

ANNUAL REPORT 2014 (April 2014 to March 2015)

1. GENERAL INFORMATION ABOUT THE KVK

Address	Telephone		E mail
	Office	FAX	
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		E mail
	Office	FAX	
Birsa Agricultural University, Jharkhand, Kanke, Ranchi Pin-834006	(VC) 0651-2450500(O)	0651-2450850	vc_bau@rediffmail.com
	(DEE) 0651- 2450849 (O)	0651-2450525	rpsratna07@yahoo.co.in deebauranchi@gmail.com

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Sri Uday Kumar Singh	09431595179	9431126991	udaysingh72@gmail.com

1.4. Year of sanction of KVK:

(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 1st April, 2015)

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	-	-	-	-	-	-	-
2	Subject Matter Specialist	Sri Uday Kumar	I/C Programme Coordinator & SMS	Agronomy	PB(15600 - 39100) GP- Rs.6000.00 Basic- Rs. 28220.00	19-07-04	Permanent	Others
3	Subject Matter Specialist	Dr. Anil Kumar	SMS	Horticulture	PB(15600 - 39100) GP- Rs.6000.00 Basic- Rs. 30640.00	19-07-04	Permanent	Others
4	Subject Matter Specialist	Dr. Sudhir Kumar Jha	SMS	Soil Science	PB(15600 - 39100) GP- Rs.6000.00 Basic- Rs. 30640.00	20-07-04	Permanent	Others
5	Subject Matter Specialist	Sri Vinay Kumar	SMS	Agril. Engg.	PB(15600 - 39100) GP- Rs.6000.00 Basic- Rs. 28220.00	20-07-04	Permanent	Others
6	Subject Matter Specialist	Mrs Neena Bharti	SMS	Plant Protection	PB(15600 - 39100) GP- Rs.6000.00 Basic- Rs. 28220.00	20-07-04	Permanent	ST
7	Subject Matter Specialist	Mrs. Nandana Kumari	SMS	Home Science	PB(15600 - 39100) GP- Rs.6000.00 Basic- Rs. 28220.00	19-07-04	Permanent	Others
8	Programme Assistant	Mrs Smita Shweta	Programme Assistant	Fishery Science	PB (9300-34800) GP-Rs. 4200.00 Basic- Rs. 19300.00		Permanent	Others
9	Computer Programmer	Naman Kandulna	Computer Assistant		PB (9300-34800) GP-Rs. 4200.00 Basic- Rs. 18020.00	20-07-04	Permanent	ST
10	Farm Manager	-	-	-	-	-	-	-
11	Accountant / Superintendent	Sri Abhay Kumar Singh	O.S.cum Accountant	-	9300.00		Contractual Staff	Others

12	Stenographer	Sri Ratnesh Kumar Mishra	Stenographer	-	5200.00		Contractual Staff	Others
13.	Driver	Sri Ranchandra Lohar	Driver	-	5200.00		Contractual Staff	ST
14.	Driver	Sri Panchanand Mahto		-	5200.00		Contractual Staff	Others
15.	Supporting staff	Sri Ruplal Marandi		-	4440.00		Contractual Staff	ST
16.	Supporting staff	Sri Durga Prasad Mahto		-	4440.00		Contractual Staff	Others

1.6. Total land with KVK (in 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
	Unutilized land due to undulating	0.4
	Total	10

Total area should be matched with breakup

1.7. Infrastructure Development:

A) Buildings and others

S. No.	Name of building	Not yet started	Complete d up to plinth level	Complete d up to lintel level	Comple t ed up to roof level	Totally completed	Plinth area (sq.m)	Under use or not*	Source of funding
1.	Administrative Building					Completed	500		I.C.A.R.
2.	Farmers Hostel					Completed	300		I.C.A.R.
3.	Staff Quarters (6)			Completed up to lintel level		Incomplete	400		I.C.A.R.
4.	Piggery unit	Not yet started							
5	Fencing					Completed			District Administration
6	Rain Water harvesting structure					Incomplete (Micro irrigation system is not installed)	120x120x10 ft pond		I.C.A.R.
7	Threshing floor					Completed			I.C.A.R.
8	Farm godown					Completed			I.C.A.R.
9.	Farm godown					Completed			District Administration
10.	Preservation unit					Completed			I.C.A.R.
11.	Dairy unit	Not started							
12.	Poultry unit	Not started							
13.	Goatary unit	Not started							
14.	Mushroom Lab	Not started							
15.	Mushroom production unit								
16.	Shade house	Not started							
17.	Soil test Lab					Completed			District Administration
18.	ATIC centre					Completed			District Administration

19.	IT Infrastructure					Completed			I.C.A.R.
20.	Plant diagnostic lab	Not started							I.C.A.R.
21.	Irrigation channel	Not started							I.C.A.R.
22.	Deep boring	Failed							I.C.A.R.
	Others, Please Specify								

* If not in use then since when and reason for non-use

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total km. Run	Present status
Jeep	2005	431129.00	260200	Required to be replaced
Tractor	2006	361200.00	1135	Time to time repairing is needed

C) Equipment & AV aids

Name of equipment	Year of purchase	Cost (Rs.)	Present status	Source of fund
a. Lab equipment				
Refrigerator	2007	11990.00	Good	I.C.A.R.
Food processor	2007	4995.00	Good	I.C.A.R.
Commercial gas cylinder	2008	3000.00	Good	I.C.A.R.
Weighing machine	2008	7540.00	Good	I.C.A.R.
Weighing machine	2010	12740.00	Good	I.C.A.R.
Weighing machine	2010	7260.00	Good	I.C.A.R.
Aqua soft dispenser	2012	20000.00	Good	I.C.A.R.
Crown corking machine	2013	19700.00	Good	I.C.A.R.
Tomato Pulpar	2013	29800.00	Good	I.C.A.R.
Screw type Juice Extractor	2013	22000.00	Good	I.C.A.R.
Refractometer	2013	43000.00	Good	I.C.A.R.
b. Farm machinery				
c. AV Aids				
Computer	2006	45000.00	Good	I.C.A.R.
UPS	2006	7000.00	Good	I.C.A.R.
Laser Printer	2006	8000.00	Good	I.C.A.R.
Fax Machine	2006	8000.00	Not installed	I.C.A.R.
Xerox	2007	72000.00	Not functioning	I.C.A.R.
2 KVA Stabilizer	2007	4850.00	Good	I.C.A.R.
Stabilizer 500 VA Manual Auto-cut	2007	1750.00	Good	I.C.A.R.
Camera	2005	12650.00	Good	
Camera	2007	14512.50	Not functioning properly	I.C.A.R.
LCD Projector	2007	51989.00	Good	I.C.A.R.
HAKIM Audio Visual Trolley	2007	8534.00	Good	I.C.A.R.
Projector Screen 8'x6'	2007	7550.00	Good	I.C.A.R.
15Mtrs special imported moulded VGA cable	2007	7500.00	Good	I.C.A.R.

Laser pointer torch with duel effect	2007	2200.00	Good	I.C.A.R.
AHUJA Medium Power Apmlified -120 Watt	2013	8847.36	Good	I.C.A.R.
AHUJA 2 way compact PA wall Speaker	2013	8694.72	Good	I.C.A.R.
AHUJA Reflex Horn-WFA-21” Bell Dia	2013	986.84	Good	I.C.A.R.
AHUJA Driver unit –Model-AU40XT	2013	1408.77	Good	I.C.A.R.
AHUJA PA Microphone-Model AUD 101XLR	2013	1693.85	Good	I.C.A.R.

D) Farm implements

Name of equipment	Year of purchase	Cost (Rs.)	Present status	Source of fund
Seed drill cum fertilizer drill	2005	775.00	Good	I.C.A.R.
Birsa ridger plough	2005	485.00	Good	I.C.A.R.
Japanese paddy weeder	2005	525.00	Good	I.C.A.R.
Dryland weeder	2005	300.00	Good	I.C.A.R.
Birsa potato digger	2005	625.00	Good	I.C.A.R.
Paddy transplanter	2006	-	Good	
Cultivator 9 tine	2006	14200.00	Good	I.C.A.R.
Land leveler	2006	8080.00	Good	I.C.A.R.
Offset disk	2006	28020.00	Good	I.C.A.R.
Trailer 4 wheel with tyre tube	2006	76500.00	Good	I.C.A.R.
Disc plough 2 furrow	2007	26995.00	Good	I.C.A.R.
Grass cutter	2007	38500	Good	I.C.A.R.
M.B. Plough	2007	26993.00	Good	I.C.A.R.
Rottary tiller	2007	88585.00	Good	I.C.A.R.
Power sprayer	2007	48500.00	Good	I.C.A.R.
Cage wheel nut bolt type	2007	5250.00	Good	I.C.A.R.
Zero till fertilizer drill	2010	-	Good	I.C.A.R.
Power Tiller	2011		Good	I.C.A.R.
Field king laser Guided Land Leveler Machine	2012		Good	I.C.A.R.

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.	19-03-2014	31	A copy of the project on mushroom spawn production should be given to DDM NABARD Bokaro and LDM, Bokaro	Copy submitted to DDM NABARD Bokaro and LDM Bokaro	
2.			OFT on nutrient management of SRI paddy in medium land condition should be repeated with replacing highest fertilizer dose treatment with SSNM dose.	OFT has been conducted as per suggestion	
3.			FLD on T&D breed of pig should be done and intervention should also be done in poultry	Training on poultry has been conducted but FLD on T&D breed of pig has not been done	FLD not done due to lack of fund
4.			List of farmers who have done training at BAU in IFS should be taken from ATMA, Bokaro.	List of farmers has been received from ATMA Bokaro and technical support is provided by KVK	
5.			A letter should be written to Director Agriculture, Department of Agriculture & Cane Development for installation of soil testing equipment at KVK, Bokaro.	Correspondence in this regard has been done by KVK but till date no action has been taken for installation of STL equipments.	
6.			Literature in Mahua Ladoo should be prepared.	Draft of literature on Mahua Ladoo has been prepared.	
7.			FLD on pea variety (JK-114) and Shimla Mirch should be done.		
8.			FLD on Animal drawn puddlers should be done instead of OFT	FLD on Animal drawn puddler has been conducted.	
9.			FLD on ginger based intercropping should be done.	FLD has been conducted on ginger based intercropping.	
10.			OFT on chemical control of rice stem borer should be recasted and done on IPM module.	OFT has been conducted as per suggestion.	
11.			OFT on nutrient management in cauliflower through organic inputs should be recasted as per suggestion given.	OFT has been conducted as per suggestion.	
12.			KVK should also addressed issues related to processing and value addition in mushroom & milk.	Training of rural women groups has been conducted for value addition of mushroom.	

13.			KVK should conduct meeting of BTM of Bokaro district in every three months.	Last year two meetings had been conducted.	
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List of the members attended the 9th SAC meeting:-

1. Dr. R.P. Singh 'Ratan' Director Extension Education, B.A.U., Ranchi - Chairman
2. Dr. S.K.Roy, Senior Scientist, ZPD, Zone- II, ICAR, Kolkata - Member
3. Sri Uday Kr. Singh, I/C Programme Coordinator, KVK, Bokaro - Member
4. Dr. B.K. Bhagat, Associate Director, ZRS, Dumka - Member
5. Sri Paras Oraon, DHO and DAO-cum-P.D ATMA, Bokaro - Member
6. Sri K. N. Das, DDM, NABARD, Bokaro - Member
7. Sri K. Bhattacharya, L.D.M., Bokaro - Member
8. Sri Rajkumar Turi, District Fishery Officer, Bokaro - Member
9. Sri Samir Kumar Sinha, District Dairy Development Officer, Bokaro - Member
10. Dr. Anil Kumar, S.M.S., Horticulture, KVK, Bokaro - Member
11. Dr. Sudhir Kumar Jha, S.M.S., Soil Science, KVK, Bokaro - Member
12. Er. Vinay Kumar, S.M.S., Agril. Engg., KVK, Bokaro - Member
13. Mrs. Neena Bharti, S.M.S., Plant Protection, KVK, Bokaro - Member
14. Mrs. Nandana Kumari, S.M.S., Home Science, KVK, Bokaro - Member
15. Sri Om Prakash, Nodal Officer, ISAP, Bokaro - Member
16. Md. Rustam, Press reporter, Ranchi Express, Petarwar - Member
17. Sri Nageshwar Mahto, Press reporter, Prabhat Khabar, Petarwar - Member
18. Sri Raj Bhushan Khatri, Press reporter, Hindustan, Petarwar - Member
19. Sri Pradeep Khatri, Press reporter, Khabar Mantra, Petarwar - Member
20. Sri Dip Chand Gope, Secretary, NGO (JOR), Gomia - Member
21. Sri Naman Kandulna, Computer Assistant, KVK, Bokaro - Member
22. Sri T.N.Tiwary, Assistant, KVK, Bokaro - Member
23. Sri Uttam Kumar Das, NGO, Simanchal Jan Kalyan Sameti, Chandankiyari, Bokaro - Member
24. Mrs. Lalita Devi, Progressive farmer, Khutahara, Petarwar, Bokaro - Member
25. Mrs Phudan Devi, Progressive farmer, Khutahara, Petarwar, Bokaro - Member
26. Sri Mihilal Gope, Progressive farmer, Dehdhe, Gomia, Bokaro - Member
27. Sri Pintu Agrawal, Progressive farmer, Petarwar, Bokaro - Member
28. Sri Sanjay Kumar, Progressive farmer, Petarwar, Bokaro - Member
29. Sri Shankar Mahto, Progressive farmer, Chandipur, Kasmar, Bokaro - Member
30. Sri Abhay Kumar Singh, OS-cum-Accountant, KVK, Bokaro - Member
31. Sri Ratnesh Mishra, Stenographer, KVK., Bokaro - Member

** Salient recommendation of SAC in bullet form
Attach a copy of SAC proceedings along with list of participants*

2. District level data on agriculture, livestock and farming situation (2014-15)

Sl. no.	Item	Information
1	Major Farming system/enterprise	<ol style="list-style-type: none"> 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	Agro-climatic Zone	<p>IV- Central North Eastern Plateau Zone</p> <p>Characteristics:</p> <p>Geographical area of Zone = 41293 K.m² 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.</p> <p style="text-align: right;">Climate of the Bokaro district is sub humid with water deficiency in</p>

		<p>winter. Temperature ranges from 2°C in winter to 45°C 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.</p>			
3	Agro ecological situation	<ol style="list-style-type: none"> 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 			
4	Soil type	<ol style="list-style-type: none"> 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. 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. 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. 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. 			
5	Productivity of major 2-3 crops	Crop			Productivity (q /ha)

under cereals, pulses, oilseeds, vegetables, fruits and others	Paddy (Hybrid)		40.00
	Paddy(HYV)		28.00
	Wheat		17.10
	Maiz		16.00
	Arhar		07.20
	Gram		08.25
	Mustad		6.2
	Groundnut		7.5
	Niger		2.1
	Brinjal		259.0
	Tomato		281.0
	Cauliflower		274.0
	Cucurbitaceous		160-200
6	Mean yearly temperature, rainfall, humidity of the district	Mean yearly rainfall- 1130 mm	
7	Production of major livestock products like milk, egg, meat etc.		

2.6 (a) Details of operational area / villages (2014-15)

Sl. No.	Taluk	Name of the block	Name of the village	Major crops & enterprises	Major problem identified(Crop wise)	Identified Thrust Area
1.	Bermo	Petarwar	Ambadih, Chargi, Jaruatanr, Bundu, Lukaiya, Koh, Jaradih, Itke, Chanpi, Angwali, Kojram, Rukam etc.	Paddy Maize Groundnut Vegetables Potato Sweet potato Onion Mustard Poultry Goatry	1. Low productivity in cereals & pulses 2. Low profitability in vegetable cultivation 3. Low productivity in poultry & goatry	1. Introduction of high yielding and hybrid varieties of paddy 2. INM & IPM in paddy 3. Introduction of disease resistant variety of vegetable specially in tomato & brinjal 4. Introduction high yielding variety of Arhar gram, groundnut, mustard and Niger 5. Management of soil acidity through furrow application of
2.	Bermo	Kasmar	Durgapur, Raghunathpur, Madhukarpur, Mayapur, Kurko, Chandipur, Baraikala, Ranitanr, Manjura, Rangamati, Hisim, Kedla.	Paddy Maize Wheat Arhar Gram Niger Mustard Groundnut Vegetable Potato Sweet potato Lac Poultry	1. Low productivity in cereals & pulses 2. Low profitability in vegetable crops 3. Low productivity in poultry & goatry 4. Low productivity in oilseed crops 5. Low productivity in	

				Goatry	lac	lime and sweet potato cultivation with integrated nutrient management
3.	Bermo	Gomia	Saram, Dhedhe, Tulbul, Mahuatanr, Lalpaniya, Kander	Paddy Vegetable Maize Wheat Arhar Niger Mustard Sweet potato Poultry Goatry Lac	1. Low productivity in cereals & pulses 2. Low profitability in vegetable crops 3. Low productivity in poultry & goatry 4. Low productivity in oilseed crops 5. Low productivity in lac	6. Income generation activity for rural youth & farm women 7. Rain water harvesting. 8. INM & IPM 9. Post harvest management, marketing & value addition
4.	Bermo	Bermo	Jaridih, Govindpur	Paddy Maize Arhar Niger Vegetable Potato Lac Goatry	1. Low productivity in cereals & pulses 2. Low profitability in vegetable crops 3. Low productivity in poultry & goatry 4. Low productivity in lac	10. Farm mechanization 11. Introduction of high yielding variety of maize and wheat with integrated crop management 12. Moisture conservation and micro irrigation system 13. Breed improvement in goatry and piggery
5.	Bermo	Chandrapura	Taranari, Narra, Telo, Jarua, Kurumba, Paranga	Paddy Maize Arhar Vegetable Potato Lac Poultry Goatry	1. Low productivity in cereals & pulses 2. Low profitability in vegetable crops 3. Low productivity in poultry & goatry 4. Low productivity in lac	14. Disease and feed management in poultry and goatry 15. Organic vegetable cultivation
6.	Bermo	Nawadih	Alargo, Bhalmara, Chapri, Narayanpur, Penk, Kothi	Paddy Maize Arhar Niger Vegetable Potato Lac Poultry	1. Low productivity in cereals & pulses 2. Low profitability in vegetable crops 3. Low productivity in	16. Popularization of sweet corn and baby corn 17. Popularization of low volume high value vegetable crops such as broccoli,

				Goatry Piggery	poultry, goatry & piggery 4. Low productivity in oilseed crops 5. Low productivity in lac	colourd capsicum, 18. Popularization of mushroom production
7.	Chas	Chas	Dharpura, Pokhanna, Jhopro, Ulgoda, Pindrajora, Kasi Jharia,	Paddy Maize Wheat Arhar Gram Mustard Vegetable Poultry Goatry Lac	1. Low productivity in cereals & pulses 2. Low profitability in vegetable crops 3. Low productivity in poultry & goatry 4. Low productivity in oilseed crops 5. Low productivity in lac	
8.	Chas	Chandankiyari	Chandankiyari, Bangari, Lanka, Machatanr, Siyaljori, Bermo	Paddy Maize Groundnut Vegetables Potato Poultry Goatry	1. Low productivity in cereals & pulses 2. Low profitability in vegetable crops 3. Low productivity in poultry & goatry 4. Low productivity in oilseed crops 5. Low productivity in lac	
9.		Jaridih	Tilaiya, Bhaski, Beldih, Arajua, Gangjori, Pichri	Paddy Maize Wheat Arhar Gram Mustard Vegetable Poultry Goatry	1. Low productivity in cereals & pulses 2. Low profitability in vegetable crops 3. Low productivity in poultry & goatry 4. Low productivity in	

					oilseed crops 5. Low productivity in lac	
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(b) Details of village adoption programme:

Name of the villages adopted by PC and SMS in 2014-15 for its development and action plan

Name of village	Block	Action taken for development
Raghunathpur	Kasmar	Base line survey is going on for knowing the existing condition of the village. Problems have been identified and accordingly some steps have been taken through our mandated activities. Scientists are regularly visiting these adopted villages and providing timely advice for crops related problems.
Chandipur	Kasmar	
Nauajara Jaruanr	Petarwar	
Manjura	Kasmar	
Koh	Petarwar	
Ambadih	Petarwar	

(c) Sansad Adarsh Gram Yojona

- i) Name of the village under Sansad Adarsha Gram Yojona:
- ii) Contribution of KVK in the programme:

2.7 Priority thrust areas

S. No	Thrust area
1.	Soil and water conservation
2.	Intensification in crop production system
3.	Crop diversification
4.	Development of seed production system.
5.	Value addition of fruits & vegetables.
6.	Improvement of indigenous poor breeds of livestock.
7.	Management of soil acidity.
8.	Promotion of lac cultivation
9.	Development of integrated farming system
10.	Insect pest and disease management of major crops
11.	Mushroom production and value addition

3. TECHNICAL ACHIEVEMENTS

3. A. Details of target and achievement of mandatory activities by KVK during 2014-15

OFT				FLD			
Number of OFTs		Number of farmers		Number of FLDs		Number of farmers	
Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
12	12	100	100	55	43.5	310	196

Training				Extension activities			
Number of Courses		Number of Participants		Number of activities		Number of participants	
Target	Achievement	Target	Achievement	Target	Achievement	Target	Achievement
119	102	3260	2965	3149	2067	6350	5863

Seed production (q)		Planting material (Nos.)	
Target	Achievement	Target	Achievement
100	80	500	300

3.1 Achievements on technologies assessed and refined

OFT-1

1.	Title of On farm Trial	Nutrient management of SRI paddy in medium land condition.
2.	Problem diagnose	Low yield of SRI paddy in medium land situation due to less use of nutrients.
3.	Details of technologies selected for assessment	<p>Refinement</p> <p>Technology Option</p> <p>Farmers practice - N 60kg + P₂O₅ 25 kg+ K₂O 10 kg/ha</p> <p>Technological option i - RDF (N 80kg + P₂O₅ 40 kg+ K₂O 20 kg/ha)</p> <p>Technological option ii – (N 120kg + P₂O₅ 60 kg+ K₂O 50 kg /ha[two split])</p> <p>Technological option iii - Site Specific Nutrient Management (SSNM) treatments</p>
4.	Source of Technology	B. A. U., Ranchi
5.	Production system and thematic area	Rice based production system, Integrated Nutrient Management
6.	Performance of the Technology with performance indicators	Given in table
7.	Final recommendation for micro level situation	To harvest the potential yield in SRI paddy, fertilizer dose should be increased to N 120kg + P ₂ O ₅ 60 kg+ K ₂ O 50 kg/ha[two split].
8.	Constraints identified and feedback for research	Fertilizer recommendation for SRI paddy should be reassessed.
9.	Process of farmers participation and their reaction	Individual contact with farmers and participatory approach.

Thematic area: Integrated Nutrient Management

Problem definition: Low yield of SRI paddy in medium land situation due to less use of nutrients.

Technology assessed: *Refinement*

Table: 1- Effect of different doses of fertilizer on yield and yield attributing characters of SRI paddy.

Technology Options	No. of trials	Yield attributing characters		No. of grains/panicle	Yield (q/ha)		Cost of cultivation Rs.	Gross return (Rs / ha)	Net return (Rs./ha)	BC ratio
		No. of tillers/hill			Grain	Straw				
		30 DAT	60 DAT							
Farmers practice - N 60kg + P ₂ O ₅ 25 kg+ K ₂ O 10 kg/ha	08	12.0	18.0	91.0	34.0	44.0	21500	46400	24900	2.16
Option i - RDF (N 80kg + P ₂ O ₅ 40 kg+ K ₂ O 20 kg/ha)		15.5	24.5	104.0	42.5	52.5	22700	57850	35150	2.55
Option ii - (N 120kg + P ₂ O ₅ 60 kg+ K ₂ O 50 kg /ha[two split]		25.0	36.0	120.0	57.5	65.0	24100	77950	53850	3.23
Option iii - Site Specific Nutrient Management (SSNM) treatments		23.0	33.0	110.0	52.5	60.0	23500	71250	47750	3.03
CD 5 %				-	5.6	6.7				

Results: Maximum grain yield of 57.5q/ha was observed in technological option – ii followed by 52.5 q/ha in technological option – iii. But both the treatments are statistically at par but significantly superior to farmers practice and RDF treatments. Maximum net return of Rs. 53850/ha with B:C ratio 3.23 was found in technological option – ii followed by maximum net return Rs. 47750/ha and B:C ratio of 3.03 in technological option – iii.

OFT-2

1.	Title of On farm Trial	Nutrient management in cauliflower through organic inputs.
2.	Problem diagnose	Higher dose of application of inorganic fertilizer may cause deleterious effect on soil and crop.
3.	Details of technologies selected for assessment	<p>Refinement</p> <p>Technology Option</p> <p>Farmers practice - (N 200kg + P₂O₅ 84 kg+ K₂O 136 kg/ha) + 20 ton FYM</p> <p>Technological option i - 50% N through organic inputs (FYM @ 10 ton/ha + vermi compost @ 22q/ha + Karanj cake 8.2 @ q/ha)</p> <p>Technological option ii – 50% N through organic inputs (FYM @ 10 ton/ha + vermi compost @ 22q/ha + Karanj cake 8.2 @ q/ha) + 50% of RDF(200:100:60) through inorganic fertilizers.</p>
4.	Source of Technology	B. A. U., Ranchi
5.	Production system and thematic area	Intensive vegetable production system, Use of organic inputs
6.	Performance of the Technology with performance indicators	Given in table
7.	Final recommendation for micro level situation	Farmers can grow organic cauliflower using organic input viz FYM @ 10 ton/ha + vermi compost @ 22q/ha + Karanj cake 8.2 @ q/ha successfully and can get more profit than farmers practice and option – II.As this is organically grown cauliflower it fetches more price in the market due to good quality and taste.
8.	Constraints identified and feedback for research	Availability of good quality organic inputs such as Karanj cake and vermi compost in local market is restricted
9.	Process of farmers participation and their reaction	Individual contact with farmers and participatory approach.

Thematic area: Use of organic inputs

Problem definition: Higher dose of application of inorganic fertilizer may cause deleterious effect on soil and crop.

Table: 1- Nutrient management in cauliflower through organic nutrients.

Technology Options	No. of trials	Average size of cauliflower (kg)	Yield (q/ha)	Cost of cultivation Rs.	Gross return (Rs / ha)	Net return (Rs./ha)	BC ratio
Farmers practice -(N 200kg + P ₂ O ₅ 84 kg+ K ₂ O 136 kg/ha) + 20 ton FYM	10	0.75	277	64845	221600*	156755	3.42
Option i - 50% N through organic inputs (FYM @ 10 ton/ha + vermi compost @ 22q/ha + Karanj cake 8.2 @ q/ha)		0.68	249	75240	249000**	173760	3.31
Option ii - 50% N through organic inputs (FYM @ 10 ton/ha + vermi compost @ 22q/ha + Karanj cake 8.2 @ q/ha) + 50% of RDF(200:100:60) through inorganic fertilizers.		0.80	300	79676	240000*	160324	3.01
CD 5 %							

* Selling price of cauliflower was @ 800/q

** Selling price of organic cauliflower was @ 1000/q

Results: Maximum cauliflower yield of 300q/ha was observed in option- II (50% N through organic inputs (FYM @ 10 ton/ha + vermi compost @ 22q/ha + Karanj cake 8.2 @ q/ha) + 50% of RDF(200:100:60) through inorganic fertilizers) but the B:C ratio was lowest in this treatment due to higher cost of cultivation. Farmers can grow organic cauliflower using organic input viz FYM @ 10 ton/ha + vermi compost @ 22q/ha + Karanj cake 8.2 @ q/ha successfully and can get more profit than farmers practice and option –II.As this is organically grown cauliflower it fetches more price in the market due to good quality and taste. So farmers can opt for this option and earn more profit than farmers practice, without hampering the soil quality and environment.

OFT-3

1.	Title of On farm Trial	Evaluation of heat tolerant cauliflower varieties for summer season.
2.	Problem diagnose	Low yield of summer season cauliflower due to use of non heat tolerant variety.
3.	Details of technologies selected for assessment	Assessment Technology Option Farmers practice - Himlata Technological option i - Sungrow- 110 Technological option ii – Sungrow- 370 Technological option iii – Cemenies - Don
4.	Source of Technology	B. A. U., Ranchi
5.	Production system and thematic area	Vegetable production system
6.	Performance of the Technology with performance indicators	Given in table
7.	Final recommendation for micro level situation	Heat tolerant varieties Sungrow- 370 and sungrow-110 of cauliflower is recommended for summer season in Bokaro district.
8.	Constraints identified and feedback for research	Cost of heat tolerant varieties are very high. There is lack of public sector heat tolerant varieties of cauliflower.
9.	Process of farmers participation and their reaction	Individual contact with farmers and participatory approach.

Thematic area: Vegetable production system

Problem definition: Low yield of summer season cauliflower due to use of non heat tolerant variety.

Table: 1- Performance of different heat tolerant varieties of cauliflower in summer season.

Technology Options	No. of trials	Average size of cauliflower (kg)	Yield (q/ha)	Cost of cultivation Rs.	Gross return (Rs / ha)*	Net return (Rs./ha)	BC ratio
Farmers practice - Himlata	10	0.280	165	72000	231000	159000	3.21
Option i - Sungrow- 110		0.340	187	72000	261800	189800	3.64
Option ii - Sungrow- 370		0.380	209	72000	292600	220600	4.06
Option iii - Cemenies - Don		0.330	181	72000	253400	181400	3.51
CD 5 %							

* Selling price of cauliflower is Rs. 1400/q.

Results: Heat tolerant cauliflower variety Sungrow- 370 gave highest yield of 209q/ha with B:C ratio of 4.06 followed by Sungrow-110 (187q/ha) and Cemenies-Don (181q/ha).

OFT-4

1	Title of On farm Trial	Preservation of sun-dried mahua flower as mahua ladoo(locally called as mahua lattha).
2	Problem diagnose	Huge wastage of mahua flower in the preparation of unhealthy local alcoholic drink and its misuse as animal feed.
3	Details of technologies selected for assessment	(i) Adoption of sterilization method of preservation and use of emulsifier (GMS,;glycerol monostearate which act as antistaling agent) (ii) Sensory Evaluation is done by score card method
4	Source of Technology	Beverage of Food World; June, 2010
5	Production system and thematic area	Food preservation
6	Performance of the Technology with performance indicators	Given on separate sheets
7	Final recommendation for micro level situation	Mahua ladoo prepared by the use of sterilized mahua syrup, roasted maize flour, roasted groundnut flour and sugar along with GMS(0.1%) was best from shelf life, nutritive value, cost effective and in all six different parameters of sensory evaluation point of view.Even upto the end of 5 th weeks of shelf life ,both wheat and maize based mahua ladoo had sweet aroma and pleasent flavour.
8	Constraints identified and feedback for research	Emulsifier (GMS) were also not available in near-by area of village, which is available only in big town. In the preparation of mahua ladoo through technological option –I & technological option –II, there is need of pressure cooker for sterilization purpose which is available in very few home in villages.
9	Process of farmers participation and their reaction	Farm women participated in the preparation of mahua ladoo both by traditional method as well as method given in research & find new method little bit difficult due to involvement of sterilization process whereas local method of mahua ladoo preparation is easy and simple. They all did sensory evaluation through score card method & gave their response in their own way.

Thematic area: Food preservation

Problem definition: Huge wastage of mahua flower in the preparation of unhealthy local alcoholic drink and as animal feed, in spite of being rich in nutrients and with good health benefits.

Technology assessed: Shelf life of mahua laddoo prepared by new methods enhanced upto 5 weeks (more than one month) by adopting sterilization method of preservation and by the use of emulsifier (GMS 0.1%) which act as antistaling agent.

Table: 1- Nutritive value of all three mahua laddoos

Nutrients	Protein (g)	Fat (g)	CHO (g)	Energy (Kcal)	Calcium (mg)	Iron (mg)	Ranking
Mahua laddoo							
Farmers practice based mahua laddoo	3.92	1.28	56.04	251.43	27.47	1.44	3rd
Technological option-I based mahua laddoo	14.76	15.52	101.30	604.04	62.14	4.06	2 nd
Technological option-II based mahua laddoo	19.44	22.04	135.38	818.18	63.74	1.98	1 st

Table: 2- Shelf life and cost of all three mahua laddoos.

Mahua laddoo	Farmers practice based mahua laddoo	Technological option-I based mahua laddoo	Technological option-II based mahua laddoo
Parameters			
Shelf life (in weeks)	Hardly 1 week	In very good condition at the end of 5 weeks	In very good condition at the end of 5 weeks
Cost of mahua laddoo/ kg (in Rs.)	32.40	60.00	58.00

Note: In cost calculation, price of jar is not included.

Table: 3- Mean value of different parameters of sensory evaluation by score card method on the date of preparation.

Parameters	Appearance	Colour	Texture	Flavor	Taste	Overall acceptability	Overall grading/ Ranking
All three mahua laddoos							
Farmers practice based mahua laddoo	7.00	7.37	7.25	8.62	6.87	6.87	III
Technological option-I based mahua laddoo	7.55	7.88	8.11	7.77	7.75	7.77	II
Technological option-II based mahua laddoo	8.87	8.75	8.62	8.87	8.77	8.75	I

Table: 4 - Mean value of different parameters of sensory evaluation by score card method after 3 weeks (or before one month) of shelf life.

Parameters	Appearance	Colour	Texture	Flavor	Taste	Overall acceptability	Overall grading	Remarks
All three mahua ladoos								
Farmers practice based mahua laddoo	-	-		-	-	-	-	Shelf life 1 week
Technological option-I based mahua laddoo	7.25	7.75	8.00	7.44	7.44	7.62	II	In good condition even upto 3 weeks
Technological option-II based mahua laddoo	8.77	8.50	8.00	8.55	8.25	8.55	I	In good condition even after 5 weeks

Table: 5 - Mean value of different parameters of sensory evaluation by score card method after 5 weeks (after one month)of shelf life.

Parameters	Appearance	Colour	Texture	Flavor	Taste	Overall acceptability	Remarks(shelf life)
All three mahua ladoos							
Farmers practice based mahua laddoo	-		-	-	-	-	1 week
Technological option-I based mahua laddoo	7.00	7.44	7.33	7.22	7.25	7.00	In good condition even at the end of 5 weeks
Technological option-II based mahua laddoo	8.25		7.00	6.62	8.37	8.00	In good condition even at the end of 5 weeks

Results: Mahua ladoos prepared by the use of sterilized mahua syrup, roasted maize flour, roasted groundnut flour and sugar along with the use of GMS(0.1%) is best in nutritive value ,all six parameters of sensory evaluation and cost effective./Both T.O.I and T.O.II has shelf life upto the 5 weeks. At this stage, both type of mahua laddoos are in good condition having sweet aroma and pleasant flavour.

OFT- 5

1	Title of On farm Trial	Use of sweet potato based nutritious and composite flour for daily consumption.
2	Problem diagnose	Heavily produced sweet potato in local areas is still unexploited due to lack of its processing knowledge and farmers are compelled to sell it at very low price
3	Details of technologies selected for assessment	Very simple and low cost technology like soaking, sun drying and milling for the conversion of raw sweet potato into flour .
4	Source of Technology	Food nutrition Bulletin,2012.March;33(1):3-10
5	Production system and thematic area	Food processing
6	Performance of the Technology with performance indicators	Given in tables
7	Final recommendation for micro level situation	Sweet potato based nutritious and composite flour made with the help of wheat flour,bengal gram flour and refined oil found best in all six parameters of sensory evaluation through score card method. Raw sweet potato develops rancidity after sometime which came in boiled sweet potato but this rancidity didnot come in sweet potato flour even in the end of January month when it was harvested in oct-nov month.
8	Constraints identified and feedback for research	As compared to the local method of sweet potato consumption which is direct consumption just after boiling ,is very easy and simple whereas new method takes time and series wise activity from start from peeling upto the sieving of the flour and packing.
9	Process of farmers participation and their reaction	Farm women participated preparation of all three kind of treatments and they all had done sensory evaluation by score card method and gave their response in their own way.

Thematic area: Food processing

Problem definition: Not proper utilized even by being heavily produce in local areas as well compel to sell at very low price.

Technology assessed: Very simple and low cost technology like soaking, sun drying and milling for the conversion of raw sweet potato into flour(Conversion ratio of raw sweet potato to sweet potato flour :4:1 to 5:1 depending upon the quality of raw produce) .

Table: 1- Nutritive value of all three treatment (per 100g)

Nutrients	Protein (g)	Fat (g)	CHO (g)	Energy (kcal)	Calcium (mg)	Iron (mg)	beta-carotene (micro gram)	Vitamin C (mg)
Products								
Farmer practice direct consumption just after boiling	9.90	2.47	232.65	990	379.5	1.73	49.5	198
Technology Option i - Sweet potao based formula-I	23.57	20.41	275.23	1377.70	532.60	7.46	224.3	198
Technology Option ii - Sweet potao based formula-I I	23.37	20.79	275.09	1377.90	410.50	6.94	236.5	198

Table: 2- Shelf life and cost of all three tomato chutneys

Products	Farmer practice	Sweet potato based formula-I	Sweet potato based formula-II	Remarks
Parameters				
Shelf life	Hardly 1 month	In good condition even (after 4 months) the end of january(In good condition whereas harvested in oct-nov)	In good condition even (after 4 months) the end of january(In good condition whereas harvested in oct-nov)	Hardly after one month raw sweet potato develops rancidity in taste but in both sweet potato based nutritious and composite flour had no negative effect in any kind of six parameters of sensory evaluation
Cost per 100g (in Rs.)	1.00	7.00	6.5	

Note: Cost of Jar is not included.

Table: 3: Mean value of different parameters of sensory evaluation by score card method on the date of preparation.

Parameters Products	Appearance	Colour	Texture	Flavour	Taste	Overall acceptability	Overall grading
Farmer practice	6.12	5.87	5.75	5.25	7.75	6.75	3 rd
Technology Option i - Sweet potato based formula-I	8.62	8.75	8.62	8.87	8.75	8.5	1 st
Technology Option ii - Sweet potato based formula-II	7.25	7.12	6.87	6.87	6.75	7.25	2 nd

Table: 4: Grading of different parameters of sensory evaluation by score card method

Parameters Products	Appearance	Colour	Texture	Flavour	Taste	Overall acceptability	Overall grading	Remarks (Shelf life)
Farmer practice based salty tomato chutney	3rd	3rd -	3rd -	3rd	-2nd	3rd -	-3rd	Shelf life = 1 month
Technology Option i - Sweet tomato chutney (Standard method)	1st	1st	1st	1st	1st	1st	1st	4 month
Technology Option ii - Salty tomato chutney with preservative	2nd	2nd	2nd	2nd	2nd	3rd	2nd	

Results: Sweet potato is heavily produced in local areas but not exploited properly. Even after one month raw sweet potato develops rancidity in taste but in both formula-I and II, there were no such type of any negative effect in any six different parameters of sensory evaluation. By converting raw sweet potato, local people can use it in the preparation of any kind of religious recipe like laddoo, halwa, puwa and cheela. Only through the regular use sweet potato based nutritious and composite, easily produce sweet potato will be well exploited.

OFT- 6

1.	Title of On farm Trial	Effect of different puddling method in paddy cultivation.
2.	Problem diagnose	High cost of puddling and low yield of paddy due to poor quality puddling through desi plough.
3.	Details of technologies selected for assessment	Farmer's practice - Puddling through Deshi plough Technological option i - Puddling through animal drawn Birsa ridger plough Technological option ii - Puddling through animal drawn puddler
4.	Source of Technology	IIT, Kharagpur
5.	Production system and thematic area	Rice based production system, Farm machinery and crop production
6.	Performance of the Technology with performance indicators	Given in table 1&2
7.	Final recommendation for micro level situation	Puddling through animal drawn puddler is found best for paddy cultivation with highest yield of 38.3q/ha and net profit of Rs. 24,790.00/ha and B:C ratio is 1.99. Puddling index of animal drawn puddler is found 32.7% higher than puddling through desi plough.
8.	Constraints identified and feedback for research	Animal drawn puddler is not easily available in the market. Feedback for research- As the draft animal size in the district is small, so weight and size of puddler may be reduced.
9.	Process of farmers participation and their reaction	Participatory approach.

Thematic area: Farm Machinery & crop production

Problem definition: High cost of puddling and low yield of paddy due to poor quality puddling through desi plough.

Technology assessed: Assessed

Table: 1- Performance of different types of puddling method.

Technology	Actual field capacity (ha/h)	Theoretical field capacity (ha/h)	Field efficiency (%)	Puddling index	Yield (q/ha)
Farmer's practice (Puddling through desi plough)	0.017	0.026	64.5	0.61	33.5
Technology option i - Puddling through Birsa ridger plough	0.019	0.029	65.5	0.63	34.1
Technology option ii - Animal drawn puddler	0.098	0.130	75.0	0.81	38.3

Note: Puddling index= $V1/V2 \times 100$

V1= Volume of settled soil, V2= Volume of soil water sample

Table: 2 – Economics of different puddling method

Technology option	No. of trials	Yield (q/ha)	Cost of puddling (Rs./ha)	Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs./ha)	BC ratio
Farmer's practice (Puddling through desi plough)	7	33.5	7200.00	29200.00	43350.00	14350.00	1.49
Technology option i- Puddling through Birsa ridger plough		34.1	6600.00	28600.00	44330.00	15730.00	1.55
Technology option ii - Animal drawn puddler		38.3	3000.00	25000.00	49790.00	24790.00	1.99

Note: 1. Cost of puddling- Rs. 300.00/day

2. Cost of paddy- Rs. 1300.00/q

Results: Puddling through animal drawn puddler is found best for paddy cultivation with highest yield of 38.3 q/ha and net profit of Rs. 24,790.00/ha and B:C ratio is 1.99. Puddling index of animal drawn puddler is found 32.7% higher than puddling through desi plough.

OFT-7

1	Title of On farm Trial	Control of rice stem borer <i>Scirpophagus incertulus</i> Walker and leaf folder <i>Cnaphalocrocis medinalis</i> (Guenee) in low land condition.
2	Problem diagnose	Low yield of low land paddy due to attack of stem borer and leaf folder.
3	Details of technologies selected for assessment	Farmers practice - Carbofuran 3G Technological option i - Farmers practice + use of T.chilonis @ 35 cards/ha (3 application at 7 days interval starting from 30 DAT) Technological option ii - Nursery management, use of carbofuran 3G 30kg/ha 5 DBT+ 2 spray of Fipronil 5% SC 2 ml/lit water 30 and 50 DAT Technological option iii - Nursery management, use of carbofuran 3G 30kg/ha 5 DBT+ use of T.chilonis @ 35 cards/ha (3 application at 7 days interval starting from 30 DAT)
4	Source of Technology	CCS HAU, Hissar
5	Production system and thematic area	
6	Performance of the Technology with performance indicators	Given in table 1&2
7	Final recommendation for micro level situation	For control of stem borer and leaf folder of low land paddy, technology option ii- (Nursery management, use of carbofuran 3G 30kg/ha 5 DBT+ 2 spray of Fipronil 5% SC 2 ml/lit water 30 and 50 DAT) was found most effective.
8	Constraints identified and feedback for research	
9	Process of farmers participation and their reaction	Farmers participation

Thematic area: Integrated pest management

Problem definition: Low yield of low land paddy due to attack of stem borer and leaf folder.

Technology assessed: Refinement

Table: 1- Effect of insecticide on the incidence of stem borer (*Scirpophagus incertulus Walker*) and leaf folder (*Cnaphalocrocis medinalis Guenee*)

Technology option	No. of trials	Dose	% incidence of stem borer		% incidence of leaf folder		Yield (q/ha)	Cost cultivation of (Rs./ha)	Gross return (Rs./ha)	Net return (Rs./ha)	BC ratio
			30 DAA	50 DAA	30 DAA	50 DAA					
Farmers practice - Carbofuran 3G	10	4kg/ha	15	19.1	12.2	14.7	27.5	20000	35750	15750	1.78
Technology Option i- Farmers practice + use of T.chilonis @ 5 cards/ha (3 application at 7 days interval starting from 30 DAT)		30kg/ha+ 5 card/ha	8.3	7.4	9.4	8.3	30.0	20300	39260	18960	1.93
Technology Option ii - Nursery management, use of carbofuran 3G 30kg/ha 5 DBT+ 2 spray of Fipronil 5% SC 2 ml/lit water 30 and 50 DAT		30kg/ha+ 2ml/lit water	3.2	3.5	2.8	3.1	32.1	20810	41730	20920	2.00
Technology Option iii - Nursery management, use of carbofuran 3G 30kg/ha 5 DBT+ use of T.chilonis @ 35 cards/ha (3 application at 7 days interval starting from 30 DAT)		30kg/ha+ 5 card/ha	4.3	4.5	4.2	4.4	31.2	20780	40560	19780	1.95

Results: For control of stem borer and leaf folder of low land paddy, technology option ii- (Nursery management, use of carbofuran 3G 30kg/ha 5 DBT+ 2 spray of Fipronil 5% SC 2 ml/lit water 30 and 50 DAT) was found most effective as it reduces the incidence of stem borer from 15% in farmers practice to 3.2 % and percent incidence of leaf folder as decreased from 12.2 (FP) to 2.8, followed by technology option- iii (Nursery management, use of carbofuran 3G 30kg/ha 5 DBT+ use of T.chilonis @ 35 cards/ha (3 application at 7 days interval starting from 30 DAT)

OFT-8

1.	Title of On farm Trial	Response of weed control measures in carrot.
2.	Problem diagnose	Yield reduction in carrot due to high infestation of weeds.
3.	Details of technologies selected for assessment	Farmers practice - Two Manual weeding at 20 and 35 DAS Technological option i - P.E Spraying of Oxyfluorfen (25g a.i) Technological option ii - P.E Spraying of Oxyfluorfen (50g a.i) Technological option iii - P.E Spraying of Oxyfluorfen (75g a.i)
4.	Source of Technology	BAU, Ranchi
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	

Thematic area: Integrated pest management**Problem definition:** Yield reduction in carrot due to high infestation of weeds.**Technology assessed:** Refinement

Table: 1- Response of weed control measures in carrot.

Technology Option	Weed dry matter (g/m ²)	Yield	Cost	Gross return	Net return	B:C ratio
F P - Two Manual weeding at 20 and 35	134.5	165	76000	165000	89000	2.17
Technological option i - P.E Spraying of Oxyfluorfen (25g a.i)	92.4	177	60115	177000	116885	2.94
Technological option ii - P.E Spraying of Oxyfluorfen (50g a.i)	78.0	184	60450	184000	123550	3.04
Technological option iii - P.E Spraying of Oxyfluorfen (75g a.i)	60.2	168	60750	168000	167250	2.76

OFT-9

1.	Title of On farm Trial	Evaluation of insecticide and bio-pesticide for the control of chilli thrips <i>Scitothrips dorsalis</i> (Hood) in chilli.
2.	Problem diagnose	Reduction in yield of chilli due to attack of insect chilli thrips.
3.	Details of technologies selected for assessment	Farmers practice - 3 spray of Acephate 75% SP 2g/lit water + Sulphur 1g/lit water. Technological option i - 2 spray of Acetamiprid 20% SP @ 2g/lit water at 30 and 50 DAT. Technological option ii - Use of NSKE 5% at 30 and 50 DAT Technological option iii - One spray NSKE 5% at 30 DAT + one spray of Acephate 75% SP 2g/lit water
4.	Source of Technology	MAU, Parbhani
5.	Production system and thematic area	Integrated pest management
6.	Performance of the Technology with performance indicators	Technological option iii - One spray NSKE 5% at 30 DAT + one spray of Acephate 75% SP 2g/lit water found to be most effective for control of chilli thrips as average number of insects reduces from 2.13 to 1.33 at 30 DAT. In this treatment highest yield of 89.2q/ha, net return Rs. 293060/ha and B:C ratio 1.48 were observed.
7.	Final recommendation for micro level situation	For control of chilli thrips in chilli one spray NSKE 5% at 30 DAT + one spray of Acephate 75% SP 2g/lit water found to be most effective.
8.	Constraints identified and feedback for research	
9.	Process of farmers participation and their reaction	Personal contact with farmers.

Table 1 : Evaluation of insecticide and bio-pesticide for the control of chilli thrips *Scitothrips dorsalis* (Hood) in chilli.

Treatment	Dose	Average No. of Insect			Yield (q/ ha)	Gross Income (Rs./ha)	Cost of cultivation (Rs./ha)	Net income (Rs./ha)	B:C ratio
		Before	30 DAT	50 DAT					
FP-3 spray of Acephate 75% SP 2g/lit water + Sulphur 1g/lit water.	2 ml	2.32	1.72	2.50	50.1	200400	51000	149400	1.30
Technological option I - 2 spray of Acetamiprid 20% SP @ 2g/lit water at 30 and 50 DAT.	2 gm	2.16	1.40	1.60	86.3	345200	60356	284844	1.40
Technological option ii - Use of NSKE 5% at 30 and 50 DAT	5%	2.18	1.48	1.65	82.4	329600	60250	269350	1.44
Technological option iii - One spray NSKE 5% at 30 DAT + one spray of Acephate 75% SP 2g/lit water	5%+2ml	2.13	1.33	1.49	89.2	356800	60740	293060	1.48
CD		NS	0.15	0.17					

OFT-10

1.	Title of On farm Trial	Effect of sowing method on productivity of wheat under late sown condition.
2.	Problem diagnose	Low productivity of wheat under late sown condition due to faulty sowing method.
3.	Details of technologies selected for assessment	<p>Farmers practice - Broadcasting method (Broadcasting of seed and making ridges for irrigation using 250-300 kg seed/ha)</p> <p>Technological option i - Recommended sowing method (Line sowing with recommended seed rate 150 kg/ha at 20 cm row to row spacing)</p> <p>Technological option ii- SWI method (Sowing of sprouted wheat seed using specific culture at 20x20 cm spacing with 20 kg/ha seed rate (2 seeds/ hill)</p> <p>Technological option iii- Modified SWI method (Sowing of sprouted wheat seed at 20x20 cm spacing with 20 kg/ha seed rate (2 seeds/ hill)</p>
4.	Source of Technology	BAU, Ranchi
5.	Production system and thematic area	Integrated crop management
6.	Performance of the Technology with performance indicators	
7.	Final recommendation for micro level situation	Sowing of sprouted wheat seed using specific culture at 20x20 cm spacing with 20 kg/ha seed rate – 2 seeds/ hill is found to be best treatment in terms of yield, net return and B: C ratio.
8.	Constraints identified and feedback for research	
9.	Process of farmers participation and their reaction	Personal contact.

Table title: Effect of sowing method on productivity of wheat under late sown condition

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
		Plant height (cm)	No. of tillers/ m ²	Grain	Straw				
FP- Broadcasting method (Broadcast the seed and making ridges for irrigation using 250-300 kg seed/ha)	10	71.8	242	22.7	36.2	23000	40860	17860	1.78
Option i - Recommended sowing method (Lie sowing with recommended seed rate 150 kg/ha at 20 cm spacing)		75.6	320	26.5	40.0	24500	47700	23200	1.95
Option ii - SWI method (Sowing of sprouted wheat seed using specific culture at 20x20 cm spacing with 20 kg/ha seed rate – 2 seeds/ hill)		86.0	492	31.2	45.8	27000	56160	29160	2.08
Option iii - Modified SWI method (Sowing of sprouted wheat seed at 20x20 cm spacing with 20 kg/ha seed rate – 2 seeds/ hill)		81.2	442	27.7	41.0	26500	49860	23360	1.88

Price of wheat Rs. 1800/quintal

OFT-11

1.	Title of On farm Trial	IPNI Nutrient Expert Trial on wheat
2.	Problem diagnose	
3.	Details of technologies selected for assessment	Farmers practice - Technological option i - State recommended dose (N 80kg + P ₂ O ₅ 40 kg+ K ₂ O 20 kg/ha) Technological option ii - IPNI Nutrient expert dose
4.	Source of Technology	IPNI
5.	Production system and thematic area	Nutrient management
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	

Initial report on IPNI On - farm trial on Wheat 2014-15

Farmer's Name	Contact No.	Village	District	State	Crop	Date of sowing
Ramesh Verma	9835766497	jamhar, Kasmar	Bokaro	Jharkhand	Wheat	12-04-2014
Phulu Mahto	9631066966	jamhar, Kasmar	Bokaro	Jharkhand	Wheat	12-03-2014
Ramcharan Mahto	9631842710	Hanslata, Kasmar	Bokaro	Jharkhand	Wheat	12-01-2014
Arjun Mahto	9939325168	Hanslata, Kasmar	Bokaro	Jharkhand	Wheat	12-02-2014
Panchanan Mahto	9631718568	Durgapur, Kasmar	Bokaro	Jharkhand	Wheat	12-01-2014
Mahesh Manjhi	9939347853	Etke, Petarwar	Bokaro	Jharkhand	Wheat	12-03-2014
Deepak Mahto	9931363261	Sadmakala, Petarwar	Bokaro	Jharkhand	Wheat	12-04-2014
Ramashankar Mahto		Pordag, Petarwar	Bokaro	Jharkhand	Wheat	12-05-2014

Note: Initial and post harvest soil analysis report and yield & yield related data on uptake of nutrients will be provided after harvest of the crop.

OFT-12

1.	Title of On farm Trial	Effect of irrigation method and mulching on yield of tomato.
2.	Problem diagnose	Low productivity in tomato under medium land situation due to low water availability in summer season.
3.	Details of technologies selected for assessment	Farmers practice - Furrow irrigation without mulching Technological option i - Furrow irrigation + black polythene mulch Technological option ii - Raised bed and furrow irrigation + black polythene mulch
4.	Source of Technology	IARI, New Delhi
5.	Production system and thematic area	Vegetable production system and moisture conservation
6.	Performance of the Technology with performance indicators	Given in part B
7.	Final recommendation for micro level situation	Technology option-ii raised bed and furrow irrigation with polythene mulch has highest water use efficiency , highest yield and highest B: C ratio
8.	Constraints identified and feedback for research	Required plastic mulch materials is not available in local market but plastic mulch method is very useful for vegetable production in summer season.
9.	Process of farmers participation and their reaction	Personal contact with farmer

Thematic area: Vegetable production system and moisture conservation

Problem definition: Low productivity in tomato under medium land situation due to low water availability in summer season.

Technology assessed: Refinement

Table:1- Effect of irrigation method and mulching in yield of tomato.

Technology Option	No. of trails	Water required (cm/ha)	Water use efficiency kg/ha/cm	Yield (q/ha)	Cost of cultivation Rs./ha	Gross return Rs./ha	Net Return Rs./ha	B:C ratio
FP-Furrow irrigation without mulching	7	7.4	3405.40	252	41600	201600	160000	4.8
Technological option i - Furrow irrigation + black polythene mulch		4.6	7978.26	367	57600	293600	236000	5.09
Technological option ii - Raised bed and furrow irrigation + black polythene mulch		4.33	9145.5	396	57145	316800	259655	5.54

Plant spacing: 0.5 meter

Raw spacing: 0.5 meter

Seed rate: 0.25kg/ha

Sale price of tomato = Rs. 8.00/kg

Price of plastic mulch = Rs.16000/ha

3.2 Achievements of Frontline Demonstrations

A. Details of FLDs conducted during 2014-15

Sl. No.	Crop	Thematic area	Technology Demonstrated with detailed treatments	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
				Proposed	Actual	SC/ST	Others	Total	
1.	Groundnut	ICM	Variety- TG- 22	2	2	4	8	12	
2.	Mustard	ICM	Pusa Makah with full package & practices	10	10	6	36	42	
3.	Soybean	ICM	Variety- Birsa Soybean-1 with full package & practices	1	1		5	5	
4.	Pigeon pea	ICM	Pusa Arhar -992	2	2		10	10	
5.	Maize	ICM	Variety- PHEM-1 with full package & practices	2	2	7	11	18	
6.	Sweet corn	ICM	Variety- Sugar-75	1	1	3	7	10	
7.	Paddy (Hybrid)	ICM		5	5	8	14	22	
8.	Paddy	ICM	Variety- Sahbhagi with full package & practices	5	5		18	18	
9.	Nutrient management in Sweet Potato	Management of problematic soil	Growing sweet potato in acid soil (pH<5.5) with recommended dose of fertilizer 50:60:60	5	5	6	6	12	

			(N:P ₂ O ₅ : K ₂ O kg/ha))						
10.	Paddy- Lalat	Farm Mechanizati on	Use of drum seeder for paddy cultivation	2	2		4	4	
11.	Wheat- K- 9107	Farm Mechanizati on	Wheat sowing through zero tillage machine	2	2		10	10	
12.	Paddy	Farm Mechanizati on	Paddy harvesting through self propelled reaper	4	4		10	10	
13.	Ginger	ICM	Ginger based intercropping (Ginger + spinach + cauliflower)	0.5	0.5		5	5	
14.	Vegetable- Tomato	ICM		2	2		18	18	

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil (Kg/ha)			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P ₂ O ₅	K ₂ O					
Groundnut	Kharif	Rainfed	Alfisol (Upland)	150-220	8.5-17	115-160	Fallow	July 4-10	Sept 25-30		
Mustard	Rabi	Partially irrigated	Alfisol (Medium land)	170-260	11.5-25	120-190	Paddy	Nov. 20-25	Standing		
Soybean	Kharif	Rainfed	Alfisol (Upland)	130-190	8-15	100-150	Fallow	July 10-12	Oct 10-15		
Pigeon pea	Kharif	Rainfed	Alfisol (Upland)	135-180	8-18	90-140	Fallow	July 4-10	Standing		
Maize	Kharif	Rainfed	Alfisol (Upland)	170-250	14-30	120-180	Fallow	June 15-20	Sept 25-30		
Sweet corn	Kharif	Rainfed	Alfisol (Upland)	180-290	20-40	125-175	Veget able	June 20-25	Sept 5-10		
Paddy (Hybrid)	Kharif	Rainfed	Alfisol (Medium land)	170-300	18-35	130-160	Fallow	July 10-15	Nov 15-20		
Paddy (Sahbhagi)	Kharif	Rainfed	Alfisol (Medium land)	180-280	15-30	125-180	Fallow	July 10-15	Nov 10-15		
Nutrient management in Sweet Potato	Kharif	Rainfed	Alfisol (Upland)	130-180	7-15	120-140	Fallow	July 1-10	Sept 25-30		
Use of drum seeder	Kharif	Rainfed	Alfisol (Medium land)	180-300	13-25	130-250	Fallow	July 15-20	Nov 10-15		
Use of zero till seed cum fertilizer drill	Rabi	Irrigated	Alfisol (Low land)	190-310	14-30	140-280	Fallow	Dec. 10-15	Standing		
Use of self propelled reaper	Kharif	Rainfed	Alfisol (Medium land)	180-290	20-30	150-280	Fallow	Nov. 15-20	Nov 15-30		
Ginger + spinach + cauliflower	Kharif	Irrigated	Alfisol (Upland)	280-390	25-30	180-300	Veget able	April 1-10	May-Sept		
Vegetable- Tomato	Rabi	Irrigated	Alfisol (Upland)	200-290	28-38	170-270	Veget able	Nov 10-15	Standing		

In both the Tables, information of same crop should be provided. For example, if in Table 3.2A crops are mentioned as a,b,c,d etc., in the table for Details of farming situation, the same crop should be mentioned in the identical sequence.

Performance of FLD**Oilseeds:****Frontline demonstrations on oilseed crops**

Crop	Thematic Area	Name of the technology demonstrated	No. of Farmers	Area (ha)	Yield (q/ha)		% Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
					Demo	Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Groundnut	ICM	Variety- TG-22	12	2	13.5	8.5	37	23800	67500	43700	2.8	21500	42500	21000	1.98
Mustard	ICM	Pusa Makah with full package & practices	42	10	9.5	7.0	21.4	8500	28500	20000	3.3	7000	21000	14000	3
Soybean	ICM	Variety- Birsa Soybean-1 with full package & practices	5	1	11.2	-	-	14000	28000	14000	2.0	-	-	-	-
Total			59	13											

Note: Selling price of groundnut is Rs. 5000/q
Selling price of Soyben is Rs. 2500/q

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

** BCR= GROSS RETURN/GROSS COST

Pulses**Frontline demonstration on pulse crops**

Crop	Thematic Area	Name of the technology demonstrated	No. of Farmers	Area (ha)	Yield (q/ha)		% Increase	*Economics of demonstration (Rs./ha)				*Economics of check (Rs./ha)			
					Demo	Check		Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Pigeon pea	ICM	Pusa Arhar -992	10	2	10.5	6.8	54.4	11500	42000	30500	3.65	10500	27200	16700	2.6

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

** BCR= GROSS RETURN/GROSS COST

Other crops

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		De mo	C he ck	Gross Cost	Gross Return	Net Return	** BCR	Gross Cost	Gross Return	Net Return	** BCR
Paddy	ICM	Variety-Sahbhagi with full package & practices	18	5	33.5	26	28.8	-	-	21500	43550	22050	2.02	19500	33800	14300	1.73
Nutrient management in Sweet Potato	Management of problematic soil	Sweet potato in acid soil (pH<5.5) with RDF 50:60:60 (N:P ₂ O ₅ : K ₂ O kg/ha)	12	5	162	100	62	-	-	19000	113400	94400	5.96	15000	70000	55000	3.67
Ginger	ICM	Ginger based intercropping (Ginger + spinach + cauliflower)	5	0.5	Ginger- 168	162	-	-	-	203000	540000	337000	2.67	152000	350000	198000	2.3
Total			35	10.05													

Note: Selling price of paddy is Rs. 1300/q
Selling price of sweet potato is Rs. 700/q
Selling price of ginger is Rs. 2200/q, spinach Rs. 500/q, cauliflower Rs. 800/q

Farm implements and machinery

Name of the implement	Crop	Name of the technology demonstrated	No. of Farmer	Area (ha)	Filed observation (output (ha)/man hour)		% decrease in ha / man hour	Labor(man days)		% decrease in man days	Cost Rs./ha		Cost saving Rs./ha	Cost saving (%)
					Demonstration	Check		Demo	Check		Demo	Check		
Drumseeder	Paddy-Lalat	Use of drum seeder for paddy cultivation	4	2	0.04	0.004	90.0	3	30	90.0	21500	27200	5700	20.95
Zero tillage machine	Wheat-K-9107	Wheat sowing through zero tillage machine	10	2	0.16	0.0078	62.5	6	16	62.5	23300	27500	4200	15.27
self propelled reaper	Paddy	Paddy harvesting through self propelled reaper	10	4	0.31	0.005	84.0	4	24	84.0	672	4200	3528	84

Note: Labour @ Rs. 168/day

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

** BCR= GROSS RETURN/GROSS COST

Technical Feedback on the demonstrated technologies

Sl. No	Crop	Feed Back
1.	Sweet corn	Sweet corn should be promoted in place of maize as it gives higher income to farmers and it can be successfully grown under farmer's management.
2.	Wheat sowing through zero tillage machine	Wheat can be successfully grown after harvest of paddy in medium and low land condition through sowing by zero tillage machine as it reduces the time and labour require for land preparation.
3.	Paddy sowing through Drumseeder	Sowing of sprouted paddy seed through drumseeder reduces the cost of cultivation without reduction in yield. So it should be promoted in larger area.
4.	Sweet potato	Sweet potato cultivation with balanced fertilization should be promoted in acidic soil areas as it gives very good yield and return to farmers.

Extension and Training activities under FLD

SL. No.	Activity	Date	No. of activities organized	Number of participants	Remarks
1.	Field days				
2.	Farmers Training				
3.	Media coverage				
4.	Training for extension functionaries				

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

Farmers and farm women (on campus)

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST			M	F	T
		M	F	T	M	F	T	M	F	T			
I. Crop Production													
Weed Management													
Resource Conservation Technologies													
Cropping Systems	1	-	-	-	-	-	-	-	23	23	-	23	23
Crop Diversification													
Integrated Farming													
Water management													
Seed production													
Nursery management													
Integrated Crop Management	4	54	61	115	-	-	-	-	-	-	54	61	115
II. Horticulture													
a) Vegetable Crops													
Production of low volume and high value crops													
Off-season vegetables													
Nursery raising	1	30	-	30	-	-	-	-	-	-	30	-	30
Others, if any (Cultivation of Vegetable) ICM	3	-	59	59	-	-	-	-	30	30	-	89	89
Training and Pruning													
b) Fruits													
c) Ornamental Plants													
d) Plantation crops													
e) Tuber crops													
f) Spices													
g) Medicinal and Aromatic Plants													
III. Soil Health and Fertility Management													
Soil fertility management													
Soil and Water Conservation													
Integrated Nutrient Management	1	28	-	28	-	-	-	-	-	-	28	-	28
Production and use of organic inputs	2	-	53	53	-	-	-	-	-	-	-	53	53
Management of Problematic soils	1	30	-	30	-	-	-	-	-	-	30	-	30
Micro nutrient deficiency in crops													
IV. Livestock Production and Management													
V. Home Science/Women empowerment													
Value addition	1	-	29	29	-	-	-	-	-	-	-	29	29
Income generation activities for empowerment of rural Women	1	-	21	21	-	-	-	-	-	-	-	21	21
Capacity building (Stitching)	1	-	11	11	-	-	-	-	-	-	-	11	11
Women and child care													
Others, if any (Nutrition Security)	1	-	25	25	-	-	-	-	-	-	-	25	25
VI. Agril. Engineering													
Installation and maintenance of micro irrigation systems	1	-	28	28	-	-	-	-	-	-	-	28	28
Repair and maintenance of farm machinery and implements	1	30	-	30	-	-	-	-	-	-	30	-	30
Soil and water conservation	1	-	-	-	-	3	3	16	4	20	16	7	23

Thematic Area	No. of Courses	No. of Participants									Grand Total				
		Other			SC			ST			M	F	T		
		M	F	T	M	F	T	M	F	T					
PHT	1	-	-	-	-	-	-	-	32	32	-	32	32		
VII. Plant Protection															
Integrated Pest Management	1	-	-	-	-	-	-	30	-	30	30	-	30		
Integrated Disease Management	1	28	-	28	-	-	-	-	-	-	28	-	28		
Bio-control of pests and diseases															
Production of bio control agents and bio pesticides	1	28	-	28	-	-	-	-	-	-	28	-	28		
Others, if any (Lac culture)	1	-	29	29	-	-	-	-	-	-	-	29	29		
VIII. Fisheries															
IX. Production of Inputs at site															
X. Capacity Building and Group Dynamics															
XII. Others (Pl. Specify)															
TOTAL	25	228	316	544				3	3	46	89	135	274	408	682

Rural Youth (on campus)

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST			M	F	T
		M	F	T	M	F	T	M	F	T			
Mushroom Production	4	-	65	65	-	-	-	-	34	34	-	99	99
Bee-keeping													
Integrated farming													
Seed production	1	4	-	4	-	-	-	20	-	20	24	-	24
Production of organic inputs	1	29	-	29	-	-	-	-	-	-	29	-	29
Small scale processing	1	-	29	29	-	-	-	-	-	-	-	29	29
Post Harvest Technology													
Tailoring and Stitching													
Rural Crafts (Stitching)	2	-	33	33	-	-	-	-	5	5	-	38	38
Lac culture	1	23	-	23	-	-	-	6	-	6	29	-	29
TOTAL	10	56	127	183				26	39	65	82	166	248

Extension Personnel (on campus)

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST			M	F	T
		M	F	T	M	F	T	M	F	T			
Productivity enhancement in field crops	2	51	-	51	7	-	7	1	-	11	69	-	69
Value addition													
Integrated Pest Management													
Integrated Nutrient management	1	28	-	28	-	-	-	-	-	-	28	-	28
Nursery raising	1	32	-	32	-	-	-	-	-	-	32	-	32
Drip irrigation	1	35	-	35	-	-	-	-	-	-	35	-	35
TOTAL	5	146		146	7		7	1		11	164		164

Farmers and farm women (off campus)

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST			M	F	T
		M	F	T	M	F	T	M	F	T			
I. Crop Production													
Weed Management	1	-	-	-	-	-	-	29	-	29	29	-	29
Resource Conservation Technologies	1	-	-	-	-	-	-	30	-	30	30	-	30
Cropping Systems	3	42	-	42	32	-	32	13	-	13	87	-	87
Nursery management	1	-	-	-	-	-	-	25	-	25	25	-	25
Integrated Crop Management	4	59	-	59	-	-	-	64	-	64	123	-	123
Fodder Production	1	10	-	10	12	-	12	18	-	18	40	-	40
II. Horticulture													
a) Vegetable Crops													
Skill development	1	30	-	30	-	-	-	-	-	-	30	-	30
Off-season vegetables	1	35	-	35	-	-	-	-	-	-	35	-	35
Yield increment	1	-	-	-	-	-	-	-	24	24	-	24	24
Nursery raising	1	-	-	-	30	-	30	-	-	-	30	-	30
Others, if any (Cultivation of Vegetable) ICM	4	138	-	138	-	-	-	5	-	5	143	-	143
b) Fruits													
Layout and Management of Orchards	1	40	-	40	-	-	-	-	-	-	40	-	40
c) Ornamental Plants													
d) Plantation crops													
e) Tuber crops													
Production and Management technology	1	13	-	13	-	-	-	10	-	10	23	-	23
f) Spices													
Production and Management technology	1	36	-	36	-	-	-	-	-	-	36	-	36
Processing and value addition													
Others, if any													
g) Medicinal and Aromatic Plants													
III. Soil Health and Fertility Management													
Soil fertility management	2	46	-	46	-	-	-	30	-	30	76	-	76
Soil and Water Conservation	1	32	-	32	-	-	-	-	-	-	32	-	32
Integrated Nutrient Management	4	85	-	85	-	-	-	28	-	28	113	-	113
Production and use of organic inputs	1	13	-	13	-	-	-	19	-	19	32	-	32
Management of Problematic soils													
Micro nutrient deficiency in crops	1	35	-	35	-	-	-	-	-	-	35	-	35
Nutrient Use Efficiency													
Soil and Water Testing	1	27	-	27	-	-	-	-	-	-	27	-	27
Others, if any													
IV. Livestock Production and Management													
Disease Management (goat)	1	24	-	24	-	-	-	-	-	-	24	-	24
Feed management													
V. Home Science/Women empowerment													
Household food security by kitchen gardening and nutrition	1	-	20	20	-	14	14	-	-	-	-	34	34

Thematic Area	No. of Courses	No. of Participants									Grand Total			
		Other			SC			ST			M	F	T	
		M	F	T	M	F	T	M	F	T				
high value crops														
Off-season vegetables	1	35	-	35	-	-	-	-	-	-	35	-	35	
Nursery raising	2	30	-	30	30	-	30	-	-	-	60	-	60	
Export potential vegetables														
Grading and standardization														
Protective cultivation (Green Houses, Shade Net etc.)														
Others, if any (Cultivation of Vegetable)	7	138	59	197	-	-	-	5	30	35	143	89	232	
Training and Pruning														
b) Fruits														
Layout and Management of Orchards	1	40	-	40	-	-	-	-	-	-	40	-	40	
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(INM)														
c) Ornamental Plants														
Nursery Management														
Management of potted plants														
Export potential of ornamental plants														
Propagation techniques of Ornamental Plants														
Others, if any														
d) Plantation crops														
Production and Management technology														
Processing and value addition														
Others, if any														
e) Tuber crops														
Production and Management technology	1	13	-	13	-	-	-	10	-	10	23	-	23	
Processing and value addition														
Others, if any														
f) Spices														
Production and Management technology	1	36	-	36	-	-	-	-	-	-	36	-	36	
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	2	46	-	46	-	-	-	30	-	30	76	-	76	
Soil and Water Conservation	1	32	-	32	-	-	-	-	-	-	32	-	32	

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST			M	F	T
		M	F	T	M	F	T	M	F	T			
Integrated Nutrient Management	5	113	-	113	-	-	-	28	-	28	141	-	141
Production and use of organic inputs	3	13	53	66	-	-	-	19	-	19	32	53	85
Management of Problematic soils	1	30	-	30	-	-	-	-	-	-	30	-	30
Micro nutrient deficiency in crops	1	35	-	35	-	-	-	-	-	-	35	-	35
Nutrient Use Efficiency													
Soil and Water Testing	1	27	-	27	-	-	-	-	-	-	27	-	27
Others, if any													
IV. Livestock Production and Management													
Dairy Management													
Poultry Management													
Piggery Management													
Rabbit Management													
Disease Management (Goat)	1	24	-	24	-	-	-	-	-	-	24	-	24
Feed management													
Production of quality animal products													
Others, if any Goat farming													
V. Home Science/Women empowerment													
Household food security by kitchen gardening and nutrition gardening	1	-	20	20	-	14	14	-	-	-	-	34	34
Design and development of low/minimum cost diet													
Designing and development for high nutrient efficiency diet													
Minimization of nutrient loss in processing	1	-	-	-	-	-	-	-	22	22	-	22	22
Gender mainstreaming through SHGs	1	29	-	29	-	-	-	5	-	5	34	-	34
Storage loss minimization techniques													
Enterprise development	1	-	-	-	-	-	-	-	26	26	-	26	26
Value addition	1	-	29	29	-	-	-	-	-	-	-	29	29
Income generation activities for empowerment of rural Women	1	-	21	21	-	-	-	-	-	-	-	21	21
Location specific drudgery reduction technologies													
Rural Crafts													
Capacity building (Stitching)	2	-	45	45	-	-	-	-	-	-	-	45	45
Women and child care													
PHT	1	34	-	34	-	-	-	-	-	-	34	-	34
Others, if any (Nutritional Security)	1	-	25	25	-	-	-	-	-	-	-	25	25
VI. Agril. Engineering													
Installation and maintenance of micro irrigation systems	3	30	28	58	-	-	-	-	23	23	30	51	81
Use of Plastics in farming practices	1	38	-	38	-	-	-	-	-	-	38	-	38
Production of small tools and implements													
Repair and maintenance of farm	3	79	-	79	-	-	-	-	-	-	79	-	79

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST			M	F	T
		M	F	T	M	F	T	M	F	T			
machinery and implements													
Small scale processing and value addition	2	64	-	64	-	-	-	-	-	-	64	-	64
Post Harvest Technology	3	50	-	50	-	-	-	8	3	40	58	32	90
Others, if any (Soil & Water Conservation)	3	33	-	33	-	3	3	16	2	42	49	29	78
VII. Plant Protection													
Integrated Pest Management	3	42	-	42	-	-	-	30	-	30	72	-	72
Integrated Disease Management	4	100	-	100	-	-	-	-	-	-	100	-	100
Bio-control of pests and diseases	1	-	-	-	-	-	-	-	2	22	-	22	22
Production of bio control agents and bio pesticides	2	28	-	28	-	-	-	34	-	34	62	-	62
Others, if any (Seed treatments)	2	74	-	74	-	-	-	-	-	-	74	-	74
Lac culture	2	-	59	59	-	-	-	-	-	-	-	59	59
XII. Others (Pl. Specify)													
TOTAL	85	1408	400	1808	74	17	91	364	228	592	1846	645	2491

Rural Youth (On & Off campus)

Thematic Area	No. of Courses	No. of Participants									Grand Total		
		Other			SC			ST			M	F	T
		M	F	T	M	F	T	M	F	T			
Mushroom Production	4	-	65	65	-	-	-	-	34	34	-	99	99
Bee-keeping													
Integrated farming	1	30	-	30	-	-	-	-	-	-	30	-	30
Seed production	1	4	-	4	-	-	-	20	-	20	24	-	24
Group Dynamics and farmers organization	1	30	-	30	-	-	-	-	-	-	30	-	30
Production of organic inputs	1	29	-	29	-	-	-	-	-	-	29	-	29
Small scale processing	1	-	29	29	-	-	-	-	-	-	-	29	29
Post Harvest Technology													
Tailoring and Stitching													
Rural Crafts (Stitching)	2	-	33	33	-	-	-	-	5	5	-	38	38
Lac culture	1	23	-	23	-	-	-	6	-	6	29	-	29
TOTAL	12	116	127	243				26	39	65	142	166	308

Farm Science Club Conveners meet										
Self Help Group Conveners meetings										
Mahila Mandals Conveners meetings										
Celebration of important days (specify)										
Help line service	1142									1142
Any Other (Technology Week)	1									540
Total	2062									6403

B. Other Extension activities

Nature of Extension Activity	No. of activities
Newspaper coverage	12
Radio talks	
TV talks	24
Popular articles	2
Extension Literature	10
Other, if any	

3.5 Production and supply of Technological products

Village seed

Crop	variety	Quantity of seed (q)	Value (Rs)	Provided to number of farmers
Paddy	MTU-7029			
	Lalat			
	Sahbhagi			
Total		2000	5000000	

KVK farm

Crop	variety	Quantity of seed (q)	Value (Rs)	Number of farmers provided
Paddy	Lalat	30	90000	To be provided in kharif 2015
	Sahbhagi	15	45000	
	MTU- 7029	30	90000	
Pigeon pea	Birsa Arhar-1	0.5	2000	
Grand Total				

Production of planting materials by the KVKs

Crop	Variety	Quantity of seed (q)	Value (Rs)	Number of farmers provided
Vegetable seedlings				
Cauliflower	Lucky, Sungrow- 110, Sungrow- 370	10000	4000	4
Broccoli	Ashwarya	2000	800	10

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

Item	Title	Authors name	Number	Circulation
Extension literature				
	dsapqvk [kkn iz;ksx ,oa cukus dh fof/k	Mk- lq/khj dqekj >k]Jh mn; dqekj flag]Mk- vfuy dqekj]]Jherh uhuk Hkkjrh	1000	1000
	dkcZfud [kkn mRiknu rduhd	Jh mn; dqekj flag]Mk- lq/khj dqekj >k]Mk- vfuy dqekj] Jh fou; dqekj] Jherh uhuk Hkkjrh]fiz;adk oekZ	1000	1000
	Jh /kku mRiknu rduhd	Jh mn; dqekj flag Mk- lq/khj dqekj >k]Mk- vfuy dqekj]Jh fou; dqekj]Jherh uhuk Hkkjrh]fiz;adk oekZ	1000	1000
	xsgw; dh mUur [ksrh	Jh mn; dqekj flag]Mk- lq/khj dqekj >k] Mk- vfuy dqekj] Jh fou; dqekj]Jherh uhuk Hkkjrh]fiz;adk oekZ	1000	1000
	e”k:e mRiknu rduhd	Mk- vfuy dqekj]Jh mn; dqekj flag]Mk- lq/khj dqekj >k]Jh fou; dqekj]Jherh	1000	1000

		uhuk Hkkjrh]fiz;adk oekZ		
	larqfyr moZjd dk O;ogkj ,oa deh ds y{k.k	Mk- lq/khj dqekj >k]Mk- vfuy dqekj]Jh mn; dqekj flag] Jh fou; dqekj]Jherh uhuk Hkkjrh]fiz;adk oekZ	1000	1000
	ljlksa dh mRiknu rduhd	Jh mn; dqekj flag]Mk- lq/khj dqekj >k]fiz;adk oekZ]Mk- vfuy dqekj]Jh fou; dqekj Jherh uhuk Hkkjrh	1000	1000
TOTAL			7000	7000

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

(B) Details of HRD programmes undergone by KVK personnel:

S. No.	Name of programme	Name of course	Name of KVK personnel and designation	Date and Duration	Organized by
1.	Workshop	Zonal Workshop at NIRJAFT, Kolkata	Dr. Sudhir Kumar Jha, SMS, Soil Science	2-3 June 2014	ZPD,ICAR, Zone-II, Kolkata
2.	Workshop	Writing success stories	Dr. Sudhir Kumar Jha, SMS, Soil Science	27-29 Aug. 2014	ZPD,ICAR, Zone-II, Kolkata
3.	Training	Training on PPVR&FRA	Sri Uday Kumar Singh, I/C P.C.-cum- SMS, Agronomy	15 Oct. 2014	ZPD,ICAR, Zone-II, Kolkata
4.	Workshop	Review Workshop of IPNI	Dr. Sudhir Kumar Jha, SMS, Soil Science	22 Nov. 2014	ZPD,ICAR, Zone-II, Kolkata
5.	Training cum-Workshop	Training cum-Workshop on best management practices	Dr. Sudhir Kumar Jha, SMS, Soil Science	6-7 Jan. 2015	DEE, BAU, Ranchi
6.	Training	Quality Animal product production: Farm to Fork Approach	Dr. Nandana Kumari, SMS, (Home Science)	09-10 Jan., 2015, 2 days	ZPD,ICAR, Zone-II, Kolkata
7.	Training	Training on forward marketing	Sri Uday Kumar Singh, I/C P.C.-cum- SMS, Agronomy	16-17 Jan.2015	DEE, BAU, Ranchi
8.	Training	Integrated farming system for sustainable livelihood security	Mrs. Neena Bharti, SMS Plant Protection	27-28 Jan. 2015	DEE, BAU, Ranchi
9.	Training	Frontiers in Fish Farming	Dr. Nandana Kumari, SMS, (Home Science)	29-30 Jan., 2015, 2 days	ZPD,ICAR, Zone-II, Kolkata
10.	Training	Production and marketing of hybrid seed of selected vegetable	Dr. Anil Kumar, SMS, Horticulture	5-6 Feb. 2015	DEE, BAU, Ranchi
11.	Training	Soil health management in rice and rice based cropping system	Dr. Sudhir Kumar Jha, SMS, Soil Science	11—12 Feb 2015	DEE, BAU, Ranchi
12.	Workshop	Climate change mitigation and	Mrs. Neena Bharti, SMS Plant Protection	21-22 Feb. 2015	DEE, BAU, Ranchi

		adaptation			
13.	Seminar	Seminar on sustaining soil health balanced fertilization need for reform in fertilizer policy at RK Mission Ranchi	Dr. Sudhir Kumar Jha, SMS, Soil Science	25 Feb 2015	FAI & RK Mission, Ranchi

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

1. ACID SOIL MANAGEMENT THROUGH SWEET POTATO CULTIVATION WITH NUTRIENT MANAGEMENT

It is estimated that in Jharkhand about 37.9 lakh ha of land have soil PH<5.5 which comprise of about 49% of the total geographical area (TGA) of the state. Where as in Bokaro district about 2 lakh ha lands are strongly acidic PH<5.5 which is about 69.5% of TGA of the district. Soil acidity is limiting factor for crop production particularly for legumes, oilseeds maize, wheat, vegetables and fruits. The problem of acidity is likely to increase due to erosion of surface soil and use of excessive nitrogenous fertilizer by farmers. These soils produce 30 to 50% of their potential capacity. Through proper soil management soil productivity can be improved considerably and yield can be doubled. But liming has not become a common practice with farmers due to non-availability of liming material in local markets.

So in this situation attempt has been made to identify a suitable acid tolerant crop and ensure adequate supply of nutrients to this crop. During our PRA survey in our adopted village of KVK i.e Ambadih and Lepo, we came to know that farmers of these villages are previously growing sweet potato in their upland acidic soils but later on their tuber yield starts decreasing and slowly the area under sweet potato decreases. To know the exact reason for this we had planned on farm trials on sweet potato in 2010-11 & 2011-12, with four treatments viz Farmer's practice (30 kg N/ha as top dressing), 50% RDF, 50% RDF + lime @ 4q/ha in furrow and 100% RDF. The recommended dose of fertilizer for sweet potato is 50:60:60 (N:P₂O₅:K₂O kg/ha). Average increase in yield in sweet potato was 37% in 50% RDF and 78% in 100% RDF treatments. But the response of lime was not significant (Table 1). The highest tuber yield 17.6t/ha with a net return of Rs. 71,650.00/ha and B:C ratio of 5:42 was observed in 100% RDF treatment where as tuber yield of 13.7 ton/ha with a net return of Rs. 53350.00/ha and B:C ratio of 4.5 was found in 50% RDF treatments.

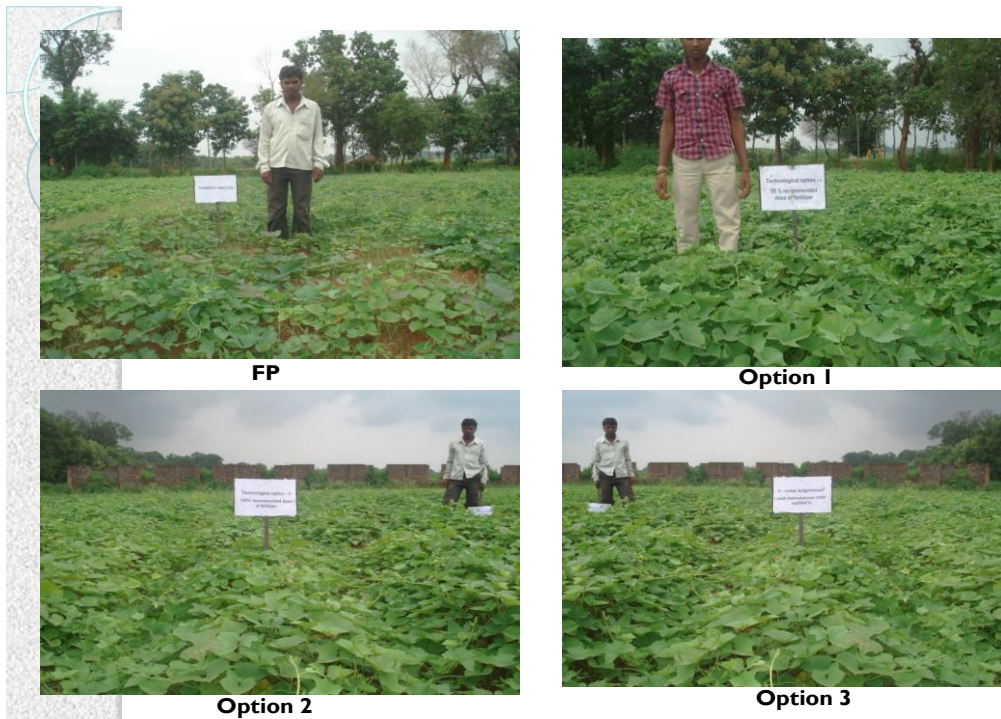
Table I: Effect of nutrient management on yield of sweet potato.

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	9.93	-	31.5	14200.00	49650.00	35450.00	3.5
Technological option i (50 % recommended dose of fertilizer)		13.71	38.0	35.0	15200.00	68550.00	53350.00	4.5

Technological option ii (50 % recommended dose of fertilizer + Lime @ 4 qt/ha in furrow application)		13.81	39.0	35.1	16000.00	69050.00	53250.00	4.31
Technological option iii (100% recommended dose of fertilizer)		17.57	77.0	38.5	16200.00	87850.00	71650.00	5.42
CD(P=0.05)		3.4		4.5				

* Cost of sweet potato tuber is taken as Rs. 5000.00/ton

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



So for resource poor farmer 50% RDF (20:30:30 N P₂O₅: K₂Okg/ha) and for resource rich farmer 100% RDF (50:60:60 N:P₂O₅: K₂O kg/ha) is recommended. This technology is also suited in drought/ intermittent drought condition as a contingent crop. The technology has been recommended to ATMA Bokaro for large scale extrapolation. KVK Bokaro has also taken this technology for FLD in farmer's field in 2012-13 & 2013-14. The technology has been widely adopted by farmer's of Bokaro and Ramgarh district in upland acidic soil. This year 2013-14, sweet potato has been cultivated in about 200ha area using balanced amount of nutrients in Petarwar, Kasmar block of Bokaro and adjoining Gola block of Ramgarh and they have earned huge profit from their uncultivated acidic upland soils. About 50 truck load of sweet potato had been sent to West Bengal from these villages.



So, for increasing the system productivity of acidic upland this technology has been proving boon for farmer's as they are getting about Rs. 70,000.00/ha from their most neglected upland barren lands.

2. CULTIVATION OF MUSTARD BRINGS HAPPINESS

In Jharkhand, the area under oilseed crop was 0.76 lakh ha in 2012-13 with production of 0.35 lakh tons with an average yield of 0.69 t/ha. It is fourth in area after cereals, pulses and vegetables and occupy only 3 per cent cropped area. Rapeseed- mustard occupies 30 percent of total area and 27 percent of total production of oilseed crops in Jharkhand. Mustard is grown in 1540 ha lands in Bokaro district in partially irrigated condition, but the average productivity is only 5.5q/ha. Lack of improved seeds of high yielding varieties, under dose of fertilizers, insect-pest and disease are the limiting factors for decline in yield. The Government of India spends lot of foreign exchange to import edible oil from foreign countries to meet domestic needs of our ever-increasing population. To boost the production potential of rapeseed- mustard, various programmes have been launched by the central government. In the above background Directorate of Rapeseed-Mustard Research (DRMR) Bharatpur, Rajasthan had sponsored a Project with aim to evaluate suitable rapeseed-mustard cultivars to improve tribal farmers growing practices by undertaking capacity building programme in Bokaro district of Jharkhand. The project will ultimately aim at increasing rapeseed-mustard production in the area.

For this Project tribal villages of Petarwar and Kasmar block of Bokaro district were selected. The villages are Petarwar, Rukam, Katarbera, Chargi, Lukiya, Dandubandh, Kojram, Ordana, Etke, Koh, Bundu, Mayapur, Chatugarha in Petarwar block and Karkattakala, Chandipur, Ormo, Bemrotand, Panatanr, Khudibera, in Kasmar block.

On-farm demonstration or Participatory Varietal selection trials were conducted in 30 ha area in different villages in two consecutive years 2011-12 and 2012-13. The demonstration was carried in maize-fallow cropping system in upland condition and rice-fallow cropping system in medium land situation.

Before the start of cropping season 4 nos. of one day on farm training programme on Mustard Production Technology were organized in the year 2011-12 & 2012-13 in Koh, Kojram, Karkattakala and Chargi village. During the cropping season two day on campus training programme from 19th to 20th February 2012 on Mustard Production Technology were organized at BAU Ranchi in which 35 tribal farmers participated. An exposure visit was also organized for these farmers for visiting DRMR, Bharatpur from 08.01.2012 to 15.01.2012 and 12.12.2012 to 14.12.2012.

The results of the on-farm demonstration of 2011-12 are given in table 1&2.

Table - 1 : Yield performance of different mustard varieties under demonstration

Crop	Variety	No. of Farmers	Area (ha.)	Demo. Yield Qtl/ha			Yield of local Check Qtl./ha	Increase in yield over local check(%)
				H	L	A		
Mustard	Mahak	39	10.0	9.8	7.2	9.2	6.5	41.5
	NPJ- 113	10	5.0	9.4	6.5	8.5		30.8
	Pusa Agrani	17	5.0	11.7	8.8	10.2		56.9
	NRCHB- 101	21	5.0	12.2	8.5	11.1		70.8
	NRCDR- 02	16	5.0	12.5	9.0	11.7		80.0

Table 2 . Economics of different mustard varieties under demonstration

Average Cost of cultivation (Rs./ha)				Average Gross Return (Rs./ha)		Average Net Return (Profit) (Rs./ha)		Benefit-Cost Ratio (Gross Return / Cost of cultivation)	
Crop	Variety	Demo.	Local Check	Demo.	Local Check	Demo.	Local Check	Demo.	Local check
Mustard	Mahak	8200	6800	23000	16250	14800	9450	2.8	2.38
	NPJ- 113	8200	6800	21250	16250	13050		2.59	2.38
	Pusa Agrani	8200	6800	25500	16250	17300		3.11	2.38
	NRCHB- 101	8200	6800	27750	16250	19550		3.38	2.38
	NRCDR- 02	8200	6800	29250	16250	21050		3.56	2.38

Among different mustard variety under demonstration variety NRCDR- 02 gave the highest average yield of 11.7qt/ ha followed by 11.1 qt/ha in variety NRCHB- 101. All the variety under demonstration gave higher yield than local check. The increase in yield over local check varied from 30.8 % in variety NPJ- 113 to 80% in NRCDR- 02. Highest net return of Rs. 21050.00/ha with benefit cost ratio of 3.56 was observed in mustard variety NRCDR- 02. Among the

five varieties under demonstration performance of NRCDR-02 was found to be the best followed by NRCHB- 101.

6 nos of field days were organized in Rukam, Chargi, Katarbera, Kojram, Chatugarha villages of Petarwar block and Karkattakala village in Kasmar block of Bokaro district. All together 580 tribal farmers participated in these field days during cropping season of rapeseed-mustard. Dr. S.K. Jha, Nodal Officer, TSP-Project DRMR, Bharatpur along with Madam Dr. Niva Bara, Head Agriculture Extension, B.A.U., Ranchi and Dr. B.K.Jha, Assistant Professor Agriculture Extensions, B.A.U., Ranchi had also participated in field day organized on 21th February 2012 at village Rukam of Petarwar block.

On-farm demonstration of five rapeseed-mustard varieties namely Rajendra Suphla, Shivani, Pusa Vijay, Pusa Bold and Pusa Jai Kisan were conducted in 30.0 ha area involving 94 farmers in different villages of project area in 2012-13

Among different mustard variety under demonstration variety Rajendra Suphla gave the highest average yield of 13.85qt/ ha followed by 12.5 qt/ha in variety Shivani. All the variety under demonstration gave higher yield than local check. The increase in yield over local check varied from 18.0 % in variety Pusa Bold to 66.8% in Rajendra Suphla. Highest net return of Rs. 29380.00/ha with benefit cost ratio of 4.1 was observed in mustard variety Rajendra Suphla. Among the five varieties under demonstration performance of Rajendra Suphla was found to be the best followed by Shivani and Pusa Vijay.

Table - 3 : Yield performance of different mustard varieties under demonstration

Crop	Variety	No. farmers	Area of demo.	Yield (q/ha)		% increase
				<i>Demo</i>	<i>Check</i>	
Mustard	Rajendra Suphla	68	20	13.85	8.3	66.80
	Shivani	16	6	12.5		50.6
	Pusa Bold	3	1	9.80		18.0
	Pusa Jai Kisan	3	1	11.20		34.93
	Pusa Vijay	4	2	12.35		48.70

Photographs of On farm demonstration



FLD field at village Karkattakala, Kasmar



FLD field at village Karkattakala, Kasmar

Table 4 . Economics of different mustard varieties under demonstration

Crop	Variety	Economics of demo (Rs./ha)			Economics of Check (Rs./ha)				
		Cost of cultivation	Gross return	Net return	B:C	Cost of cultivation	Gross return	Net return	B:C
Mustard	Rajendra Suphla	9400	38780	29380	4.1	7900	23240	15340	2.94
	Shivani	9400	35000	25600	3.72				
	Pusa Bold	9400	27440	24440	2.91				
	Pusa Jai Kisan	9400	31360	21960	3.34				
	Pusa Vijay	9400	34580	25180	3.67				

4 nos of field days were organized in Rukam, Katarbera, Kojram villages of Petarwar block and Karkattakala village in Kasmar block of Bokaro district in 2012-13. All together 380 farmers participated in these field days during cropping season of rapeseed-mustard. Dr. A.K. Sharma, Nodal Officer, TSP-Project DRMR, Bharatpur along with Madam Dr. Niva Bara, Head Agriculture Extension, B.A.U., Ranchi had also participated in field day organized on 14th February 2013 at village Rukam of Petarwar block. In this field day Line Department Officers and Media persons also participated. They also visited the farmer's field and interacted with them. The crop condition was excellent. They were happy to see the expansion in mustard area in and around the project villages.

Photographs of field day



Field visit at village Rukam



Field visit at KVK Bokaro Farm

Feedback of farmers

- i. After the seeing the performance of FLD on different varieties of mustard farmers are very enthusiastic and agree to grow mustard as a sole crop instead of their practice of mixed cropping with potato & wheat. As they are convinced that they can grow mustard with 2-3 irrigation successfully.
- ii. Exposure visit to DRMR, Bharatpur, Rajasthan had very good impact on farmers to see the cultivation of mustard crop in research as well as farmers field.
- iii. Farmers preferred short duration late sown variety, so that they can grow mustard in rice fallow area with limited irrigation facility.

Area expansion- Due to impact of previous year FLD programme 2011-12 the area under mustard crop has increased in the project location and nearby villages through farmers to farmers extension. Mustard variety NRCHB- 101, NRCDR- 02 and Mahak had been cultivated in 70.0 ha area in 2012-13. The mustard crop was grown in the land which were remained fallow after harvest of maize and paddy with limited irrigation facility. So, in these area the cropping intensity has been doubled and farmers are 1st time getting yield of mustard crop. During the cropping season 2013-14 the farmers of the entire project area and nearby villages have cultivated mustard in about 200ha area. The seeds of these high yielding varieties have been spread through farmer to farmer extension. Thus, it is need of the hour that concentered effort should be made by all the stake holders to ensure the availability of the good quality seed of these varieties to sustain this yellow revolution.



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

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

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

3.10 Indicate the specific training need analysis tools/methodology followed by KVKs

3.11. a.Details of equipment available in Soil and Water Testing Laboratory

Sl. No	Name of the Equipment	Qty.

3.11.b. Details of samples analyzed so far :

Details	No. of Samples	No. of Farmers	No. of Villages	Amount realized
Total				

3.12. 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

3.13 Technology week celebration: 24-28 Feb. 2015

Type of activities	No. of activities	Number of participants	Related crop/livestock technology
Kisan Gosthi, Farmers scientist Interaction programme on suitable technology for the district, Advance vegetable production System, Farm mechanization and Women empowerment, Video show, Farm visit, Farm implement exhibition.	10	540	Paddy, Maize, Wheat, Sweet corn, Sweet potato, Vegetable crops, Farm mechanization, vermin compost, mushroom production, women empowerment, food preservation

3.14. RAWE programme - is KVK involved?

No of student/ARS trained	No of days stayed

3.15. List of VIP visitors (MP/MLA/DM/VC/Zila Sabhadipati/Other Head of Organization/Foreigners)

Date	Name of the person	Purpose of visit
19-08-2014	Sri, Chatruram Mahto, Ex MLA	KVK, Visit
15-12-2014	Dr. Umakant Dubey, Registrar, PPVFR, Ranchi	Training programme on PPVFR,
15-02-2014	Dr. Sushil Prasad, ADEE, BAU, Ranchi	Training programme on PPVFR,
19-02-2015	Dr. R.P. Singh 'Ratan', Director Extension Education, BAU, Ranchi	KVK, Visit
13-11-2014	Sri Bhuneshwar Pratap Singh, IAS, SDO Bermo	KVK Visit
19-02-2015	Dr. Paras Oraon, DAO, Bokaro	KVK, Visit
19-02-2015	Sri. K.N. Das, DDM, NABARD	
19-02-2015	Sri, B. Bhattacharya, LDM, Bokaro	

4.0 IMPACT

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

Name of specific technology/skill transferred	No. of participants	% of adoption	Change in income (Rs.)	
			Before (Rs./ha)	After (Rs./ha)
High yielding varieties of direct seeded upland paddy such as Anjali, Vandana, Birsa Vikash Dhan- 109,110 with moderate dose of fertilizer (40:20:10) with brown manuring with Dhaincha @ 25kg/ha	30	30	5200	8680
Promotion of SRI paddy	5000	60	14000	34000
Popularization of hybrid paddy Arize-6444 and HYV such as Abhisekh, Lalat, Sahbhagi.	6000	70	14000	30000
Introduction of new mustard variety such as NRCHB-101, NRCDR-02, Rajendra Suphlam and Mahak	700	50	13000	25000
Wilt resistant varieties of tomato (Swarn Naveen, Swarn Lalima, JK, Harsa,	1000	70	70000-80000	150000-160000

Nandini) and brinjal (Swarn Shakti, Swarn Ajay, Sungrow-132)				
Bitter gourd varieties- Pali & Chaman, Bottle gourd variety- Pratima & Utra, Cucumber variety- Malo & Malini	800	70	75000-90000	140000-160000
Popularization of pottasic fertilizer and use of borax in vegetable crops (cauliflower, cabbage & tomato)	400	70	As per feedback received from input dealer, sale of pottasic fertilizer has been doubled in last five year	
Use of agricultural implements such as Drum seeder, Reaper, Paddy Transplanter, Cono weeder and Rotavator	500	60	Reduces cost of cultivation by 20 - 30%	
Revival of Lac cultivation through introduction of improved brood lac, proper use of insecticide and fungicide, introduction of new host plant Semialata	600	50	24000	40000 (Reduces migration 70%)
Popularization of seed treatment (Cereals & vegetables)	800	60		

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)

Horizontal spread of technologies	
Technology	Horizontal spread
Sweet potato cultivation in acidic soil with balanced fertilization	200 ha area of acid soils
Innovative intensive vegetable production modern for small farmers	200 farmers of Petarwar and Kasmar block adopted this technology
Seedling growing technology of cucurbitaceous vegetable in polythene tube.	This technology has been spread in 60 villages of Petarwar, Kasmar and Chas block of the district.

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

An innovative vegetable production model for small farmer having some irrigation facility have been developed in which ginger based intercropping (Ginger + cauliflower (1:1) + Spinach (mixed) is grown in summer season. Ridges are prepared at a distance of 40 cm apart. Cauliflower seedlings are planted on ridges at 30 cm distance. In between two plants of cauliflower two rhizoms of ginger are sown. Spinach seeds are broadcasted before planting of cauliflower. 25 to 30 days after sowing spinach crop is harvested. 60 to 65 days after sowing, cauliflower is harvested and earthing up is done in ginger. Ginger is harvested in October. Through this model about 200 farmers are earning Rs. 2.0 lakh /acre with efficient utilization of water.

4.4 Details of innovations recorded by the KVK

Thematic area	
Name of the Innovation	
Details of Innovator	
Back ground of innovation	
Technology details	
Practical utility of innovation	

4.5 Details of entrepreneurship development

Entrepreneurship development	
Name of the enterprise	
Name & complete address of the entrepreneur	
Intervention of KVK with quantitative data support:	
Time line of the entrepreneurship development	
Technical Components of the Enterprise	
Status of entrepreneur before and after the enterprise	
Present working condition of enterprise in terms of raw materials availability, labour availability, consumer preference, marketing the product etc. (Economic viability of the enterprise):	
Horizontal spread of enterprise	

4.6 Any other initiative taken by the KVK

5.0 LINKAGES

5.1 Functional linkage with different organizations

Name of organization	Nature of linkage
1. DMR (ICAR) New Delhi	conducting training programmes and demonstration
2. DRMR (ICAR) Bharatpur, Rajasthan	Conducting training programmes and demonstration
3. IINRG, Namkum, Ranchi	Participation in meeting, conducting training programme & demonstration programme
4. HARP, Plandu Ranchi	Participation in meeting, conducting training programme & demonstration programme
5. KVKs of Other district	Participation in meeting
6. ATMA Bokaro	Joint diagnostic survey, joint implementation, participation in meeting, conducting training

	programme & demonstration programme
7. Line Dept. State Govt.	Joint diagnostic survey, joint implementation, participation in meeting, conducting training programme & demonstration programme
8. NABARD/COMMERCIAL BANK	Participation in meeting, conducting training programme
9. R.K. Mission Ranchi	Participation in meeting, conducting training programme & demonstration programme
10. CURRS, Hazaribagh	Participation in meeting, conducting training programme & demonstration programme
11. NGO (Pradan, Shayogni, Kalyani, Dhara etc)	Joint diagnostic survey, participation in meeting, conducting training programme & demonstration programme

5.2. List of special programmes undertaken during 2014-15 by the KVK, which have been financed by ATMA/ Central Govt/ State Govt./NABARD/NHM/NFDB/Other Agencies (**information of previous years should not be provided**)

a) Programmes for infrastructure development

Name of the programme/scheme	Purpose of programme	Date/ Month of initiation	Funding agency	Amount (Rs.)

(b) Programme for other activities (training, FLD,OFT, Mela, Exhibition etc.)

Total				
Name of the programme/scheme	Purpose of programme	Date/ Month of initiation	Funding agency	Amount (Rs.)

6. PERFORMANCE OF INFRASTRUCTURE IN KVK

6.1 Performance of demonstration units (other than instructional farm)

Sl. No.	Name of demo Unit	Year of estt.	Area (Sq. mt)	Details of production			Amount (Rs.)		Remarks
				Variety/breed	Produce	Qty.	Cost of inputs	Gross income	
1.									
2.									
3.									
4.									
5.									
6.									
7.									
	Total								

6.2 Performance of instructional farm (Crops)

Name Of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.(q)	Cost of inputs	Gross income	
Paddy	July 2014	Nov 25- Dec. 10, 2014	1.5	Lalat	F/S	30		90000.00	
			1	Sahbhagi	F/S	15		45000.00	
			1.5	MTU-7029	F/S	30		90000.00	
Pigeon pea	July 2014	20 March 2015	0.1	Birsa Arhar-1	F/S	0.5		2000.00	

6.3 Performance of Production Units (bio-agents / bio pesticides/ bio fertilizers etc.,)

Sl. No.	Name of the Product	Qty (Kg)	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	
1.					

6.4 Performance of instructional farm (livestock and fisheries production)

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1.							
2.							
3.							

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)
Total :			

(For whole of the year)

6.5 Utilization of staff quarters

Whether staff quarters has been completed:

No. of staff quarters:

Date of completion:

Occupancy details:

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

7.FINANCIAL PERFORMANCE

7.1 Details of KVK Bank accounts

Bank account	Name of the bank	Location	Account Number

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

Item	Released by ICAR		Expenditure		Unspent balance as on -
	Kharif	Rabi	Kharif	Rabi	

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

Item	Released by ICAR		Expenditure		Unspent balance as on 1 st April 2013
	Kharif	Rabi	Kharif	Rabi	

7.4 Utilization of funds under FLD on Maize (*Rs. In Lakh*) - NA

Item	Released by ICAR		Expenditure		Unspent balance as on 1 st April 2012
	Kharif	Rabi	Kharif	Rabi	

TOTAL					

7.5 Utilization of KVK funds during the year 2014 -15 (Not audited)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	60.00	59.78328	59.78328
2	Traveling allowances	0.40	0.20	0.40
3	Contingencies			
A	CNC	1.35	2.87	1.98137
B	TSP	6.30	6.30	6.30
TOTAL (A)		68.05	69.15328	68.46465
B. Non-Recurring Contingencies				
1				
2				
3				
4				
TOTAL (B)				
C. REVOLVING FUND				
GRAND TOTAL (A+B+C)				

7.6. Status of revolving fund (Rs. in lakh) for last three years

Year	Opening balance as on 1 st April	Income during the year	Expenditure during the year	Net balance in hand as on 1 st April of each year (Kind + cash)
2012-13	0.54036	4.04105	2.41702	2.16439
2013-14	2.16439	5.75677	7.00691	0.91425
2014-15	0.91425	4.97467	3.18150	2.70742

7.6.(i) Number of SHGs formed by KVKs (ii) association of KVKs with SHGs formed by other organizations indicating the area of SHG activities.

(i) 10 SHG formed by KVK, Bokaro

(ii) KVK is providing technological back stopping to 30 Kisan Club of NABARD, 10 VEGFED Society and other SHGs/ WIGs formed by NGOs which are related to agriculture and allied activities.

7.7 Details of marketing channels created for the SHGs

7.8. Special programme on Food and Nutrition :

7.9. Joint activity carried out with line departments and ATMA

Name of activity	Number of activity	Season	With line department	With ATMA	Both
Formulation of the training prog. For new PACs and Extension Officials	1	Kharif	District Co-operative Department		
Local Advisory Committee of	1	Kharif	DRDA, Bokaro		

RSETI , Bokaro					
BGRI monitoring & Kisan gosthi	7	Kharif		ATMA, Bokaro	
Finalization of Action Plan of ATMA regarding GB & contingent plan	1	Kharif		ATMA, Bokaro	
ATMA GB meeting and Task Force meeting of DC.	2	Kharif	DC, Bokaro	ATMA, Bokaro	
Joint field visit with DAO & BTM	1	Kharif		ATMA, Bokaro	
Field day of BGERI & joint visit	1	Kharif		ATMA, Bokaro	
Joint field visit	1	Rabi		ATMA, Bokaro	
Block level Kisan Mela	3	Rabi		ATMA, Bokaro	
Meeting on implement schedule under District Soil Survey & Conservation Office	1	Rabi	DDC, Office, Bokaro		
Meeting for finalization of list of farm implements Bank Deptt, of DSCO, Bokaro	1	Rabi	DDC, Office, Bokaro		

8. Other information

8.1. Prevalent diseases in Livestock/Crops

Name of the disease	Crop/animal	Date of outbreak	Number of death/ % crop loss	Number of animals vaccinated

8.2. Nehru Yuva Kendra (NYK) Training - NA

Title of the training programme	Period		No. of the participant		Amount of Fund Received (Rs)
	From	To	M	F	

8.3. PPV & FR Sensitization training Programme

Date of organizing the programme	Resource Person	No. of participants	Registration (crop wise)	
			Name of crop	No. of registration
05-12-2014	Dr. Anil Kumar, Dr. Uday Kumar Singh	34		
06-12-2014	Er. Vinay Kumar, Dr. Uday Kr. Singh	29		
10-12-2014	Dr. Sudhir Kr. Jha, Dr. Anil Kumar	32		
12-12-2014	Dr. Uday Kr. Singh, Mrs. Neena Bharti, Er. Vinay Kumar	51		
15-12-2014	Dr. U.K. Dubey, Dr. Sushil Prasad, Mrs. Neena Bharti	104		
Total		250		

8.4. SMS PORTAL

Date of start of functioning of SMS portal

No. of messages	No. of calls	No. of farmers covered	Types of messages (No.)					
			Crop	Livestock	Weather	Marketing	Awareness	Other
88		332483	74	-	5	-	4	5

8.5 Observation of Swacha Bharat Programme

Date of Observation	Activities undertaken
29-09-2014	Cleaning of Administrative campus of KVK Bokaro

8.6 Observation of National Science day

Date of Observation	Activities undertaken

8. 5.Programme with Seema Suraksha Bal (BSF) - NA

Title of Programme	Date	No. of participants

8.6 Agriculture Knowledge in rural school:

Name and address of school	Date of visit to school	Areas covered	Teaching aids used
Naw Prathmik Vidyalaya, Jaruatanr, Petarwar	31-03-2015	Kechua Khad ka Uttpadan Evam Iska Mahtawa	Chart paper, Black board and lecture

8.7 Report on Citizens' Client Charter (attending the requests seeking guidance on agricultural technology and technology products)

Sl. No.	Services/ Transaction	Process	Service Standard	No. of such services attended by KVKs and ATICs during the year	No. of such services pending with KVK/ATIC beyond 30 days
1.	Guidance on Agricultural technology and technology products	Personal contact by the Service Sectors with the responsible person of KVK/ATIC	Personal contact, field visit and telephonic	222	0

8.8 Community Radio Station - NA

Date of establishment :

Amount of fund received yearwise :

Source of fund:

Achievements:

Sr. no	Community Radio Stations (CRS)	No of programmes in the year	Total broadcast hrs in a month	Please specify details of the broadcasts
A.	<p>Agricultural broadcasts</p> <ul style="list-style-type: none"> • Talks/interviews/discussions with experts, PG students/ and farmers on Agricultural technologies • Agroclimatic conditions, weather and marketing advisory • Phone-in programme of interface with experts • Phone-in programme with interface of progressive/innovative farmers • Success stories of progressive farmers • Success stories in FLD/OFT/ Trainings /Extension activities • Women in agriculture programme • Discussions on current issues in agriculture and allied sectors. • KVK happenings • Agricultural University professors. • Any other(please specify) 			
B.	<p>Community development broadcasts</p> <p>Please specify the programmes like rural development, educational, health, environment, public service broadcasts, sports etc.</p>			

8.6 No. of Progressive/Innovative/Lead farmer identified (category wise)

8..7 Utilization of HRD fund (Rs 0.50 Lakh provided to KVKs)

Training programme/ Seminar/ Symposia/ Workshop etc attended	Duration	Name of the participants	Designation	Organizer of the training Programme	Amount spent for the purpose (Rs.)

8.8 Revenue generation:

SL.No.	Name of Head	Income(Rs.)	Sponsoring agency
1.	Internal receipt	234640.00	
2.	Institutional charge	125000.00	
3.	Lodging	111900	

SL.No.	Name of Head	Income(Rs.)	Sponsoring agency

8.9 Resource Generation: -

SL.No.	Name of the programme	Purpose of the programme	Sources of fund	Amount (Rs. lakhs)	Infrastructure created
1.	Krishi Upkaran Protsahan Evam Sudirhakaran Yojana	Farm mechanization	Soil Conservation Department	-	Self propelled reaper No.-7
2.	Assessment & Refinement	OFT & FLD	ATMA, Bokaro	224000.00	
	BGREI	Monitoring	ATMA, Bokaro	45000.00	
	SRI Promotion	Monitoring	ATMA, Bokaro	114830.00	
	Parti Bhumi Vokas Yojna	Monitoring	ATMA, Bokaro	116491.00	

8.10. Performance of Automatic Weather Station in KVK - NA

Date of establishment	Source of funding i.e. IMD/ICAR/Others (pl. specify)	Present status of functioning

8.11. IPNI Trail (**Applicable for KVKs identified under IPNI trial**)

- I Name of Crop - Wheat
- II No. of farmers involved- 8
- III Area (ha.) - 1.5 ha
- IV Date of sowing- 1-5 December 2014
- V Crop Season- Rabi 2014-15
- VI Result of trial with photographs however detailed results/observation should be sent as per performance after crop harvest - Standing crop
- VII Amount Spent- Though fund has not been received yet. About Rs. 23000.00

has been spent for this trial from KVK Bokaro fund.

9. Achievement under TSP Project

Name of the village adopted under TSP	Block	Population of the village			ST Population of the village			Percentage of ST population to total population
		M	F	T	M	F	T	
Merudaru, Irgua	Petarwar							70
Koh	Petarwar							60
Rukam	Petarwar							100
Kojram	Petarwar							100
Mayapur	Petarwar							100
Chatugarha	Petarwar							100

Katarbera	Petarwar							80
Merha	Kasmar							50
Chainpur	Kasmar							50
Hisim	Kasmar							50
Bemrotand	Kasmar							50
Silisaram	Kasmar							70
Ponda	Kasmar							100

Asset created under TSP

Fund received under TSP in 2014-15 6.30 lakh

**10. PROGRESS REPORT OF NICRA KVK (Technology Demonstration component) 2014-15
(Applicable for KVKs identified under NICRA) - Not applicable**

Natural Resource Management

Name of intervention undertaken	Numbers under taken	No of units	Area (ha)	No of farmers covered / benefitted	Remarks

Crop Management

Name of intervention undertaken	Area (ha)	No of farmers covered / benefitted	Remarks

Livestock and fisheries

Name of intervention undertaken	Number of animal covered	Number of units	Area (ha)	No of farmers covered / benefitted	Remarks

Institutional interventions

Name of intervention undertaken	No of units	Area (ha)	No of farmers covered / benefitted	Remarks

Capacity building

Thematic area	No. of Courses	No. of beneficiaries		
		Males	Females	Total

Extension activities

Thematic area	No. of activities	No. of beneficiaries		
		Males	Females	Total

Detailed report should be provided in the circulated Performa

11. National Initiative on Fodder Technology Demonstration (NIFTD)

(Applicable for KVKs identified under NIFTD) - Not applicable

Name of the fodder crop	Date of sowing	Area (ha)	No. of farmers involved	Demonstration Yield (q/ha)			Check Yield			% increase
				H	L	A	H	L	A	

Economic of Demonstration

Name of the fodder crop	Demonstration Cost/Rs/ha			Check Cost (Rs/ha)		
	Gross cost	Gross return	BC ratio	Gross cost	Gross return	BC ratio

12.. Awards/Recognition received by the KVK

Sl. No.	Name of the Award	Year	Conferring Authority	Amount	Purpose

Award received by Farmers from the KVK district

Sl. No.	Name of the Award	Name of the Farmer	Year	Conferring Authority	Amount	Purpose
1.	Best Innovative Farmer in BAU, Kisan Mela	Pintu Agrawal	2015	BAU, Ranchi		
2.	Best Progressive Farmer in BAU, Kisan Mela	Shankar Mahto	2015	BAU, Ranchi		

Details of training programme as Annexure

Date	Discipline	Clientele	Title of the training programme	Duration in days	Venue (Off / On Campus)	Number of participants			Number of SC/ST		
						M	F	Total	M	F	Total
APRIL 2014											
1-04-2014	Soil Health and fertility management	Management of Problematic soils	Method of soil sampling	1	Off	27	-	27	27	-	27
03 to 04-04-2014	Crop Production	Cropping Systems	Production technology of summer maize and baby corn	2	On	-	21	21	-	21	21
7-04-2014	Horticulture	Production and Management technology	Cultivation practice of cole crops	1	Off	27	-	27	27	-	27
09 to 10-04-2014	Soil Health and fertility management	Production and use of organic inputs	Production and use of organic inputs and INM	2	On	-	25	25	-	25	25
16-04-2014	Crop Production	ICM	Production technology of summer maize	1	Off	27	-	27	27	-	27
29-04-2014	Plant Protection	Integrated Pest Management	IPM in vegetable crops	1	Off	28	-	28	28	-	28
MAY 2014											
07-05-2014	Crop Production	Nursery management	Nursery raising of paddy	1	Off	25	-	25	25	-	25
13-05-2014	Crop Production	ICM	Production technology of SRI	1	Off	32	-	32	32	-	32
17-05-2014	Soil Health and fertility management	INM	Nutrient management in cereals	1	Off	36	-	36	36	-	36
19-05-2014	Horticulture	Production and Management technology	Practice and management in ginger	1	Off	32	-	32	32	-	32

21to 22 -05-2014	Agril. Engineering	Soil& water conservation	Use of irrigation system in vegetables	2	On	-	28	28	-	28	28
28to29-05-2014	Plant Protection	Lac culture	Lac cultivation	2	On	-	29	29	-	29	29
28-05-2014	Agril. Engineering	Soil& water conservation	Low cost of water harvesting technique	1	Off	33	-	33	33	-	33
JUNE2014											
04-06-2014	Soil Health and fertility management	Soil& water conservation	Conservation technology of soil	3	On	-	30	30	-	30	30
10to12-06-2014	Crop Production	ICM	SRI technology	3	On	-	29	29	-	29	29
16to17-06-2014	Crop Production	Cropping system	Cultivation practice of kharif oilseed & pulses	3	On	-	32	32	-	32	32
19-06-2014	Plant Protection	Bio-control of pests and diseases	Use of bio-pesticide in brinjal	1	Off	-	22	22	-	22	22
21-06-2014	Horticulture	Cultivation of fruit	Cultivation practice of fruit crops	1	Off	-	22	22	-	22	22
JULY2014											
1 to 2-07-2014	Crop Production	ICM	Integrated production n paddy & vegetable	2	On	-	34	34	-	34	34
05-07-2014	Crop Production	ICM	Cultivation practice of pigeon pea & black gram	1	Off	35	-	35	35	-	35
09-07-2014	Soil Health and fertility management	Production and use of organic inputs	Benefit and use of rizobium culture in pulse crops	1	Off	34	-	34	34	-	34
12-07-2014	Horticulture	Cultivation of fruit	Cultivation practice of fruit	1	Off	23	-	32	23	-	23
15-07-2014	Plant Protection	IPM	IPM in vegetable crops	1	Off	20	-	20	20	-	20
16to19-07-2014	Crop Production	Seed Production	Seed production technology	4	On	-	23	23	-	23	23
21-07-2014	Agril. Engineering	Farm mechanization	Farm mechanization in paddy cultivation	1	Off	23	-	23	23	-	23

22-07-2014	Livestock Production and Management	Disease Management	Disease and feed management in goat & pig	1	Off	24	-	24	24	-	24
30-07-2014	Crop Production	IDM	IDM in cereals, vegetables & pulses	1	Off	17	-	17	17	-	17
AUG. 2014											
01-08-2004	Horticulture	Water management	Low cost water harvesting technique	1	Off	-	23	23	-	23	23
02-08-2014	Plant Protection	Weed Management	Weed management of Parthenium	1	Off	-	26	26	-	26	26
4to6-08-2014	Horticulture	Intercropping system	Intercropping system vegetable crops	3	On	-	32	32	-	32	32
7 to 8-08-2014	Horticulture	Production and Management technology	Production technology of exotic vegetable	2	On	-	30	30	-	30	30
08-08-2014	Crop Production	ICM	Cultivation practice of pigeon pea and black gram	1	Off	29	-	29	29	-	29
11-08-2014	Soil Health and fertility management	INM	Nutrient management in cereals	1	Off	28	-	28	28	-	28
14-08-2014	Soil Health and fertility management	Soil fertility management	Importance of potassic fertilizer in tuber crops	1	Off	28	-	28	28	-	28
16-08-2014	Horticulture	Off season vegetables	Off season vegetable cultivation for income generation	1	Off	32	-	32	32	-	32
20-08-2014	Crop Production	Seed treatment	Seed treatment in cereals and vegetables	1	Off	29	-	29	29	-	29
22 to 23-08-2014	Plant Protection & Agril.Engg.	IPM & Farm Machinery	IPM in vegetable & Drum seeder	2	On	-	30	30	-	30	30
26-08-2014	Soil Health and fertility management	Soil and water conservation	Soil and water conservation technique	1	Off	30	-	30	30	-	30
30-08-2014	Crop	Cropping	Production of mustard and	1	Off	23	-	23	23	-	23

	Production	system	linseed								
SEPT.2014											
01 to 02-09-2014	Agril. Engineering	Rain water harvesting	Rain water harvesting technique	2	On	16	7	23	16	7	23
03-09-2014	Plant Protection	IDM	Control of different micronutrient disorder in vegetable crops	1	Off	35	-	35	35	-	35
12 to 13-09-2014	Soil Health and fertility management	INM	Sulphur management in oilseed crops	2	On	28	-	28	28	-	28
15 to 17-09-2014	Crop Production	Seed production	Seed production technology	3	On	29	-	29	29	-	29
18-09-2014	Crop Production	Cropping System	Production technology of soybean	1	Off	36	-	36	36	-	36
22 to 23-09-2014	Horticulture	Cultivation of vegetables	Cultivation practice of potato	2	On	-	25	25	-	25	25
24-09-2014	Crop Production	Seed treatment	Seed treatment in oilseed, cereals, pulses & vegetables	1	Off	45	-	45	45	-	45
29 to 30-09-2014	Soil Health and fertility management	Production and use of organic inputs	Use of bio-fertilizer in pulses & vegetables	2	On	-	25	25	-	25	25
OCT. 2014											
7 to 8-10-2014	Home Science	Income generation activities for empowerment of rural Women	Stitching and drafting	2	On	-	11	11	-	11	11
08-10-2014	Crop Production	ICM	Cultivation practice of wheat	1	Off	23	-	23	23	-	23
10 to 11 -10-2014	Crop Production	Cultivation of crops	SWI	2	On	29	-	29	29	-	29
16 to 17-10-2014	Plant Protection	Lac culture	Lac cultivation	2	On	29	-	29	29	-	29
21-10-2014	Soil Health and fertility management	INM	Nutrient management in cereals	1	Off	22	-	22	22	-	22

NOV. 2014												
07 to 08-11-2014	Home Science	Capacity building (Stitching)	Stitching of women garment	2	On	-	18	18	-	18	18	
10 to 12 -11-2014	Home Science	Mushroom production	Techniques Mushroom Production	3	On	28	-	28	28	-	28	
17 to 18-11-2014	Home Science	Value addition	Value addition of locally available fruits & vegetables	2	On	27	-	27	27	-	27	
19-11-2014	Horticulture	Production and management technology	Cultivation practice of bulbs crops	1	Off	37	-	37	37	-	37	
24 to 25-11-2014	Soil Health and fertility management	Vermi compost production	Vermi compost production	2	On	-	20	20	-	20	20	
26-11-2014	Agril .Engineering	PHT	Post harvest management of cereals	1	Off	38	-	38	38	-	38	
27-11-2014	Home Science	Gender mainstreaming through SHGs	Formation and functioning of SHG	1	Off	29	-	29	29	-	29	
DEC. 2014												
01 to 02 -12-2014	Agril .Engineering	Farm Mechanization	Use of farm machinery in crop production	2	On	-	29	29	-	29	29	
02-02-2014	Crop Production	ICM	Production technology of SWI	1	Off	32	-	32	32	-	32	
08-02-2014	Soil Health and fertility management	INM	Sulpher management in oilseed crops	1	Off	35	-	35	35	-	35	
15-12-2014	Horticulture	Off season vegetables	Off season vegetable cultivation for income generation	1	Off	35	-	35	35	-	35	
16 to 17-12-2014	Crop Production	ICM	Inter cropping system in upland condition	2	On	-	16	16	-	16	16	
JAN. 2015												
2 to 3-01-2015	Home Science	Household food security by kitchen gardening and	Household food security	2	On	30	-	30	30	-	30	

		nutrition gardening									
6 to 8-01-2015	Home Science	Capacity building	Tailoring & drafting of women's garments	3	On	30	-	30	30	-	30
6-01-2015	Agril. Engg.	Installation and maintenance of micro irrigation systems	Micro irrigation in vegetable crops	1	Off	26	-	26	26	-	26
12 to 13-01-2015	Home Science	Value addition	Value addition of locally available fruits & vegetables	2	On	28	-	28	28	-	28
15-01-2015	Home Science	Minimization of nutrient loss in processing	Post harvest management of different kind of food items of sweet potato	1	Off	34	-	34	34	-	34
16-01-2015	Plant Protection	IDM	IDM in cereals, vegetables, pulses and oilseeds	1	Off	30	-	30	30	-	30
23-01-2015	Horticulture	Cultivation of vegetables	Cultivation practice of leguminous vegetable	1	Off	32	-	32	32	-	32
27 to 28-01-2015	Home Science	Capacity building	Tailoring & drafting of women's garments	2	On	-	28	28	-	28	28
FEB. 2015											
4 to 5-02-2015	Home Science	Enterprise development	Enterprise development	2	On	-	26	26	-	26	26
02-02-2015	Horticulture	Inter cropping	Inter cropping of vegetables	1	Off	32	-	32	32	-	32
04-02-2015	Crop Management	Fodder production	Fodder production technology	1	Off	30	-	30	30	-	30
10-02-2015	Horticulture	Grading and standardization	Washing and grading of vegetable	1	Off	-	24	24	-	24	24
12-02-2015	Horticulture	Layout and Management of Orchards	Layout of orchard	1	Off	30	-	30	30	-	30
16-02-2015	Soil Health and fertility management	Management of Problematic soils	Management of acidic soil	1	Off	30	-	30	30	-	30
18-02-2015	Home Science	Value Addition	Value addition of vegetables	1	Off	-	34	34	-	34	34

21-02-2015	Agril. Engg.	Use of plastic	Use of plastic in agriculture	1	Off	24	-	24	24	-	24
27-02-2015	Plant Protection	Lac culture	Semialata cultication	1	Off	-	30	30	-	30	30
MARCH 2015											
02-03-2015	Horticulture	Weed management	Weed management in carrot	1	Off	29	-	29	29	-	29
04-03-2015	Agril. Engg.	Soil & water conservation	Water use efficiency	1	Off	30	-	30	30	-	30
09-03-2015	Horticulture	Nursery raising	Vegetable seedling raising in poly tube	1	Off	30	-	30	30	-	30
10-03-2015	Soil Health and fertility management	Soil fertility management	Use of fertilizer in cereal crops	1	Off	36	-	36	36	-	36
13-03-2015	Home Science	Value Addition	Kitchen garden	1	Off	-	34	34	-	34	34
17-03-2015	Home Science	Value Addition	Processing and value addition	1	Off	64	-	64	64	-	64
21-03-2015	Plant Protection	IDM	IDM in cucurbit vegetables	1	Off	22	-	22	22	-	22
24-03-2015	Horticulture	Production and management technology	Cultivation practice of ginger	1	Off	23	-	23	23	-	23
26-03-2015	Plant Protection	IDM	IDM in fruit vegetable	1	Off	25	-	25	25	-	25
30-03-2015	Agril. Engg.	Soil & water conservation	Moisture conservation technology	1	Off	32	-	32	32	-	32
31-03-2015	Horticulture	Production and management technology	Preparation of hormone solution	1	Off	30	-	30	30	-	30

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***KRISHI VIGYAN KENDRA
BOKARO***



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