ANNUAL PROGRESS REPORT

(April 2016 to March 2017)

KVK, BOLANGIR

ORISSA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY, BHUBANESWAR

Contents

Instructions for Filling the Format

1. **Do not change/modify/ delete any column of any of the table. However, additional rows can be created, if required.**
2. **Do not merge columns, rows.**
3. **Please repeat the name of KVK in each table in the column "Name of KVK"**
4. **Do not fill the non-numerical values in numeric field**
5. **Do not repeat the unit while reporting data as it is already mentioned in the heading row**
6. **Strictly fill the data in desired unit only. If it is reported in other unit, convert it in the desired unit**
7. **Please mention only standard English names of crops (Do not mention Urd, Arhar, Til, Kulthi, Moong, Bajra, etc.)**
8. **Additional relevant information may be provided at the end of Format by creating heading "Additional Information"**
9. **Also read the instructions mentioned just below the table**
10. **Your suggestions for improvement in the format for your simplicity as well as data compilation may be given at the end of the format**
11. **Do not press any Enter Key in any of the columns while making entry in the columns of the table. Use only arrow key /Tab key/ mouse pointer while movement from one column/row to another.**
12. **Grey color cells in summary table need not to be filled.**
13. **Crop name should be spelled correct and standard English name should be used i.e Cereals, Pulses, Oilseed:- Rice (not use Paddy), Wheat, Barley, Kodo, Kutki, Maize, Jwar, Bajra, Pigeon pea (not use Tur, Arhar, Red gram), Blackgram (not use Urd), Greengram (not use Moong/Moongbean), Chickpea (not use Gram, Chana), Field pea, Horse gram (Kulthi), Lentil, Mustard (not use Rai, Sarsoan), Soybean, Linseed, Groundnut, Sesame (not use Til), Niger (not use Ram Til), Safflower (not use Kusum).**
    Vegetable :- Vegetable pea, Bottle guard, Bitter guard, Okra (not use Bhindi or Ladies finger).
    Fruits :- Mango, Guava, Custard apple, Pear etc.
    Spices :- Black Peeper, Turmeric, Ginger, Cardamom etc.

REPORTING PERIOD – April 2016 to March 2017

Summary of KVK Annual Report (Quantifiable Achievement) for the year 2016-17

S.N.	Quantifiable Achievement	Number	Beneficiaries (nos.)	
1	**On Farm Testing**			
	Proposed OFT	**17**	162	
	On Going OFT	**1**	7	
	Technologies assessed (Completed OFT)	**16**	155	
	Technologies refined	**1**	5	
	On farm trials conducted	**17**	162	
2	**Frontline demonstrations**			
	Proposed Frontline demonstrations	14	127	
	On Going Frontline demonstrations	4	37	
	FLDs conducted on crops	11	97	
	Area under crops (ha.)	18.2	97	
	FLD on farm implement and tools	-	-	
	FLD on livestock/ AH enterprises (Dairy/ Sheep and Goat/Poultry/ Duckery/ Piggery etc.)	2	20	
	FLD on Fisheries - Finger lings	-	-	
	FLD on other enterprises (Bee keeping, lac, mushroom, sericulture, value addition, vermi compost, etc.)	-	-	
	FLD on Women in Agriculture - (Nutritional garden, Income generation, Value addition, Drudgery reduction, etc.)	1	10	
3	**Training programmes**	**No. of Course**	**Duration (days)**	**Participants**
	Farmers	34	34	850
	Farm women	9	9	225
	Rural youth	8	16	130
	Extension personnel/ In service	6	6	60
	Vocational trainings	1	5	10
	Sponsored Training			
	Total	58	70	1275
		No. of programmes	**Participants**	
4	**Extension Programmes**	1009	15437	
5	**Production of technology inputs etc**	**Qty**	**Beneficiaries (nos.)**	
	Seed (qt.)	205	To be supplied to OSSC	
	Planting material produced (nos.)	2,74,000	44	
6	**Livestock**	**Qty**	**Beneficiaries (nos.)**	
	Livestock strains (Nos)	-		
	Milk Yield - Cow, Buffelo etc. (in liter)	-		
	Fish (Kg.)	-		
	Fingerlings (nos.)	-		
	Poultry-Eggs (nos.)	-		
	Ducks (nos.)	-		
	Chicks etc. (nos.)	-		

7	**Bio Products**	**Qty**	**Beneficiaries (nos.)**	
	Bio Agents -Earth worm (Kg.)	-		
	Trichoderma (kg.)	-		
	Bio Fertilizers- Vermi compost, Rhizobium, PSB , BGA , Mycorriza , Azotobacter , Azospirillum etc. (Kg.)	-		
	Bio Pesticide-Panchgavya, Neem Extract , Neem oil etc.(lit.)	-		
8	**Any other significant achievement in the Zone**	**Nos.**	**Participants/ beneficiaries**	
	Award (Best KVK award and scientist and farmer's award)			
	Publications (Res. Paper/ pop. Art./Bulletin,etc.)			
	KVK News letter	3	1500	
	SAC Meetings conducted	1	35	
	Soil sample tested	88	675	
	Water sample tested	-	-	
	RWH System (Special training and field visit on RWH structure and MIS in KVKs)	-	-	
	KVK-KMA (Message and beneficiaries)	83	8000	
	Convergence programmes	7	210	
	Sponsored programmes	-	-	
	KVK Progressive Farmers interaction			
	No. of Technology Week Celebrations	5	150	
	Attended HRD activities organized by ZPD	6	6	
	Attended HRD activities organized by DES	22	25	
	Attended HRD activities by KVK Staff(Refresher /Short course, Training programme etc.)	-	-	
9	Current status of Revolving Funds (Amt. in Rs.)			
10		**No. of blocks**	**No. of villages**	
	Outreach of KVK in the District	12	35	
11		**ICAR**	**SAU**	**Others**
	No. of important visitors to KVK (nos.)	3	5	50
12		**Working (Yes/No)**	**No. of Update**	
	Status of KVK Website	Yes	74	
13		**Application received**	**Application disposed**	
	Status of RTI (nos.)	nil		
14		**Query received**	**Query dissolved**	
	Citizen Charter (nos.)	Nil		
15		**Working (Yes/No)**	**No. of programme viewed**	
	E-connectivity	N.A		
16		**Filled**	**Vacant**	
	Staff Position	10	6	
17	Workshop/ Seminar/ Conference attended by staff of KVK (nos)	10		
18	Publication received from ICAR /other organization (nos.)	25		
19		**Particulars**	**Organization**	
	Agri alerts (epidemic, high serious nature problem, Cyclone etc. reported first time to ZPD, SAU, Agri. Deptt. and ICAR)	-		

GENERAL INFORMATION

1.1. Staff Position (as on date)

Summary of Staff position in KVKs on March, 2017

Name of KVK	Sanctioned Posts	PC (1)		SMS (6)		PA (3)		Admn. (6)		Total	
		Sanc.	Filled	Sanc.	Filled	Sanc.	Filled	Sanc.	Filled	Sanc.	Filled
BOLANGIR	16	1	0	6	4	3	2	6	4	16	10

Name of KVK	Sanction post	Name of the incumbent	Discipline	Higist degree	Subject of specilization	Pay scale	Present pay	Date of joiing	Per./Temp.	Category
Bolangir	Sr. Scientist & Head	**Vacant**								
Bolangir	Scientist 1	Kamalakanta Behera	Agril. Extension	M.Sc(Ag)	Agril. Extension	15600+6000	19810+6000	19.04.10	Permanent	Others
Bolangir	Scientist 2	Smt. Sasmita Purohit	Home Sc	M.Sc (H.Sc.)	Food & Nutrition	15600+6000	23950+6000	11.06.10	Permanent	Others
Bolangir	Scientist 3	Smt. Swagatika Srichandan	Horticulture	PhD	Vegetable Science	15600+6000	19810+6000	19.08.11	Permanent	Others
Bolangir	Scientist 4	Ashis Kumar Das	Plant Protection	M.Sc(Ag)	Agril. Entomology	15600+6000	23950+6000	26.12.11	Permanent	Others
Bolangir	Scientist 5	**Vacant**								
Bolangir	Scientist 6	**Vacant**								
Bolangir	Programme Assistant	**Vacant**								
Bolangir	Farm Manager	Sagarika Muna	Horticulture	M.Sc(Ag)	Horticulture	9300+4200	10130+4200	01.01.16	Contractual	Others
Bolangir	Programme Asst. (Comp)	Sri Rabi Narayan Satapathy	Computer	MCA	Information technology	9300+4200	15830+4200	13.11.09	Permanent	Others
Bolangir	Accountant / superintendent	**Vacant**								
Bolangir	Stenographer	**Vacant**								
Bolangir	Driver	Biswabasi Sarangi	Driver cum Mechanic	Under Matric	-	5,200+1900	5870+1900	14.02.14	Contractual	Others
Bolangir	Driver	Upendra Mishra	Driver cum Mechanic	Matric	-	5200+1900	6860+ 1900	06.05.11	Permanent	Others
Bolangir	Supporting staff	Prafulla Palei	Peon-cum-Watchman	Under Matric	-	4750+1500	6230+ 1300	28.06.14	Permanent	Others
Bolangir	Supporting staff	Krushna Ch Rout	Peon-cum-Watchman	Under Matric		4750+1500	5140+1500	01.12.14	Permanent	Others

1.2. DISTRICT PROFILE (detail of geographical area, cultivation, Land, resources, opportunities, irrigation, populations etc.)–

KVK Name	Agro-climatic zone	No . of Blocks	No. of Panchayats	Population	Literacy	SC and ST Population	No. of farmers	Average land holding
Bolangir	West central table land zone	14	285	16,48,000	65.5	6,41,941	1,95,112	1.11 ha

01	Agro-climatic zone	West central table land zone	
01	Geographical area in ha		6,57,500
02	Location	Longitude	82^0 39' E to 85^0 15' E
		Latitude	20^0 9' N to 21^0 5' N
03	Forest area (ha)		154385
04	Cultivated area (ha)	Highland	1,89,325
		Medium land	70,155
		Low	85,995
		Total	3,45,475
05	Irrigated area (ha)	Kharif	**76,770**
		Rabi	**30,100**
06	No. of Sub-division		03
07	No. of Blocks		14
08	No. of G.P.		285
09	No. of D.A.O. circle		03
10	No. of A.A.O. circle		28
11	No. of PACS		160
12	No. seeds sale centre	Govt.	28
13	Population as per 2011 census		16,48,997
		Male	8,30,097
		Female	8,18,900
14	Sex ratio		984
15	SC Population		2,94,777
16	ST population		3,47,164
17	Literacy rate		65.50 %
18	Average holding size in ha		1.11
19.	Average Rain fall		1289 mm
20.	Soil type		Mixed Red & black, Red, Laterite & Mixed red and yellow

1.3. DETAILS OF ADOPTED VILLAGE during the reporting period (Approved by competent Authority in meetings/workshops)

KVK Name	Village Name	Year of adoption	Block Name	Distance from KVK	Population	Number of farmers (having land in the village)
Bolangir	Uparjhar	2013	Deogaon	32	1207	152
Bolangir	Kaudia	2013	Patnagarh	42	506	90
Bolangir	Saragada	2013	Gudvella	39	634	98
Bolangir	Banabahal	2013	Puintala	20	534	103
Bolangir	Kareldhua	2010	Saintala	35	592	112

1.4. THRUST AREAS identified by KVK (Approved by competent Authority in meetings/workshop)

KVK Name	THRUST AREA
Bolangir	Crop diversification
Bolangir	Integrated Nutrient Management practices
Bolangir	Integrated Disease and Pest Management
Bolangir	Quality seeds and seedling production
Bolangir	Income generating activities for rural women/ school dropouts
Bolangir	Value addition to seasonal vegetables/fruits
Bolangir	Proper health management of domestic animals & birds
Bolangir	Weed management & Soil processing
Bolangir	Substitution of ruling varieties with improved/hybrid varieties
Bolangir	Market linkage and production strategies
Bolangir	Recycling of farm wastes through vermicomposting
Bolangir	Farm mechanization/drudgery reduction of farm women
Bolangir	Off season vegetable cultivation
Bolangir	Promotional of nutritional garden for nutritional security
Bolangir	Introduction of suitable varieties with improved packages of practices
Bolangir	Effective use of family labour through need based livelihood option

1.4. PROBLEM IDENTIFIED by KVK (Approved by competent Authority in meetings/workshop)

KVK Name	Problem identified	Methods of problem identification	Location Name of Village & Block
Bolangir	Severe soil erosion in sloppy uplands	Through PRA tools and Discussion with the group of farmer, farm women and rural youth	Budabahal,saintala Banabahal, Puintala
Bolangir	Soil acidity - Poor knowledge about soil testing and soil health management	Through District soil map and discuss with line department officers (Soil Chemist) and sample soil testing	Saragada, Gudvella Kaudia, Patnagarh, Budabahal,saintala
Bolangir	Non availability of waste land management techniques	Group discussion, PRA in sample villages	Kaudia, Patnagarh Uparjhar, Deogaon
Bolangir	Low and imbalance use of manures and fertilizers in all crops	Farmers meetings, harvest report, sample testing of crop & discuss with line department officers	Kareldhua, Saintala Banabahal, Puintala
Bolangir	Severe crop weed competition in Kharif upland crops	Discuss with farmers, crop observation, sample study and PRA	Saragada, Gudvella Uparjhar, Deogaon, Budabahal,saintala
Bolangir	Non availability of adequate inputs (seed, fertilizer, pesticides) in time	Discuss with farmers and fertilizer dealers, discuss with district administration and JQCI of agriculture department	Budabahal,saintala Banabahal, Puintala Saragada, Gudvella Kareldhua, Saintala,
Bolangir	Lack of storage facility for fruits and vegetables	Sample study, discuss with district civil officer, discuss with fruit & vegetable merchant, discuss with farmers and horticulture officer	Kareldhua, Saintala Kaudia, Patnagarh Uparjhar, Deogaon

Bolangir	Poor nutrient status and low water holding capacity of soil	Discuss with soil chemist & soil scientists of Zonal Research Station & ICAR institute and sample testing of soils of different villages	Banabahal, Puintala Saragada, Gudvella Uparjhar, Deogaon Budabahal, saintala
Bolangir	Lack of irrigation facility during Rabi/Summer except Hirakud command area	Discuss with farmers, discuss with irrigation department & district civil administration and personal observation during field visit.	Saragada, Gudvella Kaudia, Patnagarh Kareldhua, Saintala
Bolangir	Low availability and adoption of dryland farming technique	Through PRA tools and Discussion with the group of farmer, farm women and rural youth	Banabahal, Puintala Uparjhar, Deogaon Saragada, Gudvella
Bolangir	Inadequate knowledge about post harvest technology	Discuss with village leaders and old farmers, discuss with line department, sample observation, personal observation during field visit	Budabahal,saintala Banabahal, Puintala

2. On Farm Testing (OFT)

Note-

- **Thematic area should be spelled correct and follow standard pattern i.e. Integrated Nutrient Management in place of INM or Inte. Nutrient Mngt. Etc.**
- **Crop name should be spelled correct and standard English name should be used i.e Chick pea in place of gram/chana , Paddy in place of Rice/chawal , brinjal in place of egg plant/bhata/baigan etc.**
- **Don't press enter key to navigate among column use arrow or tab key**
- **don't add space before or after statement within the table cell**
- **Kindly mention realistic estimated yield of your crop under trail.**
- **If crop has been not yet harvested, mark it * on that**

2.1 Information about OFT

KVK name	Year	Season	Problem diagnose	Title of OFT	Category of technology (Assessment/ Refinement)	Thematic Area	Crop/ enterprise	Farming Situations	No. of trials	Results (q/ha)			Net Returns (Rs./ha)			Recommendations
										FP (T_1)	RP (T_2)	T3	FP (T_1)	RP (T_2)	T3	
Bolangir	2016-17	Kharif	Low yield of Pointed gourd due to moderate to severe infection of leaf spot & blight disease.	Assessment of chemical management of Cercospora and Alternaria disease of Pointed gourd	assessment	Integrated pest management	Crop	Irrigated upland	7	210	224		171000	183400		Seed treatment with carboxin+thiram @ 2gm/lit; spray of Cymoxanil 8 WP + Mancozeb 64WP @ 3gm/lit at 10DAI
Bolangir	2016-17	Rabi	Low yield of Chilli due to infestation of mite & thrips at reproductive	Assessment of suitable management schedule for mite &	assessment	Integrated pest management	Crop	Rabi, Irrigated upland;	7	110.7	133.5		206750	257750		Need based spraying of Fenpyroximate @ 1 ml/lit & Acetamiprid

			stage of crop .	thrips infestation in Chilli												@ 0.4 gm/lit alternately at 10 DAI
Bolangir	2016-17	kharif	No/Low income generation from under and no utilisation of backyard which can be brought under Pomogranate under poor management practices	Assessment of suitable pomegranate var. mridula & bhagwa	**assessment**	Fruit culture	Crop	Irrigated upland	7							*
Bolangir	2016-17	rabi	Low yield of Cauliflower due to moisture stress during critical period of crop growth . Farmers find difficulty to irrigate the crop at maturity stage causing small sized curd with bigger leaves	Assessment of performance of pusa hydrogel in cauliflower for moisture conservation	**assessment**	Weed and water management	Crop	Irrigated upland	10	300	325		109484	126484		Pusa hydrogel causes meager mortality of seedlings during transplanting in the main plot.Reduction in leaching of fertilizer.increase in Yield by 8.3%
Bolangir	2016-17	Post kharif	High cost of foundation seed or unavailability of true to type seed for farmers Seeds procured from market are often of poor quality and not season specific ; resulting poor germination/ poor growth / susceptible to diseases.	Assessment of seed production in onion	**assessment**	Quality seeds & seedling production	crop	Irrigated upland	7	3.7	4.5		231812	300812		Germination % is 83%.Thus farmers can store the seeds and use in the next season

Bolangir	2016-17	kharif	Low yield from cultivation of local varieties of Banana (Bhusabali) . Farmers uproot poor quality suckers from mother plants and plant in a disorganised manner in the main field.	Assessment on banana variety G-nane and DC	**refinement**	Varietal substitution	crop	Irrigated upland	7	346.8	675	621	137100	497500	444000	Cultivation of G naine var of tissue culture banana is more profitable than DC var. with 25-30 kg of bunch weight
Bolangir	2016-17	rabi	Low yield of Onion due to weed infestation (185 Q/ ha. , in 500 ha.) and no application of Sulphur	Assessment on performance of sulphur application in onion	**assessment**	Nutrient management	Crop	Irrigated medium land	7	283	332		130212	167292		Sulphur helps in better storability of bulbs.Increase in yield by 17.3%
Bolangir	2016-17	Kharif	Low yield from paddy var.like Lalat,Pooja,sahabhagi due to moderate/severe weed infestation. Inadequate knowledge on herbicide application	Assessment of performance of herbicides in medium land transplanted paddy	**Assessment**	Weed management	Paddy	Kharif,medium land,rainfed, Rice-fallow	7	35.2	44.2	44.6	16767	21460	21980	Post emergence application of Byspyribac sodium @ 200 ml/ ha at 20 DAT is better as compared to Londex power @ 10 kg/ha at 3-7 DAT
Bolangir	2016-17	Rabi	Low yield due to local variety and neglected nutrient management.Inadequate irrigation due to water scaricity in Rabi	Assessment of performance of foliar application of nutrients on yield of greengram crop	**Assessment**	Nutrient management	Greengram	Rabi,medium land paddy	7	4.8	7.3	7.7	12500	22100	23300	Foliar application of 2 % DAP one at preflowering and other at 15 days of first spray is more effective
Bolangir	2016-17	Rabi	Rice vars like Lalat,Pooja atre grown with	Assessment of rice based paira	**Assessment**	Rice based paira cropping	Paddy	Rabi,medium land paddy	7	35	35.2, 4.1	35.5, 6.1	10500	21260	31650	Rice-paira greengram (TARM-1) is

			avg.yield 26.5qtl/ha.Lack of irrigation restricts the farmers to go for 2nd crop	cropping systems I rice fallow												more successful than Chickpea as paira
Bolangir	2016-17	Rabi	Low yield of Groundnut due to severe weed infestation in upland condition in around	Assessment of herbicides against weed management in Groundnut	**Assessment**	Weed management	G.nut	Rabi, medium land	7	10.06	13.42		22300	36100		Post emergence application of Imazethapyr @ 750 ml/ha at 15-20 DAS + one hand weeding is most effective than Quizalfop ethyl @ 1000 ml/ha and Oxyflorofen @ 200 ml/ ha.

2.2 Economic Performance

KVK name	OFT Title	Parameters			Average Cost of cultivation (Rs/ha)			Average Gross Return (Rs/ha)			Average Net Return (Rs/ha)			Benefit-Cost Ratio (Gross Return / Gross Cost)		
		Name and unit of Parameter	FP (T_1)	RP (T_2)	FP (T_1)	RP (T_2)	Refined Practice, if any (T_3)	FP (T_1)	RP (T_2)	Refined Practice, if any (T_3)	FP (T_1)	RP(T_2)	Refined Practice, if any (T_3)	FP (T_1)	RP (T_2)	Refined Practice, if any (T_3)
Bolangir	Assess-ment of chemical manag-ement of Cerco-spora and Alternaria disease of Pointed Gourd	Extent of infection of disease ; %	26	15	60000	63000		231000	246400		171000	183400		3.85	3.91	

Bolangir	Assess-ment of suitable manageme nt schedule for mite & thrips infestation in Chilli	Extent of infection of disease ; %	32.14	14	70000	76000		276750	333750		206750	257750		3.9	4.39	
Bolangir	Assessme nt of suitable pomegran ate var. mridula & bhagwa	*														
Bolangir	Assessme nt of performan ce of pusa hydrogel in cauli-flower for moisture conservati on	Plant height(cm),ro ot wt.(gm),irrigat ion interval(days)	30,175,5	40,255,8	70516	68516		180000	195000		109484	126484		2.5	2.8	
Bolangir	Assessme nt of seed production in onion	Germination(%),seed wt/umbel (gm)	70,2.25	83,2.83	101188	104188		333000	405000		231812	300812		3.29	3.8	
Bolangir	Assessme nt on banana variety G-nane and DC	Bunch weight(kg)	17	25	270900	306850	-	408000	777600	-	137100	470750	-	1.5	2.53	-
Bolangir	Assessme nt on performan ce of sulphur applicatio n in onion	Diameter of bulb(cm),neck diameter(cm), average bulb wt.(gm)	4.3,1.33,65	7.8,1.25,110	96188	98308	-	226400	265600	-	130212	167292	-	2.35	2.7	-

Bolangir	Assessment of performance of herbicides in medium land transplanted paddy	Weedbiomass, gm	110.6	37.8	35000	42000	42000	51760	63460	63980	16760	21460	21980	1.4	1.5	1.5
Bolangir	Assessment of performance of foliar application of nutrients on yield of greengram crop	No.of pods/plant	19	27	16300	21700	21700	28800	43800	45000	12500	22100	23300	1.7	2.01	2.07
Bolangir	Assessment of rice based paira cropping systems in rice fallow	No.of pods/plt		22(greengram)35(chickpea)	35000	45000	48000	45000	66260	76650	10500	21260	28650	1.3	1.4	1.5
Bolangir	Assessment of herbicides against weed management in Ground-nut	weeds per sq. mt ; no.	393.8	31.53	28000	31000		50300	67100		22300	36100		1.8	2.16	

2.3 Information about Home Science OFT: (For All Thematic Area)

KVK Name	Year	Season	Problem diagnose	Title of OFT	Category of technology (Assessment/ Refinement)	Thematic Area	Details of Technology Selected for Assessment	Characteristics of Technology / Variety / Product / Enterprise	Farming / Enterprise Situation	No. of trials	Recommendations
Bolangir	2016	Kharif	Low yield (1 kg/ bed) from cultivation of local paddy straw mushroom(*Volvariella volvacea*) during kharif	Assessment of suitable paddy straw mushroom production in Kharif season	Assessment	Mushroom cultivation	Cultivation of high yielding paddy straw mushroom strain OSM-11 & OSM-12	OSM-11 : Greyish black fruiting body, Av. fruit body wt. – 30 gm OSM- 12 : Grey fruiting body, Av. fruit body weight – 25 gm For both : Temp. range 25-38 degree C (32-34 deg C. optimum), Humidity > 80%, Biological efficiency 15%(av)	Homestead backyard	7	Yield of OSM12 is 1.5 times more in 25-38 degree C than V.volvacea in Kharif
Bolangir	2016-17	Rabi	Low yield of Oyster mushroom due to cultivation of ruling strain of Dhingri mushroom .	Assessment of suitable Dhingri mushroom strain for increased productivity and income .	Assessment	Mushroom cultivation	Cutting the straw into 2 inches,soaking in water for 12hrs,boiling the straw for 30mins.,preparation of bed by using 200 gm of spawn inside a polythene of80x40 cm	*Pleurotus pulmonarius : Pale white in colour, duration 21-24 days . Hibsizygus ulmarius : Pale blue in colour, duration 26 days. Both require o*ptimum temp. 20-30 degree C, humidity 70-95 %, Ideal time is Nov-Feb. ; Yield 1.5 times more than that of *T. sajorkaju*	IHomestead backyard	7	Yield of *Hibsizygus ulmariusis 30% more than P. sajorcaju in 20-30 degree C*
Bolangir	2016	Kharif	Low yield of milk from cross bred cows @ 5-6 lit/ day due to poor diet and administration of local mineral mixture.	Assessment of area specific mineral mixture on the performance of milk yield in cross bred cows	Assessment	Nutritional management	Feeding with green fodder 20 kg /day/ cow with other feed,Administration of area specific (i.e. Bolangir) mineral mixture @ 50 gm/ cow/ day for 90 days	The mineral mixture contains Ca, P, Zn, Cobalt, Copper, Iodine & manganese (trace),& in powder form and ready to mix with rhe diet of livestock.	Homestead backyard	7	Suitable technology for increasing milk yield of around 18 to 25%

Bolangir	2016	Kharif	Little or no flowering in Mango orchard in alternate years leading to low / no yield & Farmers having mango orchard gets no/poor income in alternate years	Assessment of *Paclobutrazol* application for inducing regular bearing habit in Mango	Assessment	Income generation	Drenching of Paclobutrazol @ 15 ml/ 10 lit. of water in the root zone of plant (7-15 yr old orchard) , 3 ft away from trunk in the month of September	Gibberlic Acid inhibits flowering habit . Paclobutrazol blocks synthesis of GA and hence flowering habit is regained	Rainfed upland	7	Good technology for uniform flowering,regular flowering,,early flowering,more flowering in mango plants
Bolangir	2016-17	Rabi	High post-harvest loss due to moderate damage of pulses by bruchid borers in domestic storage condition	Assessment of user friendly, indigenous techniques for safe storage of grain pulses	Assessment	Post harvest technology	Application of mixture (2 kg lime with 10 kg wood ash) per qtl of grain pulse till consumption	Lime and wood ash mixture have dehydrating / corrossive properties on chitin and inhibits growth of grubs and pulse pests in the storage condition. And improves keeping quality upto 6-8 months	IHomestead Backyard	7	This technology helps to improve the keeping quality of pulse grains upto 6-8 months

2.4 (A) Economic Performance Home Science OFT: (For Drudgery Reduction)

KVK name	OFT Title					Performance Indicator / Parameter									
		Output m2/h		Est. Energy Expenditure kj/min.		WHR beat/min		% reduction in drudgery		% increase in efficiency		Cardiac Cost of Work		% Saving of cardiac Cost	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2

2.4 (B) Economic Performance Home Science OFT: (For Income Genration)

KVK name	OFT Title	Performance Indicator / Parameter											
		Production per unit		Cost of input		Incremental income		Yield(Kg/ha)		Net Return		Saving in Rs	BC ratio
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2		
Bolangir	Assessment of suitable paddy straw mushroom	10	12 15	900	900 900	1600	1920 2400	10	12 15	700	1020 1500	320 800	2.13 2.66

	production in Kharif season												
Bolangir	Assessment of suitable Dhingri mushroom strain for increased productivity and income .	20	21 23	500	500 500	1600	1680 1840	20	21 23	1100	1180 1340	80 240	3.36 3.68
Bolangir	Assessment of area specific mineral mixture on the performance of milk yield in cross bred cows	45	50	500	530	1350	1500	45	50	850	970	120	2,83
Bolangir	Assessment of *Paclobutrazol* application for inducing regular bearing habit in Mango	70	100	400	445	1050	1500	70	100	650	1055	405	3.37
Bolangir	Assessment of user friendly, indigenous techniques for safe storage of grain pulses	10	10	21000	22000	55200	58800	10	10	34200	36800	2600	2.67

2.4 (C) Economic Performance Home Science OFT: (For value addition)

KVK name	OFT Title	Performance Indicator / Parameter													
		Composition of product		Input used		outcome (Kg)		Cost of input		Incremental income		Net Return		Saving in Rs	BC ratio
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2		

2.4(D) Economic Performance Home Science OFT: (For Nutritional security)

KVK name	OFT Title	Performance Indicator / Parameter		Nutrient Intake (Unit)				Anthropometric measurements		
		Name of vegetable/Fruit/Product	Per capita Consumption gm/ day	Energy (kcal)	Protein (gm)	Iron (mg)	Calcium (mg)	Increase in Weight (Kg)	Increase in Height (cm)	Increase in BMI (%)

		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2

Production per unit:kg/10 beds (i.e. unit), **Yield (kg/ha):** kg/10 beds (i.e. unit)
Production per unit:kg/10 beds (i.e. unit), **Yield (kg/ha):** kg/10 beds (i.e. unit)
Production per unit: Milk yield in lit/10 cows (i.e. unit), **Yield (kg/ha):** Milk yield in lit/10 cows (i.e. unit)
Production per unit:kg/1 mango plant (i.e. unit), **Yield (kg/ha):** kg/1 mango plant (i.e. unit)
Production per unit:qtl/ha (i.e. unit), **Yield (kg/ha):** qtl/ha (i.e. unit)

2.5 Feedback from KVK to Research System

Name of KVK	Feedback
Bolangir	Pomegranate var. Bhagwa grows well under dry climatic condition.
Bolangir	Application of semi synthetic super absorbent polymer (coated carboxyl methyl cellulose) Pusa hydrogel during transplanting of seedlings helps in less mortality and better root spread.
Bolangir	Low temp resistant variety of high yielding paddy straw mushroom strain OSM-12 may be developed
Bolangir	High temp resistant variety of Hibsizygus ulmarius may be developed

3. Achievements of Frontline Demonstrations (FLD)

3.1. Follow-up for results of FLDs implemented during previous years

List of technologies demonstrated and popularized during previous years and recommended for large scale adoption in the district

KVK Name	Crop/ Enterprise	Thematic Area	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
					No. of villages	No. of farmers	Area in ha
Bolangir	Crop	Fruit plant Canopy management	Behading the plant at 75 cm above ground level and allowing 4 primary & 3 secondary with open center.	Field day, Training to extension functionaries, Diagnostic visit, technology week.	40	95	150
Bolangir	Low cost Poly tunnel	Income generation	Low cost polytunnel can cover the bed in ht. of 2 ft from the soil and can partially control the temp. & humidity for better germination of seedling	Field day	5	20	-
Bolangir	Rainbow rooster chicks	Poultry management	Rearing of 8 days old R.rooster chicks with proper vaccination & feed management	Field day	15	120	-
Bolangir	Mushroom	Mushroom cultivation	Soaking ground nut hull in water for 20 hrs,boiling in water for 30 mins ,drain excess water &preparation of bed	Field day	11	46	-

Note-

- **Thematic area should be spelled correct and follow standard pattern i.e. Integrated Nutrient Management in place of INM or Inte. Nutrient Mngt. Etc.**
- ***Crop name should be spelled correct and standard English name should be i.e Chick pea in place of gram, Paddy in place of Rice , brinjal in place of egg plant etc.**
- ***Don't press enter key to navigate among col use arrow or tab key**
- ***don't add space before or after statement within the table cell**
- **Kindly mention realistic estimated yield of your crop under Demonstration.**
- **If crop has been not yet harvested, mark it * on that**

3.2 Details of FLDs implemented

KVK Name	year	Season	Thematic area	Technology demonstrated	Name of Crop/ Enterprise	Name of Variety/Technology/Entreprizes	Crop- Area (ha) / Entrep - No.	Results (q/ha)		% change	No. of farmers				
								FP (T_1)	RP (T_2)		SC	ST	Others	General	Total
Bolangir	2016-17	Kharif	Varietal substitution	Seed rate 300g/ha,planting time aug-sept,120:85:50 NPK kg/ha	brinjal	Arka neelachal shyama	0.5	340	392	15.3	1	-	6	-	7
Bolangir	2016-17	Rabi	Fruit plant canopy management	Beheading the plant at 75 cm above ground level and allowing 4 primary and 3 secondary with open center	Mango	Amrapalli, Dasehari	7	*			-	4	3	-	7
Bolangir	2016-17	kharif	Integrated nutrient management	Tank 1contains MgSO4 (9 kg), NPK (8 Kg) in 500l water. Tank 2 contains CaNO3 (13 kg), Borax (200 g), ZnSO4 (200g) in 500 l water.Tank 1 and 2 are applied alternately for 10 min depending upon the stage of plant.	Chilli	Krishna, 151	7	150	182	21.3	-	-	7	-	7
Bolangir	2016-17	rabi	Varietal substitution	Spacing 1.5mX0.9m,seed rate-500g/ha, stacking , pruning of shoots,B& Zn application @10 kg and 25 kg per ha.	tomato	Swarna sampad	6	320	770	140	2	-	4	-	6
Bolangir	2015-16	Kharif	Weed management	Demonstration of Herbicide Ethoxysulfuron 15WDG@75gm/ha at 0-5 DAT	Paddy	Pooja	2	35.5	40.7	14.6	2	-	8	-	10

Bolangir	2015-16	Kharif	Integrated Nutrient Management	Soil application of Sulphur @12kg/ha and foliar application of Borax @5ml/ltr at the time of flowering and pod formation along with RDF	G.nut	Devi	2	12.3	17.8	44.7	-	-	10	-	10
Bolangir	2016-17	Rabi	Pulse Production	seed dressing, soil micro nutrients zinc sulphate ,Plant Protection measures as per need	Chickpea	JG-11	10	5.2	12.5	140	-	-	25	-	25
Bolangir	2016-17	Rabi	Oilseed Production	soil micronutrients application zinc sulphate & Boron,PP Chemical as per need	Mustard	M-27	10	3.8	5.9	55.2	5	3	15	-	23
Bolangir	2016-17	Kharif	Pulse Production	Application of Herbicide,nutrient spray &Plant protection measures as per need	Groundnut	ICGV 91114	15	11.4	13.4	17.5	5	-	28	5	38
Bolangir	2016-17	Rabi	Pulse Production	Seed dressing, application of herbicide & soil application of Zypmite plus,1% DAP as foliar spray, need based PP measures	Greengram	Pusa 9072	30	4.4	7.8	77.2	10	16	49	-	75
Bolangir	2016-17	Rabi	Oilseed Production	Application of Herbicides,soil micronutrients application zinc sulphate & Boron,PP Chemical as per need	Sesamum	Uma	10	3.2	6.1	59	3	2	15	-	20
Bolangir	2016-17	Rabi	Pulse Production	Seed dressing, application of herbicide & soil application of Zypmite plus,1% DAP as foliar spray, need based PP measures	Blackgram	PU-35	10	4.2	7.1	69	5	3	51	-	59
Bolangir	2016-17	Kharif	Integrated pest management	Seed treatment with Imida @ 5 gm/ Kg + Release of Trichocard 3 times @ one card per acre at 10 days interval + Erection of P. trap @ 20/ ha.+ need based spraying of E. Benzoate @ 0.5 gm/lit for management of Okra shoot and fruit borer	Okra	JK seeds	1	105.9	125.5	18.5	1	1	8	-	10
Bolangir	2016-17	Kharif	Integrated pest management	Seed dressing with Rhizobium @ 20 gm/ lit, Seed treatment with Imida @ 7gm / kg seed, Foliar application of 1 % DAP and need based application of cartap hydrochloride @ 1 gm/lit to manage leaf webber & ensure fast growth.	Arhr	Asha	1	5.53	8.01	44.8	7	1	2	-	10

Bolangir	2016-17	Rabi	Integrated pest management	Seed treatment with Imidacloprid 70 % WS @ 5 gm / kg ; Maintenance of plant population @ 40-45/ sq mt., Erection of yellow trap @ 25/ha.; need based spraying of Difenthiuron @ 0.5 gm/lit for management of YMV disease	Greengram	Jhain moong	2	3.9	5.65	44.8	1	-	9	-	10
Bolangir	2016-17	Rabi	Integrated pest management	Growing of Marigold seedlings along the bund as trap crop; Baiting with rice bran+ Gur + DDVP ; Erection of Pheromonr trap @ 20/ ha.; need based spraying of Emmamectin Benzoate @ 1 ml/ lit to manage Fruit borer	Tomato	JK desi	1	289.5	320.1	10.56	1	1	7	1	10

3.3 Economic Impact of FLD

KVK Name	Technology demonstrated	Name of Crop/ Enterprise	Parameters			Cost of cultivation (Rs/ha)		Gross Return (Rs/ha)		Average Net Return (Rs/ha)		Benefit-Cost Ratio (Gross Return / Gross Cost)	
			Name and unit of Parameter	FP (T_1)	RP (T_2)	FP (T_1)	RP (T_2)	FP (T_1)	RP (T_2)	FP (T_1)	RP (T_2)	FP (T_1)	RP (T_2)
Bolangir	seed rate 300g/ha, planting time aug-sept, 120:85:50 kg/ha	Brinjal	No. of fruit per kilo.	5	7	83250	85700	204000	235200	120750	149500	2.45	2.7
Bolangir	Behading the plant at 75 cm above ground level and allowing 4 primary & 3 secondary with open center.	Mango	*										
Bolangir	Tank 1contains MgSO4 (9 kg), NPK (8 Kg) in 500l water. Tank 2 contains CaNO3 (13 kg), Borax (200 g), ZnSO4 (200g) in 500 l water.Tank 1 and 2 are applied alternately for 10 min depending upon the stage of plant.	Chilli	Pod length(cm) ,pod girth(cm)	6.7,2.6	9,3.1	91900	94250	300000	364000	208100	269750	2.6	3.1
Bolangir	Spacing 1.5mX0.9m,seed rate-500g/ha, stacking , pruning of shoots,B& Zn application @10 kg and 25 kg per ha.	Tomato	No. of fruits/plant ,plant height(cm) ,average fruit weight(gm)	43,80,90	72,150,82	60000	80000	160000	385000	100000	305000	2.7	4.8

Bolangir	Application of Herbicide,nutrient spray &Plant protection measures as per need	Groundnut	No.of pods/plant	11	20	33,100	35,200	62,700	73,700	29,600	38,500	1.8	2.0
Bolangir	seed dressing, soil micro nutrients zinc sulphate ,Plant Protection measures as per need	chickpea	No.of pods/plant	18	60	19,300	25,400	26000	62,000	6,700	36,600	1.3	2.4
Bolangir	Seed dressing, application of herbicide & soil application of Zypmite plus,1% DAP as foliar spray, need based PP measures	Greengram	No.of pods/plant	20	28	16300	21700	26,400	46,800	10,100	25,100	1.6	2.1
Bolangir	Seed dressing, application of herbicide & soil application of Zypmite plus,1% DAP as foliar spray, need based PP measures	Blackgram	No.of pods/plant	18	26	16,200	21,100	25,200	42,600	9000	21,500	1.5	2.0
Bolangir	Application of Herbicides,soil micronutrients application zinc sulphate & Boron,PP Chemical as per need	Sesamum	No.of capsules/plant	16	30	10,200	15,100	16,000	30,500	5800	15400	1.5	2.0
Bolangir	soil micronutrients application zinc sulphate & Boron,PP Chemical as per need	Mustard	No.of siliqua/plant	18	50	15,200	17,300	22,800	35,400	7600	18,100	1.5	2.04
Bolangir	Seed treatment with Imida @ 5 gm/ Kg + Release of Trichocard 3 times @ one card per acre at 10 days interval + Erection of P. trap @ 20/ ha.+ need based spraying of E. Benzoate @ 0.5 gm/lit for management of Okra shoot and fruit borer	Okra	Extent of fruit damage ; %	20.4	11.5	45000	50000	127080	150600	82080	100600	2.83	3.01
Bolangir	Seed dressing with Rhizobium @ 20 gm/ lit, Seed treatment with Imida @ 7gm / kg seed, Foliar application of 1 % DAP and need based application of cartap hydrochloride @ 1 gm/lit to manage leaf webber & ensure fast growth.	Arhar	Extent of plants infested ; %	21.4	12.4	18000	20000	38710	56070	20710	36070	2.15	2.8
Bolangir	Seed treatment with Imidacloprid 70 % WS @ 5 gm / kg ; Maintenance of plant population @ 40-45/ sq mt., Erection of yellow trap @ 25/ha.; need based spraying of Difenthiuron @ 0.5 gm/lit for management of YMV disease	Greengram	Extent of plants infected ; %	29.1	16.3	15000	18000	27300	39500	12300	21550	1.82	2.2

Bolangir	Growing of Marigold seedlings along the bund as trap crop; Baiting with rice bran+ Gur + DDVP ; Erection of Pheromonr trap @ 20/ ha.; need based spraying of Emmamectin Benzoate @ 1 ml/ lit to manage Fruit borer	Tomato	Extent of fruits damaged ; %	21.7	10.9	62000	65500	144750	160050	82750	94550	2.33	2.46
Bolangir	Soil application of Sulphur @12kg/ha and foliar application of Borax @5ml/ltr at the time of flowering and pod formation along with RDF	Groundnut	No. of pods/plant	12	20	33100	35200	61500	89000	28400	53800	1.8	2.5
Bolangir	Demonstration of Herbicide Ethoxysulfuron 15WDG@75gm/ha at 0-5 DAT	Paddy	Weed biomass:(g m/m^2)	108.5	33.4	35000	37000	46150	52910	11150	15910	1.3	1.4

3.4 Information about Home Science FLDs - (For All Thematic Area)

KVK name	Year	Season	Thematic Area	Problem Identified	Technology to be Demonstrated as Solution to the Identified Problem	Crop/ Enterprise (In which crop Enterprise or Farming Activity)	Name of Variety/Technology/Entreprizes	Farming Situation	Proposed area (ha)	No. of Beneficiaries
Bolangir	2016	Kharif	Fodder cultivation	Non-availability of quality fodder for milch cow throughout the year	Cultivation of hybrid napier of two noded slits as planting material, planting at 50x50 cm with application of soil test based fertilizer; (FYM 10 kg, DAP 2 kg , MOP 2 kg) per pit, Trans-planting in June & onwards	*Crop*	Hybrid napier –CO3	Irrigated backyard	0.2ha	10
Bolangir	2016-17	Rabi	Goatery management	Low income of small and marginal farm family due to	Improvement of breed quality for high meat yield and low mortality	Enterprise	Beetle buck	Homestead	1 Beetle buck	10

				rearing of local low meat yielding breed and high kid mortality						
Bolangir	2016-17	Rabi	Feed management of live stock	Low yield of milk due to consumption of dry straw and scanty available mix of grass weeds while foraging	First soak 10 kg of straw in water for 15 mins,drain out excess water then prepare a paste by adding 150 gm maize powder+100 gm salt+150 gm Jaggery+200 gm dicalcium phosphate in 1 lit of water.Add the paste in soaked straw and cover a polythene for 4 hrs & then give it to milch cow upto 3 kg per day	Enterprise	Feeding of urea treated straw to milch cow	Homestead	10 qtl straw	10
Bolangir	2016	Kharif	Drudgery reduction	oil extraction by using traditional oil extractor	Use of improved oil extractor to extract oil from mahua seed	Enterprise	improved mahua oil extractor	Homestead	200kg	10

3.5 (A) Economic Performance Home Science FLD: (For Drudgery Reduction)

KVK name	OFT Title	Performance Indicator / Parameter													
		Output m2/h		Est. Energy Expenditure kj/min.		WHR beat/min		% reduction in drudgery		% increase in efficiency		Cardiac Cost of Work		% Saving of cardiac Cost	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2
Bolangir	Demonstration of Mahua seed oil extraction by using Improved oil extractor by farmwomen	0.08	0.2	860.475	2821.8	127	114	-	150	-	227	44	30	-	32

3.5 (B) Economic Performance Home Science FLD: (For Income Genration)

KVK name	OFT Title	Performance Indicator / Parameter											
		Production per unit		Cost of input		Incremental income		Yield(Kg/ha)		Net Return		Saving in Rs	BC ratio
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2		
Bolangir	Demonstration of fodder cultivation (hybrid napier) for cross bred high yielding cows	480 lits/4 month/cow	570 lits/4 month/cow	7500	8500	12480	14820	480 lits/4 month/cow	570 lits/4 month/cow	4980	6320	1340	1.74
Bolangir	Demonstration of performance of Beetle Buck for production of improved offsprings	*											
Bolangir	Demonstration of urea treated straw as feed for milch cow for increase in milk production	4lit/day/cow	5lit/day/cow	50	70	120//day/cow	150/day/cow	4lit/day/cow	5lit/day/cow	70	80	10	2.14

3.5 (C) Economic Performance Home Science FLD: (For value addition)

KVK name	OFT Title	Performance Indicator / Parameter													
		Composition of product		Input used		outcome (Kg)		Cost of input		Incremental income		Net Return		Saving in Rs	BC ratio
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2		

3.5 (D) Economic Performance Home Science FLD: (For Nutritional security)

KVK name	OFT Title	Performance Indicator / Parameter		Nutrient Intake (Unit)				Anthropometric measurements		
		Name of	Per capita	Energy	Protein	Iron (mg)	Calcium	Increase in Weight	Increase in	Increase in

		vegetable/Fruit/Product		Consumption gm/ day		(kcal)		(gm)				(mg)		(Kg)		Height (cm)		BMI (%)	
		T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2	T1	T2

Production per unit: Milk yield in lit/1 cows (i.e. unit), **Yield (kg/ha):** Milk yield in lit/1 cows (i.e. unit)

3.6 Training and Extension activities proposed under FLD

KVK Name	Crop	Activity	No. of activities organized	Number of participants	Remarks
Bolangir	Brinjal	Farmers Training, Field day	1, 1	25, 30	Demonstration beneficiaries selected from the trainees
Bolangir	Mango	Farmers Training,. Field day	1,1	25, 30	Demonstration beneficiaries selected from the trainees
Bolangir	Chilli	Farmers Training,. Field day	1	25, 30	Farmers group meeting conducted
Bolangir	tomato	Farmers Training	2	25	Farmers group meeting conducted
Bolangir	Hybrid napier	Farmers Training,Field day	1,1	25,30	Demostration beneficiaries selected from the trainees
Bolangir	Groundnut	Field day	1	30	Line dept.official,farmers attended the Field day programme

3.7 Details of FLD on crop hybrids.

S. No.	Name of the KVK	Name of the Crop	Name of the Hybrids	Source of Hybrid (Institute/Firm)	No. of farmers	Area in ha.
1	Bolangir	Tomato	Swarna Sampad	ICAR, RCER, Ranchi	7	0.5
2	Bolangir	Chilli	Krishna	VNR	7	1

4. Feedback System

4.1. Feedback of the Farmers to KVK

Name of KVK	Feedback			
	Technology appropriations	**Methodology used**	**Benefits of OFT/FLD**	**Future Adoption**
Bolangir	Cultivation of indeterminate variety of tomato, Swarna sampad instead of determinate variety IK Desi	Swarna sampad is suitable under both protected cultivation and open condition	Increase in B:C from 2.7 to 4.8 and number of fruits/plant from 43 to 72	Expected adoption in 57 ha area.
Bolangir	Canopy management of new mango orchard instead of leaving the plant as such.	Behading the plant at 75 cm above ground level and allowing 4 primary & 3	Management of plant canopy helps in development of wide crotch,good sunlight penetration	Expected adoption in 150 ha area.
Bolangir	Cultivation of Paddy straw mushroom strain OSM12	Performance of OSM12 is good in 32 to 34	Yield of OSM12 is 1.5 times more than V.volvacea	Expected adoption by 60 farm families
Bolangir	Soil application with sulphur and borax in Groundnutcrop at flowering and pod	Sulphur@12kg and foliar application Borax@10kg/ha	Increase in B:C from 1.8 to 2.0 and No of pods/plant from 12 to 20	

4.2. Feedback from KVK to Research System.

Name of KVK	Feedback basic of OFT on Technology Tested
Bolangir	Semisynthetic super absorbent polymer, pusa hydrogel ,helps in less mortality of seedlings during transplanting.It sticks to the root and when soil moisture falls as the temperature increases, gel sheds water to nourish crop.It expands 300 times its original volume.
Bolangir	In crop onion the seed setting occurs only in kharif and post kharif season.In rabi transplanting no seed setting occurs.
Bolangir	Low temp resistant variety of high yielding paddy straw mushroom strain OSM-12 may be developed
Bolangir	High temp resistant variety of Hibsizygus ulmarius may be developed

4. Documentation of the need assessment conducted by the KVK for the training programme

Name of KVK	Category of the training	Methods of need assessment	Date and place	No. of participants involved
Bolangir	FW/RY	Group meeting of Farmers,Training	24.4.16/Kaudia	25
Bolangir	FW/RY	Group meeting of Farmers,Training	26.4.16/Saragada	25

Bolangir	FW/RY	Group meeting of Farmers,Training	13.5.16/Uparjhar	25
Bolangir	FW/RY	Group meeting of Farmers,Training	24.5.16/Banabahal	25
Bolangir	FW/RY	Group meeting of Farmers,Training	21.6.16/Uparjhar	25
Bolangir	FW/RY	Group meeting of Farmers,Training	28.6.16/Banabahal	25
Bolangir	FW/RY	Group meeting of Farmers,Training	10.7.16/Saragada	25
Bolangir	FW/RY	Group meeting of Farmers,Training	30.8.16/Antarla	25
Bolangir	FW/RY	Group meeting of Farmers,Training	25.9.16/Banabahal	25
Bolangir	FW	Group meeting of farmers	23.5.16/Kaudia	30
Bolangir	FW	Group meeting of farmers	17.8.16/Banabahal	25
Bolangir	FW	Group meeting of farmers	5.10.16/Bijamagur	30
Bolangir	FW	Group meeting of farmers	2.11.16/Kareldhua	25
Bolangir	FW	Group meeting of farmers	2.2.17/Dharuandadar	25

Abbreviation Used

FW	(A) Farmers & Farm Women
RY	(B) Rural Youths
IS	(C) Extension Personnel
ONC	On Campus Training Programme
OFC	Off Campus Training Programme
M	Male
F	Female
T	Total
Thematic Areas for Training	
CRP	Crop Production
HOV	Horticulture – Vegetable Crops
HOF	Horticulture-Fruits
HOO	Horticulture- Ornamental Plants
HOP	Horticulture- Plantation crops
HOT	Horticulture- Tuber crops
HOS	Horticulture- Spices
HOM	Horticulture- Medicinal and Aromatic Plants
SFM	Soil Health and Fertility Management
LPM	Livestock Production and Management
WOE	Home Science/Women empowerment
AEG	Agril. Engineering
PLP	Plant Protection
FIS	Fisheries
PIS	Production of Inputs at site
CBD	Capacity Building and Group Dynamics
AGF	Agro-forestry
OTH	Others
RYH	Rural Youth
EXP	Extension Personnel

5. TRAINING PROGRAMMES

1. **Training programmes should be strictly covered under above mentioned thematic areas only,**
2. **For category, training type and thematic area, mention code/abbreviations only**

Table 5.1. Details of Training programmes conducted by the KVKs

Name of KVK	Cate-gory	Training Type	Thematic area	Training Title	No. of Courses	Duration (Days)	Participants							
							Gen		SC		ST		Others	
							M	F	M	F	M	F	M	F
1	2	3	4	5	7	8	9	10	11	12	13	14	15	16
Bolangir	FW	OFC	HOF	Regulation of alternate bearing in mango	1	1	-	-	3	-	2	-	20	-
Bolangir	FW	OFC	HOF	Cultivation of papaya as a profitable enterprise	1	1	-	-	2	-	3	-	20	-
Bolangir	FW	OFC	HOF	Training and pruning in mango	1	1	-	-	2	-	13	-	10	-
Bolangir	FW	OFC	HOF	Manuring and fertigation in lime	1	1	-	-	-	-	-	-	25	-
Bolangir	FW	OFC	HOS	Round the year coriander cultivation	1	1	-	-	-	-	2	-	23	-
Bolangir	FW	OFC	HOV	Production and early marketing in broccoli	1	1	-	-	-	-	-	-	25	-
Bolangir	FW	OFC	HOV	Seedling raising of capsicum in protray	1	1	-	-	1	-	1	-	23	-
Bolangir	FW	OFC	HOV	Management of physiological disorders in tomato	1	-	-	--	1	-	4	-	20	-
Bolangir	FW	OFC	HOV	Drip & sprinkler irrigation for high value crops	1	1	-	-	-	-	-	-	25	-
Bolangir	FW	OFC	HOS	Seed production in onion	1	1	-	-	3	-	3	-	19	-
Bolangir	FW	OFC	HOV	Use of plastic culture for weed and water management	1	-	-	-	3	-		-	22	-
Bolangir	FW	OFC	HOF	Bunch feeding and bunch covering in banana	1	1	-	-	-	-	-	-	25	-
Bolangir	FW	OFC	HOF	Manuring & fertilizer scheduling in water melon	1	1	-	-	-	-	-	-	25	-
Bolangir	RY	ONC	HOV	Production & use of liquid manure	1	2	-	-	2	-	2	-	11	-
Bolangir	IS	ONC	HOV	Newely released vegetable varieties from OUAT	1	1	-	-	-	-	-	-	10	-

Name of KVK	Cate-gory	Training Type	Thematic area	Training Title	No. of Courses	Duration (Days)	Participants							
							Gen		SC		ST		Others	
							M	F	M	F	M	F	M	F
1	2	3	4	5	7	8	9	10	11	12	13	14	15	16
Bolangir	FW	OFC	WOE	Household food security by nutritional gardening	1	1	-	-	-	4	-	4	-	17
Bolangir	FW	OFC	WOE	Milk mushroom cultivation by farmwomen	1	1	-	-	-	4	-	2	-	19
Bolangir	FW	OFC	WOE	Use of low cost drudgery reduction tools in vegetables	1	1	-	-	-	6	-	4	-	15
Bolangir	RY	ONC	WOE	Paddy straw mushroom spawn production technic	1	2	0	1	1	4	0	0	1	8
Bolangir	FW	OFC	WOE	Package of practice of Dhingri mushroom by using loose straw	1	1	-	-	-	3	-	2	-	20
Bolangir	FW	OFC	WOE	Maintenance of spraying equipments	1	1	-	-	-	2	-	1	-	22
Bolangir	RY	ONC	WOE	Vermiculture &Vermicomposting	1	2	-	-	-	4	-	3	-	8
Bolangir	FW	OFC	WOE	Principle of Organic farming	1	1	-	-	-	5	-	3	-	17
Bolangir	FW	OFC	WOE	Location specific drudgery reduction technologies for farmwomen	1	1	-	-	-	0	-	5	-	20
Bolangir	FW	OFC	WOE	Major fodder crops for livestock rearing	1	1	-	-	-	3	-	1	-	21
Bolangir	FW	OFC	WOE	Package of practice of Paddy straw mushroom by using loose straw	1	1	-	-	-	3	-	3	-	19
Bolangir	IS	OFC	WOE	Post harvest technology & value addition	1	1	-	-	0	3	1	0	1	5
Bolangir	RY	ONC	WOE	Value addition in fruits & vegetables for local marketing	1	3	-	-	-	2	-	1	-	12
Bolangir	IS	OFC	WOE	Homestead vocation for farmwomen	1	1	3	3	0	1	1	0	2	0
Bolangir	FW	OFC	CBD	Farmers club-its formation and importance	1	1	-	-	-	-	-	-	25	-
Bolangir	FW	OFC	CP	Weed management inn Paddy	1	1	-	-	-	-	2	-	23	-
Bolangir	IS	OFC	CBD	Different training methods and ICT Tools and its role	1	1	-	1	3	1	-	-	5	-

Name of KVK	Cate-gory	Training Type	Thematic area	Training Title	No. of Courses	Duration (Days)	Participants							
							Gen		SC		ST		Others	
							M	F	M	F	M	F	M	F
1	2	3	4	5	7	8	9	10	11	12	13	14	15	16
				in TOT										
Bolangir	IS	OFC	CBD	Concept of SHG and its advantages in livliehood enhancement	1	1	-	2		1	-	2		2-0
Bolangir	FW	OFC	CP	Integrated nutrient management in Pulse crop	1	1	1	-	2	-	2	-	21	-
Bolangir	FW	OFC	CBD	Sustainable Agricultural practices	1	1	1	-	2	-	2	-	20	-
Bolangir	RY	ONC	CBD	Marketing management, role and its importance	1	2	1	-	2	-	2	-	10	-
Bolangir	FW	OFC	CBD	Efficient marketing of Agricultural produce and reduce post harvest loss	1	1	-	-	9	-	-	-	16	-
Bolangir	IS	ONC	CBD	Different type of Extension literature and its role in dissemination of technlogy	1	1	-	-	2	-	-	-	8	-
Bolangir	RY	ONC	CBD	Income generating activities for empowerment of rural men and women	1	2	-	-	5	-	-	-	10	-
Bolangir	FW	OFC	CBD	Crop diversification and its importance	1	1	1	-	-	-	-	-	25	-
Bolangir	FW	OFC	PLP	Cotton based intercropping system	1	1	-	-	2	-	1	-	22	-
Bolangir	FW	OFC	PLP	Insect pest and disease management in paddy	1	1	-	-	2	-	-	-	23	-
Bolangir	FW	OFC	PLP	Chemical control of sucking insect and fungal diseases in cotton	1	1	-	-	8	-	7	-	10	-
Bolangir	FW	OFC	PLP	Disease management in pointed gourd	1	1	-	-	5	-	3	-	17	-
Bolangir	FW	OFC	PLP	Management of BPH and other sucking pest in paddy	1	1	-	-	2	-	3	-	20	-
Bolangir	FW	ONC	PLP	IPM in tomato	1	1	-	-	2	-	2	-	21	-
Bolangir	IS	ONC	PLP	AESA in paddy	1	1	-	-	2	-	5	-	3	-
Bolangir	FW	OFC	PLP	Management of defoliators in Arhar	1	1	-	-	10	-	5	-	10	-
Bolangir	FW	OFC	PLP	Management of insect pest through natural enemies in field crops	1	1	-	-	-	-	5	-	20	-

Name of KVK	Cate-gory	Training Type	Thematic area	Training Title	No. of Courses	Duration (Days)	Participants							
							Gen		SC		ST		Others	
							M	F	M	F	M	F	M	F
1	2	3	4	5	7	8	9	10	11	12	13	14	15	16
Bolangir	FW	OFC	PLP	Nature of damage and management of mites in chilli	1	1	-	-	5	-	3	-	17	-
Bolangir	RY	ONC	PLP	AESA and ecological engineering for pest management in solanaceous vegetables	1	2	15	-	-	-	-	-	-	-
Bolangir	FW	OFC	PLP	Rodent management in field and storage structure	1	1	19	-	2	-	3	-	1	-
Bolangir	FW	OFC	PLP	Management of YMV disease in green gram	1	1		-	3	-	2	-	20	-
Bolangir	FW	OFC	PLP	Preventive method for control of insect pest in stored grains	1	1	1	-	4	-	2	-	18	-
Bolangir	FW	OFC	PLP	Management of fruit borer in tomato	1	1	-	-	4	-	2	-	19	-
Bolangir	FW	OFC	PLP	Fungal disease in onion	1	1	20	-	3	-	2	-	-	-

Table 5.2. Details of Vocational training programmes for Rural Youth conducted by the KVKs

Name of KVK	Training title	Crop / Enterprise	Identified Thrust Area	Duration of training (days)	Number of Beneficiaries							
					Gen		SC		ST		Others	
					M	F	M	F	M	F	M	F
Bolangir	Seed production in vegetables	crop	Quality seed production, timely availability,true to the type seed	5	-	-	1	-	1	-	8	-

Table 5.3. Details of training programme conducted for livelihood security in rural areas by the KVKs

Name of KVK	Training title	Self employed after training			Number of persons employed else where
		Type of units	Number of units	Number of persons employed	
Bolangir	NIL				

Table 5.4. Sponsored Training Programmes: NIL

Name of KVK	Title	Thematic area (as given in abbreviation table)	Sub-theme (as per column no 5 of Table T1)	Client (FW/ RY/ IS)	Dura-tion (days)	No. of courses	No. of Participants								Sponsoring Agency	Fund received for training (Rs.)
							Gen		Others		SC		ST			
							M	F	M	F	M	F	M	F		
Bolangir																

Table 5.5 Training Programmes for Panchayatiraj Institutions Office-bearers & members : NIL

Name of KVK	Title	Thematic area (as given in abbreviation table)	Sub-theme (as per column no 5 of Table T1)	Client (FW/ RY/ IS)	Dura-tion (days)	No. of courses	No. of Participants								Sponsoring Agency	Fund received for training (Rs.)
							Gen		Others		SC		ST			
							M	F	M	F	M	F	M	F		

Table 5.6 Evaluation/Follow up & Impact of the training programmes conducted by the KVK (all types of trainings)

Name of KVK	Title of the training	No. of trainees	Change in knowledge (Score)		Change in Production (q/ha)		Change in Income (Rs)		Impact on 1. Area expanded (ha) 2. No. of farmers adopted (no.) 3. % change in knowledge, production & Income
			Before	After	Before	After	Before	After	
Bolangir	Regulation of alternate bearing in mango	25	4	8	272	359	272000	359000	80, 150 ; 100, 32, 32
Bolangir	Cultivation of papaya as a profitable enterprise	25	3	7	245	308	122500	154000	60,126;133, 25, 26
Bolangir	Training and pruning in mango	25	2	5	300	737	300000	737000	150,255;150, 145, 145
Bolangir	Manuring and fertigation in lime	25	4	8	219	508	109000	254000	27,50;100, 131, 133
Bolangir	Round the year coriander cultivation	25	3	7	150	215	125000	157500	20,55;133, 43, 26

Bolangir	Production and early marketing in broccoli	25	3	6	130	145	390000	435000	16,50;100, 11.5, 101.5
Bolangir	Seedling raising of capsicum in protray	25	2	6	205	289	408000	578000	200, 48; 200,41,42
Bolangir	Management of physiological disorders in tomato	25	4	8	272	359	136000	179500	80, 150 ; 100, 32, 33
Bolangir	Drip & sprinkler irrigation for high value crops	25	4	8	272	329	363000	484000	80, 150 ; 100, 21, 33
Bolangir	Seed production in onion	25	3	7	3.4	4.5	306000	405000	60,126;133, 32, 33
Bolangir	Use of plastic culture for weed and water management	25	2	5	300	537	300000	437000	150,255;150, 79, 46
Bolangir	Bunch feeding and bunch covering in banana	25	4	8	219	308	219000	508000	27,50;100, 41, 132
Bolangir	Manuring & fertilizer scheduling in water melon	25	3	7	250	315	125000	157500	20,55;133, 26, 26
Bolangir	Production & use of liquid manure	15	3	6	130	175	39000	58500	16,50;100, 50, 50
Bolangir	Newely released vegetable varieties from OUAT	10	2	6	345	475	408000	510000	200, 48; 200,38,25
Bolangir	Household food security by nutritional gardening	25	4	8	142q/ha	172 q/ha	17390	39500	10,20,100,21,127
Bolangir	Milk mushroom cultivation by farmwomen	25	4	9	.5 kg/bed	1.5 kg/bed	50/bed	225/bed	28,21,100,200,350
Bolangir	Use of low cost drudgery reduction tools in vegetables	25	2	7	-	-	-	-	28,21,100,200,350
Bolangir	Paddy straw mushroom spawn production technic	15	1	6	-	-	-	-	-,-,-,

Bolangir	Package of practice of paddy straw mushroom by using loose straw	25	4	9	.5 kg/bed	1.5 kg/bed	50/bed	225/bed	28,21,100,200,350
Bolangir	Maintenance of spraying equipments	25	4	9	-	-	1000	3000	25 SHGs,100,125,-,200
Bolangir	Vermiculture &Vermicomposting	15	3	9	-	1 qtl/unit	-	2000/unit	14 unit,14,200,-,100
Bolangir	Principle of Organic farming	25	5	8					15,20,-,60,250,133
Bolangir	Location specific drudgery reduction technologies for farmwomen	25	3	9	-	-	1500	4000	8 ha,56,250,166
Bolangir	Major fodder crops for livestock rearing	25	2	8	200 qtl/ha	400 qtl/ha	200000	400000	5,25,300,100,100
Bolangir	Post harvest technology & value addition	10	4	9	-	-	1000	3000	25 SHGs,100,125,-,200
Bolangir	Value addition in fruits & vegetables for local marketing	15	3	8	10 kg/day	45 kg/day	120	800	5 vill,32,6612.5,,12.5
Bolangir	Homestead vocation for farmwomen	10	4	9	-	-	1000	3000	25 SHGs,100,125,-,200
Bolangir	Farmers club-its formation and importance	25	2	6	-	-	-	-	-,-:200,-,-
Bolangir	Weed management inn Paddy	25	4	7	30	35	16000	21000	20,60:75,16,23
Bolangir	Different training methods and ICT Tools and its role in TOT	10	2	8	-	-	-	-	-,40:300,-,-
Bolangir	Concept of SHG and its advantages in livliehood enhancement	25	4	6	-	-	-	-	-,-::50,-,-
Bolangir	Integrated nutrient management in Pulse crop	25	3	5	4	7	12000	16000	25,40:66,75,33

Bolangir	Sustainable Agricultural practices	25	2	5	-	-	-	-	-,23:150,-,-
Bolangir	Marketing management, role and its importance	10	2	6	-	-	-	-	-,-:200,-,-
Bolangir	Efficient marketing of Agricultural produce and reduce post harvest loss	25	3	7	-	-	-	-	-,-:133,-,-
Bolangir	Different type of Extension literature and its role in dissemination of technlogy	10	3	8	-	-	-	-	-,35:166,-,-
Bolangir	Income generating activities for empowerment of rural men and women	25	2	6	-	-	-	-	-,-:200,-,-
Bolangir	Crop diversification and its importance	25	2	7	-	-	-	-	10,25:250,-,-

6. EXTENSION ACTIVITIES

Name of the KVK	Activity	No. of activities (Targeted)	No. of activities (Achieved)	Detail of Participants						Remarks		
				Farmers (Others)		SC/ST (Farmers)		Extension Officials		Purpose	Topic s	Crop Stages
				M	F	M	F	M	F			
Bolangir	Field Day	11	9	210	70	65	70	15	-	To aware the farmers regarding result of the demonstration contributing to yield maximisation		Vegetative stage, Harvesting stage, Interculture stage,Fish netting stage, Marketing stage
Bolangir	Kisan Mela	2	-	528	267	205	56	69	26	Awareness about technological products and activities of mandatory work of KVK	Results of on farm trials and yield from recommended practice	
Bolangir	Kisan Ghosthi	3	-	-	-	-	-	-	-	-	-	-
Bolangir	Exhibition	2	4	756	355	567	239	159	122	Awareness about technological products	Farmers fair of KVK and other ring partners	-
Bolangir	Film Show	-	13	67	52	15	9	7	2	Awareness regarding technological package	Horticultural crops in protected condition, SRI, pesticide poisoning, cotton cultivation, drip irrigation, water harvesting	Growth stage of different crops
Bolangir	Method Demonstrations	15	23	28	19	10	4	8	4	To show	Neem oil	Sowing

Name of the KVK	Activity	No. of activities (Targeted)	No. of activities (Achieved)	Detail of Participants						Remarks		
				Farmers (Others)		SC/ST (Farmers)		Extension Officials		Purpose	Topic s	Crop Stages
				M	F	M	F	M	F			
										the method of using technological package	emulsion preparation, Release tricho-card, Seed dressing with Biofertilizer, placement of seed at right depth, line sowing, Erection of yellow trap, Stem application of pesticide, Soil sampling	of seed, Vegetative stage, Pre-land preparation
Bolangir	Farmers Seminar	4	3	156	107	19	67	15	4			
Bolangir	Workshop	3	-									
	Group meetings	20	20	86	53	18	23	5	3	To sensitize the farmers regarding effective implementation of the FLD , OFT and other critical activities	Before executing FLD and OFT programmes	Before onset of cropping season
Bolangir	Lectures delivered as resource persons	30	33	289	203	112	90	34	9	Capacity building	Agril topics	-
Bolangir	Newspaper coverage	18	20	-	-	-	-	-	-	Information on KVK activities for Mass	Farmers fair, ATMA work monitoring ,field day,	After the organization of the event as mentione

Name of the KVK	Activity	No. of activities (Targeted)	No. of activities (Achieved)	Detail of Participants						Remarks		
				Farmers (Others)		SC/ST (Farmers)		Extension Officials		Purpose	Topic s	Crop Stages
				M	F	M	F	M	F			
											Akhi trutiya, SAC meeting	d
Bolangir	Radio talks	18	19	Mass						Technological message for practising farmers	Scientific cultivation practices in groundnut, papaya,cottonempoerment of farm women.value added products from tomato	-
Bolangir	TV talks	1	1	Mass	-	-	-	-	-	-	KVK activities,Seedling production, value added products	
Bolangir	Popular articles	6	3	Mass							Novel chemicals, micronutrient deficiency symptoms, management of balance health of soil	
Bolangir	Extension Literature	4	5	Mass	-	-	-	-	-			
	Farm advisory Services	55	65	968	899	234	167	23	78	Knowledge and skill development of farmers	Crop technologies	-
Bolangir	Scientific visit to farmers field	120	124	138	23	67	56	20	10	Knowledge and skill development of	Crop technologies	From sowing to harvesting at different

Name of the KVK	Activity	No. of activities (Targeted)	No. of activities (Achieved)	Detail of Participants						Remarks		
				Farmers (Others)		SC/ST (Farmers)		Extension Officials		Purpose	Topic s	Crop Stages
				M	F	M	F	M	F			
										farmers		stages
Bolangir	Farmers visit to KVK	500	800	600	200	289	123	23	43	To get knowledge and skill	Crop technologies	From sowing to harvesting at different stages
Bolangir	Diagnostic visits	30	48	187	109	167	82	23	33	To solve farmers field problem	Plant protection, Mushroom, Fruit and vegetable cultivation, Pisciculture, Crop husbandry	From sowing to harvesting at different stages
Bolangir	Exposure visits	2	1	9	0	-	-	1	-	To see succees points in other farmers field	Plant protection, Mushroom, Fruit and vegetable cultivation	At full bloom and harvest stage
Bolangir	Ex-trainees Sammelan	4	3	37	23	12	11	6	8	Farmers feed back on all the conducted trainings	Major trainings on plant protection, Pisciculture, Horticulture and Home Science discipline	-
Bolangir	Soil health Camp	2	1	43	12	10	12	3	2	Awarenes s on soil testing and integrate nutrient managem ent	Soil test based nutrient managemen t	-
Bolangir	Animal Health Camp	2	1	42	14	16	12	2	0		diseases	
Bolangir	Agri mobile clinic	0	-									
Bolangir	Soil test campaigns	2	1	29	11	9	4	-	-			
Bolangir	Farm Science Club conveners meet	2	2	50	-	11	12	2	0	To	Empowerm	-

Name of the KVK	Activity	No. of activities (Targeted)	No. of activities (Achieved)	Detail of Participants						Remarks		
				Farmers (Others)		SC/ST (Farmers)		Extension Officials		Purpose	Topic s	Crop Stages
				M	F	M	F	M	F			
										invigorate the activity of farmers club	ent of Farm science Club	
Bolangir	Self Help Group conveners meetings	1	1	20	12	11	6	-	-	Awarenes s on non-land based income generatin g activities	Income generating activities to be taken for Women SHGs	
Bolangir	Mahila Mandals conveners meetings	-	-	-	-	-	-	-	-			
Bolangir	Celebration of important days (World environment day)	4	4	69	21	18	12	19	20	Celebrati on to begin cropping season, empower ment of women in agricultur e	World food day,akhitrit iya Women in agriculture day, celebration of jai kisan jai bigyan.	Pre-land preparati on stage, Rabi crop season

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

7.1 KVK Newsletters

KVK Name	Date of start	Periodicity	Number of copies printed	Number of copies distributed
Bolangir	30.8.16	Quaterly	2100	2100

7.2 Literature developed/published

KVK Name	Type	Title	Author's name	Number of copies
Bolangir	Booklet	Pradhan Mantri Fasal Vima Yojana	KVK,Bolangir	1000
Bolangir	Booklet	Novel Agrochemicals for plant protection on Vegetables	A.K.Das,K.K.Behera	500
Bolangir	Folder	Micro nutrient deficiency symtomps and management of fruit crop of Lemon,Banana and Mango	K.K.Behera,A.K.Das	500
Bolangir	Leaflet	Management and Balance health of soil	K.K.Behera,A.K.Das	500

7.3 Details of Electronic Media Produced:NIL

KVK Name	Type of media (CD / VCD / DVD / Audio-Cassette)	Title of the programme	Number

8. Production and supply of Technological products

8.1 SEED production

KVK Name	Major group/class	Crop	Variety	Quantity (qt.)	Value (Rs.)	Provided to No. of Farmers	Expected area coverage (ha.)
Bolangir	F.S	paddy	Pratikshya	128	3,27,680	To be sold to OSSC and farmers	-
Bolangir	F.S	paddy	Manaswini	60	1,53,600	To be sold to OSSC and farmers	-
Bolangir	Bulk	Greengram	PUSA 9072	4	18,000	To be sold to farmers	

8.2 Planting Material production

KVK Name	Major group/class	Crop	Variety	Nos.	Value (Rs.)	Provided to No. of Farmers	Expected area coverage (ha.)
Bolangir	Improved variety	Brinjal	Arka Nilachal shyama	20,000	20,000	10	0.5
Bolangir	High yielding varieties	Onion	N-53,AFDR,Bhima Sakti	2,49,000	37,350	23	0.5
Bolangir	hybrid	Tomato	Swarna sampad	5000	10,000	11	0.4

8.3 Production Units (bio-agents / bio pesticides/ bio fertilizers etc.) * Name of product should follow same pattern and spelled correct

KVK Name	Major Group Bio agent/Bio fertilizers/Bio Pesticides	Name of the Product	Qty (In Kg)	Qty (In No)	Value (Rs.)	Provided to No. of Farmers	Expected area coverage (ha.)
Bolangir	Bio Agents	NIL					
Bolangir	Mushroom	Spawn		1000	20,000	70	
Bolangir	Bio Fertilizer	NIL					
Bolangir	Bio Fertilizer	NIL					

8.4 Livestock and fisheries production (NIL)

KVK Name	Name of the animal / bird / aquatics	Breed	Type of Produce	Qty. (kg/qt./litre)	Value (Rs.)	No. of Beneficiaries
Bolangir						

9. Activities of Soil and Water Testing Laboratory

9.1 Details of soil samples analyzed so far:

KVK Name	Status of establishment of Lab	Year of establishment	Details	No. of Samples	No. of Farmers	No. of Villages	Amount realized	Soil report distributed to the farmers (Nos)
Bolangir	Soil mini lab	2015	Soil testing by minikit lab supplied by Nagaruna Agrochemicals	88	675	18	0	625

9.2 Details of water samples analyzed so far : NIL

KVK Name	Status of establishment of Lab	Year of establishment	Details	No. of Samples	No. of Farmers	No. of Villages	Amount realized	Water report distributed to the farmers (Nos)
Bolangir		`						

10. Rainwater Harvesting: Not available

Training programmes conducted by using Rainwater Harvesting Demonstration Unit

Name of KVK	Date	Title of the training course	Client (PF/RY/EF)	No. of Courses	No. of Participants including SC/ST			No. of SC/ST Participants		
					Male	Female	Total	Male	Female	Total
Bolangir										

11. Utilization of Farmers Hostel facilities : Not available

KVK Name	Months	Year	Title of the training course	Duration of training	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)	Accommodation available (No. of beds)
Bolangir								

12. Utilization of Staff Quarters facilities Not available

KVK Name	Year of construction	Year of allotment	No. of quarters occupied	No. of quarters vacant	Reasons for vacant quarters, if any
Bolangir	-	-	-	-	-

13. Details of SAC Meeting

KVK Name	Date of SAC meeting	No. of SAC members attended	Major recommendations
Bolangir	**25.11.2016**	**35**	Promote the use of Mini combined harvester in Paddy in Bolangir Dist
Bolangir			Promotion of IFS model
Bolangir			Popularise non BT cotton
Bolangir			Promotion of line transplanting in Paddy
Bolangir			Promotion of value addition in fruits and vegetables to avoid distress sale
Bolangir			Promotion of floriculture in Bolangir Dist.
Bolangir			Popularise Pratibha,Harsha,Gobinda var. of paddy.
Bolangir			Promotion of local var. of banana like Champa,Amrutpani,Bantala etc.
Bolangir			Promote establishment of Farmers club of at least 15-20 members in each group
Bolangir			Promotion of seasonal fodder for livestock.
Bolangir			Apply recommended dose of fertilizer in the field after soil test.

14. Status of Kisan Mobile Advisory (KVK-KMA)

KVK Name	No. of messages sent	No. of beneficiary		Sponsoring agency (NIC, Farmers Portal, etc.)	Major recommendations
		Farmers	Ext. Pers.		
Bolangir	83	7800	200	Farmer portal	Integrated disease and pest management in major crops,mushroom cultivation,Nutrient management invegetables & fruits,Management of livestock and poultry,weed management, Weather forecasting activity.Market information on prices

15. Status of Convergence with various agricultural schemes (Central & State sponsored)

KVK Name	Name of scheme	Name of Agency (Central/state)	Funds received (Rs.)	Activities organized	Operational Area	Remarks

16. Status of Revolving Funds (Rs.)

KVK Name	Account No.	Opening balance (Rs.)	Closing balance (Rs.)	Current status (Rs.)
Bolangir	31149194881	699661	552280	Rs 5,35,000 returned to DEE, OUAT

17. Awards & Recognitions NIL

KVK Name	Name of award /awardee	Type of award (Ind./Group/Inst./Farmer)	Awarding Organizations	Amount received

18. Details of KVK Agro-technological Park .

a) Have you prepared layout plan, where sent?

S .No.	Name of KVK	Technology park proposal developed(yes/no)	If yes, where sent ? (ZPD/DES/any other, pl. sp.)
1	Bolangir	no	

b) Details about Technology Park:NIL

Name of KVK	Name of Component of Park	Detail Information (If established)
	Crop Cafeteria	
	Technology Desk	
	Visitors Gallery	
	Technology Exhibition	
	Technology Gate-Valve	

c). Crop Cafeteria-

Sr. No.	Theme of Crop Cafeteria	No. of Crop Cafeteria
1	IPM	4
2	INM	5
3	Intercropping	4

19. Farm Innovators- list of 10 Farm Innovators from the District

Sr. No.	Name of KVK	Name of Farm Innovator	Name of the Innovation	Address of the farmer with Mobile No.
1	Bolangir	Omprakas Meher	Production of Oyster mushroom by using waste Newspaper substrate	Village:Tarabha, Bolangir- 9692016440
2	Bolangir	Satyabrata Thati	Floriculture	Village:Banbahal, Bolangir- 8658942615
3	Bolangir	Mukunda Badhei	Onion storage structure	Village:Magurbeda, Loisingha-
4	Bolangir	Manoj Meher	Cotton intercropping with Maize	Village:Kaudia, Patnagarh- 9937731046
5	Bolangir	Roopakanti Baghar	Brooding of 1 day old chicks	Village:Banabahal,Puintal
6	Bolangir	Hemakanti Meher	Production of Oyster mushroom by using Loose straw	Village:Kaudia, Patnagarh- 8018035133
7	Bolangir	Angad Biswal	Integrated Farming System	Village:Dhaunradadar, Loisingha- 9668736670
8	Bolangir	Jayaram Meher	Broccoli cultivation	Village:Kaudia,Patnagarh, -9937980234
9	Bolangir	Pradumna Teji	Relay cropping of Pointedgourd in single trellis system	Village:Magurbeda, Loisingha- 9937623894
10	Bolangir	Khirodra Biswal	Protected cultivation	Village:Dhaunradadarr,Loisingha 8260105499

20. KVK interaction with progressive farmers

Sr. No.	Date and month of interaction programme with progressive farmers	No. of progressive farmers to be participated
1	25.05.16	15
2	11.08.2016	15
3	21.10.16	15
4	25.11.16	15
5	10.1.17	15
6	15.3.17	15
7	25.05.16	15

21. Outreach of KVK

Name of KVK	Number of Blocks		Number of Villages	
	Intensive	Extensive	Intensive	Extensive
Bolangir	Patnagarh	Titlagarh	5	2
Bolangir	Saintala	Gudvella	3	3
Bolangir	Deogaon	Loisingha	4	4
Bolangir	Bolangir	Agalpur	2	3
Bolangir	Puintala	Belpada	2	4
Bolangir		Khaprakhol		2
Bolangir		Muribahal		1

Intensive- OFTS, FLDS etc
Extensive- Literatures, Publications, Awareness programmes etc.

22. Technology Demonstration under Tribal Sub Plan on Pulses/ Programme on Harnessing Pulses/ Quality Protein Maize, if applicable.

Sr. No.	Name of crop under Technology demonstration	Area under the programme	No. of Extension Activities	Remarks / Lessons learnt

23. KVK Ring

Sr. No.	Name of Ring Partner	Sharing Activity	Lessons learnt/ Experiences gained.
1	KVK, Nuapada	Knowledge, manpower	Development of para extension worker
2	KVK, Kalahandi	Knowledge, manpower	Qualitative development of literature and methodology on effective capacity building of rural youth
3	KVK, Sonepur	Knowledge, manpower	Observance/celebration of big programmes jointly with sharing of man power and resources

24. Important visitors to KVK

Name of KVK	Name of Visitor	Date of Visit	ICAR	SAUs	Others	Remarks
Bolangir	Sj Bijaya Padhani	12.4.16			Others	PMFBY
Bolangir	Sj Madhab Sai	12.4.16	ATARI recommended progressive farmer			PMFBY

Bolangir	Hon:ble V.C.Dr. S.S. Pasupalk	25.4.16		SAUs		Visit to KVK,Bolangir
Bolangir	Dr.P.N. Jagdev	13.7.16		SAUs		Field visit
Bolangir	Dr.P.N. Jagdev	25.11.16		SAUs		To chair the 9th SAC meeting
Bolangir	Hon:ble V.C.Dr. S.S. Pasupalk	25.4.16		SAUs		Visit to KVK,Bolangir
Bolangir	Dr.Hemanta Sahu	29.9.16		SAUs		Cluster monitoring
Bolangir	Dr.Sandeep Nayak	29.9.16		SAUs		Cluster monitoring
Bolangir	Mr.Bhabani Sh Bisoyi	29.9.16		SAUs		Cluster monitoring
Bolangir	Dr.Sandeep Nayak	2.11.16		SAUs		Cluster monitoring
Bolangir	Mr.Bhabani Shankar Bisoyi	2.11.16		SAUs		Cluster monitoring

Note – add visitors of PMFBY and clustre monitoring (added)

25. Status of KVK Website: kvkbolangirzpdvii.org

Sr. No.	Name of KVK	Date of start of website	No. of updates since inception	No. of visitors
	Bolangir	April-2011	74	4050

26. E-CONNECTIVITY : NO

Name of KVK	Number and Date of Lecture delivered from KVK Hub				No. of lectors organized by KVK	Brief achievements	Remarks
	Date	No. of Staff attended	No. of call received from Hub	No. of Call mate to Hub by KVK			

27. Status of RTI :nil

Sr. No.	Name of KVK	No. of RTI applications received	No. of RTI appeals	Remarks

28. Status of Citizen Charter

Sr. No.	Name of KVK	Query received(Nos)	Query Disposed(Nos)	Remarks

29. Attended HRD Programmes organized by ZPD

Name of KVK	Name of Staff	Post held	Programme attended (Nos)	Remarks
Bolangir	K.K.Behera	Scientist(Ag. Ext)	2	Workshop of Scientist (Ag. Extension), IGKV
Bolangir	S.Srichandan	Scientist(Hort.)	2	Workshop of Scientist(Hort),Gwalior & Bangalore
Bolangir	R.N.Satpathy	Comp. Programmer	2	Workshop of computer programmer, Jabalpur
	Total		**6**	

Name of KVK	Total Number of staff Attended HRD Programme organized by ZPD (nos)	Total Number of Programme attended (Nos)
Bolangir	**3**	**6**

30. Attended HRD Programmes organized by DES

Name of KVK	Name of Staff	Post held	Programme attended (Nos)	Remarks
Bolangir	A.K.Das	SS&H	14	
Bolangir	K.K.Behera	Scientist(Ag.Ext.)	5	
Bolangir	S.Muna	Farm manager	3	

Name of KVK	Total Number of staff Attended HRD Programmes organized by DES (nos)	Total Number of Programmes attended (Nos)
Bolangir	**3**	**22**

31. Attended HRD Programmes by KVK Staff (Refresher course, Short course, Training programme etc.)

Name of KVK	Name of Staff	Post held	Programmes attended (Nos)	Remarks

Name of KVK	Total Number of staff Attended HRD Programmes by KVK staff (nos)	Total Number of Programmes attended (Nos)

32. Agri alert report (Epidemic, high serious nature problem, Cyclone etc. reported first time to ZPD, SAU, Agri. Deptt. and ICAR)

Name of KVK	Alert observed	Particulars	Reported to organization

33. DETAILS OF TECHNOLOGY WEEK CELEBRATIONS

Name of KVK	Types of Activities	No. of Activities	Number of Participants	Related crop/livestock technology
Bolangir	Integrated Farming System	1	30	IFS
Bolangir	Non pesticidal management of insect pest	1	30	Plant Protection
Bolangir	Protected cultivation of vegetables	1	30	Offseason vegetable cultivation
Bolangir	Avenues and development of women enterpreneurship	1	30	Women enterpreneurship
Bolangir	Climate resilient in agriculture	1	30	Acclimatization of crops

34. INTERVENTIONS ON DROUGHT MITIGATION

Introduction of alternate crops/varieties

Name of KVK	Crops/cultivars	Area (ha)	Number of beneficiaries
Bolangir	Greengram	30	75
Bolangir	Blackgram	20	59
Bolangir	Chickpea	10	25
Bolangir	Groundnut	15	38
Bolangir	Sesamum	10	20
Bolangir	Mustard	10	23

Major area coverage under alternate crops/varieties

Name of KVK	Crops	Area (ha)	Number of beneficiaries
Bolangir	Oilseeds	20	43
Bolangir	Pulses	75	197

Farmers-scientists interaction on livestock management

Name of KVK	Livestock components	Number of interactions	No. of participants

Animal health camps organized

Name of KVK	Number of camps	No.of animals	No.of farmers
Bolangir	1	359	56

Seed distribution in drought hit states

Name of KVK	Crops	Quantity (qtl)	Coverage of area (ha)	Number of farmers
Bolangir	Greengram	7	30	75
Bolangir	Blackgram	7	20	59
Bolangir	Chickpea	10	10	25
Bolangir	Groundnut	12	15	38
Bolangir	Sesamum	6	10	20
Bolangir	mustard	6	10	23

Seedlings and Saplings distributed

Name of KVK	Crops	Quantity (No.s)	Coverage of area (ha)	Number of farmers
Seedlings				
Bolangir	Tomato	5000	0.5	10
Bolangir	Brinjal	20000	0.5	23
Bolangir	Onion	249000	0.4	11

Bio-control Agents

Name of KVK	Bio-control Agents	Quantity (q)	Coverage of Area (ha)	No. of farmers

Bio-Fertilizer

Name of KVK	Bio-Fertilizer	Quantity (kg)	Coverage of Area (ha)	No. of farmers

Verms Produced

Name of KVK	Verms Produced	Quantity (q)	Coverage of Area (ha)	No. of Farmers

Large scale adoption of resource conservation technologies

Name of KVK	Crops/cultivars and gist of resource conservation technologies introduced	Area (ha)	Number of farmers

Awareness campaign

Name of KVK	Meetings		Gosthies		Field days		Farmers fair		Exhibition		Film show	
	No.	No. of farmers	No.	No. of farmers	No.	No. of farmers	No.	No. of farmers	No.	No. of farmers	No.	No. of farmers

35. Proposal of NICRA : NIL

1. **Technologies to be Demonstrated**

Name of Technology	Name of Crop	Area (ha.)	Yield	% change in Yield	No. of farmers benefitted

2. **Proposed Extension Activities in NICRA Village**

Name of Activity	Number of Participants/Beneficiaries to be Covered			
	Farmers	Farm Women	Official	Total

3. **Proposed Training Activities in NICRA Village**

Name of Activity	Number of Participants/Beneficiaries to be Covered			
	Farmers	Farm Women	Official	Total

4. **Proposed Activities for Fodder Bank**

Established (Years)	Capacity	Current Status

5. **Proposed Activities for Seed Bank**

Established (Years)	Capacity	Current Status

6. **Public Representative/District Administration Visited in NICRA Village**

Name of Representative/Officer	Designation	Date of Visit	Any Special Remark by Visitors

7. Feedback of Farmers for future improvement, if any.

#Provision of training hall and hostel for effective capacity building
#Dehydration technique for mushroom should be taught to farmers at KVK campus
#More no. of field visits for mitigating field and non-land based agrarian problems**.**

36. Proposed works under NAIP (in NAIP monitoring format)

37. Case study / Success Story to be developed – Two best only in the following format

SUCCESS STORY-1

Name of KVK-,Bolangir

TITLE:-**Crop based Integrated farming system**.

INTRODUCTION- Mr.Jaynarayana Padhan, a graduate farmer of Kaudia village having 2.5 ha of land where he used to grow Paddy/Vegetables in 1.7 ha. in Kh. & Greengram/Blackgram in 0.8 ha. in Rabi .He was getting 32 Q of paddy, 180 Q of Vegetables(Brinjal/cauliflower/okra) with an investment of Rs.60,000/- and gross return of Rs.1,43,000/- in Kharif .Similarly in Rabi, he was getting 4 Q of Greengram/Blackgram from 0.8 ha with an investment of Rs 7,000/- and the gross return was Rs 18,000/- .In total, with an investment of Rs.67,000/- he was getting a gross return of Rs 1,61,000/- and profit of Rs 94,000/- per annum

KVK INTERVENTION

- Conversion of low land to a pond of 0.4 ha
- Rearing of Four milch cows of improved strain
- Cultivation of Cucurbit crops under single trelis system
- Seed treatment with carboxin+ thiram @ 2.5 gm/kg seed
- Dip treatment for seedlings with 1% chloropyriphos solution
- Foliar application of Nitrobenzene (2ml/lit) at 4 leaf stage
- Weed treatment with pendimethalin @ 2lit/ha .
- Trap crop for insect pest management
- Small plots for moisture conservation.
  Stacking in vegetables/ Mulching
- Soil testing was done & PH was found as 5.8 -6.2
- Intervention through FLD on Pulses / OFT on Pest management practices
- Capacity building of farmer for skill & knowledge upgradation
- Regular field visits for monitoring the crops, diagnostic visits

organisation of field day by KVK in association with Line Deptt.

OUTPUT

Economics after KVK,Intervention

Season	Crop/ Enterprise	Area(ha)	Yield(Q)	Cost of Cultivation(Rs	Gross income (Rs	Profit (Rs)
Kharif/ Rabi	Pisciculture	0.4	12	20,000	96,000	76,000
	Dairy	4 milch cows	2000 lit milk	10,000	40,000	30,000
	Paddy	01	33	22,000	33,000	11,000
	Combination of vegetables	01	200	62,000	200,000	1,38,000
	Total	2.4	_	1,14,000	3,69,000	2,55,000
Rabi	Combination of Vegetables	2.0	490	1,15,000	3,65,000	2,50,000
	Greengram	0.4	2.8	4,000	11,200	7,200
	Total	2.4		1,19,000	3,76,200	2,57,200
	Grand Total	4.8 (Net Area)		2,33,000	25,200	5,12,200

OUTCOME

- With an investment of Rs Rs 2,33,000/- he gets a net profit of 5,12,200 /- from his Kharif & Rabi enterprises in one year.
- With this achievement , Jaynarayana Padhan has purchased a motorcycle worth Rs 65,000/-, where in case of exigencies he take his produce to market.
- Due to his status of as a progressive farmer and trained from KVK on AESA and Ecological engineering in Vegetables , he has become a Plant protection Advisor in and around his village.
- Govt. Officials approach him for buying fresh fish due to proximity of his village to the dist. Hqr.
- He renovated his tile roofed house into pakka roofed

IMPACT

Janarayana Padhan is now quiet popular among the farmers of his Gram Panchayat. Many farmers of the district have been motivated by his success and 20 farmers with av. holding size of 2 ha. have adopted crop based farming model with input assistance like drip irrigation, bore well, tractor , power weeders,

SUCCESS STORY-2

SUCCESS STORY-2

TITLE:-**Income generation through Mushroom cultivation**

INTRODUCTION-

Manoharpur village in Bolangir block is known for wide spread Maize ,Paddy and Banana cultivation with farmers having big land holdings. Budha Deep, of that village had only 0.8 ha land with 8 dc of homestead leading to low economic status. With that holding Paddy and few Vegetables were being grown & her husband used to go for wage labour During one training programme in his village She got awareness on Mushrooom cultivation as a profitable enterprise.

KVK INTERVENTION

2. Sterilization of the old and dilapilated shed of the existing house unit by spraying Formalin @ 150 ml/ 5 lit
3. Cutting of paddy straw of desired length of 3 ft.
4. Soaking of paddy straw in Water and Bleaching Powder to reduce the acidity of straw
5. Stacking of straw to drain out excess water and Pasteurization of straw i.e. by dipping straw in hot water for 2-3 hrs.
6. Layering of paddy straw and mounting over wooden ballahs with bricks.
7. Spraying of Nuvan @ 2ml/lit to prevent flies from egg laying before covering with polythene
8. Regular maintenance of moisture in beds & Regular plucking before full bloom

9.Value addition though preparation of Pickles and Dried mushroom in case of Surplus

10 Imparting training , followed by demonstration of technology

11. Capacity building of farm woman for skill & knowledge upgradation at KVK.

12.Literatures published by KVK in local language .

OUTPUT

Economics after KVK,Intervention

Season	**No. of Beds**	Yield / Bed	**Price / Kg (Rs.)**	**Cost of production (Rs.)**	**Gross Return (Rs)**	**Net profit (Rs.)**
Kharif (Paddy Straw)	1000	1 kg	200	70,000	2,00,000	1,30,000
Rabi (Dhingri)	1000	2 kg	80	30,000	1,60,000	1,30,000
TOTAL	2000	3000 kg/ yr	-	1,00,000	3,60,000	2,60,000

OUTCOME

With investment of Rs 1,00,000/- per annum, Budha Deep got a profit of Rs 2,60,000/-. She developed a large mushroom production unit and purchased milch cows and ornaments.

IMPACT

Adoption of Mushroom unit by 22 farm women of the block as income generation / Master trainer for other farm women of the area

Plan to raise own polyhouse for Paddy straw mushroom in Rabi season / Has plan to develop her own spawn unit

Has placed indent for 5,000 spawn bottles before KVK.

38. Well labeled Photographs for each activity of the KVK (Soft copies as well as hard copy- specially for all OFT along with the problem) –

Title of OFT	Problem	Related photograph
Assessment of chemical management of Cercospora and Alternaria disease of Pointed gourd	Low yield of Pointed gourd due to moderate to severe infection of leaf spot & blight disease.	
Assessment of suitable management schedule for mite & thrips infestation in Chilli	Low yield of Chilli due to infestation of mite & thrips at reproductive stage of crop .	
Assessment of performance of pusa hydrogel in cauliflower for moisture conservation	Low yield of Cauliflower due to moisture stress during critical period of crop growth . Farmers find difficulty to irrigate the crop at maturity stage causing small sized curd with bigger leaves	

Assessment of seed production in onion	High cost of foundation seed or unavailability of true to type seed for farmers Seeds procured from market are often of poor quality and not season specific ; resulting poor germination/ poor growth / susceptible to diseases.	
Assessment on banana variety G-nane and DC	Low yield from cultivation of local varieties of Banana (Bhusabali) . Farmers uproot poor quality suckers from mother plants and plant in a disorganised manner in the main field.	
Assessment on performance of sulphur application in onion	Low yield of Onion due to weed infestation (185 Q/ ha. , in 500 ha.) and no application of Sulphur	
Assessment of performance of herbicides in medium land transplanted paddy	Low yield from paddy var.like Lalat,Pooja,sahabhagi due to moderate/severe weed infestation. Inadequate knowledge on herbicide application	
Assessment of herbicides against weed management in Groundnut	Low yield of Groundnut due to severe weed infestation in upland condition in around	

Assessment of suitable paddy straw mushroom production in Kharif season	Low yield (1 kg/ bed) from cultivation of local paddy straw mushroom(*Volvariella volvacea*) during kharif	
Assessment of suitable Dhingri mushroom strain for increased productivity and income .	Low yield of Oyster mushroom due to cultivation of ruling strain of Dhingri mushroom .	
Assessment of area specific mineral mixture on the performance of milk yield in cross bred cows	Low yield of milk from cross bred cows @ 5-6 lit/ day due to poor diet and administration of local mineral mixture.	
Assessment of *Paclobutrazol* application for inducing regular bearing habit in Mango	Little or no flowering in Mango orchard in alternate years leading to low / no yield & Farmers having mango orchard gets no/poor income in alternate years	
Assessment of user friendly, indigenous techniques for safe storage of grain pulses	High post-harvest loss due to moderate damage of pulses by bruchid borers in domestic storage condition