ACTION PLAN 2020 -21

1. Name of the KVK: BOKARO

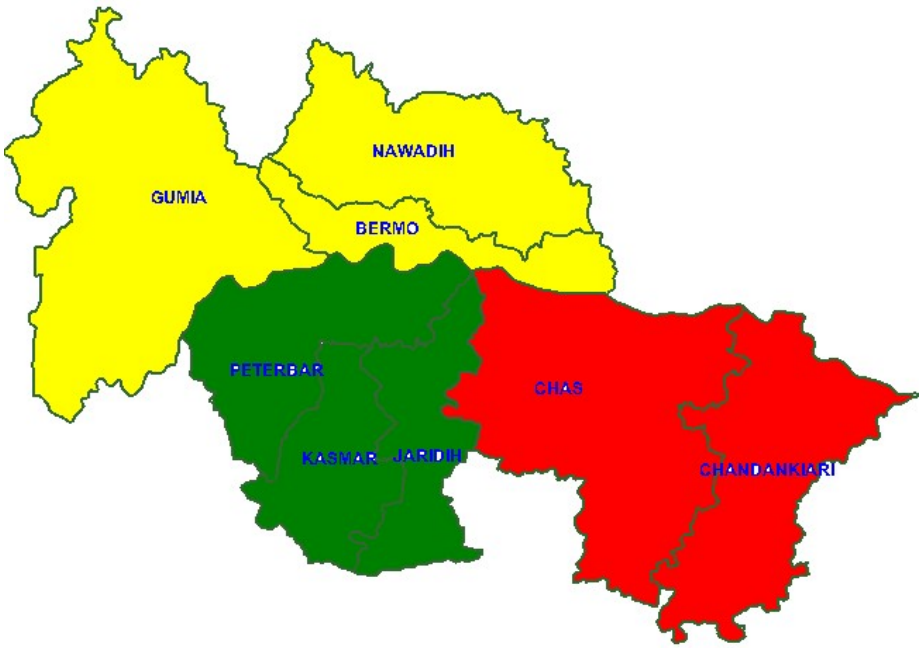
Address	Telephone		E mail
Krishi Vigyan Kendra, Bokaro P.O.- Petarwar Pin- 829121	06549-265048 (O) 09431126991 (M)		kvk_bokaro@yahoo.co.in

2. Name of host organization:

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

I. Introduction

Krishi Vigyan Kendra Bokaro established in 2004 is located on National Highway No.23 about 35 KM of district headquarter of Bokaro (Jharkhand). There are 2 subdivision (Bermo & Chas) 9 blocks, 200 panchayats and 733 villages in Bokaro district, Total population of the district is 17,75,961. Total geographical area of the district is 2,88,970 ha out of which only 25840 ha is under crop having cropping intensity of 116 %.



II. District Profile

Land holding pattern.

1. Number of Holding (000)	:	116.41
2. Average Size of Holding (Hectare/holding)	:	1.18
3. Marginal farmer's holding (No. in ,000)	:	81.49
4.Small & Medium farmer (No. in 000)	:	30.64
5. Large farmer, holding (No. in 000)	:	4.28

District profile

1.	**Location**		
	Latitude	:	$23^0$24'34" N to $23^0$59'05"N
	Longitude	:	$85^0$35'00" E to $86^0$38'47"E
2.	**Average Annual Rainfall**	:	**1252.62 mm**
3.	**Administrative Units**		
	3.1 No. of Subdivision	:	2 (Bermo, Chas)
	3.2 No. of Blocks	:	9
	3.3 No. of Panchyets	:	200
	3.4 No. of Villages	:	733
4.	**Land use (000ha)**		
	4.1 Total geographical	:	288.97
	4.2 Total Forest area	:	72.23
	4.3 land Barren and uncultivated	:	25.01
	4.4 Cultivated waste land	:	119.29
	4.5 Net Sown area	:	15.81
	4.6 Total cropped area	:	25.84
	4.7 Irrigated area	:	0.90
	4.8 Cropping Intensity	:	116%
5.	**Population 2001**		
	5.1 Total population (in lakh)	:	17.75
	5.2 Total Rural population (in lakh)	:	9.71
	5.3 Population Density (Number/ Sq Km)	:	621
	5.4 Literacy (%)	:	62.90
	5.5 Male Literacy (%)	:	76.99
	5.6 Female(%)	:	47.17
	5.7 Total ST Population (lakh)	:	2.19
	5.8 Total Sc Population (lakh)	:	2.36
6.	**Working population**		
	6.1 Total working population (in lakh)	:	5.10
	6.2 Total cultivators (lakh)	:	1.19
	6.3 Total agricultural laborer (lakh)	:	1.09
	6.4 Total labours engaged in cottage industry(lakh)	:	0.20
	6.5 Other workers(lakh)	:	2.62
7.	**Operational holding**		

	7.1 Number of Holding (000)		:	116.41
	7.2 Average Size of Holding (Hectare/holding)		:	1.18
	7.3 Marginal farmer's holding (No. in ,000)		:	81.49
	7.4 Small & Medium farmer (No. in 000)		:	30.64
	7.5 Large farmer, holding (No. in 000)		:	4.28
8.	**Livestock (in, 000)**			
	8.1 Total Population		:	673.47
	8.2 Total Cattle		:	327.23
	8.3 Total Buffalow		:	61.30
	8.4 Total sheep		:	34.49
	8.5 Total Goat		:	207.16
	8.6 Total pig		:	43.21
	8.7 Total Poultry		:	600.14
9.	**Fishery**			
	9.1 Government Ponds Number Total Area Average Size			 1710 1621 ha 0.95 ha
	9.2 Private Ponds Number Total Area Average Size			 745 402 ha 0.54 ha
	9.3 Total Number Total Area			 2455 2023 ha
	9.4 Annual Fish Production			2000 Tons
	9.5 Average Productivity		:	0.81 Tons/ha
10	**Information on credit**			
	10.1 No. of Commercial Banks		:	77
	10.2 No. of RRB		:	08
	10.3 No. of Co-operative Banks		:	05
	10.4 No. of Land development Banks		:	92
11.	**Total No. of Hat /Bazar**		:	97
12.	**Crop Production**			
	Name of crop	**Area (ha)**	**Production (ton)**	**Productivity (kg/ha)**
	Total Cereals	19121	22084	1155
	Total Pulses	1129	823	729
	Total Oilseeds	115	77	670
	Total Vegetable	5551	83972	1513
	Total Fruits	952	11240	1181

13.	Productivity of major 2-3 crops under cereals, pulses, oilseeds,	**Crop**	**Area (ha)**	**Production (MT)**	**Productivity (q /ha)**
		Paddy (Hybrid)	3075	12300	40.00
		Paddy	26113	40088	15.50
		Wheat	1300	1272	10.00

	vegetables, fruits and others	Maiz	4746	7595	16.00
		Arhar	2130	1374	6.50
		Gram	1309	1149	8.25
		Mustad	1615	388	6.00
		Pea	325	387	12.00
		Mustard	1540	847	5.5
		Brinjal	497	12860	2558.75
		Tomato	1011	28380	280.71
		Cauliflower	1303	35660	273.7
		Bottle gourd	480	8000	166.6

III. Priority Thrust Areas of Bokaro District

S. No	Thrust area
1.	Popularization of Soil and water conservation techniques
2.	Intensification in crop production system
3.	Development of seed production system.
4.	Value addition of locally available fruits & vegetables.
5.	Improvement of indigenous poor breeds of livestock.
6.	Soil Fertility Management
7.	Insect pest and disease management of major crops
8.	Entrepreneurship development through mushroom, vermi compost production.
9.	Farm Mechanization

IV. Rainfall Recorded at KVK Bokaro Year: 2019

Month	Average Normal Rainfall	Rainfall (mm)	No. of rainy days	Rainfall %
January 2019	16.3	0.0	0	(-)100
February2019	12.7	9.4	2	(-)30
March2019	13.7	0.0	0	(-) 100
April 2019	16.3	97	10	(+) 495
May 2019	53.3	82.8	10	(+) 60
June 2019	184.8	233.4	13	(+) 30
July2019	286.8	242.4	20	(-) 20
August 2019	329.9	167.2	15	(-) 163
September 2019	230.02	121.6	14	(-) 50
October 2019	89.6	47.2	4	(-) 47
November2019	10.3	0.0	0	(-) 100
December 2019	8.9	78.0	5	(+) 766
Total	**1252.62**	**1079**	**93**	

2. Training programme to be organized (January 2020 to December 2020)

ABSTRACT OF TRAINING PROGRAMME

Clientele	On Campus		Off Campus		Total	
	No. of course	Participants	No. of course	Participants	No. of course	Participants
Farmers and Farm Women	42	1260	48	1440	90	2700
Rural Youth	10	300	-	-	10	300
Extension Functionaries	10	300	-	-	10	300
Total	62	1860	48	1440	110	3300

Farmers and Farm Women:

Thematic Area*	Title	No.	Duration	Venue On/ Off	Tentative Date	No. of Participants								
						OTH		SC		ST		Total		
						M	F	M	F	M	F	M	F	T
Crop production														-
Production and Management Technology	Management practices of maize / sweet corn	1	2	On	May	10	20	-	-	-	-	-	30	30
	Cultivation practice of kharif oilseed- and pulses	2	2	On	June	20	10	-	-	10	20	30	30	60
	Cultivation practice of rabi oilseed- and pulses	2	2	On	Oct.	20	10	-	-	10	20	30	30	60
Soil and water conservation technique	Soil moisture conservation technique	2	2	On	Aug.	20	10	-	-	20	10	40	20	60
Total		**7**	**8**			**70**	**50**			**40**	**50**	**100**	**110**	**210**
Soil health & fertility management														
Integrated nutrient management	Integrated nutrient management in major cereal crops	1	2	On	June	-	30	-	-	-	-	-	30	30
Soil fertility management	Soil fertility management through cropping system	1	2	On	Sept.	-	30	-	-	-	-	-	30	30
Total		**2**	**4**				**60**						**60**	**60**
Horticulture														
Floriculture	Income generation through floriculture	1	2	On	Oct.	-	15	-	-	-	15	-	30	30
Organic farming	Organic vegetable production technology	1	2	On	Aug.	15	15	-	-	15	15	30	30	60
Off season vegetable	Off season vegetable production techniques	1	2	On	Sept.	-	-	-	-	-	30	-	30	30
Tuber crop	Cultivation practice of Exotic vagetable	1	2	On	Sept.	20	10	-	-	-	-	20	10	30

Fruit crop	Technique of fruit plant	1	2	On	May	-	-	-	-	20	10	20	10	30
Kitchen gardening	Kitchen gardening	1	2	On	Oct.	15	15	-	-	15	15	30	30	60
Total		**06**	**12**			**50**	**55**			**50**	**85**	**100**	**140**	**240**
Plant Protection														
Integrated Pest Management	Integrated pest & disease management in cereals crops	2	2	On	May & Nov.	-	30	-	-	-	30	-	60	60
	Technique for healthy and disease free seedling of vegetables	2	2	On	June & Nov.	15	15	-	-	15	15	30	30	60
Bee Keeping	Bee keeping	1	2	On	May	10	-	-	-	10	10	20	10	30
Lac cultivation	Production technology of kusmi lac	1	2	On	June	-	30	-	-	-	-	-	30	30
IPM & IDM	IPM & IDM in vegetable production in rabi season	2	2	On	June & Dec.	25	50	-	-	25	50	50	100	60
Total		**08**	**10**			**50**	**125**			**50**	**105**	**100**	**230**	**240**
Agril. Engg.														
Installation & maintenance of micro irrigation system	Micro irrigation and mulching in vegetable cultivation	2	2	On	Sept. & Oct.	15	15	-	-	15	15	30	30	60
Farm Mechanization	Use of farm machinery implements in agriculture.	2	2	On	July & Aug.	30	30	-	-	-	-	30	30	60
Soil and Water Conservation	Water harvesting technique	2	2	On	May & June	30	-	-	-	30	-	60	-	60
	Soil moisture conservation technique	2	2	On	March & April	30	-	-	-	30	-	60	-	60
PHT	Post harvest processing of seeds and grains	1	2	On	Jan	**30**	-	-	-	-	-	**30**	-	**30**
	Storage technique and storage structure for seeds and grains	1	2	On	Feb.	**15**	-	-	-	**15**	-	**30**	-	**30**
Total		**10**	**12**			**150**	**45**			**90**	**15**	**240**	**60**	**300**
Home Science/ women														

empowerment														
Value addition	Value addition of locally available seasonal fruit and vegetables	2	2	On	Dec.	-	30	-	-	-	30	-	60	60
Capacity building	Different kind of badi an papad	2	2	On	Nov. & Dec.	-	30	-	-	-	30	-	60	60
PHT	Processing of sweet potato and raw papaya	2	2	On	May & Dec.	-	30	-	-	-	30	-	60	60
Total		**6**	**6**				**90**	**-**	**-**	**-**	**90**	**-**	**180**	**180**
Live stock														
Disease and feed management	Disease and feed management in poultry & Goatry	1	2	On	June	-	-	30	-	-	-	30	-	30
Total		**1**	**2**					**30**	**-**	**-**	**-**	**30**	**-**	**30**
Fisheries														
Fish farming	Composite fish farming	2	2	On	July	30	-	-	-	-	-	30	-	30
Total		**2**	**2**			**30**	**-**	**-**	**-**	**-**	**-**	**30**	**-**	**30**
Grand total		**42**	**56**			**350**	**425**	**30**		**230**	**345**	**600**	**780**	**1290**

B. Farmers and farmwomen – Off Campus

Thematic Area*	Title	No. of course	Duration	Venue On/ Off	Tentative Date	No. of Participants								
						OTH		SC		ST		Total		
						M	F	M	F	M	F	M	F	T
Crop production														
Copping system	Suitable intercropping system in upland condition	1	1	Off	July	30	-	-	-	-	-	30	-	30
Integrated crop management	Greem manuring in rice cultivation	2	1	Off	Nov.	30	-	-	-	30	-	60	-	60
	Cultivation practice of rabi oilseed & pulses	2	1	Off	Oct.	-	30	-	30	-	-	-	60	60
Production and Management Technology	Cultivation practice of kharif oilseed- and pulses	2	1	Off	July	30	-	-	-	-	30	30	30	60
	Crop residue management	1	1	Off	July	-	30	-	-	-	-	-	30	30
Total		**8**	**5**			**90**	**60**		**30**	**30**	**30**	**120**	**120**	**240**
Soil health & fertility management														
Soil & water testing	Importance of soil testing and Soil Health Card	1	1	Off	Sept.	15	-	-	-	15	-	30	-	30
Integrated nutrient management	Use of bio fertilizer in pulses	1	1	Off	July	-	30	-	-	-	-	-	30	30
Total		**2**	**2**			**15**	**30**	**-**	**-**	**15**	**-**	**30**	**30**	**60**
Horticulture														
Integrated crop management	Cultivation practice of cucurbits & leguminous vegetable	2	1	Off	April & May	15	15	-	-	15	15	30	30	60
Integrated crop management	Cultivation practice root vegetable	1	1	Off	Nov.	-	15	-	-	-	15	-	30	30
Nursery	Nursery management of	2	1	Off	July	15	15	-	-	15	15	30	30	60

management	vegetable & fruit													
Organic vegetable production	Organic vegetable production	2	1	Off	July & Oct.	15	15	-	-	15	15	30	30	60
Fruit	Papaya cultivation	2	1	Off	July	30	-	-	-	30	-	60	-	60
Total		**9**	**5**			**75**	**60**			**75**	**60**	**150**	**120**	**270**
Plant Protection														
Integrated pest management	Integrated pest & disease management of vegetables	2	1	Off	April & Nov.	-	30	-	-	-	30	-	60	60
	Integrated pest management of kharif pulses	3	1	Off	June , July & Aug.	30	60	-	-	-	-	30	60	90
IPM	Integrated pest & disease management of cereals crops	2	1	Off	Nov. & Dec.	15	15	-	-	15	15	30	30	60
IPM & INM	Integrated pest & disease management oil seeds crop	2	1	Off	Nov. Dec.	-	30	-	-	-	30	-	60	60
IPM	Integrated pest management of Rabi pulses	1	1	Off	Feb. 21	-	30	-	-	-	-	-	30	30
Total		**10**	**5**			**45**	**165**			**15**	**75**	**60**	**240**	**300**
Agril. Engg.														
Farm mechanization	Farm mechanization in rice & wheat cultivation	2	1	Off	July & Aug.	15	15	-	-	15	15	30	30	60
Installation and maintenance of micro irrigation systems	Mulching and drip irrigation in vegetable production	2	1	Off	Nov. & Dec.	15	15	-	-	15	15	30	30	60
Soil and Water Conservation	Water harvesting technique	2	1	Off	May & June	15	-	-	-	15	-	30	-	30

Soil and moisture conservation	Soil moisture conservation technologies	2	1	Off	Jan & Feb.	15	15	-	-	15	15	30	30	60
PHT	Post harvest management of cereal and pulses	2	1	Off	Sept. & Oct.	15	15	-	-	15	15	30	30	60
	Storage technique and storage structure for seeds and grains	1	1	Off	March & April	15	-	-	-	15	-	30	-	30
Total		**11**	**6**			**90**	**60**			**90**	**60**	**180**	**120**	**300**
Home Science/ women empowerment														
Food security	Household food security: By increasing consumption of jack fruit and sweet potato	2	1	Off	July- Oct.	-	30	-	-	-	30	-	60	60
Design & development of low cost diet	Design & development of low cost diet: by use of local maize grain and groundnut	2	1	Off	June & Dec.	-	30	-	-	-	30	-	60	60
Minimization of nutrient loss in processing	Minimization of nutrient loss: Scientific drying of shelled peas.	2	1	Off	July & Aug.	-	30	-	-	-	30	-	60	60
Women & child care	Design and development of high nutrient diet: For malnourished children & adolescent by the use of mushroom	2	1	Off	July & Aug.	-	30	-	-	-	30	-	60	60
Total		**8**	**4**				**120**				**120**		**240**	**240**
Grand total		**48**	**27**			**315**	**495**		**30**	**225**	**345**	**540**	**870**	**1410**

(C) Rural youths/Skill development

Thematic area	Title of Training	No.	Duration	Venue On/Off	Tentative Date	No. of Participants								
						OTH		SC		ST		Total		
						M	F	M	F	M	F	M	F	T
Seed production	Quality Seed production technology	1	5	On	June	15	-	-	-	15	-	30	-	30
Doubling farming income	Doubling farming income through Integrated farming system	1	5	On	June	30	-	-	-	30	-	30	-	30
Commercial fruit production	Establishment of nursery and mali training	1	5	On	July	15	-	-	-	15	-	30	-	30
Mushroom Production	Production technology of Mushroom	2	5	On	Nov. & Dec.	-	30	-	-	-	30	-	60	60
Drafting and stitching of female garment	Drafting and stitching of female garment	1	5	On	June, July & Jan.21	-	15	-	-	-	15	-	30	30
Minimization of nutrient loss in processing	Small scale processing and preservation of locally available fruits and vegetable	1	5	On	June – sept.	-	15	-	-	--	15	-	30	30
Bee keeping	Cultivation of bee keeping	1	5	On	May	15	-	-	-	15	-	30	-	30
Production of organic inputs/ Vermi culture	Vermi compost technique	1	5	On	Jan 21	15	15	-	-	15	15	30	30	30
Repair and maintenance of farm machinery and implements	Repair and maintenance of farm implement	1	15	On	June	20	-	5	-	5	-	30	-	30
Total		**10**	**55**			**110**	**75**	**5**		**95**	**75**	**180**	**150**	**300**

(D) Extension functionaries

Thrust area/ Thematic area	Title of Training	No.	Duration	Venue On/Off	Tentative Date	No. of Participants								
						OTH		SC		ST		Total		
						M	F	M	F	M	F	M	F	T
Installation and maintenance of micro irrigation systems	Micro irrigation system for vegetable production	1	1	On	May	15	-	-	-	15	-	30	-	30
Farm Mechanization	Role of farm mechanization in increasing productivity and profitability	1	1	On	Aug. Oct.	20	-	-	-	10	-	30	-	30
Soil and Water Conservation	Water harvesting and soil moisture conservation technique	1	1	On	July	20	-	-	-	10	-	30	-	30
Women & child care	Awareness programme on newly occurred disease and health problem (Rubella measles)	1	1	On	April & Aug.	-	15	-	-	-	15	-	30	30
Women empowerment	Awareness programme on use of common medicinal herbs & plants	1	1	On	July	-	15	-	-	-	15	-	30	30
Production of organic inputs	Promotion of organic farming in vegetable production	2	1	On	Aug,	30	-	-	-	30	-	60	-	60
Protective cultivation	Vegetable production under protective cultivation	1	1	On	May	20	-	-	-	10	-	30	-	30
Production of bio control agents and bio pesticides	Use of Bio-pesticides in vegetable production	1	1	On	Sept.	20	-	-	-	10	-	30	-	30
Seed production	Doubling farmer income through Seed production of pulses	1	1	On	July & Oct.	20	-	-	-	10	-	30	-	30
Total		**10**	**9**			**145**	**30**			**95**	**30**	**240**	**60**	**300**

3. Frontline demonstration to be conducted*

Crop:
Thrust Area:
Thematic Area:
Season:
Farming Situation:

Sl. No.	Crop & variety / Enterprises	Proposed Area (ha)/ Unit (No.)	Technology package for demonstration	Parameter (Data) in relation to technology demonstrated	Cost of Cultivation (Rs.)			No. of farmers / demonstration								
								SC		ST		Other		Total		
					Name of Inputs	Demo	Local	M	F	M	F	M	F	M	F	T
	Rice (IR-64 DRT1)	10	Variety	Yield & Economics	Seed	15000	-			10	-	10		20		20
	Pigeon pea based intercropping	05	Variety (IPA-203)	Yield & Economics	Seed	15000				05	-	05	-	10		10
	Sweet corn (Sugar-75)	01	Variety	Yield & Economics	Seed + Fertilizer	10000		0	0	7	-	8	-	15	-	15
	Brinjal (132)	01	Variety	Yield & Economics	Seed	10000		0	0	7	-	8	-	15	-	15
	Ladies Finger (NS 1001)	01	Variety	Yield & Economics	Seed	10000		0	0	7	-	8	-	15	-	15
	Tomato (Nandini/ Swarn Sampada)	01	Variety	Yield & Economics	Seed	10000		0	0	7	-	8	-	15	-	15
	Zero tillage machine	04	Wheat	Yield & Economics	Seed & fertilizer	10000		2	-	2	-	6	-	10	-	10
	Plastic Mulching in vegetable	05 unit	Vegetable	Yield & Economics	Plastic mulch	11000		3	-	1	-	1	-	5	-	5
	Development of Jack fruit squash	4	Use of fruit juice, sugar, citric acid, water & KMS	Output, shelf life, total cost, profit, B:C ratio	Jack fruit, sugar, citric acid,KMS	2000		-	1	-	3	-	12	-	16	16
	Development of	4	Pickling of cauliflower and	Output, shelf life, total cost,	Cauliflower, chilli, salt,	2000		-	2	-	5	-	13	-	20	20

	cauliflower pickle		carrot with the help of oil, spices, condiments and chemicals	profit, B:C ratio	Turmeric powder, garam masala, rai seed ,onion,garlic, ginger,glacial acetic acid/vinegar, sugar/jaggery ,oil											
	Mushroom	10 unit	Oyster	Yield & Economics	Critical input	10000				-	05	-	05		10	10

Extension and Training activities under FLD:

Activity	**Title of Activity**	**No.**	**Clientele**	**Duration**	**Venue On/Off**	**No. of Participants**								
						SC		**ST**		**Other**		**Total**		
						M	**F**	**M**	**F**	**M**	**F**	**M**	**F**	**T**
Training	Production technology of sweet corn	01	PF	01	On									30
Training	Production technology of vegetable (Brinjal, Tomato, Ladies finger, Cucurbits)	03	PF	01	On									120

* Repeat the above tables and information in Point no. 4 for EACH FLD being proposed.

Cluster Frontline Demonstration on Oilseed and Pulses 2020-21

Season	Crop	Variety	No. of area (ha)	No. of Demo.
Kharif	**Pulse**			
	Black gram	WBU-109	10	25
	Green Gram	HUM-16	10	25
	Pigeon pea	TJT 501/ IPA 203	10	25
	Horse gram	Birsa Kulthi-1	10	25
Rabi	Chick pea	JG-14	10	25
Summer	**Pulse**			
	Green Gram	HUM-16	10	25
		Total	**60**	**150**
Kharif	**Oilseed**			
	Groundnut	/K-6/ Girnar-3	10	25
	Sesame	GT-9	10	25
	Niger	Puja-1	10	25
Rabi	**Oilseed**			
	Rapeseed & Mustard	P-26/ P-30	10	25
	Linseed	Divya/Priyam	10	25
		Total	**50**	**125**
		Grand Total	**110**	**275**

4. a) Seed and planting material production by utilization of instructional farm (Crops / Enterprises)

Name of the Crop / Enterprise	Variety / Type	Period From…… to ……..	Area (ha.)	Details of Production				
				Type of Produce	Expected Production (quintals)	Cost of inputs (Rs.)	Expected Gross income (Rs.)	Expected Net Income (Rs.)
Rice	R. Masuri	July-Dec.	01	F/S	30	30000	120000	90000
	Lalat	July-Oct.	02	F/S	50	60000	200000	140000
	IR-64 drt-1	July-Oct.	1.5	F/S	40	30000	160000	130000
Black gram	WBU-109	July-Sept.	0.4	F/S	3.0	10000	47400	37400
Pigeon pea	TGT 501	June- Dec.	0.4	F/S	3.0	10000	47400	37400
Dhaincha	Local	June- Nov.	0.2	T/L	1.5	4000	7500	3500
Mustard	P- 30	Oct.- Jan.	2.0	F/S	10	40000	100000	60000
Mango	Amrapali	June- July			500	15000	25000	10000
Guava	L-49	June- July			500	15000	25000	10000
Papaya	Red lady	June- July			2000	25000	40000	15000
Cauliflower	Sweta/Anand	Oct – Nov.			10000	7000	10000	3000
Broccoli	Ashwarya	Oct – Nov.			5000	3000	5000	2000
Tomato	Nandini/ Swarn Sampada	Oct – Nov.			5000	3000	5000	2000
Marigold	Hybrid	Oct-Jan.	-		5000	10000	20000	10000
Drip irrigation	Vegetables	March- July	0.4	-	100 q	50000	80000	30000

b) Village Seed Production Programme

Name of the Crop / Enterprise	Variety / Type	Period From…… to ……..	Area (ha.)	No. of farmers	Details of Production				
					Type of Produce	Expected Production(q)	Cost of inputs (Rs.)	Expected Gross income (Rs.)	Expected Net Income (Rs.)

5. Extension Activities

Sl. No.	Activities	No. of activities proposed	Farmers				Extension Officials			Total		
			M	F	T	SC/ ST (% of total)	Male	Female	Total	Male	Female	Total
1.	Field Day	10										600
2.	Kisan Mela	4										4000
3.	Kisan Ghosthi	6										500
4.	Exhibition	5										500
5.	Film Show	30										1500
6.	Method Demonstrations	5										100
7.	Farmers Seminar	0										0
8.	Workshop	0										0
9.	Group meetings	2										200
10.	Lectures delivered as resource persons	50										
11.	Newspaper coverage	10										
12.	Radio talks	5										
13.	TV talks	12										
14.	Popular articles	5										
15.	Extension Literature	15										
16.	Advisory Services	100										60
17.	Scientific visit to farmers field	150										1000
18.	Farmers visit to KVK	1500										1500
19.	Diagnostic visits	30										250
20.	Exposure visits	4										100
21.	Ex-trainees Sammelan	1										100
22.	Soil health Camp	2										200
23.	Animal Health Camp											
24.	Agri mobile clinic	0										0
25.	Soil test campaigns	1										100

	(Analysis)											
26.	Farm Science Club Conveners meet											
27.	Self Help Group Conveners meetings	2										100
28.	Mahila Mandals Conveners meetings	0										0
29.	Celebration of important days (specify)	2										200
30.	Help line service	2000										2000
31.	Any Other (Technology Week)	2										500
	Total	**3953**										**13510**

6. **Revolving Fund (in Rs.)**

Opening balance of 2019-2020 (As on 01.04.2019)	Amount proposed to be invested during 2020-21	Expected Return
	350000	722000 (Gross Income)

7. **Expected fund from other sources and its proposed utilization**

Project	Source	Amount to be received (Rs. in lakh)

On-farm trials to be conducted*

Home Science 1

i. Season: Rabi

ii. Title:- Assessment of different kind of papaya based jam.

iii. Thematic Area:- Post harvest technology

iv. Problem diagnosed: Low profitability due to sale at very low rate in peak season.

v. Important Cause: Due to lack of processing knowledge papaya grower are unable to process preserve, utilize and sale to get higher price from papaya.

vi. Production system: Rainfed upland

vii. Micro farming system: Use preservation technology and preservatives

viii. Technology for Testing: Preservation technology

ix. Existing Practice: Consumption as bhujia in home

x. Hypothesis: By preserving raw papaya, utilization will increase and returns will be more.

xi. Objective: Both maximize utilization of raw papaya and income of papaya grower will be increased.

xii. Treatments:

F.P. :- Consumption as bhujia by local people

T.O.1:- Development &Consumption of raw papaya jam

T.O. 2:- Development &Consumption of raw papaya & guava jam

xiii. Critical Inputs: Sugar,preservatives(KMS/sodium benzoate),colour , essence.

xiv. Unit Size: Per kg

xv. No. of replication: 10

xvi. Unit Cost: Rs. 500/-

xvii. Total Cost: Rs. 5000/-

xviii. Monitoring Indicator:

1. Nutritive value
2. Sensory evaluation
3. Shelf life
4. Economics
5. B:C ratio

xix. Source of Technology:- IARI/ Technical Bulletin of GBPUAT, Pantnagar.

Incharge Scientist	Co-ordinating Scientist	Sr. Scientist & Head
Dr. Nandana Kumari	Dr Anil Kumar	Krishi Vigyan Kendra,
Home Science	Horticulture	Bokaro

i. Season: Kharif
ii. Title of OFT: - Assessment of preparation methods of squash from ripe jack fruit.
iii. Thematic Area:- Value Addition
iv. Problem diagnosed: Jack fruit is heavily produced in local area of Bokaro district but not properly utilized due to lack of processing knowledge.
v. Important Cause: Heavy wastage of ripe jack fruit.
vi. Production System: Rainfed Upland
vii. Micro farming system: -
viii. Technology for Testing: Preparation methods of squash from ripe jack fruit.
ix. Existing Practice: Local people consume ripe jack fruit as such as fruit.
x. Hypothesis: Squash developed from ripe jack fruit may increase both income and its utilization of farm women.
xi. Objective: To develop Squash from jack fruit for increase income of farmers.
xii. Treatments:
F.P. : Local people consume jack fruit as pickle and vegetable.
T.O.1: Preparation of squash from ripe jack fruit.
Formulation - Ingredients
Jack fruit juice- 250 ml, Sugar – 340g, Citric acid 11.5g, Water- 385 ml, KMS- 0.6g
T.O. 2: Preparation of squash from ripe jack fruit and mango juice.
Formulation - Ingredients
Well ripened jack fruit juice – 250 ml, Mango juice - 250 ml, sugar - 500g, water - 300ml, Citric acid- 10g.
Xiii. Critical Inputs: Sugar, citric acid, KMS, ripe jack fruit & mango juice.
xiv. Unit Size: squash 5 litre
xv. No. of Replications: 10
xvi. Unit Cost: Rs. 100
xvii. Total Cost:Rs. 5000
xviii. Monitoring Indicator:
1. Nutritive value
2. Self life (storage duration) in days
3. Sensory evaluation
4. Economics
5. B:C ratio

xix. Source of Technology:- Technical Bulletin No. 41 of ICAR, Research Complex of Goa

Incharge Scientist	Co-ordinating Scientist	Sr. Scientist & Head
Dr. Nandana Kumari	Dr Anil Kumar	Krishi Vigyan Kendra,
Home Science	Horticulture	Bokaro

i. Season: Kharif

ii. **Title of OFT:- Effect of micronutrient on yield and quality of Mango**

iii. Thematic Area:- Management of orchard

iv. Problem diagnosed:- Deficiency of micronutrient like zinc,boron contributing towards poor yield and quality of Mango

v. Important Cause: Low fertility, and weed infestation.

vi. Production System: Fruit based production system, INM

vii. Micro farming system: Rice-Fallow

viii. Technology for Testing: Balanced nutrient management for proper vegetative growth and high yield.

ix. Existing Practice: Sole mango

x. Hypothesis: Application of zinc helps in improving biosynthesis of auxin which help in improving fruit set, size and quality

Application of boron improves in fertilization fruit set and sugar metabolism in Mango

Application of cupper help in inhancement of photosynthesis

xi. Objective: To assess the effect of micronutrient application on the yield and quality of Mango

xii. Treatments:

Farmers Practice _ FYM 10 kg per tree + urea 0.5 kg per plant (06 year old)

T.O.1– RDF (0.6:0.6:0.36 kg NPK/plant) + 100 g zinc sulphute + 50 g cupper sulphate + 50 g boric acid (soil application) in basin after harvest + foliar spray of 0.2% zinc sulphate + 0.1% boric acid (2 spray at just before flowering and marble stage)

T.O.2– RDF (0.6:0.6:0.36 kg NPK/plant) + 100 g zinc sulphute + 50 g cupper sulphate + 50 g boric acid (soil application) in basin after harvest + foliar spray of 0.2% zinc sulphate + 0.1% cupper sulphate + 0.1% boric acid (2 spray at just before flowering and marble stage)

Mango- Variety : Amrapali

xiii. Critical Inputs: Nutrients + FYM

xiv. Unit Size: 7 per unit

xv. No. of Replications: 06

xvi. Unit Cost: Rs. 1500

xvii. Total Cost: Rs.10500

xviii. Monitoring Indicator:

1. **No. of fruits set per panicle,**
2. **Average fruit weight (g)**
3. **Fruit yield (t/ha)**
4. **TSS (^{o} brix)**
5. **B:C ratio**

xix. Source of Technology:- ICAR, RCER, Ranchi

Incharge Scientist	Co-ordinating Scientist	Sr. Scientist & Head
Dr. Anil Kumar	Sri Uday Kumar Singh	Krishi Vigyan Kendra,
Horticulture	Agronomy	Bokaro

i. Season: Rabi
ii. Title of OFT:- Sustainable Onion product through nutrient management

iii. Thematic Area:- Nutrient management

iv. Problem diagnosed: Unbalanced use of fertilizer results in poor crops yields.
v. Important Cause:
vi. Production System: Irrigated medium land
vii. Micro farming system: Unbalanced use of fertilizer
viii. Technology for Testing: Replace NPK through poultry litters.
ix. Existing Practice: Improper use of fertilizer
x. Hypothesis: Farmers are not using poultry litter
xi. Objective: Use of balanced dose of fertilizer

xii. Treatments:
FP : 60:20:20 (NPK) + 20 q FYM

TO_1 : RDF 150:50:80 (NPK), P through SSP

TO_2 :RDF 50% + 20 q poultry manure

xiii. Critical Inputs: Seed and fertilizer
xiv. Unit Size: 400 $m^2$10
xv. No. of Replications: 10
xvi. Unit Cost: 1000
xvii. Total Cost: 10000
xviii. Monitoring Indicator:

1. **Plant Height**
2. **No. of leaf**
3. **Diameter of bulb**
4. **TSS**
5. **Yield**
6. **B:C:**

Soil test pre and post crop

xix. Source of Technology: Directorate of Onion & Garlic research, Pune

Incharge Scientist	Co-ordinating Scientist	Sr. Scientist & Head
Dr. Anil Kumar	Er. Vinay Kumar	Krishi Vigyan Kendra,
Horticulture	Agril. Engg.	Bokaro

i. Season: Rabi
ii. Title of OFT:- Yield and profitability of mustard as affected by nutrient management under irrigated condition.
iii. Thematic Area:- Nutrient management
iv. Problem diagnosed: Low yield of mustard due to imbalance use of fertilizer.
v. Important Cause: Imbalance use of nutrient in mustard production.
vi. Production System: Irrigated medium land
vii. Micro farming system: Potato-mustard
viii. Technology for Testing: Different dose of nutrient
ix. Existing Practice: Imbalance use of fertilizer
x. Hypothesis: Balance use of nutrient may increase productivity of mustard.
xi. Objective: To increase productivity of mustard through use of balance nutrient.
xii. Treatments:
F.P. :- 20-25kgN, 8-10 kg P2O5, 8-10 q FYM/ha

T.O.1 :- 75% RDF+ Azotobacter + PSB

T.O. 2 :- 100% RDF + Sulphur (20kg/ha)

RDF-80:60:40 kgNPK/ha

xiii. Critical Inputs: Seed & fertilizer
xiv. Unit Size: 250 m^2 (1000m^2)
xv. No. of Replications: 10
xvi. Unit Cost: 1000
xvii. Total Cost: 10000
xviii. Monitoring Indicator:

1. Plant growth
2. Yield attributing characters
3. Yield (q/ha)
4. Economics

xix. Source of Technology: BAU, Ranchi

Incharge Scientist	Co-ordinating Scientist	Sr. Scientist & Head
Sri Uday Kumar Singh	Mrs. Neena Bharti	Krishi Vigyan Kendra,
Agronomy	Plant Protection	Bokaro

i. Season: Kharif
ii. Title of OFT:- Assessment of Weed control methods on yield and economics of transplanted rice (*Oryza sativa*).
iii. Thematic Area:- Weed Management
iv. Problem diagnosed: Low yield of rice due to heavy weed infestation.
Major weeds are identified in rice field, *Echnocloa colonum, Echnocloa crusgalli, Cynodom dactylon* under grasses, *Eclipta alba, Celosia argentia, Ammania bacifera, Commelina spp, Pannicum and Cyprus difformis, C. iria, C. rotundus, Fimbristylis miliacea* under Sedges.
v. Important Cause: Low yield of rice due to heavy weed infestation.
vi. Production System: Rainfed Mediumland
vii. Micro farming system: Rice-Mustard, Rice- Vegetable, Rice- Fallow
viii. Technology for Testing: Weed control measures
ix. Existing Practice: Hand weeding
x. Hypothesis: Chemical weed control methods may cost effective and increase the productivity of rice.
xi. Objective: To increase the productivity & profitability of transplanted rice by chemical weed control methods.
xii. Treatments:
F P: One hand weeding at 35-40 DAT.

TO1- Pretilachlor 50 EC @ 0.75 kg a.i / ha as PE +One hand weeding at 35-40 DAT.

TO2- Bispyribac 10 SC @ 25g a.i /ha PoE at 20 DAT +One hand weeding at 35-40 DAT.

TO3- Pretilachlor 50 EC @ 0.75 kg a.i / ha as PE + Bispyribac 10 SC @ 25g a.i /ha PoE at 20 DAT

xiii. Critical Inputs: Weedicides
xiv. Unit Size: 500m^2
xv. No. of Replications: 10
xvi. Unit Cost: Rs. 1000
xvii. Total Cost: Rs. 10000
xviii. Monitoring Indicator:

. Plant growth and yield attributes
2. Weed biomas (g/m^2)
3. Yield (q/ha)
4. Economics

xix. Source of Technology: BAU, Ranchi

Incharge Scientist	Co-ordinating Scientist	Sr. Scientist & Head
Sri Uday Kumar Singh	Mrs. Neena Bharti	Krishi Vigyan Kendra,
Agronomy	Plant Protection	Bokaro

i. Season: Rabi
ii. Title of OFT:- Assessment of different sowing methods of wheat yield.
iii. Thematic Area:- Farm Mechanization
iv. Problem diagnosed: Low yield of wheat due to improper sowing method.
v. Important Cause: Improper sowing methods of wheat.
vi. Production System: Irrigated Mediumland
vii. Micro farming system: Rice- Wheat
viii. Technology for Testing: Seed drill and zero tillage machine
ix. Existing Practice: Sowing of wheat behind the plough
x. Hypothesis: Sowing of wheat zero tillage machine may increase the yield of wheat.
xi. Objective: To increase the yield of wheat through farm mechanization.
xii. Treatments:
F.P. :- Conventional method (wheat sowing behind the plough)

T.O.1 :- Sowing with seed drill.

T.O.2 :- Sowing with zero tillage machine.

xiii. Critical Inputs: Seed
xiv. Unit Size: 500 m^2
xv. No. of Replications: 07
xvi. Unit Cost : Rs. 1000
xvii. Total Cost: Rs. 7000
xviii. Monitoring Indicator:

1. Moisture content before & after ploughing
2. Plant population per sq. m. after 15 days
3. Field capacity
4. Weeds biomass per sqm after 45 days
5. Yield attributing character
6. Yield (q/ ha)
7. Economics and B:C ratio

xix. Source of Technology: BAU, Ranchi

Incharge Scientist	Co-ordinating Scientist	Sr. Scientist & Head
Er. Vinay Kumar	Sri Uday Kumar Singh	Krishi Vigyan Kendra,
Agril. Engg.	Agronomy	Bokaro

i. Season: Rabi
ii. Title of OFT: Assessment of Irrigation methods in single and paired row potato cultivation.
iii. Thematic Area:- Water Management
iv. Problem diagnosed: Low irrigation water use efficiency in potato cultivation.
v. Important Cause: Improper use of irrigation water.
vi. Production System: Irrigated Medium land
vii. Micro farming system: Vegetable-Potato
viii. Technology for Testing: Irrigation methods
ix. Existing Practice: Furrow irrigation
x. Hypothesis: Suitable **i**rrigation methods may increase water use efficiency in potato cultivation.
xi. Objective: To increase water use efficiency and productivity of potato by suitable irrigation methods.
xii. Treatments:
F.P. :- Single row potato planting with furrow Irrigation

T.O.1 :- Single row potato planting with Skip Irrigation (Alternate skip)

T.O.2 :- Double row potato planting with furrow Irrigation

xiii. Critical Inputs: Seed
xiv. Unit Size: 200m^2
xv. No. of Replications: 10
xvi. Unit Cost: Rs. 700
xvii. Total Cost: Rs. 7000
xviii. Monitoring Indicator:

1. Irrigation water use efficiency
2. Yield attributing characters (Fruit size, fruit weight, no. of fruit/ plant)
3. Yield (q/ ha)
4. Economics and B:C ratio

xix. Source of Technology: IARI, New Delhi

Incharge Scientist	Co-ordinating Scientist	Sr. Scientist & Head
Er. Vinay Kumar	Dr. Anil Kumar	Krishi Vigyan Kendra,
Agril. Engg.	Horticulture	Bokaro

i. Season: Kharif
ii. Title of OFT: Management of aphid *Aphis gossypii* in okra in kharif season.
iii. Thematic Area:- Pest Management
iv. Problem diagnosed: Low productivity of Bhindi due to aphid attack.
v. Important Cause: Infestation of aphid
vi. Production System: Irrigated Medium land
vii. Micro farming system: Vegetable-Okra
viii. Technology for Testing: Use of insecticides and biopesticides.
ix. Existing Practice:
x. Hypothesis: Use of suitable insecticide & biopesticide may reduce the infestation of aphid.
xi. Objective: To control of aphid in Okra through use of suitable insecticide & biopesticides.
xii. Treatments:
F P: Foliar spray of Chlorpyriphos 20% EC @ 1ml/l water as per appearance of aphid.

TO1- 3 Foliar spray of NSKE 5 % at 15 days interval from 30DAS

TO2- 3 spray of Imidachloprid 17.8% SL 1.5 ml/lt water at 15 days interval from 30 DAS +3 Foliar spray of NSKE 5 % at 15 days interval from 30DAS

TO3- 2 spray ofThiamethoxam 25% WG @ 0.5 g/lt water at25 DAS +Nimbecidine @ 5ml/lt water at 30 DAS

xiii. Critical Inputs: Insecticides ,biopesticides, seeds
xiv. Unit Size: 500m^2
xv. No. of Replications: 10
xvi. Unit Cost : Rs. 900
xvii. Total Cost: Rs. 9000
xviii. Monitoring Indicator:

1. Yield (q/ha)
2. Aphid Population(no.)
3. Net return (Rs./ha)
4. B:C ratio

xix. Source of Technology: BAU, Ranchi

Incharge Scientist	Co-ordinating Scientist	Sr. Scientist & Head
Mrs. Neena Bharti	Dr. Anil Kumar	Krishi Vigyan Kendra,
Plant Protection	Horticulture	Bokaro

i. Season: Rabi
ii. Title of OFT: Management of pod borer *Helicoverpa armigera* (Hubner) in chickpea.
iii. Thematic Area:- Integrated Pest Management
iv. Problem diagnosed: Low productivity of chickpea due to heavy infestation of pod borer.
v. Important Cause: Heavy infestation of pod borer.
vi. Production System: Rainfed Upland
vii. Micro farming system –Chickpea- Fallow
viii. Technology for Testing: Use of suitable insecticides & biopesticides
ix. Existing Practice:
x. Hypothesis: Use of suitable insecticides may control pod borer in Chickpea.
xi. Objective: To control pod borer in Chickpea.
xii. Treatments:
F P: 1 spray of Quinalphos 1.0ml/l water as per appearance of larva.

TO1- 2 spray of Lambdacyhalothrin 2.5EC @ 2 ml/l water at 7 days interval starting from flowering stage.

TO2 -2 spray of Chlorantraniliprole 18.5% SC 1ml/3l water + Bt var. kurstaki 2g/l water. 1st spray at 50% flowering and 2nd spray at 15-20 days after 1st spraying.

xiii. Critical Inputs: Insecticides
xiv. Unit Size: 500m^2
xv. No. of Replications: 10
xvi. Unit Cost: Rs. 700
xvii. Total Cost: Rs. 7000
xviii. Monitoring Indicator:

1. Pod damage (%)
2.Yield (q/ha)
3.Net return (Rs./ha)
4.B:C ratio
5.Yield increase over control(%)
xix. Source of Technology: BAU, Ranchi

Incharge Scientist	Co-ordinating Scientist	Sr. Scientist & Head
Mrs. Neena Bharti	Sri Uday Kumar Singh	Krishi Vigyan Kendra,
Plant Protection	Agronomy	Bokaro

10. List of Projects to be implemented by funding from other sources (other than KVK fund)

Sl. No.	Name of the project	Fund expected (Rs.)
1.	CSISA	

11. No. of success stories proposed to be developed with their tentative titles

05 Nos. of success stories to be developed

12. Scientific Advisory Committee

Date of SAC meeting held during 2019-20	Proposed date during 2020-21
Not conducted	Feb. 21

13. Soil and water testing

Details	No. of Samples	No. of Farmers									No. of Villages	No. of SHC distributed
		SC		ST		Other		Total				
		M	F	M	F	M	F	M	F	T		
Soil Samples	1000	50	50	300	100	300	200	650	350	1000	10	5000
Water Samples												
Other (Please specify)												
Total	**1000**	**50**	**50**	**300**	**100**	**300**	**200**	**650**	**350**	**1000**	**10**	**5000**

14. Fund requirement and expenditure (Rs.)*

Heads	Expenditure (last year) (Rs. In lakh) up to 31.03.2019	Expected fund requirement (Rs. In lakh)
Pay & Allowances	62.84	80.50
General CNC (CNC, Office Expense, Training, FLD, OFT)	10.00	20.00
TA	1.00	1.50
Building Maintenance	0.50	2.50
Capital	3.50	3.50
Total	**77.84**	**108**

* Any additional requirement may be suitably justified.

15. Every KVK should bring a brief write-up supported by quality photographs about the technology having wide acceptability among the farming community of the district with factual data