model of Organic Farm

Profile
Age: 58yrs
Education: H.S.C
Land holding: 10 acre
Experience: 40yrs
Cropping pattern: Paddy, Potato, Vegetables and leguminous crops
Livestock: 18 crossbreed cows, fishing
Recognition: Organic Farmer Certificate by Govt of West Bengal
Contact No. Mob. 9433118493

Description of the innovation

Sri Tapan Nandi has indulged himself in organic farming in his farm since 1980s. But he is more than just an organic farmer on grounds that apart from rescinding application of inorganics of all kind, he has reverted to using all possible forms of available organic material, wholly or in recycled manner for cultivation of crops in his farm of 10 acre, ranging from biofertilisers, biopesticides, green manure, cow urine, vermicompost and vermiwash and even night soil, too! Apart from having a 4 cubic meter biogas unit from cow dung, he maintains a night soil biogas unit of 2 cubic meter, the slurry from which is utilized in feeding the fishes in the 4 acre pond in his farm. This is where he has been innovative. He has made one floating bed of half decomposed water hyacinth with night soil slurry (as shown in the picture) for feeding the fishes in one corner of his pond that resulted in augmented growth of the gluttonous fish species like grass carp and other major carps. The oxygen deficiency due to this composting is made up with creation of artificial waves through regular pumping of water and an electrical turbine.

Practical utility

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Picture 1: Innovative feeding of fishes

2. Innovative farmer: Sk. Sheikh Hossain, Vill. Jagulipara, Dist. Burdwan, W.B.

Model crop-fish-duck-poultry integrated farming system

Profile:
Education: Matriculation
Land holding: 2 ha;
Farming experience: 10 yrs**.**
Crop grown: Paddy, Mustard, Tissue culture banana, Fodder, Vegetables.
Livestock: Cattle, Goat, Poultry
Recognition:

- Best Farmer of the District awarded by Mahindra Samridhi
- Best farmer award at National Conference of KVKs 2011 at JNKVV, Jabalpur during Dec. 03-05, 2011
- Innovative Farmer Awarded recognized by Union Min. of Agri, GOI & DG ICAR at Mysore

Contact No. Mob. 9153707300

Description of the innovation:
Sk. Shoyeb Hossain has converted his 1 acre land including 0.3 acre pond into multi-component farming system for which he has fine tuned the crop-fish-poultry and crop-fish-duck to make a location specific crop-fish-duck-poultry system. He also started using the bund area around the farm to grow vegetables. He also added tissue-cultured banana on the further side of pond. This way he got added income. At present he is earning Rs. 50,000-60,000/- per year with initial investment of Rs. 20,000. This income is likely to increase in coming years.

Practical utility of the innovation

Officials of MGNREGA have decided to replicate Sk. Shoyeb Hossain farm model on 200 farms across the district and presently work have been started in 20 ponds. Sk. Shoyeb Hossain is also hired as expert to guide the fellow farmers by many agencies. Sk. Shoyeb hossain has rekindled a new hope for the farmers of this region who are dejected and want to go away from agriculture into other business towards reshaping subsistent agriculture into profitable agri-business.

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 – Ten of the trainees are generating income through handicraft preparation
- Preparation of Kantha Stitch – Twenty 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

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	• Governing body and management committee member • Conducting Farm school, trainings, demonstration etc.
RKVY	• Governing body and management committee member • Adhoc projects etc. • Training programmes on Greenhouse technology and micro irrigation on horticulture
MGNREGS	Convergence programmes were • Training of NREGA technical staff on Vermi-compost, Rainwater harvesting, horticulture, Composite fish culture, Integrated farming • Field demonstrations by KVKs on NREGA works on IMC culture, Duck rearing, integrated farming (Fish-livestock-horticulture) • Skill development of NREGA workers under SGSY through Preparation of jute handicrafts, kantha-stitch.
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.,	• Ducklings supply • Vaccination camp against FMD, PPR, Rani khet disease • Health camp against infertility
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, fisherman identity card
CIFA, Bhubaneshwar	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 Iinst. 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.)
Crop diversification: Development of banana orchard	Establishment of banana orchard	March, 2013	ATMA	43000.00
Castration of male kid	For castration of male kid	March, 2013	ATMA	26000.00
Fingerling production of IMC	Fingerling production	March, 2013	ATMA	27000.00

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	0.2 katha	IMC	To be operational coming season	-	-	-	
2.	Integrated farming system	2012	1 ha including water body of 0.75 ha	TCB, Kid production unit, fish culture unit, forest plant			5000	22700 till date	
3.	Greenhouse (Cauliflower)	2012	1008 sq.m	Early Kunwari	3000 pcs.	20	4000.00	9750.00	
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		2 tonne	5000.00	--	Given to farmers for demonstration purpose

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

Name Of the crop	DAS/DAT	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Input Cost	Gross income	
Cereals (paddy)	15.07.2012	25.11.2012	5ha	MTU 7029	Certified seed	200 q	75,000	5,00,000 (Anticipated)	Not yet sold
Fodder (Oat)	14.11.2012	5.3.2013	0.05ha	Bidhan 1	TL seed	50 kg	2000		Not yet sold
Seedlings (tomato, brinjal and cauliflower)	12.09.2012	10.11.2012	-	Avinash 3, Abhilash (tomato), Trisha (cauli.), Bhangar (brinjal)	seedling	70000 nos.	4000	Supplied to farmers	
TCB	04.08.2012	10.08.2013	0.2ha	Grand Naine	Banana Fruit	100 nos.	5000	14000	

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

Sl. No.	Name of the Product	Qty	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
1.	Vermicompost	2 tonnes	5000.00	--	Given to farmers as demonstration inputs

6.4 *Performance of instructional farm (livestock and fisheries production)*

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1.	Goat	Black bengal	kid	15nos.	--	8700.00	

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 12	--	--	--
May 12	--	--	--
June 12	21	63	--
July 12	23	69	--
August 12	16	64	--
September 12	18	54	--
October 12	20	80	--
November 12	15	45	--
December 12	25	75	--
January 13	--		--
February 13	--		--
March 13	10	30	

6.6 Utilization of staff quarters

Whether staff quarters has been completed:

Completed and taken over

No of staff quarters: Six (06)

Date of completion: March 2011

Occupancy

Months	Q I	QII	Q III	QIV	Q V	QVI
All six are occupied from April, 2013						

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 1st April 2012
	Kharif 2011	Rabi 2011-12	Kharif 2011	Rabi 2011-12	
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 1st April 2012
	Kharif 2011	Rabi 2011-12	Kharif 2011	Rabi 2011-12	
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 1st April 2011
	Kharif 2010	Rabi 2010-11	Kharif 2010	Rabi 2010-11	
Inputs	-	-	-	-	-
Extension activities	-	-	-	-	-
TA/DA/POL etc.	-	-	-	-	-
TOTAL	-	-	-	-	-

7.5 Utilization of KVK funds during the year 2012-13 till date **(Rs. In Lakh)**

S. N.	Particulars	Sanctioned	Released	Expenditure
	A. Recurring Contingencies			
1	**Pay & Allowances**	67.40	67.40	67.17
2	**Traveling allowances**	0.95	0.95	0.69
3	**Contingencies** (A+B+C+D+E+F+G+H+I+J)	13.00	13.00	13.00
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)			
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)			
E	Training of extension functionaries			
F	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			
G	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)			
H	Maintenance of buildings			
I	Establishment of Soil, Plant & Water Testing Laboratory			
J	Library			
	TOTAL (A)	**81.35**	**81.35**	**80.86**
	B. Non-Recurring Contingencies			
1	**Works**	-	-	-

2	**Equipments including SWTL & Furniture**	-	-	-
3	**Vehicle** (Four wheeler/Two wheeler, please specify)	-	-	-
4	**Library** (Purchase of assets like books & journals)	-	-	-
	TOTAL (B)		-	-
	GRAND TOTAL (A+B)	**81.35**	**81.35**	**80.86**

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

Year	Opening balance as on 1st April (Rs)	Income during the year (Rs)	Expenditure during the year (Rs)	Net balance in hand as on 1st April of each year (Rs)
April 2010 to March 2011	40,562	1,95,480	2,40,522	(-) 4480.00 plus Rs. 5,00,000 in kind of seed
April 2011 to March 2012	(-) 4480.00 plus kind of seed	5,12,212	5,36,972	28,660 plus Rs. 7,00,000 in kind of seed
April 2012 to March 2013	28660.00	708772.00	511572.00	225860.00 plus Rs. 5,00,000 in kind of seed

(* refund back of Rs. 1.00 lakh to ICAR during 2010-11)

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

1. Sh. Tapan Nandi of Memari, Burdwan received '**Mahindra Samriddhi Samman'** during 2012-13 for best farmer of the region for developing organic farming model.
2. Sh. Sudhir Mondol of Kanksa, Burdwan received '**Mahindra Samriddhi Samman'** during 2012-13 for best farmer of the region for developing suitable modification in SRI for wider applicability.
3. **Sk. Nijamul Haque,** Progressive farmer of Jgulipara, Galsi-I, Burdwan, was awarded the '**Krishi Rabi 2012 by Govt. of West Bengal**
4. **Sk. Shoyeb Hossain,** Progressive farmer of Jgulipara, Galsi-I, Burdwan, was awarded the '**Krishi Rabi 2012 by Govt. of West Bengal**
5. **Sh. Tapan Nandi,** was awarded the '**Krishak Ratna 2012' by Govt. of West Bengal**
6. Sh. Tapan Nandi got recognition from **MS Swaminathan Foundation for his contribution in developing organic farming model.**

7.8 Number of SHGs formed by KVKs/associated with SHGs formed by other organizations indicating the area of SHG activities. 72 nos.

7.9 Details of marketing and financial opportunity created for the SHGs

KVK mobilized the marketing channel for the SHG, especially women SHGs, associated with the production of rural and other handicrafts, by linking them with yearly *Krishi melas*, rural fairs and town based cooperatives dealing with selling of crafts etc.

KVK has created financial opportunity for many of the SHGs formed by linking them with NABARD, rural banks etc.

7.10 Special programme on Food and Nutrition :

i) On farm trials conducted on food and nutrition:

Kindly refer to OFT 7.

ii) FLD conducted on food and nutrition

FLD will be conducted on kitchen garden during 2013-14

iii) Awareness programme conducted on food and nutrition for Anganwadi workers and others--- one

- Observed 'World Food Day' with Anganwadi workers and others

- National nutrition day was observed on Sep 7, 2012 where 80 nos of anganwari workers, farmers and farm women participated.

iv) Total Anganwadi workers trained indicating area of training:

v) Number of exhibition, fair, workshops organized on food and nutrition:

- Seminar cum exhibition conducted at KVK on the eve of World Food Day on Oct 16, 2012 wher 70 nos of Progressive Farmers participated
- National nutrition day was observed on Sep 7, 2012 where 80 nos of anganwari workers, farmers and farm women participated.

7.11 Community Radio Station : Not applicable

i) Date of start of Community Radio Station
ii) Details of programme aired through Community Radio Station and frequency of such programme
iii) Whether any proposal is pending for establishment of CRS at KVK, if yes, date of submission of proposal

7.12 **KMAS Service:**

Mobile Advisory								
			Type of messages					
No. of calls	**No. of farmers covered**	**No. of messages**	**Crop (no.)**	**Livestock**	**Weather**	**Marketing**	**Awareness**	**Other enterprise**
	340	1200 (in Mar., '13)	7	5	12	5	50	15

7.13 Performance of Automatic Weather Station/ Weather Station in KVK

Activity on weather forecast is carrying out in corroboration with Department of Meteorology, BCKV and agromet advisory services have been distributed weekly among farmers and Agricultural officials.

i) Parameters are being recorded
ii) Advisory service based on weather data being provided to
a) Number of farmers
b) Departments with name and number
c) Other agency with name and number

7.14 Joint activity carried out with line departments and ATMA

Name of activity	Season	With line department	With ATMA	Both
Village seed production	Kharif	State Agricultural Department, Govt. of W.B.		
Demonstration of tissue cultured banana	Summer		ATMA	
Farmer field school on SRI	Kharif		ATMA	
Castration of male kid	Year round		ATMA	
Fingerling production of IMC	Year round		ATMA	
Animal Health camp.	Year round	Department of Animal Resource Development, Govt. of W.B.		
Fodder demonstration	Kharif	RSFPD, Kalyani, Department of Animal Husbandry, Dairying and Fisheries, GOI.		