ACTION PLAN 2021-22 as per Revised Proforma

1. Name of the KVK:BOKARO

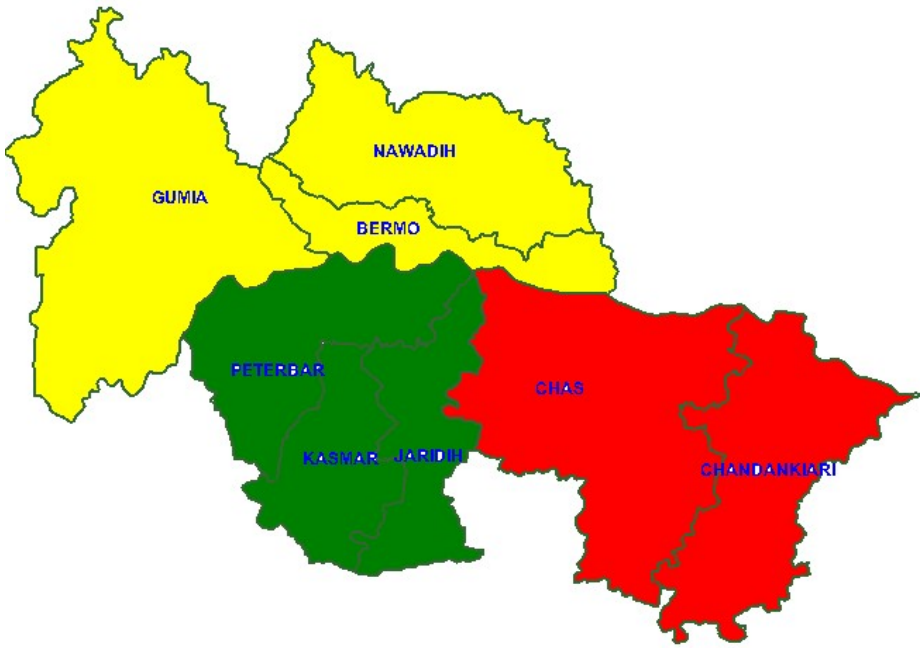
Address	Telephone		E mail
KrishiVigyan Kendra, Bokaro P.O.-Petarwar Pin- 829121	06549-265048 (O) 09431126991 (M)		kvk_bokaro@yahoo.co.in

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

KrishiVigyan 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, vegetables, fruits	**Crop**	**Area (ha)**	**Production (MT)**	**Productivity (q /ha)**
		Paddy (Hybrid)	3075	12300	40.00
		Paddy	26113	40088	15.50
		Wheat	1300	1272	10.00
		Maiz	4746	7595	16.00

	and others	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

3. Training programme to be organized (January 2021 to December 2021)

ACTION PLAN
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	**40**	**1200**	**44**	**1440**	**84**	**2640**
Rural Youth	**9**	**270**	**-**	**-**	**9**	**270**
Extension Functionaries	**9**	**270**	**-**	**-**	**9**	**270**
Total	**58**	**1740**	**44**	**1440**	**102**	**3180**

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 Babycorn/Maize	1	2	On	May	10	20	-	-	-	-	10	20	30
	Cultivation practice of kharif oilseed-and pulses	2	2	On	June	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		**5**	**6**			**50**	**40**			**30**	**30**	**80**	**70**	**150**
Soil health & fertility management														
Integrated nutrient	Integrated nutrient	1	2	On	June	30	-	-	-	-	-	30	-	30

management	management module of vegetable crops													
Soil fertility management	Soil fertility management for field crops	1	2	On	May	-	30	-	-	-	-	-	30	30
Total		**2**	**4**			**30**	**30**					**30**	**30**	**60**
Horticulture														
Floriculture	Nursery raising for flower crops	1	2	On	Oct.	-	15	-	-	-	15	-	30	30
Fruit crop	Cultivation of high value fruit crops	1	2	On	May	-	-	-	-	-	30	-	30	30
Exotic vegetables	Cultivation practice of Exotic vegetable (broccoli, red cabbage, salad crops etc)	1	2	On	Sept.	20	10	-	-	-	-	20	10	30
Tuber crops	Production technology of tuber and bulb crops	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		**05**	**10**			**35**	**40**			**35**	**70**	**70**	**110**	**180**
Plant Protection														
Integrated Pest Management	Technique for healthy and disease free seedling of vegetables	2	2	On	June & Nov..	-	30	-	-	-	30	-	60	60
	Integrated pest & disease management in kharif&rabicer eals crops	2	2	On	May & Nov	15	15	-	-	15	15	30	30	60
Mushroom	Mushroom cultivation	1	2	On	Sept.	10	-	-	-	10	10	20	10	30
Lac cultivation	Production technology of kusmi lac	1	2	On	June	-	30	-	-	-	-	-	30	30
Integrated disease management	Control of bacterial and fungal disease in vegetable& cereal crops.	2	2	On	June & Dec.	25	20	-	-	25	20	50	40	90
Total		**08**	**10**			**50**	**95**			**50**	**75**	**100**	**170**	**270**
Agril. Engg.														

Farm Mechanization	Use of farm machinery implements in agriculture.	2	2	On	. July & Aug.	15	15	-	-	15	15	30	30	60
Installation & maintenance of micro irrigation system	Micro irrigation and mulching in vegetable cultivation	2	2	On	Sept. & Oct	30	30	-	-	-	-	30	30	60
Precision farming	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														
Capacity Building	Dehydrated products development from jack fruits (Chips and papad)													
	Different kind of pickles, badi and papad making from locally available resources	2	2	On	Nov. & Dec.	-	30	-	-	-	30	-	60	60
Value addition	Value addition of locally available seasonal fruit and vegetables	2	2	On	Dec.	-	30	-	-	-	30	-	60	60
PHT	Post harvest management of sweet potato, papaya, jack	2	2	On	May & Dec.	-	30	-	-	-	30	-	60	60

	fruit and couliflower													
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		**40**	**56**			**345**	**340**	**30**		**205**	**280**	**580**	**620**	**1200**

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														
Weed management	Weed management in kharif crops	1	1	Off	July	30	-	-	-	-	-	30	-	30
Integrated crop management	Greemmanuring in rice cultivation	2	1	Off	Nov.	30	-	-	-	30	-	60	-	60
	ICM 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
Nursery raising	Nursery raising of vegetable crops	1	1		April	15	5	5	5	-	-	20	10	
Total		**8**	**5**			**105**	**35**	**5**	**35**	**30**	**30**	**140**	**100**	**210**
Soil health & fertility management														
Soil & water testing	Method of soil sampling	1	1	Off	Sept.	15	-	-	-	15	-	30	-	30
Integrated nutrient management	Sulphur and phosphate management in	1	1	Off	July	-	30	-	-	-	-	-	30	30

	oilseed crops													
Total		**2**	**2**			**15**	**30**	**-**	**-**	**15**	**-**	**30**	**30**	**60**
Horticulture														
Integrated crop management	Cultivation practice of bulbs and cole crops	2	1	Off	April & May	15	15	-	-	15	15	30	30	60
	Cultivation practice of fruitsand vegetables	1	1	Off	Nov.	-	15	-	-	-	15	-	30	30
Nursery management	Nursery management of vegetable & fruit	2	1	Off	July	15	15	-	-	15	15	30	30	60
Hi- tech horticulture	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 management of cereals, pulses and oilseeds.	2	1	Off	April & Nov.	-	30	-	-	-	30	-	60	60
	Integrated pest management in vegetables	3	1	Off	June , July & Aug.	30	60	-	-	-	-	30	60	90
Seed treatment	Seed treatment of field crops	2	1	Off	Nov. & Dec.	30	15	-	-	20	15	50	30	80
Bio-control	Use of bio-pesticide in horticultural crops.	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**			**60**	**165**			**20**	**75**	**80**	**240**	**320**
Agril. Engg.														
Farm mechanization	Use of advanced implements in rice and wheat cultivation	2	1	Off	June& Sept.	15	15	-	-	20	15	35	30	65
Soil and Water Conservation	Low cost water harvesting technique	2	1	Off	May & June	25	15	-	-	20	15	45	30	75
Installation	Mulching and	2	1	Off	Nov.	25	15	-	-	20	15	45	30	75

and maintenance of micro irrigation systems	drip irrigation in vegetable production				&Dec.									
PHT	Post harvest management of cereal and pulses	2	1	Off	Sept. & Oct.	20	15	-	-	15	15	35	30	65
	Storage technique and storage structure for seeds and grains	1	1	Off	March & April	15	-	-	-	15	-	30	-	30
Total		**9**	**6**			**100**	**60**			**90**	**60**	**180**	**120**	**300**
Home Science/ women empowerment														
Food security	Household food security: By increasing consumption of jack fruit,papaya sweet potato and oyster mushroom	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 girl and boy, pragnentaand lactating women by the use of mushroom	2	1	Off	July & Aug.	-	30	-	-	-	30	-	60	60
Drudgery	Training on	2	1	off	Sep.	-	30	-	-	-	30	-	60	60

reduction	the use of drudgery reducing small implements and tool in farming activity													
Total		**8**	**4**				**120**				**120**		**240**	**240**
Grand total		**44**	**27**			**330**	**470**		**35**	**225**	**345**	**560**	**850**	**1440**

(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	25	-	-	-	25	-	50	-	50
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.	-	20	-	-	-	20	-	40	40
Drafting and stitching of female garment	Drafting and stitching of female garment	1	5	On	June, July & Jan.21	-	15	-	-	-	15	-	30	30
Value addition of localyavailable seasonal fruit& vegetables	Small scale processing and preservation of locally available seasonal 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
Repair and maintenance of farm machinery and implements	Repair and maintenance of farm implement	1	15	On	June	20	-	5	-	5	-	30	-	30
Total		**9**	**50**			**90**	**50**	**5**		**75**	**50**	**170**	**100**	**270**

(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	-	-	-	20	-	40	-	40
Soil and Water Conservation	Water harvesting and soil moisture conservation technique	1	1	On	July	20	-	-	-	20	-	40	-	40
Women & child care	Awareness programme on common medicinal herbs like gilloy ,tulsi and neem in daily routine for immunity development.	1	1	On	April & Aug.	-	15	-	-	-	15	-	35	35
	Awareness programme on need of nutrition / community garden in anganbari in school related to MDM Programme.	1	1	On	July	-	15	-	-	-	15	-	35	35
Production of organic inputs	Promotion of organic farming in vegetable production	2	1	On	Aug,	20	-	-	-	20	-	40	-	40
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		**9**	**8**			**115**	**30**			**95**	**30**	**210**	**60**	**270**

4. Seed production at KVK farm (2021-22)

Crop	Variety	Type of Seed	Area (ha.)
Rice	**Lalat**	**F/S**	**1.0**
	IR-64 drt-1	**F/S**	**2.5**
	R. Masuri	**F/S**	**1.0**
	Total		**4.5**
Pulse			
Black gram	**WBU-109**	**F/S to C/S**	**0.4**
	Total		**0.4**
Oil seed			
Niger	**Puja-1**	**F/S to F/S1**	**0.1**
	Total		**0.1**
Other	**Elephant Yam**		**0.1**
	Total		**0.1**
	Grand Total		**5.1**

5. Frontline demonstration to be conducted (2021-22)

Season	Crop/Enterprise	Variety	No. of area (ha)	No. of Demo.
Kharif	Rice	IR-64 DMT	10	15
	Pigeon pea based intercropping	IPA 203	02	15
	Drum Seeder	Wheat	01	15
	Watermelon	Icebox	01	10
	Cucurbits	Malo, Pali	01	10
	Horse gram	Birsa Kulthi-1	10	15
Rabi	Capsicum	Indira, Super wonder	0.5	10
	Mushroom	Oyster	20 units	05
	Total		**25.5 20 Units**	**95**

6. Extension and Training activities under FLD:

Activity	Title of Activity	No.	Clientele	Duration	Venue On/Off	No. of Participant
Training	Production technology of high value crop	01	PF	01	On	30
Training	Orchard management	03	PF	01	On	30

7. Action Plan: Cluster Frontline Demonstration on Oilseed and Pulses 2021-22

Season	Crop	Variety	No. of area (ha)	No. of Demo.
Kharif	**Pulse**			
	Black gram	WBU-109	40	100
	Green Gram	HUM-16	40	100
	Pigeon pea	TJT 501/ IPA 203	30	75
	Horse gram	Birsa Kulthi-1	30	75
Rabi	Chick pea	JG-14 / PG-3043	20	50
Summer	**Pulse**			
	Green Gram	HUM-16	20	50
		Total	**180**	**450**
Kharif	**Oilseed**			
	Groundnut	TGT-37	50	125
	Sesame	RT-346	40	100
	Niger	Puja-1	40	100
Rabi	**Oilseed**			
	Rapeseed & Mustard	P-26/ P-30	100	250
	Linseed	Priyam	30	75
		Total	**260**	**650**
		Grand Total	**440**	**1100**

8. 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.	KisanMela	4										4000
3.	KisanGhosthi	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	1										100

	Sammelan											
22.	Soil health Camp	2										200
23.	Animal Health Camp											
24.	Agri mobile clinic	0										0
25.	Soil test campaigns (Analysis)	1										100
26.	Farm Science Club Conveners meet											
27.	Self Help Group Conveners meetings	2										100
28.	MahilaMandals 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**

9. On-farm trials to be conducted*

Home Science 1

i. Season: Rabi **(Ongoing)**

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. NandanaKumari	Dr Anil Kumar	Krishi Vigyan Kendra,
Home Science	Horticulture	Bokaro

Home Science 2

i. Season: Kharif **(Proposed)**
ii. Title of OFT: - Assessment of different kind of ripe jack fruit based jam.
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 different ripe jack fruit based jam.
ix. Existing Practice: Local people consume ripe jack fruit as such as fruit.
x. Hypothesis: Jam developed from ripe jack fruit may increase both income and its utilization of farm women.
xi. Objective: Bydeveloping jamfrom ripe jack fruit will increase utilization and income by farming community.
xii. Treatments:
F.P. : Local people consume ripe jack fruit just as fruit.
T.O.1: Preparation of jam ripe jack fruit.
Formulation - Ingredients
Jack fruit pulp 1 kg, Sugar – 700g, Citric acid 2.5g, pectin:10g
T.O. 2: Preparation of mixed jam from ripe jack fruit, papaya, guava and mango
Formulation - Ingredients
Well ripened jack fruit pulp juice – 600 g , Mango pulp–100 g,papaya pulp 100 g and guava pulp 100g, Citric acid-2.5 g,pectin10g.
Xiii. Critical Inputs: Sugar, citric acid, pectin and ripe jack fruit,papaya,mango and guava.
xiv. Unit Size: jam per kg
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:-The Asian JSournal of Horticulture
vol.12,Issue 1.june,2017 p160-164.

Incharge Scientist	Co-ordinating Scientist	Sr. Scientist & Head
Dr. NandanaKumari	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 cuppersulphate + 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 cuppersulphate + 50 g boric acid (soil application) in basin after harvest + foliar spray of 0.2% zinc sulphate + 0.1% cuppersulphate + 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. NeenaBharti	Krishi Vigyan Kendra,
Agronomy	Plant Protection	Bokaro

i. Season: Kharif

ii.Title of OFT:-Effect of sowing methods on forage productivity and economics of barseem.

iii. Thematic Area:-Fodder Production

iv. Problem diagnosed: Low forage productivity of barseem due to poor crop establishment.

v. Important Cause: Poor crop establishment due to improper sowing method.

vi. Production System: Irrigated Medium land

vii. Micro farming system: Rice- Fallow

viii. Technology for Testing: Sowing methods

ix. Existing Practice: Broadcasting sowing method of barseem.

x. Hypothesis: Improved sowing method of barseem may increase forage productivity of barseem.

xi. Objective: To increase the productivity & profitability ofbarseemby improved sowing methods.

xii. Treatments:

F.P. : Broadcasting method

T.O.1 : Line sowing at 30 cm

T.O. 2 : Puddling method

xiii. Critical Inputs: Seed

xiv. Unit Size: 200m^2

xv. No. of Replications: 07

xvi. Unit Cost: Rs.500

xvii. Total Cost: Rs.5000

xviii. Monitoring Indicator:

1.Plant population (/m^2)
2. No. of branches(/m^2)
3. Green forage yield (q/ha)
4. Economics

(i) Gross return (Rs./ha)
(ii) Net return (Rs./ha)
(iii) B:C ratio

xix. Source of Technology: BAU, Ranchi

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

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

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 ml/4lt 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	Sr. Scientist & Head
Mrs. NeenaBharti	Scientist	Krishi Vigyan Kendra,
Plant Protection	Dr. Anil Kumar	Bokaro
	Horticulture	

i. Season: Rabi
ii.Title of OFT: Management of pod borer *Helicoverpaarmigera* (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 Mrs. NeenaBharti Plant Protection	Co-ordinating Scientist Sri Uday Kumar Singh Agronomy	Sr. Scientist & Head Krishi Vigyan Kendra, 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.		

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

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												
Total	**1000**	**50**	**50**	**300**	**100**	**300**	**200**	**650**	**350**	**1000**	**10**	**5000**

KRISHI VIGYAN KENDRA

BOKARO

ACTION PLAN

(2021-22)

14th SAC Meeting

Dated: 30th December, 2020

BIRSA AGRICULTURAL UNIVERSITY
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CONTENT