REVISED PROFORMA FOR ANNUAL REPORT 2011 (April 2010 to March 2011)

1. GENERAL INFORMATION ABOUT THE KVK

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

Address	Telephone		E mail
Krishi Vigyan Kendra, Bokaro P.O.- Petarwar Pin- 829121	06549-265048 (O) 09431126991 (M)	FAX	kvk_bokaro@yahoo.co.in

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

Address	Telephone	FAX	E mail
	Office	Office	
Directorate of Extension Education, Birsa Agricultural University,Jharkhand, Kanke, Ranchi Pin-834006	(VC) 0651-2450500(O)	0651-2450850	
	(DEE) 0651- 2450849 (O)	0651-2450525	rpsratna07@yahoo.co.in

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Sri Uday Kumar Singh	09431595179	9431126991	Udaykumarsingh1972@gmail.com

1.4. Year of sanction:

(Reference of Sanction Order)

2004. Vide letter No. of ICAR- F.No. 6-5/2000-AE-1 dated 24-6-2004

1.5. Staff Position (as on 1April 2011)

Sl. No.	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay Scale with present basic	Date of joining	Permanent /Temporary	Category (SC/ST/ OBC/ Others)
1.	Programme Coordinator	Sri Uday Kumar	I/C Programme Coordinator & SMS	Agronomy	8000-13500 (9650)	19-07-04	Permanent	Others
2.	Subject Matter Specialist	Dr. Anil Kumar	SMS	Horticulture	8000-13500 (10750)	19-07-04	Permanent	Others
3.	Subject Matter Specialist	Dr. Sudhir Kumar Jha	SMS	Soil Science	8000-13500 (10750)	20-07-04	Permanent	Others
4.	Subject Matter Specialist	Sri Vinay Kumar	SMS	Agril. Engg.	8000-13500 (9650)	20-07-04	Permanent	Others
5.	Subject Matter Specialist	Mrs Neena Bharti	SMS	Plant Prot.	8000-13500 (9650)	20-07-04	Permanent	ST
5.	Subject Matter Specialist	Mrs. Nandana Kumari	SMS (Study Leave)	Home Science	8000-13500 (9650)	19-07-04	Permanent	Others
7.	Computer Programmer	Sri Naman Kandulna	Programme Assistant(Computer)		5000-8000 (5900)	20-07-04	Permanent	ST
7.	Accountant / Superintendent	Sri Abhay Kumar Singh	O.S.cum Accountant		5500.00	April 2008	Contractual Staff	Others
8.	Stenographer	Sri Ratnesh Kumar Mishra	Stenographer		4000.00	April 2008	Contractual Staff	Others
10.	Driver	Sri Ranchandra Lohar	Driver		3000.00	April 2008	Contractual Staff	ST
11.	Peon	Sri Ruplal Marandi	Peon		2500.00	April 2008	Contractual Staff	ST
12.	Peon	Sri Durga Prasad Mahto	Peon		2500.00	April 2008	Contractual Staff	OBC

1.6. Total land with KVK (in ha) - 10 ha

S. No.	Item	Area (ha)
1	Under Buildings & Demonstration units and other encroachment	2.0
2.	Under Crops	6
3.	Orchard/Agro-forestry (Mother plant nursery)	1
4.	Technology park	0.4
5.	Pond	0.2
6.	Unutilized land due to undulating	0.4

1.7. Infrastructural Development:

A) Buildings

Sl. NO.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	I.C.A.R.	1-12-2007	500				completed
2.	Farmers Hostel	I.C.A.R.	01-10-2007	300				Completed
3.	Staff Quarters (6)	I.C.A.R.					400	Incomplete
4.	Demonstration Units (2)	-						
5	Fencing	District Administration						completed
6	Rain Water harvesting system	I.C.A.R.	June 2007	120x120x10 ft pond				Incomplete (Micro irrigation system is not installed)
7	Threshing floor	Not sanctioned						
8	Farm godown	District Administration	Dec.2007	1750				completed
9.	IT Infrastructure	I.C.A.R.						Incomplete (Room partitioning is not done)

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Kms. Run during the year (1st April 09 to 31ts Jan.2010)	Total Kms. Run	Present status
Jeep	2005	431129.00	3590	158280	Time to time repairing is needed
Tractor	2006	361200.00	133 Hour run	729 Hour run	Time to time repairing is needed

C) Equipments & AV aids

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Seed drill cum fertilizer drill	2005	775.00	Good
Birsa ridger plough	2005	485.00	Good
Japanese paddy weeder	2005	525.00	Good
Dryland weeder	2005	300.00	Good
Birsa potato digger	2005	625.00	Good
Paddy transplanter	2006	-	Good
Cultivator 9 tine	2006	14200.00	Good
Land leveler	2006	8080.00	Good

Offset disk	2006	28020.00	Good
Trailer 4 wheel with tyre tube	2006	76500.00	Good
Disc plough 2 furrow	2007	26995.00	Good
Grass cutter	2007	38500	Good
M.B. Plough	2007	26993.00	Good
Rottary tiller	2007	88585.00	Good
Power sprayer	2007	48500.00	Good
Cage wheel nut bolt type	2007	5250.00	Good
Zero till fertilizer drill	2010	-	Good
Computer	2006	45000.00	Good
UPS	2006	7000.00	Good
Laser Printer	2006	8000.00	Good
Fax Machine	2006	8000.00	Not installed
Xerox	2007	72000.00	Not functioning
2 KVA Stabilizer	2007	4850.00	Good
Stabilizer 500 VA Manual Auto-cut	2007	1750.00	Good
Camera	2005	12650.00	Good
Camera	2007	14512.50	Good
LCD Projector	2007	51989.00	Good
HAKIM Audio Visual Trolley	2007	8534.00	Good
Projector Screen 8'x6'	2007	7550.00	Good
15Mtrs special imported moulded VGA cable	2007	7500.00	Good
Laser pointer torch with duel effect	2007	2200.00	Good
Refrigerator	2007	11990.00	Good
Food processor	2007	4995.00	Good
Commercial gas cylinder	2008	3000.00	Good
Weighing machine	2008	7540.00	Good
Weighing machine	2010	12740.00	Good
Weighing machine	2010	7260.00	Good
Generator 5 KVA	2010	49500.00	Good

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

Sl.No.	Date	Number of Participants	Salient Recommendations	Action taken	If not conducted, state reason
1.	03.03.2011	25	In Saraibindha village 5% model of rain water harvesting was made but the farmer's are not growing rabi crops due to open grazing problem. It was decided that Saraibindha farmer should be motivated to take rabi crops.		
2.			Refine Sickle of Bokaro should be manufactured in large scale at KVK, Dhanbad.		
3.			Training programme on animal husbandry should be increased with the help of experts from BAU and SMS of other KVKs.		
4.			It was also decided that a new proposal for deep boring and open dug well at KVK farm should be submitted to Director Extension Education, BAU, Ranchi.		
5.			Director Extension Education, B.A.U. Ranchi advised that a success story should be made on spread of wheat variety K- 9107 through farmer to farmer extension programme.		
6.			It was also decided that 250 rural youths should be trained next year.		
7.			Director Extension Education, B.A.U. Ranchi advised that Til crop should be promoted in the district.		

8.			Director Extension Education, B.A.U. Ranchi advised that a new on farm trail should be conducted on Arhar + Haldi intercropping.		
9.			Lac culture should be promoted through shrubs like semi lata planting.		
10.			Innovation of farmers of Chandipur village on mixed cropping of vegetables crops should be documented.		
11.			Minor Irrigation Department has developed many check dams in the district. It was advised that KVK and ATMA should do a survey work and try to increase the cropping intensity in adjoining area.		
12.			10 rural youths should be trained in grafting and budding techniques.		
13.			Director Extension Education, B.A.U. Ranchi had advised that a success story should be made on KVK adopted village Dharampura's development.		

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

2. DETAILS OF DISTRICT (2010-11)

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

S. No	Farming system/enterprise
1	Agriculture + Horticulture(Vegetable)+ Animal Husbandry
2.	Agriculture + Horticulture(Vegetable)
3.	Agriculture + Animal Husbandry
4.	Agriculture + Horticulture(Vegetable)+ Animal Husbandry+ Fishery
5.	Agriculture + Horticulture(Vegetable)+ Animal Husbandry+ Lac culture
6.	Agriculture + Animal Husbandry+ Lac culture
7.	Agriculture + Labour

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

S. No	Agro-climatic Zone	Characteristics
1.	IV- Central North Eastern Plateau Zone	Geographical area of Zone = 41293 K.m^2 Mining dominates in central part. Damodar, Barakar, More and Ajay are the main rivers of this zone. Damodar basin is famous for coal. This zone is characterized by having humid & sub humid tropical monsoon type of climate. Average rainfall of the zone is 1320 m.m. Monsoon breaks in the second week of June. In normal years pre monsoon rains are received in the month of May about 60 m.m. Apart from this winter rain during December- February is sparse. Soil developed on Rajmahal traps are dark, heavy textured, neutral in reaction and moderately well drained to poorly drained and moderately rich in N but poor in P&K. Soils of Dhanbad & Giridih areas are light textured, moderately to slightly acidic and moderately well drained and poor in N & P and moderate to fairly rich in K. Upland Soils of Ranchi and Hazaribagh areas are gravely to sandy, shallow, acidic and of very poor fertility status where as medium land soil are yellow coloured, slightly to moderate acidic, some what poorly drained & moderately fertile where as the soils of Koderma side are light textured, silty in nature, yellowish to reddish in colour & neutral to moderately acidic in reaction. These are poor to moderate in N, poor in available P and rich to very rich in K. Very limited irrigation potential has been exploited in this zone. Although it is claimed that 8-9% area is irrigated. Larger part of agricultural land is rainfed. Less than 55% area comes

		under net cultivated area. Good forest is available on 12-13 percent land. Rice, maize, wheat, potato, linseed, rapseed and mustard, til, niger, ground nut and vegetables are major crops of the region. Climate of the Bokaro district is sub humid with water deficiency in winter. Temperature ranges from 2^0C in winter to 45^0C in hot summer. The main drainage system is Damodar & Swarnrekha rivers. Only 5-8% of net sown area is irrigated. The average annual rainfall of the district is 1275 mm. Upland soils are red to brownish red in colour, light textured, well drained, acidic in reaction and poor in organic carbon, N, Ca, Mg., P & S. Medium land soils are yellow, yellowish in colour, light to medium texture, moderately acidic and poor in N, Ca, Mg and organic matter. Whereas the low land soils are gray to grayish in colour, heavy textured, neutral to slightly alkaline in reaction, poorly drained and medium in N and organic matter. The major crops of the district are rice, maize, wheat, potato, lentil, linseed, rapseed & mustard, groundnut, potato and vegetables like ladys finger, tomato, brinjal, rench bean, raddish, cauliflower, cabbage & cucurbits.

S. No	Agro ecological situation	Characteristics
1.	Red sandy loam, gravely undulating topography with mines and forests	Undulating topography, having red sandy loam soil, full of gravels, covered with perennial forests, having mines
2.	Sandy loam rainfed	Upland sandy loam soil, no irrigation facility, agriculture only depend on rain water
3.	Sandy loam irrigated	Medium land, sandy loam soil, having irrigation facility
4.	Clay loam rainfed	Low land, clay loam soil, agriculture depend only rain water

Source: ATMA, Bokaro District

2.3 Soil type/s

S. No	Soil type	Characteristics	Area in ha
1.	Stony and gravely soil	Found in the foot hill prone to intensive erosion low water holding capacity highly acidic low in fertility status and organic matter content only suitable for pasture and recreation purpose.	206465
2.	Light texture soil (Sandy soil)	Found in upland, coarse texture soil, highly acidic in reaction, low water holding capacity, low in organic matter content and poor in fertility status, rich in micronutrient except Boron and Molybdenum, prone to erosion.	619395
3.	Medium texture soil (Loamy soil)	Found in medium land, soil texture is mainly sandy loam to sandy clay loam, soils are moderately acidic, poor in fertility status and low in organic matter content and water holding capacity is moderate.	2064650
4.	Fine textured soil (Clayey soil)	Heavy texture soil , found in low land, soils are fairly acidic to neutral in reaction, water holding capacity is high, organic matter content is medium and moderate in fertility status.	1238790

Source: NSSLUP India

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

S. No	Crop	Area (ha)	Production (MT)	Productivity (Qtl /ha)
1	Paddy (Hybrid)	3075	12300	40.00
2	Paddy	26113	40088	15.50
3	Wheat	1300	1272	10.00
4	Maiz	4746	7595	16.00
5	Arhar	2130	1374	6.50
6	Gram	1309	1149	8.25
7	Mustad	1615	388	6.00
8.	Pea	325	387	12.00
9.	Green gram			6.0
10.	Horse gram			4.0
11.	Black gram			6.0
12.	Lentil			8.0
13.	Sesame			2.0
14.	Niger			2.0
15.	Linseed			5.0
16.	Mustard			6.0
17.	Brinjal	496	5952	
18.	Potato	300	750	
19.	Cauliflower	508	4572	
20.	Pea	325	387	

Source: Distt. Agriculture office Bokaro

2.5. Weather data

Month	**Rainfall (mm)**	**Temperature ^{0} C**		**R H (%)**	**No. of Rainy Days**
		Maximum	Minimum		
April 10	22.2				1
May 10	97.6				4
June 10	93.6				5
July 10	179.8				13
August 10	253.2				14
Sept. 10	176.8				12
Oct. 10	84.0				6
Nov. 10	2.8				1
Dec. 10	2.5				1
Jan. 2011	2.3				1
Feb. 2011	-				-
March 2011	23.2				3
Total	**938**				**61**

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

Category	Population	Production	Productivity
Cattle			
Crossbred	15121		
Indigenous	493525		
Buffalo	102956		
Sheep			
Crossbred	8898		

Indigenous	50183		
Goats	207156		
Pigs			
Crossbred	709		
Indigenous	42500		
Rabbits			
Poultry			
Hens			
Desi			
Improved			
Ducks			
Turkey and others			

Source: District Agriculture Office, Bokaro

Category	Area	Production	Productivity
Fish			
Marine			
Inland			
Prawn			
Scampi			
Shrimp			

2.7 Details of Operational area / Villages (2010-11)

Sl. No.	Taluk	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Area
1.	Bermo	Petarwar	Ambadih Bundu,Lukaiya, Koh, Jaradih, Itke, Chanpi, Angwali etc.	Paddy Groundnut Vegetables Potato Onion Poultry	1. Low productivity 2. Low profitability in vegetable cultivation 3. Low productivity in poultry	1. Introduction of high yielding varieties of paddy 2. Introduction of disease resistant variety of vegetable specially in tomato & brinjal 3. Introduction high yielding variety of Arhar Sesame and Niger 4.Management of soil acidity through furrow application of lime 5. Income generation activity for rural youth & farm women 6. Rain water harvesting. 7. INM & IPM 8. Post harvest management, marketing & value addition
2.	Bermo	Kasmar	Durgapur, Madhukarpur, Mayapur, Kurko, Chandipur, Baraikala, Ranitanr, Rangamati	Arhar Sesame Niger Paddy Vegetable Goatry	1. Low productivity 2. Low profitability in vegetable crops 3. Low profitability in goatry	
3.	Chas	Chas	Dharmpura, Jhopro, Ulgoda	Arhar Sesame Niger Paddy Vegetable Goatry	1. Low productivity 2. Low profitability in vegetable crops 3. Low profitability in goatry	
4.	Chas	Chandankiyari	Bansgari, Lanka, Machatanr	Paddy Groundnut Vegetables Potato Onion Poultry	1. Low productivity 2. Low profitability in vegetable cultivation 3. Low productivity in poultry	

2.8 Priority thrust areas

S. No	Thrust area
1	Soil water conservation and judicious use of available irrigation water.
2.	Intensification in crop production
3.	Diversification
4.	Development of seed production system.
5.	Establishment of small scale industries like preservation and processing industries & cold storage.
	Value addition in vegetables.
6.	Improvement of indigenous and genetically poor breeds of livestock.
7.	Management of soil acidity.
8.	

3. TECHNICAL ACHIEVEMENTS

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

OFT				FLD			
1				2			
Number of OFTs		Number of farmers		Number of FLDs		Number of farmers	
Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
11	11	110	102	28 ha	28 ha	190	173

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
147	79	3970	2042		116	-	13834

Seed production (q)		Planting material (Nos.)	
5		6	
Target	Achievement	Target	Achievement

Target 2010

Sl. No.	Crop	Variety	Area (ha)	Type of Seed	Expected Yield (qt)
1.	Paddy	MTU- 7029	2.0	C/S	80
		Lalat/Abhisek	2.0	C/S	70
2.	Pigeon pea	ND - 1	0.4	C/S	5.0
3.	Niger	BN -1	0.4	C/S	1.5
4.	Dhaincha		0.4	C/S	3.0
		Total	5.2		

Achievement- 2010

Sl. No.	Crop	Variety	Area (ha)	Type of Seed	Quantity (qt) Expected (unprocessed)	Remarks
1.	Paddy	MTU- 7029	1.0	F/S II	9.0	Poor yield of paddy due to late transplanting and crop faced severe moisture stress due to drought condition.
		Lalat	0.8	F/S II	8.0	
		Abhisekh	0.5	F/S	10.0	
2.	Pigeon pea	Birsa Arhar - 1	0.5	F/S II	2.0	
		ND - 1	0.5	T/L	4.5	
3.	Niger	BN -1	0.2	C/S	0.70	
		Puja	0.2	C/S	0.50	
4.	Dhaincha	Asam Local	0.5	T/L	4.0	
5.	Turmeric	Rajendra Sonia	0.10	C/S	3.0	

3.1 Achievements on technologies assessed and refined

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

1) Title of on-farm trials
2) Problem diagnose
3) Details of technologies selected for assessment/refinement
4) Source of technology
5) Production system and thematic area
6) Performance of the Technology with performance indicators
7) Final recommendation for micro level situation
8) Constraints identified and feedback for research
9) Process of farmers participation and their reaction

OFT – 1

A.1) Title of on-farm trials :- Effect of balance fertilization on sweet potato grown in upland situation.

2) Problem diagnose :- Low productivity of sweet potato due to poor soil health and acidity in upland condition. This reduces the yield to an extent of about 40 %.

3) Details of technologies selected for assessment/refinement:-

Farmers practice - No use nutrients

Technological option **i** - 50 % recommended dose of fertilizer

Technological option **ii** - 50 % recommended dose of fertilizer + Lime @ 4 qt/ha in furrow application

Technological option **iii** - 100% recommended dose of fertilizer

(Recommended dose of fertilizer = 50:60:60 N:P_2O_5:K_2Okg/ha)

4) Source of technology :- B. A. U., Ranchi

5) Production system and thematic area :-

Upland production system, Soil fertility management

6) Performance of the Technology with performance indicators :- Given in part B

7) Final recommendation for micro level situation :-

The yield increase in sweet potato was 35.2 % in 50 % RDF and 78 % in 100 % RDF technology option over farmers practice. Response of lime was not significant. So for resource poor farmer 50 % RDF (20:30:30 N:P_2O_5:K_2Okg/ha) is recommended where as for resource rich farmer can get higher yield (16.2 ton/ha) as well as higher B:C ratio (4.73) with RDF(50:60:60 N:P_2O_5:K_2Okg/ha)

8) Constraints identified and feedback for research :-

Sweet potato has been grown in upland and highly acidic soils with minimum use of inputs. This crop has been neglected by scientist so there is need to develop variety suitable for acidic soil conditions and responsive to sub – optimal doses of fertilizer.

9) Process of farmers participation and their reaction :-

B. TECHNOLOGY ASSESSMENT AND REFINEMENT IN DETAIL

SOIL FERTILITY MANAGEMENT

Problem definition: Low productivity of sweet potato due to poor soil health and acidity in upland condition. This reduces the yield to an extent of about 40 %.

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

KVK conducted on-farm trial to assess the effect of balance fertilization on yield and net return of sweet potato grown in upland situation. The yield increase in sweet potato was 35.2 % in 50 % RDF and 78 % in 100 % RDF technology option over farmers practice. The highest B:C ratio (4.73) was found in technology option iii (100% RDF) followed by technology option i (50% RDF). There was increased in available P_2O_5 and K_2O content of post harvest soil samples of technology option i, ii and iii over farmers practice.

Table I: Effect of nutrient management on yield of sweet potato.

Technology option	No. of trials	Tuber yields (tons/ha)	% increase over farmer practice	Vine yield (ton/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs./ha)	Net Return (Rs / ha)	BC Ratio
Farmers practice (No use nutrients)	08	9.1	-	31.0	14000	40950	26950	2.93
Technological option **i** (50 % recommended dose of fertilizer)		12.3	35.2	34.3	14700	55350	40650	3.76
Technological option **ii** **(**50 % recommended dose of fertilizer + Lime @ 4 qt/ha in furrow application)		12.4	36.3	34.4	15500	55800	40300	3.6
Technological option **iii** (100% recommended dose of fertilizer)		16.2	78.0	37.7	15400	72900	57500	4.73
SEm+								
CD(P=0.05)		2.9		4.2				

B.C Ratio= Gross return/ Gross cost of cultivation

Table II: Effect of balance fertilization on soil fertility status.

Technology option	Initial soil status				Final soil status			
	pH	OC (%)	P_2O_5 (kg/ha)	K_2O (kg/ha)	pH	OC (%)	P_2O_5 (kg/ha)	K_2O (kg/ha)
Farmers practice (No use nutrients)	4.7-5.4	0.32-0.50	7.2-15.0	70.0-120.0	4.6-5.4	0.31-0.52	6.8-13.0	65-118
Technological option **i** (50 % recommended dose of fertilizer)	4.7-5.4	0.32-0.50	7.2-15.0	70.0-120.0	4.5-5.5	0.3-0.53	12.0-22.0	77-130
Technological option **ii** **(**50 % recommended dose of fertilizer + Lime @ 4 qt/ha in furrow application)	4.7-5.4	0.32-0.50	7.2-15.0	70.0-120.0	4.9-5.7	0.32-0.54	14.0-25.0	80-128
Technological option **iii** (100% recommended dose of fertilizer)	4.7-5.4	0.32-0.50	7.2-15.0	70.0-120.0	4.5-5.4	0.33-0.55	16.0-28.0	84-140

OFT – 2

A.1) Title of on-farm trials :- Nutrient management in bitter gourd.

2) Problem diagnose :- Low yield of bitter gourd due to imbalance use of fertilizer.

3) Details of technologies selected for assessment/refinement :-

Farmer's practice - (N-25kg, P_2O_5 15kg and FYM 3 t /ha)

Technological option i - Farmers practice + 25 kg K_2O/ha

Technological option ii - 50 % RDFof NPK + Vermi compost10q/ha in pit

Technological option iii - 75 %RDF of NPK + Vermi compost10q/ha in pit

(Note: RDF: N 80kg, P_2O_5 50 kg, K_2O50kg)

4) Source of technology :- B. A.U., Ranchi

5) Production system and thematic area :- Vegetable production system, Integrated nutrient management

6) Performance of the Technology with performance indicators :- Given in part B

7 Final recommendation for micro level situation :- Application of 25 kg K2O/ha along with farmers practice can increase the yield by 17.4% over farmer practice. Fertilizer along with vermi compost @ 10 qt/ha in pit had given higher yield and net return to the farmers. So resource rich farmer should use vermi compost in combination with 75% RDF to get higher yield, net return and B: C ratio.

8) Constraints identified and feedback for research :- Due to high cost of vermi compost and non availability of quality vermi compost in local market farmers are unable to use it in their farm. Therefore farmers should be encouraged to prepare vermi compost in their own house and use it in vegetables crops. For this good quality of earth worm strain should be developed and provided to farmers.

9) Process of farmers participation and their reaction :-

B. TECHNOLOGY ASSESSMENT AND REFINEMENT IN DETAIL

INTEGRATED NUTRIENT MANAGEMENT

Problem definition: Low yield of bitter gourd due to imbalance use of fertilizer.

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

KVK conducted on-farm trial to assess the effect of integrated nutrient management on yield and attributing character of bitter gourd. Application of 25 kg K2O/ha along with farmers practice can increase the yield by 17.4% over farmer practice. Fertilizer along with vermi compost @ 10 qt/ha in pit had given higher yield and net return to the farmers.

Table I: Effect of integrated nutrient management on yield and yield attributing character of bitter gourd.

Technology Options	No. of trials	Yield attributing characters			Yield (q/ha)	Cost of cultivation Rs.	Gross return (Rs./ha)	Net return (Rs./ha)	BC ratio
		No. of fruit/plant	Average fruit weight (gm)	No. of primary branch					
Farmer's practice (N-25kg, P_2O_5 15kg and FYM 3 t /ha)	10	23	73	19	138	50500	188500	138000	3.73
Technological option i (Farmers practice + 25 kg K_2O/ha)		27	82	23	162	51000	213000	162000	4.17
Technological option ii (50 % RDF of NPK + Vermi compost10q/ha in pit)		32	98	28	177	56500	233500	177000	4.13
Technological option iii (75 %RDF of NPK + Vermi compost10q/ha in pit)		36	109	31	191	57200	248200	191000	4.34
SEm+									
CD 5 %		4.2	8.9	3.5	14.6				

(Note: RDF: N 80kg, P_2O_5 50 kg, K_2O50kg)

* Rate of bitter gourd has been taken as Rs 1000.00/ quintal

Table II: Effect of integrated nutrient management on soil fertility status.

Technology option	Initial soil status				Final soil status			
	pH	OC (%)	P_2O_5 (kg/ha)	K_2O (kg/ha)	pH	OC (%)	P_2O_5 (kg/ha)	K_2O (kg/ha)
Farmer's practice (N-25kg, P_2O_5 15kg and FYM 3 t /ha)	5.2-6.2	0.56-0.80	8.5-24.2	90.0-175.5	5.1-6.2	0.54-0.75	9.0-26.0	80-170
Technological option i (Farmers practice + 25 kg K_2O/ha)	5.2-6.2	0.56-0.80	8.5-24.2	90.0-175.5	5.3-6.4	0.56-0.82	11.0-28.0	88-180
Technological option ii (50 % RDF of NPK + Vermi compost10q/ha in pit)	5.2-6.2	0.56-0.80	8.5-24.2	90.0-175.5	5.4-6.4	0.60-0.84	12.5-30.0	90-185
Technological option iii (75 %RDF of NPK + Vermi compost10q/ha in pit)	5.2-6.2	0.56-0.80	8.5-24.2	90.0-175.5	5.3-6.3	0.58-0.85	14.0-34.0	95-190

OFT – 3

A.1) Title of on-farm trials :- Management of fruit drop in chilly through use of balance dose of nutrient and NAA.

2) Problem diagnose :- Low productivity of Chilly due to nutrient and hormonal imbalance leading to flower & fruit drop.

3) Details of technologies selected for assessment/refinement:- Assessment

Farmers practice - N 35 kg, P_2O_5 20 kg K_2O18 kg FYM 3-4 ton/ha

Technological option **i** - Farmers practice + Spraying of NAA @ 20ppm after appearance of first flower

Technological option **ii** - Recommended dose of fertilizer (N 90 kg, P_2O_5 60 kg, K_2O 60 kg) + FYM 3-4 ton/ha

Technological option **iii** - Recommended dose of fertilizer (N 90 kg, $P2O_5$ 60 kg, K_2O 60 kg) + FYM 3-4 ton/ha) + Spraying of NAA @ 20ppm after appearance of first flower

4) Source of technology :- HARP, Plandu, Ranchi

5) Production system and thematic area :-

Vegetable production system, Integrated crop management

6) Performance of the Technology with performance indicators : - Given in part B

7 Final recommendation for micro level situation :-

Spraying of NAA @ 20 ppm after appearance of first flower in chilly was found to be most suitable technique in reducing fruit drop both in combination with farmer practice as well as recommended dose of fertilizer.

8) Constraints identified and feedback for research :-

Chilly variety which has low flower and fruit drop should be developed by research system

9) Process of farmers participation and their reaction :-

B. TECHNOLOGY ASSESSMENT AND REFINEMENT IN DETAIL

INTEGRATED CROP MANAGEMENT

Problem definition: Low productivity of Chilly due to nutrient and hormonal imbalance leading to flower & fruit drop.

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

*KVK conducted on-farm trial for m*anagement of fruit drop in chilly through use of balance dose of nutrient and NAA. Spraying of NAA @ 20 ppm after appearance of first flower in chilly was found to be most suitable technique in reducing fruit drop both in combination with farmer practice as well as recommended dose of fertilizer.

Table I: Management of fruit drop in chilly through use of balance dose of nutrient and NAA.

Technology Options	No. of trials	Yield attributing characters		% of fruit drop	Yield (q/ha)	Cost of cultivation Rs.	Gross return (Rs / ha)	Net return (Rs./ha)	BC ratio
		Initial fruit set/plant	Fruit set/plant						
Farmers practice N 35 kg, P_2O_5 20 kg K_2O18 kg FYM 3-4 ton/ha	10	52	32	38.5	50.4	26200	126000	99800	4.8
Technological option **i** Farmers practice + Spraying of NAA @ 20ppm after appearance of first flower		64	56	12.5	61.2	27700	153000	125300	5.5
Technological option **ii** Recommended dose of fertilizer (N 90 kg, P_2O_5 60 kg, K_2O 60 kg) + FYM 3-4 ton/ha		68	51	25.0	65.2	29700	163000	133300	5.4
Technological option **iii** Recommended dose of fertilizer (N 90 kg, $P2O_5$ 60 kg, K_2O 60 kg) + FYM 3-4 ton/ha) + Spraying of NAA @ 20ppm after appearance of first flower		82	75	8.5	78.0	31200	195000	163800	6.5

***** Rate of chilly has been taken as Rs 2500.00/ quintal

Table II: Effect of balance dose of nutrient and NAA on soil fertility status.

Technology option	Initial soil status				Final soil status			
	pH	OC (%)	P_2O_5 (kg/ha)	K_2O (kg/ha)	pH	OC (%)	P_2O_5 (kg/ha)	K_2O (kg/ha)
Farmers practice N 35 kg, P_2O_5 20 kg K_2O18 kg FYM 3-4 ton/ha	5.5-6.3	0.5-0.74	12.0-25.5	100.0-180.0	5.4-6.5	0.5-0.75	14-27	95-170
Technological option **i** Farmers practice + Spraying of NAA @ 20ppm after appearance of first flower	5.5-6.3	0.5-0.74	12.0-25.5	100.0-180.0	5.5-6.4	0.52-0.75	16.5-28	92-165
Technological option **ii** Recommended dose of fertilizer (N 90 kg, P_2O_5 60 kg, K_2O 60 kg) + FYM 3-4 ton/ha	5.5-6.3	0.5-0.74	12.0-25.5	100.0-180.0	5.3-6.2	0.5-0.76	16.0-29	110-185
Technological option **iii** Recommended dose of fertilizer (N 90 kg, $P2O_5$ 60 kg, K_2O 60 kg) + FYM 3-4 ton/ha) + Spraying of NAA @ 20ppm after appearance of first flower	5.5-6.3	0.5-0.74	12.0-25.5	100.0-180.0	5.5-6.4	0.48-0.75	18.0-30.0	110-190

OFT – 4

A.1) Title of on-farm trials :- Effect of transplanting techniques on the productivity of paddy in medium land situation.

2) Problem diagnose :- Low yield of paddy in medium land situation during kharif season.

3) Details of technologies selected for assessment/refinement :- Assessment
Farmers practice - (5-6 seedlings/ hill transplanting of 30-35 days old seedling.
Technological option **i** - Recommended transplanting 2-3 seedlings/ hill of 21 days old seedling.
Technological option **ii** - SRI 12 days old seedling, 1 seedlings/ hill at 25x25 cm

4) Source of technology :- ICAR

5) Production system and thematic area :- Rice based production system, Integrated crop management

6) Performance of the Technology with performance indicators :- Given in part B

7 Final recommendation for micro level situation :- SRI (12 days old seedling at 1 seedlings/ hill at 25x25) technique had given highest yield of 48.7 qt/ha which 38.4 % higher than farmers practice. Highest net return and B:C ratio had also been recorded in SRI technique.

8) Constraints identified and feedback for research :- As majority of the farmers depends on rain for transplanting of rice, so it is difficult for them to transplant 12 day old seedling.

9) Process of farmers participation and their reaction :-

B. TECHNOLOGY ASSESSMENT AND REFINEMENT IN DETAIL

INTEGRATED CROP MANAGEMENT

Problem definition: Low yield of paddy in medium land situation during kharif season.

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

KVK conducted on-farm trial to assess the effect of different transplanting techniques on the productivity of paddy in medium land situation. SRI (12 days old seedling at 1 seedlings/ hill at 25x25) technique had given highest yield of 48.7 qt/ha which 38.4 % higher than farmers practice. Highest net return and B:C ratio had also been recorded in SRI technique.

Table I: Effect of transplanting techniques on the productivity of paddy in medium land situation.

Technology Options	**No. of trials**	**Yield attributing characters**		**Yield (q/ha)**	**Cost of cultivation Rs.**	**Gross return (Rs / ha)**	**Net return (Rs./ha)**	**BC ratio**
		No. of panicle/hills	No. of grains/panicle					
Farmers practice (5-6 seedlings/ hill transplanting of 30-35 days old seedling	10	8.5	58.5	35.2	17500	52700	35200	3.01
Technological option **i** Recommended transplanting 2-3 seedlings/ hill of 21 days old seedling.		14.2	81.6	41.4	18200	59600	41400	3.27
Technological option **ii** SRI 12 days old seedling at 1 seedlings/ hill at 25x25		22.5	97.5	48.7	18800	67500	48700	3.60
SEm+								
CD 5 %								

Table II: Effect of transplanting techniques on soil fertility status.

Technology option	**Initial soil status**				**Final soil status**			
	pH	OC (%)	P_2O_5 (kg/ha)	K_2O (kg/ha)	pH	OC (%)	P_2O_5 (kg/ha)	K_2O (kg/ha)
Farmers practice (5-6 seedlings/ hill transplanting of 30-35 days old seedling	5.4-6.5	0.42-0.65	7.8-25.4	81-156	5.5-6.6	0.4-0.63	13.0-30.0	96-165
Technological option **i** Recommended transplanting 2-3 seedlings/ hill of 21 days old seedling.	5.4-6.5	0.42-0.65	7.8-25.4	81-156	5.4-6.6	0.44-0.65	11.0-28.0	92-160
Technological option **ii** SRI 12 days old seedling at 1 seedlings/ hill at 25x25	5.4-6.5	0.42-0.65	7.8-25.4	81-156	5.4-6.4	0.45-0.66	10.0-26.0	85-155

OFT – 5

A.1) Title of on-farm trials :- Effect of brown manuring on upland rice.

2) Problem diagnose :- Low yield of upland paddy due to poor soil health and imbalance nutrient use. This reduces rice yield to and extent of about 30 %.

3) Details of technologies selected for assessment/refinement :- Assessment

Farmers practice - Sole upland rice + (20kg N + 16 kg P_2O_5) at the time sowing

Technological option **i** - Farmer practice + brown manuring with dhaincha @ 25 kg/ha (Spraying of 2, 4-D, 25-30 days after sowing @ 2 lit/ ha)

Technological option **ii** - Upland rice + brown manuring with dhaincha @ 25 kg/ha (Spraying of 2, 4-D, 25-30 days after sowing @ 2 lit/ ha) + recommended dose of fertilizer (60:30:20)

4) Source of technology :- I.C.A.R.

5) Production system and thematic area :- Upland rice production system, Integrated crop management

6) Performance of the Technology with performance indicators :- Given in part B

7 Final recommendation for micro level situation :- Brown manuring has increased grain yield by 14 % over farmers practice and net return and B:C ratio had also increased. Brown manuring along with recommended dose of fertilizer had increased yield by 31.5 % over farmers practice. Brown manuring wil also maintain soil fertility**.**

8) Constraints identified and feedback for research :-

9) Process of farmers participation and their reaction :-

INTEGRATED CROP MANAGEMENT

Problem definition: Low yield of upland paddy due to poor soil health and imbalance nutrient use. This reduces rice yield to and extent of about 30 %.

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

KVK conducted on-farm trial to assess the effect of brown manuring on yield of direct seeded paddy and fertility status of soil. Brown manuring has increased grain yield by 14 % over farmers practice and net return and B:C ratio had also increased. Brown manuring along with recommended dose of fertilizer had increased yield by 31.5 % among farmers practice. Brown manuring wil also maintain soil fertility**.**

Table I: Effect of brown manuring on the productivity of upland paddy.

Technology Options	No. of trials	Yield (q/ha)	% increase in yield over farmers practice	Cost of cultivation Rs.	Gross return (Rs / ha)	Net return (Rs./ha)	BC ratio
Farmers practice Sole upland rice + (20kg N + 16 kg P_2O_5) at the time sowing	10	16.5	-	9500	13200	3700	1.38
Technological option **i** Farmer practice + brown manuring with dhaincha @ 25 kg/ha		18.8	14	8500	15040	6540	1.77
Technological option **ii** Upland rice + brown manuring with dhaincha @ 25 kg/ha + recommended dose of fertilizer (60:30:20)		21.7	31.5	10200	17360	7160	1.70

Table II: Effect of brown manuring on soil fertility status.

Technology option	Initial soil status				Final soil status			
	pH	OC (%)	P_2O_5 (kg/ha)	K_2O (kg/ha)	pH	OC (%)	P_2O_5 (kg/ha)	K_2O (kg/ha)
Farmers practice Sole upland rice + (20kg N + 16 kg P_2O_5) at the time sowing	4.7-5.5	0.30-0.48	6.8-14.5	70.5-175.0	4.8-5.6	0.3-0.45	7.5-15.5	65-165
Technological option **i** Farmer practice + brown manuring with dhaincha @ 25 kg/ha	4.7-5.5	0.30-0.48	6.8-14.5	70.5-175.0	4.9-5.7	0.34-0.5	8.0-16.5	70-170
Technological option **ii** Upland rice + brown manuring with dhaincha @ 25 kg/ha + recommended dose of fertilizer (60:30:20)	4.7-5.5	0.30-0.48	6.8-14.5	70.5-175.0	4.6-5.5	0.32-0.5	9.0-18.0	74-180

OFT – 6

A.1) Title of on-farm trials :- Effect of nutrient management on yield of groundnut under rainfed condition.

2) Problem diagnose :- Low productivity of groundnut due to acidity & poor soil health in upland condition. This reduces the yield to an extent of about 30 %.

3) Details of technologies selected for assessment/refinement :- Assessment

Farmers practice - (25 - 30 kg N + 12.5 kg P_2O_5 / ha)

Technological option **i** - F P + lime @ 4 qt/ ha (furrow application)

Technological option **ii** - 50 % RDF (12.5: 25 : 10 N:P_2O_5:K_2Okg/ha)

Technological option **iii** - 50 % RDF + Lime application @ 4 qt./ ha (furrow application

4) Source of technology :- B.A.U., Ranchi

5) Production system and thematic area :- Oilseed production system, Management of problematic soil

6) Performance of the Technology with performance indicators :- Given in part B

7 Final recommendation for micro level situation :- Application of lime had alone increased pod yield by 21.3 % over farmers practice with B:C ratio of 2.67. Application of 50 % RDF and lime treatment had recorded highest yield (15.4 qt/ha), and B:C ratio (2.87). Application of lime alone or in combination with 50 % RDF had increased the post harvest soil pH and also improves the fertility status of soils.

8) Constraints identified and feedback for research :- Non availability of liming materials in local market is a major constraint in adoption of this technology.

9) Process of farmers participation and their reaction :-

B. TECHNOLOGY ASSESSMENT AND REFINEMENT IN DETAIL

MANAGEMENT OF PROBLEMATIC SOILS

Problem definition: Low productivity of groundnut due to acidity & poor soil health in upland condition. This reduces the yield to an extent of about 30 %.

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

KVK conducted on-farm trial to assess the effect of lime on yield and yield attributing character of groundnut and soil fertility status. Application of lime had alone increased pod yield by 21.3 % over farmers practice with B:C ratio of 2.67. Application of 50 % RDF and lime treatment had recorded highest yield (15.4 qt/ha), and B:C ratio (2.87). Application of lime alone or in combination with 50 % RDF had increased the post harvest soil pH and also improves the fertility status of soils.

Table I: Effect of lime on yield and yield attributing character of groundnut.

Technology Options	No. of trials	Yield attributing characters			Yield (q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs / ha)	Net return (Rs./ha)	BC ratio
		No. of pod/plant	100 pod weight	Shelling %					
FP-(25 - 30 kg N + 12.5 kg P_2O_5 / ha)	10	12.2	98.8	64.4	10.3	14000	32990	18990	2.35
1- F P + lime @ 4 qt/ ha (furrow application)		14.8	105.6	71.2	12.5	15000	40000	25000	2.67
2- 50 % RDF (12.5: 25 : 10 N:P_2O_5:K_2Okg/ha)		15.7	102.4	70.5	11.8	14400	37760	23360	2.62
3- 50 % RDF + Lime application @ 4 qt./ ha (furrow application)		19.6	110.2	74.2	15.4	15400	44180	28780	2.87

Table II: Effect of lime on soil fertility status.

Technology option	Initial soil status				Final soil status			
	pH	OC (%)	P_2O_5 (kg/ha)	K_2O (kg/ha)	pH	OC (%)	P_2O_5 (kg/ha)	K_2O (kg/ha)
FP-(25 - 30 kg N + 12.5 kg P_2O_5 / ha)	4.8-5.5	0.35-0.55	6.2-12.1	72-165	4.7-5.5	0.33-0.56	6.0-12.5	65-160
1- F P + lime @ 4 qt/ ha (furrow application)	4.8-5.5	0.35-0.55	6.2-12.1	72-165	5.0-5.7	0.36-0.57	6.5-13.5	68-165
2- 50 % RDF (12.5: 25 : 10 N:P_2O_5:K_2Okg/ha)	4.8-5.5	0.35-0.55	6.2-12.1	72-165	4.6-5.5	0.35-0.58	9.0-16.0	68-168
3- 50 % RDF + Lime application @ 4 qt./ ha (furrow application)	4.8-5.5	0.35-0.55	6.2-12.1	72-165	5.0-5.6	0.36-0.58	10.0-18.0	70-172

OFT – 7

A.1) Title of on-farm trials :- Control of mustard Aphid Lipaphis erysimi (Kalt) through insecticide and NSKE combination.

2) Problem diagnose :- Low yield in mustard due to high infestation of Aphid.

3) Details of technologies selected for assessment/refinement :- Assessment
Farmers practice - Spraying of Rogar @ 2 ml/ liter water after appearance of Aphid

Technological option **i** - Two spray of NSKE 5% (1st spray at the time flowering stage, 2nd spray at 3 week after 1st spray)

Technological option **ii**- Two spraying of Imidachloprid @ 17.8% SL@1 ml/3 liter water (1st spray at the time flowering stage, 2nd spray at 3 week after 1st spray)

Technological option **iii** - Alternate spraying of NSKE 5% + Imidachloprid @ 17.8% SL@1 ml/3 liter water (2nd spray)

4) Source of technology :- B.A.U., Ranchi

5) Production system and thematic area :- Oilseed production system, Integrated pest management

6) Performance of the Technology with performance indicators :- Given in part B

7 Final recommendation for micro level situation :- The lowest incidence of aphids was observed in NSKE 5% + Imidachlopried @17.8 % SL combination and recorded maximum grain yield (11.4 qt / ha), net return (Rs. 10060 / ha) and B:C ratio (1.78).

8) Constraints identified and feedback for research :-

9) Process of farmers participation and their reaction :-

B. TECHNOLOGY ASSESSMENT AND REFINEMENT IN DETAIL

INTEGRATED PEST MANAGEMENT

Problem definition: Low yield in mustard due to high infestation of Aphid.

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

KVK conducted on-farm trial to assess the effect of insecticide and NSKE combination for control of mustard aphid. The lowest incidence of aphids was observed in NSKE 5% + Imidachlopried @17.8 % SL combination and recorded maximum grain yield (11.4 qt / ha), net return (Rs. 10060 / ha) and B:C ratio (1.78).

Table I: Effect of insecticides and NSKE 5% on aphids population, yield and economics of mustard.

Technology Options	No. of trials	Dose	No. of aphids / plant				Yield (q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs / ha)	Net return (Rs./ha)	BC ratio
			1st spray		2nd spray						
			BT	AT	BT	AT					
FP- Roger	10	2 ml/lt. water	180.9 (13.45)	67.7 (8.23)	154.7 (12.44)	96.4 (9.82)	7.2	12240	14400	2160	1.17
1- NSKE 5%		50 g	135.7 (11.65)	28.09 (5.30)	108.5 (10.42)	84.69 (9.20)	8.7	11240	17400	6160	1.54
2- Imidachloprid @ 17.8% SL		1 ml/3lt. water	130.1 (11.40)	26.5 (5.15)	97.0 (9.85)	88.7 (9.42)	9.6	12240	19200	6960	1.56
3- NSKE 5% + Imidachloprid @ 17.8% SL		1 ml/3lt. water	120.5 (10.97)	25.7 (5.07)	92.5 (9.62)	42.0 (6.48)	11.4	12740	22800	10060	1.78
SEm±											
CD 5 %			1.31	0.8	0.50	1.03	0.92				

Figures in parentheses are x + 0.5 transformation

BT- Before treatment, AT- After treatment

OFT – 8

A.1) Title of on-farm trials :- Control of Diamond back moth (DBM) in cabbage.

2) Problem diagnose :- Low yield of Cabbage due to high infestation of Diamond back moth (DBM).

3) Details of technologies selected for assessment/refinement :- Assessment
Farmers practice - Rogar (2 ml/ liter water) spraying at the time of infestation
Technological option **I** - Nursery management (Carbofuran 3 G- 5g/m^2) +Farmers practice
Technological option **ii** - Dipel (2ml/lit. water) spraying at 20-25 DAT
Technological option **iii** - Nursery management (Carbofuran 3 G- 5g/m^2) + Dipel (2ml/lit. water) spraying at 20-25 DAT

4) Source of technology :- B.A.U., Ranchi

5) Production system and thematic area :- Vegetable production system, Integrated pest management

6) Performance of the Technology with performance indicators :- Given in part B

7 Final recommendation for micro level situation :- Nursery management (Carbofuran 3 G) + Dipel @ 2ml / lit of water found to be most suitable combination for control in DBM in cabbage and their by giving highest yield (279qt/ha), net return (Rs. 122450.00/ha) and B: C ratio (4.95)

8) Constraints identified and feedback for research :-

9) Process of farmers participation and their reaction :-

B. TECHNOLOGY ASSESSMENT AND REFINEMENT IN DETAIL

INTEGRATED PEST MANAGEMENT

Problem definition: Low yield of Cabbage due to high infestation of Diamond back moth (DBM).

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

KVK conducted on-farm trial to assess the effect of chemical, biological and combination of different methods for controlling diamond back moth in cabbage. Nursery management (Carbofuran 3 G) + Dipel @ 2ml / lit of water found to be most suitable combination for control in DBM in cabbage and their by giving highest yield (279qt/ha), net return (Rs. 122450.00/ha) and B: C ratio (4.95)

Table I: Control of Diamond back moth (DBM) in cabbage.

Technology Options	No. of trials	Dose	No. of DBM/plant				Yield (q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs / ha)	Net return (Rs./ha)	BC ratio
			Before spraying	Day after spraying							
				2nd	4th	7th					
FP- Roger	10	2 ml/lt. water	4.20	2.53	2.92	3.08	218.00	31500	119900	88400	3.80
1- Nursery management (Carbofuran 3 G- 5g/m^2)+Farmers practice		5g/m^2+ 2 ml/lt. water	2.52	1.85	1.92	1.71	247.00	30200	135850	105650	4.49
2- Dipel		2 ml/lt. water	2.51	1.84	1.73	1.67	254.00	31200	139700	108500	4.47
3- Nursery management (Carbofuran 3 G)+ Dipel		5g/m^2 + 2ml/lit. water	2.50	1.73	1.58	1.50	279.00	31000	153450	122450	4.95
CD 5 %			1.31	0.2	0.5						

OFT – 9

A.1) Title of on-farm trials **:-** Effect micro irrigation systems on water use efficiency & productivity of bitter gourd.

2) Problem diagnose **:-** Low productivity in summer vegetable cultivation under medium land situation.

3) Details of technologies selected for assessment/refinement **:-** Assessment

Farmers Practice - Basin method of Irrigation
Technological option **i** - Bucket type micro tube Irrigation method
Technological option **ii** - Pitcher Irrigation method in alternate row

4) Source of technology **:-** B.A.U., Ranchi

5) Production system and thematic area **:-** Vegetable production system, Water management

6) Performance of the Technology with performance indicators **:-** Given in part B

7 Final recommendation for micro level situation **:-** Pitcher irrigation method was found the best for bitter gourd vegetable in summer season.

8) Constraints identified and feedback for research **:-**

9) Process of farmers participation and their reaction **:-**

B. TECHNOLOGY ASSESSMENT AND REFINEMENT IN DETAIL

WATER MANAGEMENT

Problem definition: Low productivity in summer vegetable cultivation under medium land situation.
Technology assessed or refined (as the case may be*): Assesment*

KVK conducted on-farm trial to evaluate the different methods of irrigation in bitter gourd. Pitcher irrigation method was found the best for bitter gourd in summer season with highest water use efficiency of 1057.69 kg/ha/cm.

Table I: Effect micro irrigation systems on water use efficiency & productivity of bitter gourd.

Technology option	No. of trials	Water required (cm/ha)	Water use efficiency (kg/ha/cm)	Weight of fruit (g/fruit)	Yield (q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs / ha)	Net income (Rs./ha)	B:C Ratio
FP- Basin method of Irrigation	7	26.0	538.46	115	140	53000	112000	59000	2.11
1-Bucket type micro tube Irrigation method		16.9	946.74	135	160	47200	128000	80800	2.71
2-Pitcher Irrigation method in alternate row		20.8	1057.69	180	220	71500	176000	104500	2.46

Plant spacing: 0.6 m, Row spacing: 1 m, Seed rate: 6 kg/ha

Remarks: Sale price of Bitter gourd @ Rs. 8.00/kg

OFT – 10

A.1) Title of on-farm trials **:-** Increasing system productivity in medium land through wheat and mustard intercropping with balance dose of nutrients.

2) Problem diagnose **:-** Low system productivity in medium land in rabi season due to imbalance dose of nutrients and mixed cropping. Thus reduces productivity of medium land by about 50 %

3) Details of technologies selected for assessment/refinement **:-** Assessment

Farmer's Practice **-** (Mixed cropping of wheat & mustard with 90 kg N + 65 kg P_2O_5/ha)

Technological option **i** - Wheat + mustard (intercropping 8:2) with 90 kg N + 65 kg P_2O_5/ha)

Technological option **ii** - Wheat + mustard (intercropping 8:2) with 90 kg N + 65 kg P_2O_5/ha + 40 kg K_2O/ha)

Technological option **Iii** - Wheat + mustard (intercropping 8:2) with balanced dose of nutrients (100:50:40 N: P2O5:K2Okg/ha)

4) Source of technology **:-** B.A.U., Ranchi

5) Production system and thematic area :- Wheat based production system, Integrated crop management

6) Performance of the Technology with performance indicators **:-** Given in part B

7 Final recommendation for micro level situation **:-** Intercropping of wheat + mustard (8.2) with balance dose of fertilizer is recommended instead of mixed cropping.

8) Constraints identified and feedback for research **:-**

9) Process of farmers participation and their reaction **:-**

B. TECHNOLOGY ASSESSMENT AND REFINEMENT IN DETAIL

INTEGRATED CROP MANAGEMENT

Problem definition: Low system productivity in medium land in rabi season due to imbalance dose of nutrients and mixed cropping. Thus reduces productivity of medium land by about 50 %.

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

KVK conducted on-farm trial to assess the effect of Intercropping and balance dose of fertilizer on yield and net return in wheat + mustard. Intercropping of wheat + mustard (8:2) with balance dose of fertilizer had realized net return of Rs. 32520.00 and B:C ratio 2.54 as compare to farmers practice with net return of Rs. 16280.00 and B:C ratio 1.80.

Table I: Effect of Intercropping and balance dose of fertilizer on yield and yield attributing characters of component crops.

Technology Options	No. of trials	Yield attributing characters		Wheat yield (q/ha)	Mustard Yield (q/ha)	Wheat equivalent yield(q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs / ha)	Net return (Rs./ha)	BC ratio
		No. of tillers/m^2	100 grain weight							
Farmer's Practice - (Mixed cropping of wheat & mustard with 90 kg N + 65 kg P_2O_5/ha)	10	290	38	24.4	3.0	30.65	20500	36780	16280	1.80
Technological option **i** - Wheat + mustard (intercropping 8:2) with 90 kg N + 65 kg P_2O_5/ha)		310	42	27.5	3.6	35.0	20500	42000	21500	2.04
Technological option **ii** - Wheat + mustard (intercropping 8:2) with 90 kg N + 65 kg P_2O_5/ha + 40 kg K_2O/ha)		340	48	34.0	4.7	43.8	21000	52560	31560	2.50
Technological option **Iii** - Wheat + mustard (intercropping 8:2) with balanced dose of nutrients (100:50:40 N: P2O5:K2Okg/ha)		350	50	35.2	4.5	44.6	21000	53520	32520	2.54
SEm+										
CD 5 %										

Table II: *Effect of Intercropping and balance dose of fertilizer on* soil fertility status.

Technology option	Initial soil status				Final soil status			
	pH	OC (%)	P_2O_5 (kg/ha)	K_2O (kg/ha)	pH	OC (%)	P_2O_5 (kg/ha)	K_2O (kg/ha)
Farmer's Practice - (Mixed cropping of wheat & mustard with 90 kg N + 65 kg P_2O_5/ha)	5.3-6.0	0.4-0.52	10.0-25.2	96-150	Soil analysis is going on			
Technological option **i** - Wheat + mustard (intercropping 8:2) with 90 kg N + 65 kg P_2O_5/ha)	5.3-6.0	0.4-0.52	10.0-25.2	96-150				
Technological option **ii** - Wheat + mustard (intercropping 8:2) with 90 kg N + 65 kg P_2O_5/ha + 40 kg K_2O/ha)	5.3-6.0	0.4-0.52	10.0-25.2	96-150				
Technological option **Iii** - Wheat + mustard (intercropping 8:2) with balanced dose of nutrients (100:50:40 N: P2O5:K2Okg/ha)	5.3-6.0	0.4-0.52	10.0-25.2	96-150				

OFT – 11

1) Title :- Effect of different method of irrigation on yield of tomato crop.

2) Problem diagnose :- Low productivity in tomato under medium land situation.

3) Technology Assessed/ Refined: - Assessment

Technological option :-

Farmer's practice	-	Furrow irrigation method
Technological option **i**	-	Skip irrigation method
Technological option **ii**	-	Alternate Skip irrigation method
Technological option **iii**	-	Raised bed and furrow irrigation method

4) Source of Technology :- I.A.R.I., New Delhi

5) Production system and thematic area :- Vegetable production system, Water management

6) Performance of the Technology with performance indicators :- Given in part B

7 Final recommendation for micro level situation :- Technology option ii Alternate skip irrigation method has highest water use efficiency where as technology option iii raised bed and furrow irrigation method has highest net return and B:C ratio.

8) Constraints identified and feedback for research :-

9) Process of farmers participation and their reaction :-

B. TECHNOLOGY ASSESSMENT AND REFINEMENT IN DETAIL

WATER MANAGEMENT

Problem definition: Low productivity in tomato under medium land situation.

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

KVK conducted on-farm trial to evaluate the different methods of irrigation in tomato. Technology option ii Alternate skip irrigation method has highest water use efficiency where as technology option iii raised bed and furrow irrigation method has highest net return and B:C ratio.

Table I: Effect of different method of irrigation on yield of tomato crop.

Technology option	No. of trials	Water required (cm/ha)	Water use efficiency (kg/ha/cm)	Yield (q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs / ha)	Net income (Rs./ha)	B:C Ratio
Farmers practice- Furrow irrigation method	10	7.20	3694.4	266	41608	212800	171192	5.11
Technological option **i** Skip irrigation method		3.60	4750.0	171	37969	136800	98831	3.6
Technological option **ii** Alternate Skip irrigation method		3.96	6237.4	247	38215	197600	159385	5.17
Technological option **iii** Raised bed and furrow irrigation method		6.75	4222.2	285	41145	228000	186855	5.54

Plant spacing: 0.5 m, Row spacing: 0.5 m, Seed rate: 0.250 kg/ha

Remarks: Sale price of Tomato @ Rs.8 .00/kg, Wages of labour @ Rs.111.00/day

3.2 Achievements of Frontline Demonstrations

A. Details of FLDs implemented during 2009-10 (Information is to be furnished in the following **three tables** for **each category** i.e. **cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops**.)

Oilseed

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.	Groundnut	Integrated crop management	Variety TG-22	Kharif 2010	5.0	1.0	3	5	4	12	ICAR Sanction
2.	Sesame	Integrated crop management	Variety- TC-25	Kharif 2010	5.0	1.0	-	-	4	4	ICAR Sanction
3.	Niger	Integrated crop management	BN- 1	Kharif 2010	5.0	2.0	-	6	11	17	ICAR Sanction

Pulses

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	Other	Total	
1.	Pegionpea	Integrated crop management	Variety-ND - 1	Kharif 2010	10.0	4.0	-	3	28	31	ICAR Sanction
2.	Black gram	Integrated crop management	Variety- PU- 19	Kharif 2010	-	1.0	-	1	4	5	
3.	Horse garm	Integrated crop management	Madhu	Kharif 2010							

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date
				N (kg/ha)	P_2O_5 (kg/ha)	K_2O (kg/ha)			
Oilseed									
Groundnut	Kharif 2010	Rainfed	Alfisol	160-250	8-17	100-180	Fallow	2-4 July 2010	24-24 Oct.2010
Niger	Kharif 2010	Rainfed	Alfisol	130-210	6.2-13.0	80-160	Fallow	2-4 Sept 2010	12-15 Dec. 2010
Sesame	Kharif 2010	Rainfed	Alfisol	170-240	8.0-18	90-170	Fallow	1 Aug. 2010	20 Nov. 2010
Pulse									
Pigeon pea	Kharif 2010	Rainfed	Alfisol	160-220	7.5-18	90-165	Upland rice fallow	22-28 June 2010	10-12 Feb. 2011
Black gram	Kharif 2010	Rainfed	Alfisol	180-280	8-20	101-180	Upland rice fallow	12 July 2010	8 Oct. 2010

Performance of FLD

Oilseeds:

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
Groundnut	ICM	Variety	12	1	14.5	11.2	29.46	14600	46400	31800	3.17	13200	35840	22640	2.71
Niger	ICM	Variety with full package	17	2	4.8	2.5	92.0	6500	14400	7900	2.21	5150	7500	2350	1.45
Sesame	ICM	Variety with full package	4	1	4.1	2.3	78.26	7600	36900	29400	4.92	6250	20700	14450	2.76
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

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
Pegion pea	ICM	Variety with full package	31	4.0	16.2	8.8	84.2	9800	48600	38800	4.95	8100	26400	18300	3.26
Black gram	ICM	Variety with full package	5	1.0	11.5	7.0	64.28	9000	34500	25500	3.83	7250	21000	13750	2.89
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

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																	
Hybrid rice		Variety	26	5	48.5	30.7	58			18500	48500	13700	2.62	17000	30700	13700	1.80
Maize (PHEM-2)		Variety with full package	21	5	34.7	22.5	54.2			16000	34700	18700	2.17	13200	22500	9300	1.70
Maize (DHM-117)			18	4	36.7	28	60			16000	36700	20700	2.29	13200	28000	14800	2.12
Wheat		Variety with full package	12	3	36.4	27.2	33.8			18500	43680	25180	2.36	17200	32640	15440	1.89
Millets																	
Vegetable crops																	
Bitter gourd		Variety with full package	23	2	90	51	76.5										
Flower crops																	
Ornamental crops																	
Fruit crops																	
Spices and condiments																	
Commercial crops																	
Medicinal and aromatic plants																	
Fodder crops																	
Plantation crops																	
Fibre crops																	
Others (pl.specify)		Zero energy cool chamber	4	4 unit	-	-	-										
		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

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
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

Fisheries

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of units	Major parameters		% change in major parameter	Other parameter		*Economics of demonstration (Rs.)				*Economics of check (Rs.)			
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Common carps																	
Mussels																	
Ornamental fishes																	
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

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										
Others (pl.specify)										
Total										
Pulses										
Greengram										
Blackgram										
Bengalgram										
Redgram										
Others (pl.specify)										
Total										
Vegetable crops										
Bottle gourd										
Capsicum										
Cucumber										
Tomato										
Brinjal										
Okra										
Onion										
Potato										
Field bean										
Others (pl.specify)										
Total										
Commercial crops										
Cotton										

Coconut										
Others (pl.specify)										
Total										
Fodder crops										
Napier (Fodder)										
Maize (Fodder)										
Sorghum (Fodder)										
Others (pl.specify)										
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
		1. Seed/Variety				
		2. Bio-fertilizer				
		3. Fertilizer management				
		4. Plant Protection				
		5. Combination of components (Please specify)				

Technical Feedback on the demonstrated technologies

S. No	Feed Back
1.	Pigeon pea- Pod borer attack under late sown condition. Maturity of pods was unsynchronised.
2.	Black gram- Less insect pest and disease infestation under late sown condition
3.	Groundnut- Tolerant against moisture stress condition resistant against Tika disease.
4.	Niger- No. of pods/ plant, No. of seed/pods and seed size is more than local variety. Best performance of BN- 1 variety of niger in early sowing with proper plant population should be maintained. But not tolerant to moisture stress.

Farmers' reactions on specific technologies

S. No	Feed Back
1	Pigeon pea(ND- 1)- Farmers were very happy to show the performance of ND-1 variety of Pigeon pea like No. of pods/plant but major constraint is long duration variety.
2.	Black gram (PU- 19) - Farmers like this variety because better yield under late sown condition.
3.	Groundnut (TG-22)- Due to thin pod and bold seed size farmers like TG-22 of groundnut and better yield performance under moisture stress condition.
4.	Niger (BN-1) - Plant height & no. of pods/plant is more than local variety and farmers were satisfied to obtained yield of BN-1 variety.

Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organized	Date	Number of participants	Remarks
1	Field days	7		300	
2	Farmers Training	5		262	
3	Media coverage	10			
4	Training for extension functionaries	-		-	

Achievements on Training (Including the sponsored and FLD training programmes):
(A)ON Campus

Thematic Area	No. of Courses	No. of Participants											
		Others			SC			ST			Total		Grand Total
		M	F	T	M	F	T	M	F	T	M	F	
(A) Farmers & Farm Women													
I Crop Production													
Weed Management													
Resource Conservation Technologies													
Cropping Systems	1	-	24	24	-	-	-	-	-	-	-	24	24
Crop Diversification													
Integrated Farming													
Water management													
Seed production													
Nursery management	1	18	-	18	3	1	4	3	-	3	24	1	25
Integrated Crop Management	11	129	46	175	12	-	12	60	-	60	201	46	247
Fodder production													
Production of organic inputs													
Others, if any (Contingent crop)	1					-		20	-	20	20		20
II Horticulture													
a) Vegetable Crops													
Production of low volume and high value crops													
Off-season vegetables	1	-	25	25	-	-	-	-	-	-	-	25	25
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													
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	1	25	-	25	-	-	-	-	-	-	25	-	25
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	3	17	29	46	2	24	26	1	-	1	20	53	73
Integrated Nutrient Management													
Production and use of organic inputs	1	17	5	22	-	-	-	-	-	-	17	5	22
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													
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													
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	2	28	-	28	13	-	13	15	-	15	56	-	56
Use of Plastics in farming practices													
Production of small tools and implements													
Repair and maintenance of farm machinery and implements	1	20	-	20	3	-	3	-	-	-	23	-	23

Small scale processing and value addition													
Post Harvest Technology	1	25	-	25	-	-	-	-	-	-	25	-	25
Others, if any(Zero energy)	1	23	-	23	-	-	-	-	-	-	23	-	23
VII Plant Protection													
Integrated Pest Management	1	5	-	5	1	-	1	22	-	22	28	-	28
Integrated Disease Management	2	38	-	38	1	-	1	9	-	9	48	-	48
Bio-control of pests and diseases	1	23	-	23	3	-	3	-	-	-	26	-	26
Production of bio control agents and bio pesticides													
Others, if any (Seed treatment)	1	21	-	21	-	-	-	3	-	3	24	-	24
VIII Fisheries													
Integrated fish farming													
Carp breeding and hatchery management													
Carp fry and fingerling rearing													
Composite fish culture													
Hatchery management and culture of freshwater prawn													
Breeding and culture of ornamental fishes													
Portable plastic carp hatchery													
Pen culture of fish and prawn													
Shrimp farming													
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													
Others, if any													
XI Agro-forestry													
Production technologies													
Nursery management													
Integrated Farming Systems													
XII Others (Pl. Specify)													
TOTAL	**30**	**389**	**129**	**518**	**38**	**25**	**63**	**133**	**-**	**133**	**560**	**154**	**714**
(B) RURAL YOUTH													
Mushroom Production	2	20	24	44	-	-	-	-	-	-	20	24	44
Bee-keeping													

Integrated farming													
Seed production	1	25	-	25							25		25
Production of organic inputs													
Integrated Farming													
Planting material production													
Vermi-culture	1	25	-	25							25		25
Sericulture													
Protected cultivation of vegetable crops													
Commercial fruit production													
Repair and maintenance of farm machinery and implements	1	27	-	27							27		27
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 (Disease management in animal)		18	-	18	-	-	-	-	-	-	18	-	18
TOTAL	**5**	**115**	**24**	**139**	**-**	**-**	**-**	**-**	**-**	**-**	**115**	**24**	**139**
(C) Extension Personnel													
Productivity enhancement in field crops	3	61	5	66	5	-	5	14	-	14	71	5	85
Integrated Pest Management													
Integrated Nutrient management	2	48	1	49	-	-	-	1	-	1	49	1	50
Rejuvenation of old orchards													
Protected cultivation technology													
Formation and Management of SHGs													
Group Dynamics and farmers organization													
Information networking among farmers													
Capacity building for ICT application													
Care and maintenance of farm machinery and implements													
WTO and IPR issues													
Management in farm animals													
Livestock feed and fodder production													
Household food security													
Women and Child care													

Low cost and nutrient efficient diet designing													
Production and use of organic inputs	2	51	7	58	1	-	1	6	-	6	61	4	65
Gender mainstreaming through SHGs													
Hi-tech horticulture													
If any (Contingent crop)	1	31	1	32	-	-	-	-	-	-	31	1	32
TOTAL	**8**	**191**	**11**	**206**	**6**	**-**	**6**	**21**	**-**	**21**	**212**	**11**	**232**

(A)OFF Campus

Thematic Area	No. of Courses	No. of Participants											
		Others			SC			ST			Total		Grand Total
		M	F	T	M	F	T	M	F	T	M	F	
(A) Farmers & Farm Women													
I Crop Production													
Weed Management	2	37	10	47	-	-	-	-	-	-	37	10	47
Resource Conservation Technologies													
Cropping Systems	1	22	-	22	10	-	10	-	-	-	32	-	32
Crop Diversification													
Integrated Farming													
Water management													
Seed production													
Nursery management													
Integrated Crop Management	5	125	-	125	7	-	7	9	-	9	141		141
Fodder production													
Production of organic inputs													
Others, (Contingent plan)	4	56	-	56	26	4	30	32	-	32	114	4	118
II Horticulture													
a) Vegetable Crops													
Production of low volume and high value crops													
Off-season vegetables	2	49	-	49	1	-	1	-	-	-	50	-	50
Nursery raising	1	8	-	8	-	-	-	13	-	13	21	-	21
Exotic vegetables like Broccoli													
Export potential vegetables													
Grading and standardization													
Protective cultivation (Green Houses, Shade Net etc.)													
Others, if any (Contingent plan)													
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													
Others, if any													
c) Ornamental Plants													
Nursery Management													
Management of potted plants													
Export potential of ornamental plants													
Propagation techniques of Ornamental Plants													
Others, if any													
d) Plantation crops													

Production and Management technology													
Processing and value addition													
Others, if any													
e) Tuber crops													
Production and Management technology	1	18	-	18	8	-	8	-	-	-	26	-	26
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	3	28	-	28	4	-	4	45	-	45	77	-	77
Production and use of organic inputs													
Management of Problematic soils	1	24	-	24	-	-	-	3	-	3	27	-	27
Micro nutrient deficiency in crops	4	82	-	82	-	-	-	25	-	25	107	-	107
Nutrient Use Efficiency													
Soil and Water Testing													
Others, if any(Blue green algae)	1	19	8	27	-	-	-	-	-	-	19	8	27
IV Livestock Production and Management													
Dairy Management													
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													
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	1	22	-	22	6	-	6	2	-	2	30	-	30
Repair and maintenance of farm machinery and implements													
Small scale processing and value addition													
Post Harvest Technology	4	65	-	65	12	-	12	13	-	13	90	-	90
Others, if any													
VII Plant Protection													
Integrated Pest Management	5	104	-	104	14	-	14	16	-	16	134	-	134
Integrated Disease Management	1	26	-	26	-	-	-	4	-	4	30	-	30
Bio-control of pests and diseases													
Production of bio control agents and bio pesticides													
Others, if any (Contingent plan)													
VIII Fisheries													
Integrated fish farming													
Carp breeding and hatchery management													
Carp fry and fingerling rearing													
Composite fish culture													
Hatchery management and culture of freshwater prawn													
Breeding and culture of ornamental fishes													
Portable plastic carp hatchery													
Pen culture of fish and prawn													
Shrimp farming													
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													
Others, if any													
XI Agro-forestry													

Production technologies													
Nursery management													
Integrated Farming Systems													
XII Others (Pl. Specify)													
TOTAL	**36**	**685**	**18**	**703**	**88**	**4**	**92**	**162**	**-**	**162**	**935**	**22**	**957**
(B) RURAL YOUTH													
Mushroom Production													
Bee-keeping													
Integrated farming													
Seed production													
Production of organic inputs													
Integrated Farming													
Planting material production													
Vermi-culture													
Sericulture													
Protected cultivation of vegetable crops													
Commercial fruit production													
Repair and maintenance of farm machinery and implements													
Nursery Management of Horticulture crops													
Training and pruning of orchards													
Value addition													
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 (SHG)													
TOTAL													
(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													
Livestock feed and fodder production													
Household food security													
Women and Child care													
Low cost and nutrient efficient diet designing													
Production and use of organic inputs													
Gender mainstreaming through SHGs													
Any other (Pl. Specify)													
TOTAL													

(C) Consolidated table (ON and OFF Campus)

Thematic Area	No. of Courses	No. of Participants											
		Others			SC			ST			Total		Grand Total
		M	F	T	M	F	T	M	F	T	M	F	
(A) Farmers & Farm Women													
I Crop Production													
Weed Management	2	37	10	47	-	-	-	-	-	-	37	10	47
Resource Conservation Technologies													
Cropping Systems	2	22	24	46	10	-	10	-	-	-	32	24	56
Crop Diversification													
Integrated Farming													
Water management													
Seed production													
Nursery management	1	18	-	18	3	1	4	3	-	3	24	1	25
Integrated Crop Management	16	254	46	300	19	-	19	69	-	69	342	46	388
Fodder production													
Production of organic inputs													
Others, if any (contingent plan)	5	56	-	56	26	4	30	52	-	52	134	4	138
II Horticulture													
a) Vegetable Crops													
Production of low volume and high value crops													
Off-season vegetables	3	49	25	74	1	-	1	-	-	-	50	25	75
Nursery raising	1	8	-	8	-	-	-	13	-	13	21	-	21
Exotic vegetables like Broccoli													
Export potential vegetables													
Grading and standardization													
Protective cultivation (Green Houses, Shade Net etc.)													
Other if any (Contingent plan													
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													
Others, if any													
c) Ornamental Plants													
Nursery Management													
Management of potted plants													

Export potential of ornamental plants													
Propagation techniques of Ornamental Plants													
Others, if any													
d) Plantation crops													
Production and Management technology													
Processing and value addition													
Others, if any													
e) Tuber crops													
Production and Management technology	1	18	-	18	8	-	8	-	-	-	26	-	26
Processing and value addition													
Others, if any													
f) Spices													
Production and Management technology	1	25	-	25	-	-	-	-	-	-	25	-	25
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	3	17	29	46	2	24	26	1	-	1	20	53	73
Integrated Nutrient Management	3	28	-	28	4	-	4	45	-	45	77	-	77
Production and use of organic inputs	1	17	5	22	-	-	-	-	-	-	17	5	22
Management of Problematic soils	1	24	-	24	-	-	-	3	-	3	27	-	27
Micro nutrient deficiency in crops	4	82	-	82	-	-	-	25	-	25	107	-	107
Nutrient Use Efficiency													
Soil and Water Testing													
Others, if any (Blue green algae)	1	19	8	27	-	-	-	-	-	-	19	8	27
IV Livestock Production and Management													
Dairy Management													
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													

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	2	28	-	28	13	-	13	15	-	15	56	-	56
Use of Plastics in farming practices													
Production of small tools and implements	1	22	-	22	6	-	6	2	-	2	30	-	30
Repair and maintenance of farm machinery and implements	1	20	-	20	3	-	3	-	-	-	23	-	23
Small scale processing and value addition													
Post Harvest Technology	5	90	-	90	12	-	12	13	-	13	115	-	115
Others, if any (Zero energy)	1	23	-	23	-	-	-	-	-	-	23	-	23
VII Plant Protection													
Integrated Pest Management	6	109	-	109	15	-	15	38	-	38	162	-	162
Integrated Disease Management	3	64	-	64	1	-	1	13	-	13	78	-	78
Bio-control of pests and diseases	1	23	-	23	3	-	3	-	-	-	26	-	26
Production of bio control agents and bio pesticides													
Others, if any (Seed treatment)	1	21	-	21	-	-	-	3	-	3	24	-	24
VIII Fisheries													
Integrated fish farming													
Carp breeding and hatchery management													
Carp fry and fingerling rearing													
Composite fish culture													
Hatchery management and culture of freshwater prawn													
Breeding and culture of ornamental fishes													
Portable plastic carp hatchery													
Pen culture of fish and prawn													
Shrimp farming													
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													
Others, if any													
XI Agro-forestry													
Production technologies													
Nursery management													
Integrated Farming Systems													
XII Others (Pl. Specify)													
TOTAL	**66**	**1074**	**147**	**1221**	**126**	**29**	**155**	**295**	**-**	**295**	**1495**	**176**	**1671**
(B) RURAL YOUTH													
Mushroom Production	2	20	24	44	-	-	-	-	-	-	20	24	44
Bee-keeping													
Integrated farming													
Seed production	1	25	-	25							25		25
Production of organic inputs													
Integrated Farming													
Planting material production													
Vermi-culture	1	25	-	25							25		25
Sericulture													
Protected cultivation of vegetable crops													
Commercial fruit production													
Repair and maintenance of farm machinery and implements	1	27	-	27							27		27
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 (ICM)		18	-	18	-	-	-	-	-	-	18	-	18
TOTAL	**5**	**115**	**24**	**139**	**-**	**-**	**-**	**-**	**-**	**-**	**115**	**24**	**139**
(C) Extension personal													
Productivity enhancement in field crops	3	61	5	66	5	-	5	14	-	14	71	5	85
Integrated Pest Management													
Integrated Nutrient management	2	48	1	49	-	-	-	1	-	1	49	1	50
Rejuvenation of old orchards													
Protected cultivation technology													
Formation and Management of SHGs													

Group Dynamics and farmers organization													
Information networking among farmers													
Capacity building for ICT application													
Care and maintenance of farm machinery and implements													
WTO and IPR issues													
Management in farm animals													
Livestock feed and fodder production													
Household food security													
Women and Child care													
Low cost and nutrient efficient diet designing													
Production and use of organic inputs	2	51	7	58	1	-	1	6	-	6	61	4	65
Gender mainstreaming through SHGs													
Hi-tech horticulture													
If any (Contingent crop)	1	31	1	32	-	-	-	-	-	-	31	1	32
TOTAL	**8**	**191**	**11**	**206**	**6**	**-**	**6**	**21**	**-**	**21**	**212**	**11**	**232**

(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	T	Type of units	No. of units	Number of persons employed	
Seed production	To produce quality seed of paddy	Seed production technology of paddy	5	25	-	25	3	3	7	2
Mushroom	To meet the demand of mushroom	Mushroom production technology	5		24	24	3	3	6	2
Compost	Entrepreneurship for school dropout	Production method of vermi compost	5	25	-	25	10	10	10	4
Mushroom	To meet the demand of mushroom	Mushroom production technology	5	20	-	20	3	3	6	13
Diesel Pump set	Entrepreneurship for school dropout	Repair & maintenance of farm machinery and irrigation implements	5	27	-	27	1	1	1	1
Animals	Minimize the diseases in animals	Disease management of Goat and Pig	3	18	-	18	-	-	2	2
		Total	**28**	115	24	139	**20**	**20**	**32**	**24**

*training title should specify the major technology /skill transferred

(E) Sponsored Training Programmes -

Sl.No	Title	Thematic area	Month	Duration (days)	Client PF/RY/EF	No. of courses	No. of Participants										Sponsoring Agency
							Male			Female			Total				
							OTH	SC	ST	OTH	SC	ST	OTH	SC	ST	Total	
1.	Production technology of kharif crops	Integrated crop management	21-25 July2010	5	RY	1	25	-	-				25			25	ATMA Dhanbad
2.	Production & use of organic inputs	Vermi compost	10-13 Jan 2011	4	RY	1	25	-	-	-	-	-	25	-	-	25	Soil water conservation
Total				**9**		**2**	**50**	**-**	**-**	**-**	**-**	**-**	**50**	**-**	**-**	**50**	

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	**7**									**300**
Kisan Mela	**1**									**2500**
Kisan Ghosthi	**12**									**566**
Exhibition										
Film Show										
Method Demonstrations										
Farmers Seminar										
Workshop										
Group meetings										
Lectures delivered as resource persons										
Newspaper coverage	**10**									
Radio talks										
TV talks	**8**									
Popular articles										
Extension Literature	**5**									**8000**
Advisory Services										
Scientific visit to farmers field	**50**									**444**
Farmers visit to KVK	**1**									**611**
Diagnostic visits	**15**									**201**
Exposure visits	**5**									**250**
Ex-trainees Sammelan										
Soil health Camp										
Animal Health Camp										
Agri mobile clinic										
Soil test campaigns (Analysis)	**1**									**512**
Farm Science Club Conveners meet										
Self Help Group Conveners meetings										
Mahila Mandals Conveners meetings										
Celebration of important days (specify)										
Any Other (Technology Week)	**1**									**450**
Total	**116**									**13834**

3.5 Production and supply of Technological products

Village seed

Crop	variety	Quantity of seed (q)	Value (Rs)	Number of farmers provided
Cereals				
Oilseeds				
Pulses				
Commercial crops				
Vegetables				
Flower crops				
Spices				
Fodder crop seeds				
Fiber crops				
Forest Species				
Others				
Total				

KVK farm

Crop	variety	Quantity of seed (q)	Value (Rs)	Number of farmers provided
Cereals				
Paddy	MTU- 7029	20	40000.00	
	Lalat	7	14000.00	
Oilseeds				
Niger	BN-1	50 kg	2000.00	
Mustard	Shivani	20 kg	600.00	
Pulses				
Pigeon pea	ND-1	2	13000.00	
Dhaincha	Asam Local	6	15000.00	
Others				
Total				

Production of planting materials by the KVKs

Crop	variety	Quantity of seed (q)	Value (Rs)	Number of farmers provided
Total				

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity Kg	Value (Rs.)	No. of Farmers	No. of KVKs
Bio Fertilisers					
Vermi compost		1000	5000.00	25	-
Bio-pesticide					
Others					
Total					

Production of livestock materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	No. of Farmers	No. of KVKs
Dairy animals					
Poultry					
Piggery					
Fisheries					
Total					

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

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

(B) Literature developed/published

Item	Title	Authors name	Number
Research papers			
Technical reports			
News letters			
Technical bulletins			
Popular articles			
Extension literature			
	cSxu mRiknu dh mUUkr rduhd	Mk- vfuy dqekj Jh mn; dqekj flag Jherh uhuk Hkkjrh Mk- lq/khj dqekj >k	1000
	—f"k foKau dsUnz cksdkjks }kjk vuq'kaflr rduhd	Jh mn; dqekj flag Mk- lq/khj dqekj >k Mk- vfuy dqekj Jh fou; dqekj	1000
	lw{e flapkbZ iz.kkyh	Jh fou; dqekj Mk- vfuy dqekj Jh mn; dqekj flag Mk- lq/khj dqekj >k	1000
	lfCt;ksa ds dhV ,oa fu;a=.k	Jherh uhuk Hkkjrh Mk- vfuy dqekj Jh mn; dqekj flag	1000
	vkdfLed Qly ;kstuk	Mk- lq/khj dqekj >k Mk- vfuy dqekj Jh mn; dqekj flag Jh fou; dqekj	2000
Others (Pl. specify)			
TOTAL			**6000**

(C) Details of Electronic Media Produced

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

(D) Details of personnel development

Name of scientist/staff	Designation	Title of training	Venue
Sri Uday Kumar Singh	S.M.S., Agronomy	Zonal Workshop of KVKs	BVC, Patna
		National conference on KVKs	MPUA&T, Udaipur
Mrs. Neena Bharti	S.M.S., Plant Prot.	Training on Market link extension programme	SAMETI, Ranchi
Dr. Sudhir Kumar Jha	S.M.S., Soil Science	Collaboration of	BIRD, Lucknow

		KVKs and NABARD	

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

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

3.9 Give details of indigenous technology practiced by the farmers in the KVK operational area which can be considered for technology development (in detail with suitable photographs)

S. No.	Crop / Enterprise	ITK Practiced	Purpose of ITK

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

- Identification of courses for farmers/farm women
- Rural Youth
- In service personnel

3.11 Field activities

i. Number of villages adopted : 04
ii. No. of farm families selected : 412
iii. No. of survey/PRA conducted: -

3.12. Activities of Soil and Water Testing Laboratory- ***NA***

Status of establishment of Lab :

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

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

3. Details of samples analyzed so far :

Details	No. of Samples	No. of Farmers	No. of Villages	Amount realized
Soil Samples	85	85	-	-
Water Samples		--	-	-
Total	85	85	-	-

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
2	-	-	56	-

3.14 Technology week celebration: 05-09 February 2011

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

Farmers Training, Extension functionaries training Kisan Gosthi, Video show, Seminar	1	451	Rabi and Summer oilseeds & pulses, vegetables and farm implements

3.15 RAWE programme

Is KVK is involved? Yes

No of student/ARS trained	No of days stayed
13	8 (10- 17 August 2010)
17	8 (18- 26 August 2010)

3.16 NICRA Project

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

3.17 List of visitors including the officials of ZPD and DEE

Date	Name of the person	Purpose of visit
22.09.2010	Dr. A. K. Singh, ZPD, Zone-ii, ICAR, Kolkata	Visit of KVK, Bokaro
10.10.2010	Dr. A.K. Mehta, ADG, ICAR, New Delhi	Visit of KVK activities
10.10.2010	Dr. A. K. Singh, ZPD, Zone-ii, ICAR, Kolkata	Visit of KVK activities
10.10.2010	Dr. R.P.Singh 'Ratan', DEE, BAU, Ranchi	Visit of KVK activities
25.10.2010	Dr. HVL Bathla, Chief consultant NHM, New Delhi, Govt. of India	Visit of KVK, Bokaro
03.03.2011	Dr. R.P.Singh 'Ratan', DEE, BAU, Ranchi	SAC Meeting of KVK
21.08.2010	Dr. Nitin Madan Kulkarni, D.C., Bokaro	Inauguration of district contingent crop plan
21.08.2010	Sri Baldev Raj, DDC, Bokaro	Inauguration of district contingent crop plan
04.12.2010	Dr. B.N. Singh, Dir. Research, BAU, Ranchi	Field day on farm mechanization
20.02.2011	Hon'ble Agricultural Minister, Jharkhand	Participation in Kisan Mela at KVK
20.02.2011	Sri Rabindra Pandey, MP, Giridih	Participation in Kisan Mela at KVK
20.02.2011	Sri Rajendra Prasad Singh, Leader Opposition Jharkhand Assembly	Participation in Kisan Mela at KVK
20.02.2011	Sri Umakant Rajak, MLA	Participation in Kisan Mela at KVK
20.02.2011	Sri Jagarnath Mahto, MLA	Participation in Kisan Mela at KVK
20.02.2011	Sri Madhav Lal Singh, MLA	Participation in Kisan Mela at KVK
20.02.2011	Sri Chhatru Mahto, Ex-MLA	Participation in Kisan Mela at KVK

4.0 IMPACT

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

Name of specific technology/skill	No. of	% of adoption	Change in income (Rs.)

transferred	participants		Before (Rs./Unit)	After (Rs./Unit)

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

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

4.4 Details of innovations recorded by the KVK

4.5 Details of entrepreneurship development by the KVK

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

5.0 LINKAGES

5.1 Functional linkage with different organizations

Name of organization	Nature of linkage
1. NABARD/COMMERCIAL BANK	Formation of Kisan Club, SHG etc
2. R.K. MISSION, RANCHI	Training input
3.LINE DEPTT. OF STATE GOVT.	Training & Administrative Linkage
4. DRDA	Training & Administrative Linkage
5. NGO(Pradan, Shayogni, Kalyani, Dhara etc)	Community Organization
6. HARP, Plandu Ranchi	Planting & Seed materials
7. CURRS, Hazaribagh	Seed materials
8. ATMA Bokaro	Trainer as a resource person, FLD, farmer scientist interaction, farmers to farmers technology demonstration
9. RKVY	Assessment and refinment

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

5.2 List of special programmes undertaken by the KVK, which have been financed by State Govt./Other Agencies

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
RKVY (Training)	20-06-09	District	6.8 Lakh
RKVY (Soil Testing)			3.0 Lakh
ATMA(Farmers Scientist Interaction)	February 2010	District	00.40 Lakh
ATMA(FLD, Short term Assessment & Refinement Validation & Adoption)	February 2010	District	03.76 Lakh

6. PERFORMANCE OF INFRASTRUCTURE IN KVK

6. PERFORMANCE OF INFRASTRUCTURE IN KVK

6.1 Performance of demonstration units (other than instructional farm) - No demonstration unit is established so far

Sl. No.	Demo Unit	Year of estt.	Area	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	

6.2 Performance of instructional farm (Crops) including seed production

Name Of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty. (qt.)	Cost of inputs	Gross income	
Cereals									
Rice									
	26-06-2010	20-25 Nov. 2010	1.0	MTU-7029	F/S	10.0			
	02-07-2010	15-11-2010		Abhisekh	F/S	5.0			
	03-07-2010	22-11-2010	0.5	Lalat	F/S	12.0			
Pulses									
Black gram		19-20 Sept 2010	0.2	PU-19	N/S	0.6			
Pigeon pea	06-07-2010	15-20 March 2011	0.4	ND-1	C/S Seed	4.5			
	24-06-2010		0.4	Birsa Arhar- 1	C/S	2.0			
Oilseeds									
Niger	05-09-2010	21-11-2010	0.4	Niger-BN-1	C/S Seed	1.5			
Spices & Plantation crops									
Turmeric	19-06-2010	22 March 2011	0.1	Rajendra Sonia	C/S Seed	5.0			
Floriculture									
Fruits									
Vegetables									
Others (specify)									
Dhaincha	28-06-2010	8 to 10 Nov. 2010	0.5	Asam Local	C/S Seed	5.0			

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

Sl. No.	Name of the Product	Qty	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	

6.4 Performance of instructional farm (livestock and fisheries production)

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

6.5 Utilization of hostel facilities

Accommodation available (No. of beds)

Months	**No. of trainees stayed**	**Trainee days (days stayed)**	**Reason for short fall (if any)**
03-14 May 2010	30	12	Lack of water supply

21-25 July 2010	25	5	
10-13 Jan 2011	25	4	

(For whole of the year)

6.4 Utilization of staff quarters

Whether staff quarters has been completed : ***Incomplete***
No of staff quarters:
Date of completion:

Occupancy

Months	Q I	QII	Q III	QIV	Q V	QVI
April 2010						
March 2011						

7. FINANCIAL PERFORMANCE

7.1 Details of KVK Bank accounts

Bank account	Name of the bank	Location	Account Number
With Host Institute			
With KVK	S.B.I.	Petarwar, Bokaro	11472450621

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

Item	Released by ICAR		Expenditure		Unspent balance as on 20 th March2010
	Kharif 2009	Rabi 2009 -10	Kharif 2009	Rabi 2009-10	
Inputs	0.38500	0.52500	0.38500	0.52500	0.01000
Extension activities	0.05500	0.07500	0.05000	0.05000	0.03000
TA/DA/POL etc.	0.08250	0.11250	0.08308	0.10000	0.01192
TOTAL	**0.52250**	**0.71250**	**0.54308**	**0.67000**	**0.05192**

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

Item	Released by ICAR		Expenditure		Unspent balance as on 20 th March2010
	Kharif 2009	Rabi 2009 -10	Kharif 2009	Rabi 2009-10	
Inputs	0.31500	0.35000	0.31000	0.42250	(-)0.06750
Extension activities	0.04500	0.05000	0.04500	0.05000	0.00000
TA/DA/POL etc.	0.06750	0.07500	0.06750	-	0.07500
TOTAL	**0.42750**	**0.47500**	**0.42250**	**0.47250**	**0.00750**

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

Item	Released by ICAR		Expenditure		Unspent balance as on 20 th March2010
	Kharif 2009	Rabi 2009 -10	Kharif 2009	Rabi 2009-10	
Inputs					
Extension activities					
TA/DA/POL etc.					
TOTAL					

7.5 Utilization of KVK funds during the year 2009 -10 and 2010 -11 (Year- wise separately) (year-wise separately) (current year and previous year)

S. No.	Particulars	2008-09			2009-10(20th march 2010)		
		Sanctioned	Released	Expenditure	Sanctioned	Released	Expenditure
A. Recurring Contingencies							
1	**Pay & Allowances**	30.00000	22.21856	22.16186	26.00000	2538304.00	25.56301
2	**Traveling allowances**	01.00000	00.90000	00.76992	0.80000	00.05000	0.5000
3	**Contingencies**						
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	2.40000	2.30500	2.33747	2.25000	1.12000	2.20000
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 rural youth						
F	Training of extension functionaries	2.40000	1.48000	1.44323	2.65000	1.60000	2.40000
G	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	0.68000	0.31000	0.29300	0.60000	0.60000	0.29000
H	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	0.72000	0.39500	0.41990	0.75000	0.73000	0.43990
I	Maintenance of buildings						
J	Establishment of Soil, Plant & Water Testing Laboratory						
K	Library				0.0500		0.05000
TOTAL (A)		**37.20000**	**27.60856**	**27.42538**	**33.10000**	**29.48304**	**30.99291**

B. Non-Recurring Contingencies		2008-09			2009-10		
		Sanction	Released	Expenditure	Sanction	Released	Expenditure
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)		-	-	-	-	-	-
C. REVOLVING FUND							
GRAND TOTAL (A+B+C)		-	-	-	-	-	-

7.5 c .Status of revolving fund (Rs. In lakhs) for the four years

Year	Opening balance as on 1st April	Income during the year	Expenditure during the year	Net balance in hand as on 1st April of each year	
				Cash	Kind
April 2005 to March 2006	0.98000	0.87463	1.73737	0.11726	-
April 2006 to March 2007	0.11726	3.50705	3.29211	0.33220	-
April 2007 to March 2008	0.33220	1.32742	1.56119	0.09843	-
April 2008 to March 2009	0.09843	2.27033	1.43681	0.93195	-
April 2009 to Dec. 2009	0.93195	2.14435	0.90260	2.17370	0.80(Estimated)

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

7.7 Number of SHGs formed by KVKs/associated with SHGs formed by other organizations.

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

Annexure 2010-11 **ON CAMPUS**
Practicing farmers/Farm women

Date	Clientele	Title of the training programme	Duration in days	Venue (Off / On Campus)	Number of participants OTH			Number of SC			Number of ST			Total		Grand Total
					M	F	T	M	F	T	M	F	T	M	F	
6-8.4.10	Practicing farmers /Farm women	Construction of Zero Energy Cool Chamber	3	On	23	-	23	-	-	-	-	-	-	23	-	23
15-17.4 .10	Practicing farmers /Farm women	Importance and use of medicinal Plant & Cultivation practice.	3	On	4		4	2	-	2	16	-	16	22	-	22
10-11.5.10	Practicing farmers /Farm women	Integrated disease and pest management of cucurbit	2	On	15	-	15	-	-	-	9	-	9	24	-	24
3-5.5.10	Practicing farmers /Farm women	Concept of in-situ rain harvesting technique	2	On	17	7	22	2	-	2	1	-	1	20	7	27
20-21.5.10	Practicing farmers /Farm women	Use of drip irrigation in vegetable crops	2	On	25	-	25	-	-	-	-	-	-	25	-	25
24-26.5.10	Practicing farmers /Farm women	Production $ use of organic inputs	3	On	17	5	22	-	-	-	-	-	-	17	5	22
3-4.6.10	Practicing farmers /Farm women	Nursery management of paddy	2	On	18	-	18	3	1	4	3	-	3	24	1	25
7-9.6.10	Practicing farmers /Farm women	Cultivation practice of ginger $ Turmeric & PHT	3	On	25	-	25	-	-	-	-	-	-	25	-	25
14-15.6.10	Practicing farmers /Farm women	Production technology hybrid maize	2	On	15	-	15	3	-	3	3	-	3	21	--	21
21-22.6.10	Practicing farmers /Farm women	SRI Technology	2	On	-	21	21	-	-	-	-	-	-	-	21	21
23-25.6.10	Practicing farmers /Farm women	SRI Technology	3	On	5	25	30	-	-	-	-	-	-	5	25	30
2.-3.7.10	Practicing farmers /Farm women	In-situ rain water harvesting .Low cost soil and water conservation measure	2	On	-	22	22	-	-	-	-	-	-	-	22	22
7-8.7.10	Practicing farmers /Farm women	Disease management in cow and buffalo	2	On	23	-	23	1	-	1	-	-	-	24	-	24
2-3.8.10	Practicing farmers /Farm women	Cultivation Practice of Kharif pulse.	2	On	20	-	20	-	-	-	-	-	-	20	-	20
6-7.8.10	Practicing farmers /Farm women	Contingent crop plan	2	On	-	-	-	-	-	-	20	-	20	20	-	20
13.8.10	Practicing farmers /Farm women	In-situ rain water harvesting .Low cost soil and water conservation measure	1	On	-	-	-	-	24	24	-	-	-	-	24	24

3.9.10	Practicing farmers /Farm women	Cultivation practice off season of vegetable and disease management	1	On	-	25	25	-	-	-	-	-	-	-	25	25
14.9.10	Practicing farmers /Farm women	Cultivation practice of niger and horse gram	1	On	16	-	16	1	-	1	6	-	6	23	-	23
20.9.10	Practicing farmers /Farm women	Cultivation practice of rabi crops	1	On	20	-	20	1	-	1	-	-	-	21	-	21
28.9.10	Practicing farmers /Farm women	Cultivation practice of cauliflower, cabbage ,and pea	1	On	22	-	22	-	-	-	1	-	1	23	-	23
5.10.10	Practicing farmers /Farm women Practicing farmers /Farm women	Seed treatment, Seedling treatment	1	On	21	-	21	-	-	-	3	-	3	24	-	24
11-12.Oct10	Practicing farmers /Farm women	Cultivation practice Mustard and chickpea	2	On	15	-	15	-	-	-	-	-	-	15	-	15
1.-2 Nov.10	Practicing farmers /Farm women	Cultivation Practice of early cucurbitaceous vegetable	2	On	3	-	3	5	-	5	21	-	21	29	-	29
3- 4 Nov.10	Practicing farmers /Farm women	Pest management of in pulse and vegetable	2	On	5	-	5	1	-	1	22	-	22	22	-	28
9-10 Nov.10	Practicing farmers /Farm women	Intercropping System in upland condition	2	On	-	24	24	-	-	-	-	-	-	-	24	24
22-23 Nov.10	Practicing farmers /Farm women	Use of drip irrigation in vegetable	2	On	3	-	3	13	-	13	15	-	15	15	-	31
4-5Dec.10	Practicing farmers /Farm women	Use of locally available neem, Karanj and other cakes for vegetable cultivation	2	On	23	-	23	3	-	3	-	-	-	26	-	26
15.12.10	Practicing farmers /Farm women	Care and maintenance of irrigation and other farm implements	1	On	20	-	20	3	-	3	-	-	-	23	-	23
28.12.10	Practicing farmers /Farm women	Production Technology of summer Maize	1	On	9	-	9	-	-	-	13	-	13	22	-	22
10-11 Jan. 2011	Practicing farmers /Farm women	Production technology of ginger & turmeric	2	On	25	-	25	-	-	-	-	-	-	25	-	25
17-18 Jan 2011	Practicing farmers /Farm women	Seed production technology of pigeon pea	2	On	25	-	25							25		25
7-8.03.11	Practicing farmers /Farm women	Post harvest management of paddy	2	on	19	-	19	-	-	-	-	-		19		19
16-17.03.11	Practicing farmers /Farm women	Practice and management of tuber crops	2	On	26	-	26	-	-	-	-	--		26		26

25-26.03.11	Practicing farmers /Farm women	Use of drip irrigation in vegetable	2	On	23	-	23	-	-	-	-	-		23		23

Rural Youth (On campus)

Date	Clientele	Title of the training programme	Duration in days	Venue (Off / On Campus)	Number of participants OTH			Number of SC			Number of ST			Total		Grand Total
					M	F	T	M	F	T	M	F	T	M	F	
9-13.7.10	Rural Youth	Seed Production of paddy	5	On	25	-	25	-	-	-	-	-	-	25	-	25
3-7 Jan 2011	Rural Youth	Mushroom production	5	On		24	24								24	24
26-30 Jan 2011	Rural Youth	Repair & maintenance of farm machinery and irrigation implements	5	On	27	-	27							27		27
1-5 Feb. 2011	Rural Youth	Production technology of vermi-compost and phosphor compost and its uses	5	On	25	-	25							25		25
17-21 Feb. 2011	Rural Youth	Mushroom production	5	On	20	-	20	-	-	-	-	-	-	20	-	20
23-25 Feb. 2011	Rural Youth	Disease management of Goat and Pig	3	On	18	-	18	-	-	-	-	-	-	18	-	18
		Total														

Extension personal (On campus)

Date	Clientele	Title of the training programme	Duration in days	Venue (Off / On Campus)	Number of participants OTH			Number of SC			Number of ST			Total		Grand Total
					M	F	T	M	F	T	M	F	T	M	F	
16-17 July 2010	Extension Functionary	Training methodology and training need assessment	1	On	17	-	17	3	-	3	2	-	2	22	-	22
21.8.10	Extension Functionary	Contingent crop plan	1	On	31	1	32	-	-	-	-	-	-	31	1	32
2.02.11	Extension Functionary	Production and use of organic inputs	1	On	29	4	33	1	-	1	2	-	2	32	4	36
4.02.11	Extension Functionary	Production and use of organic inputs	1	On	22	3	25	1	-	1	4	-	4	27	3	30
04.02.11	Extension Functionary	Production enhancement of food crops	1	On	19	2	21	-	-	-	6	-	6	25	2	27
05.02.11	Extension Functionary	Production enhancement of food crops	1	On	25	3	28	2	-	2	6	-	6	33	3	36
07.02.11	Extension	Integrated nutrient management	1	On	26	-	26	-	-	-	1	-	1	27	-	27

	Functionary															
07.02.11	Extension Functionary	Integrated nutrient management	1	On	22	1	23	-	-	-	-	-	-	22	1	23
		Total														

Practicing farmers/Farm women (Off campus)

Date	Thematic area	Title of the training programme	Duration in days	Venue (Off / On Campus)	Number of participants OTH			Number of SC			Number of ST			Total		Grand Total
					M	F	T	M	F	T	M	F	T	M	F	
5.4.10	ICM	Cultivation practice of hybrid maize	1	Off	29	-	29	-	-	-	-	-	-	29	-	29
19.4.10	IPM	Integrated pest management in cucurbit.	1	Off	35	-	35	-	-	-	-	-	-	35	-	35
1.5.10	ICM	Selection of variety of paddy	1	Off	24	-	24	-	-	-	3	-	3	27	-	27
6.5.10	Micro Nutrient Deficiency	Control of different micronutrient disorders in vegetable crops	1	Off	28	-	28	-	-	-	-	-	-	28	-	28
18.5.10	ICM	Cultivation Practice of major pulses	1	Off	21	-	21	-	-	-	6	-	6	27	-	27
1.6.10	IDM	Integrated pest $ disease management of cucurbits	1	Off	26	-	26	-	--	-	4	-	4	30	-	30
11.6.10	Management of problematic soil	Method of soil sampling	1	Off	24	-	24	-	-	-	3	-	3	27	-	27
17.6.10	Production of small tools and implement	Use of improvement implements in paddy	1	Off	22	-	22	6	-	6	2	-	2	30	-	30
01.7.10	Weed management	Weed management of paddy	1	Off	26	-	26	-	-	-	-	-	-	26	-	26
12.7.10	If any soil science	Benefit and use of Blue green algae in paddy.	1	Off	19	8	27	-	-	-	-	-	-	27	-	27
23.7.10	IPM	Control stem borer of Maize	1	Off	27	-	27	-	-		-	-	-	27	-	27
9.8.10	Cropping system	Para Cropping of oilseeds and pulses	1	Off	22	-	22	10	-	10	-	-	-	32	-	32
19.8.10	Contingent crop plan(CP)	Contingent crop plan	1	Off	26	-	26	-	-	-	4	-	4	30	-	30
6.9.10	Contingent crop plan(CP)	Contingent crop plan	1	Off	30	-	30	-	-	-	-	-	-	30	-	30
13.9.10	Contingent crop plan(HORT)	Contingent crop plan	1	Off							28	-	28	28	-	28
14.9.10	Contingent crop plan(HORT)	Contingent crop plan	1	Off	-	-	-	26	4	30	-	-	-	26	4	30

4.10.10	ICM	Cultivation practice of wheat	1	Off	27	-	27	5	-	5	-	-	-	32	-	32
12.10.10	Off season vegetable cultivation	Cultivation practice leguminous vegetable	1	Off	22	-	22	1	-	1	-	-	-	23	-	23
18.10.10	INM	Fertilizers management in oilseeds crop and lime	1	Off	25	-	25	-	-	-	6	-	6	31	-	31
29.10.10	PHT(AgEng)	Post harvest technology of paddy	1	Off	27	-	27	-		-	-	-	-	27	-	27
2.11.10	IPM	Integrated pest management in mustard	1	off	4		4	4	-	4	16	-	16	24	-	24
6.11.10	INM	Integrated nutrient management in wheat	1	off	-		-	4	-	4	20	-	20	24	-	24
9.11.10	Micronutrient deficiency	Importance of boron in cauliflower	1	off	6		6	-	-	-	17	-	17	23	-	23
18.11.10	Nursery raising	Nursery raising of cucurbit s	1	off	8		8	-	-	-	13	-	13	21	-	21
30.11.10	PHT	Seed storage of paddy	1	off	-		-	6	-	6	13	-	13	19	-	19
2.12.10	Weed Management	Irrigation schedule and weed management of wheat	1	Off	11	10	21	-	-	-	-	-	-	11	10	21
3.12.10	Tuber Crop	Practice &management of potato	1	Off	18	-	18	8	-	8	-	-	-	26	-	26
8.12.10	IPM	Control of brinjal fruit& shoot borer	1	Off	14	-	14	10	-	10	-	-	-	24	-	24
14.12.10	PHT	Storage loss minimizing technique of food grains	1	Off	8	-	8	6	-	6	-	-	-	14	-	14
30.12.10	INM	Management of sulphur and phosphate in mustard crops	1	Off	3	-	3	-	-	--	19	-	19	22	-	22
2.01.11	Micronutrient Deficiency	Importance of different nutrient for quality improvement in vegetable crops	1	Off	28	-	28	-	-	-	-	-	-	28	-	28
12.01.11	Micronutrient Deficiency	Micronutrient deficiency in vegetable	1	Off	20	-	20	-	-	-	8	-	8	28	-	28
19.01.11	ICM	Cultivation of cucurbits	1	Off	24		24	2	-	2	-	-	-	26	-	26
03.02.11	PHT	Storage pest and their management in potato	1	Off	30	-	30	-	-	-	-	-	-	30	-	30
10.02.11	Off Season vegetable	Cultivation practice of early cucurbitaceous crop	1	Off	27	-	27	-	-	-	-	-	-	27	-	27

15.02.11	IPM	Spraying of insecticide in fruit plant before& after flowering	1	Off	24	-	24	-	-	-	-	-	-	24	-	24
4.03.11	ICM	Cultivation practice of summer vegetable	1	Off	26	-	26	-	-	-	-	-	-	26	-	26
9.03.11	Tuber crops	Cultivation practice and management of ginger and turmeric	1	Off	23	-	23	-						23	-	23
24.03.11	INM	Nutrition management of tuber crops	1	Off	29	-	29	-						29	-	29

KRISHI VIGYAN KENDRA

BOKARO

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ZONAL WORKSHOP OF KVKs

ZONE- II

Venue- BCKV, Kalyani

Date: 23 to 24 May, 2011

BIRSA AGRICULTURAL UNIVERSITY
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