National Innovations in Climate Resilient Agriculture
Technology Demonstration Component

Annual Report 2023-24

Name of KVK: Bolangir
Nature of Climatic Vulnerability: Drought
Name of Adopted Villages: Odiapali
Brief description of the villages: Village-Odiapali, GP-Atgaon, Block- Puintala, Dist- Bolangir , PIN-767002
Name of PI/Co-PI/Associated Scientist/SRF: Dr. Satyamaya Satapathy, Sr. Scientist& Head, PI-NICRA, Dr. BijayalaxmiMohanta, Scientist (Ag. Engineering), CO-PI-NICRA,Mr. JyotiprakasSahoo, SRF-NICRA

I. Module I: NRM

Table. Performances of demonstration of in-situ moisture conservation technologies

Technology demonstrated	No. of farmers	Area (ha)	Yield (q/ha)	Economics of demonstration (Rs/ha)		
				Gross Cost	Net Return	BCR
Green manuaring (dhaincha) in rice	NA					
Brown manuaring in rice						
Summer Ploughing in rice						
Azolla in Paddy						
Zero Tillage in wheat / Maize/ Others crops						
Repair of bund						
Horticultural production through land embankment development						
Organic mulching in vegetables						
Multiple disease resistantTomato var. ArkaRakshak with plastic mulching	10	0.4	220	92660	211265	3.28
Any intervention not covered in above	-	-	-	-	-	-
Total	**10**	**0.4**				

Table.Performances of water harvesting and recycling for supplemental irrigation

Technology demonstrated	No. of farmers	Area (ha)/Unit	Output (q/ha)	Economics of demonstration (Rs/ha)		
				Gross Cost	Net Return	BCR
Renovation of pond for fish production and irrigation	NA					
Renovation of canal						
5% Model						
Bora bandh						
Renovation of Well for irrigation						
Bund making leveling in paddy field						
New water harvesting structure						
Raising of land embankment						
Ground water recharge						
Desiltation of defunct water harvesting structures						
Renovation of irrigation channel						
Newly Check dam						
Renovation of common pond						
Any intervention not covered in above						
Total						

Table. Performance of artificial ground water recharge technologies demonstrated

Technology demonstrated	No. of farmers	Area (ha)	Output (q/ha)	Economics of demonstration (Rs./ha)		
				Gross Cost	Net Return	BCR
Field bunding for rice	NA					
Water management through bunding of rice						
Ground water recharge through SRI by sub-soiler						
Any intervention not covered in above						
Total						

Table. Performance of different water saving irrigation methods

Technology demonstrated	No. of farmers	Area (ha)	Output (q/ha)	Economics of demonstration (Rs./ha)		
				Gross Cost	Net Return	BCR
Irrigation system (micro Irrigation system)	-	-	-	-	-	-
Application of biofertilizer in rice/crops	-	-	-	-	-	-
Vermi-compost from biodegradable wastes	16	20 no.s of polytank	11 .4+ 4 kg ver	15400	5500	1.8

			min			
Production of crops on farm bund	-	-	-	-	-	-
RBF in crops	-	-	-	-	-	-
LEWA in crops	-	-	-	-	-	-
Sprinkler irrigation in crops	5	2.5	9.4	32500	72897	2.24
Any intervention not covered in above	-	-	-	-	-	-
Total						




Table. Performance of other demonstrations

Technology demonstrated	No. of farmers	Area (ha)	Output (q/ha)	Economics of demonstration (Rs./ha)		
				Gross Cost	Net Return	BCR
Demo 1	NA					
Demo 2						
Demo 3						
Others if any						
Total						

Table: KVK wise rainwater harvesting structures developed

RWH structures	No.	Storage capacity (cu.m)	No. of farmers	Protective irrigation potential (ha)	Increase in cropping intensity (%)
Desilting Pond	NA				
New Pond created					
Pond Renovation					
Canal					
Checkdam					
5% model					
Pyne					
Well					
Inlet Channel					
Desiliting drainage channel					
Bora bandh (Temporary check dam)					
Repaired well					

Jalkund	
Small ditches for jute retting	
Land shaping and rain water harvesting structure	
Others if any	
Total	

II. Module II: Crop Production

Table. Performance of different drought tolerant varieties

Technology demonstrated Crops with varieties	No. of farmers	Area (ha)	Yield(q/ha)		% increase	Economics of demonstration (Rs./ha)		
			Demo	Local		Gross Cost	Net Return	BCR
Stress tolerant rice cv. SwarnaShreya	100	50	40.8	34.2	19.3 %	45600	41712	1.91
Climate resilientGreen gram var. Sikha	25	12	9.4	7.6	42%	30000	42900	2.42
Multiple disease resistantTomato var. ArkaRakshak	10	0.4	220	150	46.6	92660	211265	3.28
More if any	-	-	-	-	-	-	-	-
Total	**135**	**62.4**						



Table. Performance of different salt tolerant paddy varieties

Technology demonstrated (Crops with varieties)	No. of farmers	Area (ha)	Yield (q/ha)		% increase	Economics of demonstration (Rs./ha)		
			Demo	Local		Gross Cost	Net Return	BCR
Crop I	NA							
Crop 2								
Crop 3								
More if any								
Total								

Table. Performance of different flood tolerant varieties

Technology demonstrated (Crops with varieties)	No. of farmers	Area (ha)	Yield (q/ha)		% increase	Economics of demonstration (Rs./ha)		
			Demo	Local		Gross Cost	Net Return	BCR

Crop I	NA
Crop 2	
Crop 3	
More if any	
Total	

Table. Performance of advancement of planting dates in different crops

Technology demonstrated	No. of farmers	Area (ha)	Yield (q/ha)		% increase	Economics of demonstration (Rs./ha)		
			Demo	Local		Gross Cost	Net Return	BCR
Crop I	NA							
Crop 2								
Crop 3								
More if any								
Total								

Table.Performances of water saving technologies

Technology demonstrated	No. of farmers	Area (ha)	Yield (q/ha)		% increase	Economics of demonstration (Rs./ha)		
			Demo	Local		Gross Cost	Net Return	BCR
Water saving technology through SRI	NA							
Aerobic Rice								
Direct seeded brown manured rice								
DSR								
Sowing of rice/ wheat / Maize with ZTD machine								
Others if any								
Total								

Performance of Community nurseries

Technology demonstrated	No. of farmers	Area (ha)	Yield (q/ha)		% increase	Economics of demonstration (Rs./ha)		
			Demo	Local		Gross Cost	Net Return	BCR
Crop I	NA							
Crop 2								
Crop 3								
More if any								
Total								

Table. Performance of different location specific intercropping systems

Technology demonstrated	No. of farmers	Area (ha)	Yield (q/ha)		% increase	Economics of demonstration (Rs./ha)		
			Demo	Local		Gross Cost	Net Return	BCR
Crop I + Crop 2	NA							
Crop 3 + Crop 4								
More if any								
Total								

Table. Performance of different crop diversification in NICRA villages

Technology demonstrated	No. of farmers	Area (ha)	Yield (q/ha)		% increase	Economics of demonstration (Rs./ha)		
			Demo	Local		Gross Cost	Net Return	BCR
Crop I	NA							
Crop 2								
Crop 3								
More if any								
Total								

Table. Performance of other demonstration under crop production module

Technology demonstrated	No. of farmers	Area (ha)	Yield(q/ha)		% increase	Economics of demonstration (Rs./ha)		
			Demo	Local		Gross Cost	Net Return	BCR
	NA							
Total								

III. Module III : Livestocks and Fisheries

Table. Performance of different fodder demonstration in community lands

Technology demonstrated	No. of farmers	Unit/ Area (ha)	Output (q/ha)		% increase	Economics of demonstration (Rs/ha)		
			Demo	Local		Gross Cost	Net Return	BCR
Fodder 1	NA							
Fodder 2								
Total								

Table. Performance of improved fodder

Technology demonstrated	No. of farmers	Unit/ Area (ha)	Yield (q/ha)		% increase	Economics of demonstration (Rs./ha)		
			Demo	Local		Gross Cost	Net Return	BCR
Fodder 1	NA							
Fodder 2								
Total								

Table. Performance of various vaccination camps organized

Technology demonstrated	No. of farmers	Unit/ No./ Area (ha)	Measurable indicators of output* (q/ha)		% increase	Economics of demonstration (Rs./ha)		
			Demo	Local		Gross Cost	Net Return	BCR
Vaccination camp against FMD Cattle & PPR against goat	NA							
Vaccination for PPR in goat and Ranikhet in Poultry.								
Deworming								
Mineral mixture								
Proper De-worming								
Vaccination camp against other diseases								
Others if any								
Total								

Table. Performance of composite and cat fish in the renovated ponds

Technology demonstrated	No. of farmers	Unit/ No. / Area (ha)	Measurable indicators of output* (q/ha)		% increase	Economics of demonstration (Rs./ha)		
			Demo	Local		Gross Cost	Net Return	BCR
Cat Fish 1	NA							
Cat Fish 2								
More if any								
Total								

Table. Performance of livestock demonstration in NICRA adopted villages

Technology demonstrated	No. of farmers	Unit/ No. / Area (ha)	Measurable indicators of output* (q/ha)		% increase	Economics of demonstration (Rs./ha)		
			Demo	Local		Gross Cost	Net Return	BCR
Feeding of bypass fat and mineral mix in dairy cows	10	-	9.2liter/d	8.1liter/ day	13.5	Rs. 161/cow/ Day	Rs. 190/ cow/ day	2.17

			ay					
Rearing of developed chicks var (Pallishree and kavery) in backyard	50	20 chicks per farmer	820 g wt. gain in 60 days	430 g wt. gain in 60 days	390 g wt. gain in 60 days	1482 /chick upto 2 months for 20 birds	2598/- per one lot (as per the wt. gain in 2 months)	2.75
If any more	-	-	-	-	-	-	-	-
Total	**60**	**1000**						




Table. Performance of improved shelters for poultry and dairy animals

Technology demonstrated	**No. of farmers**	**Unit/ No. / Area (ha)**	**Measurable indicators of output** (q/ha)		**% increase**	**Economics of demonstration (Rs./ha)**			
			Demo	**Local**		**Gross Cost**	**Gross Return**	**Net Return**	**BCR**
Shelter 1	**NA**								
Shelter 2									
Others if any									
Total									

IV. Module IV: Institutional Intervention

Table. Details of the various institutional interventions

Interventions	**No.of KVKs**	**Details of activity**			**No. of farmers**	**Unit/ No. /Area (ha)**
		Name of crops / Commodity groups / Implements	**Quantity(q) / Number / Rent / Charges**	**Technology used in seed / fodder bank & function of groups**		
Seed bank	1	Rice	-	Stress tolerant	20	10 ha
Fodder bank	-	-	-	-	-	-
Commodity groups	-	-	-	-	-	-
Custom hiring centre	1	1. Power weeder with ridger 2 .Mini rice mill 3. Pumpset 4. Battery operated sprayer 5. Power sprayer 6. Paddy reaper 7. Brush cutter 8. Paddy thresher 9. Cycle weeder	10	-	-	-

Collective marketing		-	-	-	-	-
Climate literacy through a village level weather station	-	-	-	-	-	-
More if any	-	-	-	-	-	-
Total	1	-	10	-	-	-

V. Village Climate Risk Management Committee (VCRMC)

VCRMC is a Committee under NICRA consisting 9 members and always lead to manage NICRA activities going on. Revenue collected from custom hiring centre credited to VCRMC account which is useful for repairing of agriequipments and purchase of new in future for farmer's benefits.

VI. Custom Hiring Centres:

Table. Revenue generated through Custom hiring Centres (CHCs) and VCRMC in KVKs

Name of KVK	Revenue generated (Rs.)	
	From CHCduring the year	Total fund under VCRMC as on 31.03.2024
Bolangir	11200	11200
Total	11200	11200









VII. Capacity Building

Thematic area	Topic of the training	No. of Courses	No. of beneficiaries		
			Male	Female	Total
Natural Resource Management	Capacity building training on Preparation & use of organic inputs	1	28	12	40
	Training on Vermicomposting	1	19	6	25
Crop Management	Training on Green gram	1	18	7	25
Nutrient Management	-	-	-	-	-
Crop Diversification	-	-	-	-	-
Resource conservation Technology	-	-	-	-	-
Nursery raising	-	-	-	-	-
Employment Generation	-	-	-	-	-
Nutrition garden	-	-	-	-	-
Repair & Maintenance of farm machinery & Implements	Training on Mechanization in Agriculture	1	21	4	25
Integrated Farming System	-	-	-	-	-
Livestock and Fishery Management	Training on low cost brooding technology in Poultry	1	18	7	25
	Training on Pond and feed management in composite fish farming	1	10	15	25
Fodder and feed management	Training on low cost feeding management in dairy cows	1	17	8	25
Lac cultivation	-	-	-	-	-
Farm implements and machineries	Capacity building training on use and operation of small implements	1	25	-	25
Value addition	-	-	-	-	-
Employment generation	-	-	-	-	-

Others if any	-	-	-	-	-




VIII. Extension Activities

Name of the activity	Number of Programmes	No. of beneficiaries		
		Male	Female	Total
Agro advisory Services	-	-	-	-
Awareness	12	108	78	186
Diagnostic visit	-	-	-	-
Exposure visits	1	20	0	20
Field Day	1	30	-	30
Group Discussion	7	49	105	154
Method demonstrations	5	127	34	161
KMAS Services	-	-	-	-
Farmers day	-	-	-	-
SHG	4	0	75	75
Campaign	2	71	44	115
Popular extension literature	4	120	38	158
Animal Health Camp	2	20	5	25
World earth day	-	-	-	-
KrishakChaupal	-	-	-	-
KishanGosthi	-	-	-	-
Woman health and nutrition	-	-	-	-
Technology week	-	-	-	-
NICRA Workshop at ATARI, Kolkata	-	-	-	-
Scientist visit to field	24	247	81	328
Others if any	-	-	-	-

Total	**62**	**792**	**460**	**1252**









IX. Soil Health Card Prepared and Distributed

Table- SHC card distribution at NICRA adopted villages

KVK	Year	No of soil samples collected	No. of samples analysed	SHC issued	No of Farmers involved
Bolangir	2023-24	Nil	Nil	Nil	Nil

X. Convergence with Other Ongoing Development Progrmmmes

Table: Convergence of Ongoing Development Programmes/Schemes in NICRA implementing KVKs

KVK	Development Scheme /Programme	Nature of work	Amount (Rs.)
Bolangir	Nil	Nil	Nil

XI. Dignitaries visited NICRA Villages during 2023-24

Name of KVK	Name of VIPs/Experts	Date of visit
Bolangir	Dr. P.K. Mohanty (Joint Director, Dean Extension Education)	25.01.2024

XII. Success stories of NICRA Village Farmers with photographs

Name of farmer	Sri NityanandaSai
Address	Village-Odiapali, Block- Puintala, Dist- Bolangir PIN-767002
Contact details	Mob No-:9439144782
Education and age	+3 Arts, 51 yrs
Landholding (in ha.)	Upland- 3 acres, Medium land-1 acres Low land-1 acre
Name of the farm/ enterprise	Paddy-5 acres, Green gram- 5 acres, Jersey Cow- 3nos, Poultry-35nos
Net Annual income	From Paddy- Rs.80000, Green gram- Rs.60,000, Dairy- Rs.72,000 and Poultry-8000 Total-2,20,000

Background:

Sri NityanandaSai is a progressive farmer of Odiapali village. He was cultivating rice, Green gram along with rearing of poultry with dairy as additional income. He was in search of technologies on enhancement of productivity and income as he was getting low productivity due to practicing of traditional practices. In the mean time he came in contact with KVK scientists and suitable technologies under NICRA project in 2021 were adopted by him. After adopting the technologies under NICRA project, he can able to enhance the productivity and income from Rs.170000 to Rs.2,20,000 and many climate resilient technologies can helpful to conserve moisture and tolerate drought situation in crop production.

NICRA intervention by KVK: -

KVK scientists initiated the demonstration on stress tolerant rice variety Swarna Shreya, Maize and the farmers got satisfactory yield of rice 34q/ha. He has been trained on skill onpreparation and use of organic inputs, foliar application of NPK (18:18:18) in Green gram, feeding of mineral mixture and bypass fat for increase milk production. Azolla cultivation help in poultry and dairy feeding which increases the body weight of bird and milk yield in developed poultry and dairy unit by the technical guidance of KVK scientists and now he is getting a minimum net income of Rs. 80,000. The demonstration on stress tolerant rice variety Swarna Shreya and foliar application of NPK(18:18:18) in green gram enhanced the productivity of rice and green gram for which he is getting an net income of Rs.1,40,000 per year.

Impact: After adoption of different climate resilient technologies on crop and livestock production, his income enhanced from Rs.170000 to Rs.220000. His participation toward social activities has been increased and he is recognized as key agent for motivating the farmers for adoption of the technologies. The technologies under NICRA project are disseminated to nearby 4-5 villages and the farmers are adopting the technologies and able to increase their income.






XIII. Newspaper coverage

XIV. Publication

XV. Expenditure Statement of NICRA-TDC Budget during 2023-24

Name of KVK	FINAL RE				Expenditure	Closing Balance 31.03.2024
Bolangir	Contingencies	TA	NRC	Total		
	8,31,761	13,239	79,000	9,24,000	9,24,000	0

XVI. Awards/Recognition etc. (with photos)

XVII. Any other activities (not covered above) (with photos)