ICAR – Central Research Institute for Dryland Agriculture
Santoshnagar, Hyderabad – 500059
Technology Demonstration Component of NICRA

Annual Report of TDC for the year 2022-23

Village:**Indramal & Khairbhadi** KVK and District: **KVK, Kalahandi** State:**Odisha**

Table-1: Information about the NICRA villages and the focus of activities in these villages

Details of Villages	Village 1 (Indramal)	Village 2 (Kharibhadi)
Name	Indramal	Khairbhadi
Year adopted in NICRA	2021-22	2021-22
*Demonstrations were takenup	Yes	Yes
*Scaling up of promising technologies	Yes	Yes

Table-2: Summary of Interventions taken up during 2022

#Villages	FST1 (Rainfed systems without animal)	FST2 (Rainfed with animals)	FST3 (Irrigated without animal)	FST4 (Irrigated with animal)
	No. of farmers involved in demonstrations	No. of farmers involved in demonstrations	No. of farmers involved in demonstrations	No. of farmers involved in demonstrations
Village 1	15	60	70	14
Village 2	14	42	85	09
Total	**30**	**100**	**155**	**23**

Table-3: Natural Resource Management Interventions taken up in farming system typology during the year 2022-23 (in all the villages)

Resilient practice	No. of Demonstrations	Farmers covered	Area covered (ha)
Mulching	2	10	1 ha
-	-	-	-

Table-4: Crop Production Interventions taken up in farming system typology during the year 2022-23 (in all the villages)

Resilient practice	No. of Demonstrations	Farmers covered	Area covered (ha)
Demonstration of upland Rice variety santha bhima	2	20	2.5 ha
Drought tolerant short duration Rice var. *Swarna Shreya*	2	20	2 ha
Integrated nutrient and pest management in vegetable	2	20	5 ha
Integrated nutrient management and integrated pest management in cotton	2	20	5 ha

Table-5: Livestock and Fisheries Interventions taken up in farming system typology during the year 2022-23 (in all the villages)

Resilient practice	No. of Demonstrations	Farmers covered	No. of animals covered	Area covered (ha)
.Cultivation of elite poultry bird	1	30	210	
Low cost goat shed	5	5	10	

Table-6: Impact of Climate Resilient Technologies (CRTs) in each Farming system typology (FST1*, rainfed systems without animal) during 2022 (report impact of interventions for 3 farmers in each typology) *Present for each village separately for all the typologies (village 1, 2)

* The description of the typology is generic, KVK can modify it, please indicate kharif & rabi
# Impact of technologies for all the villages are to be given

Villages	Crop/ Perennials	Technology adopted/ demonstrated	Area impacted by climatic stress, crop and stage	Rainfed							
				Kharif and rabi (NICRA farmers)				*Kharif and rabi (non-NICRA farmers)*			
				Area (ha)	Productivity (q/ha)	Net return	Net return (Rs./ha)	Area (ha)	Productivity (q/ha)	Net return	Net return (Rs./ha)
#Village1 Indramal											
Farmer 1 Khirasindhu Sahu	Crop based	Demonstration of upland Rice variety santha bhima.		0.4	38.4 Q per ha	17200	43000 per ha	0.3	32.8 Q per ha	8100	21000 Per ha
		Drought tolerant short duration Rice var. *Swarna Shreya.*		0.42	36.4 Q per ha	19000	47000 per ha	0.25	32 Q per ha	6900	18500 Per ha
		Integrated nutrient and pest management in Cotton.		0.40	5.2	3200	8100 per ha		3.9	2450	6020 per ha
	NRM based	Mulching		0.10							
Total						39400	98100 per ha			17450	45520 per ha
Farmer2 Gouranga Sahu	Crop based	Demonstration of upland Rice variety santha bhima.		0.35	37.25 Q Per ha	16500	41250 Per ha	0.3	32.1 Q per ha	12200	30500 Per ha
		Drought tolerant short duration Rice var. *Swarna Shreya.*		0.33	36 Q per ha	14640	36600 per ha	0.29	32 Q per ha	10850	27152 per ha
		Integrated nutrient and pest management		0.12							

		in vegetable.									
	NRM based	Mulching		0.05							
Total						31140	77850 per ha			23050	57652 per ha
Famer3 Rohit Sahu	Crop based	Drought tolerant short duration Rice var. *Swarna Shreya.*		0.20	38.4	12500	42000 per ha	0.25	32.8	10950	36000 per ha
		Integrated nutrient and pest management in vegetable.		0.18	28.53				26.2		
	NRM based	Mulching		0.08							
Total						12500	42000			10950	36000

VILLAGE-2 (KHAIRBHADI)

Villages	**Crop/ Perennials**	**Technology adopted/ demonstrated**	**Area impacted by climatic stress, crop and stage**	**Rainfed**							
				Kharif and rabi (NICRA farmers)				***Kharif and rabi (non-NICRA farmers)***			
				Area (ha)	**Productivity (q/ha)**	**Net return**	**Net return (Rs./ha)**	**Area (ha)**	**Productivity (q/ha)**	**Net return**	**Net return (Rs./ha)**
#Village2 Khairbhadi											
Farmer 1 **Tapaneswar Padhan**	Crop based	Demonstration of upland Rice variety santha bhima.		0.38	38.4 Q per ha	17000	42000 per ha	0.3	32.8 Q per ha	8100	21000 Per ha
		Drought tolerant short duration Rice var. *Swarna Shreya.*		0.33	36.4 Q per ha	14800	39500 per ha	0.25	32 Q per ha	9250	24500 Per ha
		Integrated nutrient and pest management in Cotton.		0.30	5.2	3260	8400 per ha		3.9	2650	6410 per ha
	NRM based	Mulching		0.10							
Total						35060	89900 per ha			20000	52910 per ha

Farmer2 Akura Bhoi	Crop based	Demonstration of upland Rice variety santha bhima.		0.35	37.25 Q Per ha	16500	41250 Per ha	0.3	32.1 Q per ha	12200	30500 Per ha
		Drought tolerant short duration Rice var. *Swarna Shreya.*		0.42	36 Q per ha	19000	46400 per ha	0.29	32 Q per ha	10850	27152 per ha
		Integrated nutrient and pest management in vegetable.		0.12							
	NRM based	Mulching		0.05							
Total						35500	87650 per ha			23050	57652 per ha
Famer3 Gokulananda Padhan	Crop based	Drought tolerant short duration Rice var. *Swarna Shreya.*		0.20	38.4	12500	42000 per ha	0.25	32.8	10950	36000 per ha
		Integrated nutrient and pest management in vegetable.		0.18	28.53				26.2		
	NRM based	Mulching		0.08							
Total						12500	42000 per ha			10350	36000 per ha

Table-7a: Impact of CRTs in each FST2* (Farming system typology – Rainfed with animals) during 2022 (report impact of interventions for 3 farmers in each typology) *Present for each village separately for all the typologies (village 1, 2)

Villages	**Crop/ Perennials**	**Technology adopted/ demonstrated**	**Area impacted by climatic stress, crop and stage**	**Rainfed**							
				Kharif and rabi (NICRA farmers)				***Kharif and rabi (non-NICRA farmers)***			
				Area (ha)	**Productivity (q/ha)**	**Net return**	**Net return (Rs./ha)**	**Area (ha)**	**Productivity (q/ha)**	**Net return**	**Net return (Rs./ha)**
#Village1 Indramal											
Farmer 1 **Amar Bag**	Crop based	Demonstration of upland Rice variety santha bhima.		0.4	38.4 Q per ha	17200	43000 per ha	0.3	32.8 Q per ha	8100	21000 Per ha
		Drought tolerant short duration Rice		0.42	36.4 Q per ha	19000	47000 per ha	0.25	32 Q per ha	6900	18500 Per ha

		var. *Swarna Shreya.*									
		Integrated nutrient and pest management in Cotton.		0.30	5.2	2950	8000 per ha		3.9	2100	5500 per ha
	NRM based	Mulching		0.10							
	Animal Based	Demonstration of elite poultry bird		5			1500				870
		Low cost goat shed		2			6200 per goat per year				3250 per goat per year
Total							105700 per ha				50020 per goat per year
Farmer2 Nakula Sahu	Crop based	Demonstration of upland Rice variety santha bhima.		0.35	37.25 Q Per ha	16500	41250 Per ha	0.3	32.1 Q per ha	12200	30500 Per ha
		Drought tolerant short duration Rice var. *Swarna Shreya.*		0.33	36 Q per ha	14640	36600 per ha	0.29	32 Q per ha	10850	27152 per ha
		Integrated nutrient and pest management in vegetable.		0.12							
	NRM based	Mulching		0.05							
	Animal Based	Demonstration of elite poultry bird		5			1500				
Total							79350 Per ha				57652 Per ha
Famer3 Milu Sahu	Crop based	Drought tolerant short duration Rice var. *Swarna Shreya.*		0.20	38.4	12500	42000 per ha	0.25	32.8	10950	36000 per ha
		Integrated nutrient and pest management in vegetable.		0.18	28.53				26.2		
	NRM based	Mulching		0.08							
	Animal Based	Demonstration of elite poultry bird		5			1500				
Total							43500 Per ha				36000 per ha

VILLAGE 2: KHAIRBHADI

Villages	Crop/ Perennials	Technology adopted/ demonstrated	Area impacted by climatic stress, crop and stage	Rainfed							
				Kharif and rabi (NICRA farmers)				*Kharif and rabi (non-NICRA farmers)*			
				Area (ha)	Productivity (q/ha)	Net return	Net return (Rs./ha)	Area (ha)	Productivity (q/ha)	Net return	Net return (Rs./ha)
#Village2 Khairbhadi											
Farmer 1 **Sudamani Padhan**	Crop based	Demonstration of upland Rice variety santha bhima.		0.38	38.4 Q per ha	17000	42000 per ha	0.3	32.8 Q per ha	8100	21000 Per ha
		Drought tolerant short duration Rice var. *Swarna Shreya.*		0.33	36.4 Q per ha	14800	39500 per ha	0.25	32 Q per ha	9000	24500 Per ha
		Integrated nutrient and pest management in Cotton.		0.30	5.2	2960	7400 per ha		3.9	2165	5800 per ha
	NRM based	Mulching		0.10							
	Animal Based	Demonstration of elite poultry bird		5			1500				1120
		Low cost goat shed		2			6200 per goat per year				3350
Total							96600 per ha				55770 per ha
Farmer2 Jasho Goud	Crop based	Demonstration of upland Rice variety santha bhima.		0.35	37.25 Q Per ha	16500	41250 Per ha	0.3	32.1 Q per ha	12200	30500 Per ha
		Drought tolerant short duration Rice var. *Swarna Shreya.*		0.42	36 Q per ha	19000	46400 per ha	0.29	32 Q per ha	10850	27152 per ha
		Integrated nutrient and pest management in vegetable.		0.12							
	NRM based	Mulching		0.05							
	Animal Based	Demonstration of elite poultry bird		5			1500				1050
		Low cost goat		2			6200 per				3510

		shed					goat per year				
Total							95350 per ha				62212 per ha
Famer3 Krushna Bhoi	Crop based	Drought tolerant short duration Rice var. *Swarna Shreya.*		0.20	38.4	12500	42000 per ha	0.25	32.8	10950	36000 per ha
		Integrated nutrient and pest management in vegetable.		0.18	28.53				26.2		
	NRM based	Mulching		0.08							
	Animal Based	Demonstration of elite poultry bird		5			1500				1175
Total							43500 per ha				37175 per ha

* The description of the typology is generic, KVK can modify it

Impact of technologies for other villages be added

$ Net return from the animal component is to be obtained from the below table

Table-7b: Impact of CRTs in each FST2 (Farming system typology----------) during 2022 (report impact of interventions for 3 farmers) **Present for each village separately for all the typologies (village 1, 2)

Animal (NICRA Farmer)	**No.**	**Technology adopted/ demonstrated**	**Production/ year***	**Selling price (Rs/unit)**	**Gross returns (Rs./animal)**	**By products quantity**	**Unit price (Rs.)**	**Net Returns (ha.)**
Poultry	5	Demonstration of elite polutary bird (210 nos.)	Avg. Body weight gain (g/day) 6.8	350 per bird	38750	5400	5	56720
Animal (Non NICRA farmer)	**No.**	**Technology adopted/ demonstrated**	**Production/ year***	**Selling price (Rs/unit)**	**Gross returns (Rs./animal)**	**By products quantity**	**Unit price (Rs.)**	**Net Returns (ha.)**
Poultry	-	Desi bird (32 birds)	Avg. Body weight gain (g/day) 4.10	420 per bird	17200	2300	10	36400

Table-8a: Impact of CRTs in each FST3* (Farming system typology- Irrigated without animal) during 2022 (report impact of interventions for 3 farmers in each typology) *Present for each village separately for all the typologies (village 1, 2)

Villages	Crop/ Perennials	Technology adopted/ demonstrated	Area impacted by climatic stress, crop and stage	Rainfed							
				Kharif and rabi (NICRA farmers)				*Kharif and rabi (non-NICRA farmers)*			
				Area (ha)	Productivity (q/ha)	Net return	Net return (Rs./ha)	Area (ha)	Productivity (q/ha)	Net return	Net return (Rs./ha)
#Village1 Indramal											
Farmer 1 Parameshwar Sahu	Crop based	Demonstration of upland Rice variety santha bhima.		0.5	40 Q per ha	23800	51500 per ha	0.3	34.5 Q per ha	14900	32450 Per ha
	NRM based	Mulching		0.10							
Total						23800	51500 per ha			14900	32450 per ha
Farmer2 Nityanand Sahu	Crop based	Drought tolerant short duration Rice var. *Swarna Shreya.*		0.42	38.6 Q per ha	19720	48200 per ha	0.29	34.2 Q per ha	12560	30140 per ha
		Integrated nutrient and pest management in vegetable.		0.12	30.21						
	NRM based	Mulching		0.05							
Total							48200 per ha				30140 per ha
Famer3 Diba Goud	Crop based	Drought tolerant short duration Rice var. *Swarna Shreya.*		0.20	38.4	17380	43450 per ha	0.25	33 Q per ha	13240	31330 per ha
	NRM based	Mulching		0.08							
Total							43450 per ha				31330 per ha

Village2: Khairbhadi

Villages	Crop/ Perennials	Technology adopted/ demonstrated	Area impacted by climatic stress, crop and stage	Rainfed							
				Kharif and rabi (NICRA farmers)				*Kharif and rabi (non-NICRA farmers)*			
				Area (ha)	Productivity (q/ha)	Net return	Net return (Rs./ha)	Area (ha)	Productivity (q/ha)	Net return	Net return (Rs./ha)
#Village2 Khairbhadi											
Farmer 1 **Madhusudan Padhan**	Crop based	Demonstration of upland Rice variety santha bhima.		0.42	41 Q per ha	27500	62100 per ha	0.3	36.2 Q per ha	17420	38250 Per ha
		Integrated nutrient and pest management in vegetable.		0.25							
	NRM based	Mulching		0.10							
Total							62100 per ha				38250 per ha
Farmer2 Rajib Padhan	Crop based	Drought tolerant short duration Rice var. *Swarna Shreya.*		0.52	43.2 Q per ha	21310	49275 per ha	0.29	35.1 Q per ha	14610	34525 per ha
		Integrated nutrient and pest management in vegetable.		0.12	30.21 Q per ha						
	NRM based	Mulching		0.05							
Total							49275 per ha				34525 per ha
Famer3 Sanatan Goud	Crop based	Drought tolerant short duration Rice var. *Swarna Shreya.*		0.54	44.6 Q per ha	19350	45265 per ha	0.25	33.8 Q per ha	14980	32225 per ha
	NRM based	Mulching		0.08							
Total							45265 per ha				32225 per ha

Table-9a: Impact of CRTs in each FST4* (Farming system typology- Irrigated with animal) during 2022 (report impact of interventions for 3 farmers in each typology) *Present for each village separately for all the typologies (village 1, 2)

Village 1: Indramal

Villages	Crop/ Perennials	Technology adopted/ demonstrated	Area impacted by climatic stress, crop and stage	Rainfed							
				Kharif and rabi (NICRA farmers)				*Kharif and rabi (non-NICRA farmers)*			
				Area (ha)	Productivity (q/ha)	Net return	Net return (Rs./ha)	Area (ha)	Productivity (q/ha)	Net return	Net return (Rs./ha)
#Village1 Indramal											
Farmer 1 Tapneswar Sahu	Crop based	Demonstration of upland Rice variety santha bhima.		0.5	40 Q per ha	23800	51500 per ha	0.3	34.5 Q per ha	14900	32450 Per ha
	NRM based	Mulching		0.10							
	Animal Based	Demonstration of Elite Poultry Bird			Avg. Body weight gain (g/day) 6.8		1500				1050
Total							53000 Per ha				33500 Per ha
Farmer2 Khirasindhu Sahu	Crop based	Drought tolerant short duration Rice var. *Swarna Shreya.*		0.42	38.6 Q per ha	19720	48200 per ha	0.29	34.2 Q per ha	12560	30140 per ha
		Integrated nutrient and pest management in vegetable.		0.12	30.21						
	NRM based	Mulching		0.05							
	Animal Based	Demonstration of Elite Poultry Bird			Avg. Body weight gain (g/day) 6.9		1450				1100
Total							49650 Per ha				31240 Per ha
Famer3 Amar Bag	Crop based	Drought tolerant short duration Rice var. *Swarna Shreya.*		0.20	38.4	17380	43450 per ha	0.25	33 Q per ha	13240	31330 per ha
	NRM based	Mulching		0.08							
	Animal Based	Demonstration of Elite Poultry Bird			Avg. Body weight gain (g/day)		1350				1045

					5.9						
Total							44800 Per ha				32375 Per ha

Village 2: Khairbhadi

Villages	**Crop/ Perennials**	**Technology adopted/ demonstrated**	**Area impacted by climatic stress, crop and stage**	**Rainfed**							
				Kharif and rabi (NICRA farmers)				***Kharif and rabi (non-NICRA farmers)***			
				Area (ha)	**Productivity (q/ha)**	**Net return**	**Net return (Rs./ha)**	**Area (ha)**	**Productivity (q/ha)**	**Net return**	**Net return (Rs./ha)**
#Village2 Khairbhadi											
Farmer 1 **Mukunda Rana**	Crop based	Demonstration of upland Rice variety santha bhima.		0.42	41 Q per ha	27500	62100 per ha	0.3	36.2 Q per ha	17420	38250 Per ha
		Integrated nutrient and pest management in vegetable.		0.25							
	NRM based	Mulching		0.10							
	Animal Based	Demonstration of Elite Poultry Bird			Avg. Body weight gain (g/day) 6.7		1650				1075
Total							63750 Per ha				39325 Per ha
Farmer2 Sada Bhoi	Crop based	Drought tolerant short duration Rice var. *Swarna Shreya.*		0.52	43.2 Q per ha	21310	49275 per ha	0.29	35.1 Q per ha	14610	34525 per ha
		Integrated nutrient and pest management in vegetable.		0.12	30.21 Q per ha						
	NRM based	Mulching		0.05							
	Animal Based	Demonstration of Elite Poultry Bird			Avg. Body weight gain (g/day) 5.9		1280				1020
Total							50555 Per ha				35545 Per ha
Famer3 Bisam Goud	Crop based	Drought tolerant short duration Rice		0.54	44.6 Q per ha	19350	45265 per ha	0.25	33.8 Q per ha	14980	32225 per ha

		var. *Swarna Shreya.*									
	NRM based	Mulching		0.08							
	Animal Based	Demonstration of Elite Poultry Bird			Avg. Body weight gain (g/day) 6.2		1560				1280
Total							46825 Per ha				33505 Per ha

Impact of technologies for other villages be added

Table-9b: Impact of CRTs in each FST4 (Farming system typology- Irrigated with animal) during 2022 (report impact of interventions for 3 farmers) **Present for each village separately for all the typologies

(village 1, 2)

Animal (NICRA Farmer)	**No.**	**Technology adopted/ demonstrated**	**Production/ year***	**Selling price (Rs/unit)**	**Gross returns (Rs./animal)**	**By products quantity**	**Unit price (Rs.)**	**Net Returns (ha.)**
Poultry	5	Demonstration of elite polutary bird (210 nos.)	Avg. Body weight gain (g/day) 6.8	350 per bird	42750	5400	5	59760
Animal (Non NICRA farmer)	**No.**	**Technology adopted/ demonstrated**	**Production/ year***	**Selling price (Rs/unit)**	**Gross returns (Rs./animal)**	**By products quantity**	**Unit price (Rs.)**	**Net Returns (ha.)**
Poultry	-	Desi bird (32 birds)	Avg. Body weight gain (g/day) 4.10	420 per bird	19520	2300	10	38430

Table-10: Performance of Custom Hiring Center during the year 2022-23

Equipment in the custom hiring center as on 01.01.2022	Amount of rent obtained	Farmers covered	Area covered (ha)
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Add rows if necessary

Table-11: Performance of seed systems during the year 2022-23

Crop & variety	**Seed produced (tons)**	**Farmers involved**	**Revenue obtained by farmer (Rupees)**
Rice (Santha Bhima)	0.8	6	96000
-	-	-	-

Table-12: Performance of fodder systems during the year 2022-23

Fodder crop & variety	Fodder produced (tons)	Farmers involved	Area involved (ha)	Revenue obtained by farmer (Rupees)
-	-	-	-	-

Table-13: Capacity Building (HRD) taken up during the year 2022-23

Title of the program	No. of training programmes	Number of beneficiaries			Date	
		Male	Female	Total	From	To
Effect of topping in crop growth of cotton	1	18	12	30	27.06.2022	
Use of green manuring for better fertility status and crop yield	1	14	16	30	14.07.2022	
Cultural management in Dragon fruit	1	21	09	30	04.08.2022	
Demonstration on split application of nitrogen to sustain weather aberration and moisture stress better	1	16	14	30	21.09.2022	
Application of chemical fertilizer based on STBF	1	25	05	30	17.10.2022	
Vermicomposting	1	22	08	30	01.11.2022	
Moisture conservation in solanaceous vegetable crops	1	19	11	30	12.12.2022	
Integrated pest management in cotton	1	21	09	30	05.01.2023	
Different vaccination schedules of viral diseases in live stocks during stress period	1	18	12	30	15.02.2023	
Care and management of dairy animal during heat stress	1	23	07	30	06.03.2023	

Table-14: Other extension activities being taken up during the year 2022-23

Name of the activity	Details about the activity	Number of programmes	No. of beneficiaries	
			Male	Female
Exposure visit of farmers	-	-	-	-
Group Discussion	Implementing a Group Discussion Programme in NICRA village under the NICRA Project is a proactive approach to engaging the community in addressing climate change challenges and fostering knowledge exchange among farmers.	5	89	62
Method demonstrations	By showcasing and promoting climate-smart agricultural practices in a real farm setting, this programme empowers local farmers with the knowledge and skills needed to adapt to changing climatic conditions and improve their agricultural productivity.	2	12	08
Awareness	Implementing an Awareness Programme under the NICRA (National Innovations in Climate Resilient Agriculture) Project is essential for educating the community about climate change and equipping them with knowledge to adapt to its impacts.	1	21	09
Agro advisory Services	The Agro Advisory Service implemented under the NICRA project is a critical step towards building climate-resilient	22	112	88

	agriculture and improving the livelihoods of local farmers. By providing timely and tailored information, fostering knowledge-sharing, and promoting sustainable practices, this initiative contributes to the long-term agricultural development of the village while mitigating the challenges posed by climate change.			
Diagnostic visit	The Climate Resilience Diagnostic Visit Programme plays a crucial role in providing personalized support to farmers to adapt to changing climatic conditions. By conducting on-site assessments and offering tailored recommendations, this programme empowers farmers to make informed decisions that enhance the resilience and sustainability of their farms	15	83	32

Table-15: Summary of Upscaling of technologies takenup during the year 2022 and the amount mobilized through convergence from various departments

Village name	Technology scaling up/out	No. of farmers reached	Coverage (ha) / number	Convergence with the programme	Approx. amount mobilised
Indramal	Renovation of check dam	120	-	Minor irrigation , Govt. of Odisha	-
Indramal	Community nursery for vegetables	112	-	Dept. Of Horticulture, Govt. of Odisha	-
Khairbhadi	Construction of goat shed	17	-	Department of Animal Husbandry, Govt. of Odisha	-
Khairbhadi	Distribution of poultry bird, mineral mixture, deworming drug	30	-	Department of Animal Husbandry, Govt. of Odisha	-

Table-16: Extreme events, high intensity rains and dry spells, heat wave, cold wave, hail storms, etc. observed during 2022-23

Nature of event	*Quantify the event	When it has occurred (Date)	Impact on crop, animal, horticulture, fisheries, etc.
-	-	-	-
-	-	-	-
-	-	-	-

*Like the extent of heavy rainfall received, the duration of dry spell, the duration of heat wave, the duration of cold wave, etc.,

Table-17: Distinguished visitors during the year 2022-23

Name of visitors	Date	Remarks
-	-	-
-	-	-
-	-	-

Add rows if necessary

Table-18: Publications from the project

Description (nature of publication)	Citation of the publication
Influence of Micronutrient management on Growth and Yield Attributes in Pigeonpea [*Cajanus cajan* (L.) CV. PRG176] in Kalahandi district of Odisha	Journal of Experimental Agriculture International
A comparative study of different moisture stress tolerant Rice varieties in Kalahandi district of Odisha	International Journal of Plant and Soil Science

Table-19: Adoption of successful interventions in the NICRA village & the adjoining villages

Successful interventions	Crop	Variety	Extent of adoption in the village in ha (2022)
NRM	Renovation of check dam	-	5 ha area benefited
CROP	Demonstration of upland Rice variety santha bhima	santha bhima	4 ha
	Drought tolerant short duration Rice var. *Swarna Shreya*	*Swarna Shreya*	4.2 ha
	Integrated nutrient management and integrated pest management in cotton	Tulasi	2.6 ha
	Integrated nutrient and pest management in vegetable	Tomato(Sahoo) Brinjal (VNR-212)	8 ha
Livestock	Demonstration of elite polutary bird (210 nos.)	-	-
	Distribution of poultry bird, mineral mixture, deworming drug	-	-
	Construction of goat shed	-	-

Table-20: Popularization of Climate Resilient Varieties

Crop*	Climate Resilient Varieties incorporated in the *Kharif* 2022 plan of the State Department	Approx. area brought under the variety by the state department during the K*harif* 2022 (ha)	Climate Resilient Varieties incorporated in the *Rabi* 2022 plan of the State Department	Approx. area brought under the variety by the state department during the *Rabi* 2022 (ha)
Rice	Santha Bhima	5		
Rice	Swarna Shreya	5		

Table-21: Rainfall characteristics for the year 2022-23

Month		May	June	July	August	September	October	November	December	January	Annual
Rainfall received in (mm)		55.6	108.8	276.2	635.6	117.4	111.8	0.0	0.0	88.4	1393.8
No. of dry spells during *kharif* season 2022	>10days	-	1	-	-	-	1	-	-	1	3
	>15days	-	-	-	-	-	-	-	-	1	1
	>20days	-	-	-	-	-	-	1	1	-	2

No. of intensive rain spells (2022)	>60 mm per day	-	-	-	5	1	-	-	-	-	-
	Waterlogging/Flooding observed (number of days)	-	-	-	-	-	-	-	-	-	-
Any other extreme events (Heat wave, Cold wave, frost) observed during the season	-	-	-	-	-	-	-	-	-	-	-
Contingency measures adopted during the season	1) 2)										

Table-22: Day-wise rainfall distribution in the village during *kharif* 2022; Rainfall recorded at RRTTS, Bhawanipatna, Kalahandi (NICRA village/ KVK, block head quarters, etc. …….)

		Day														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Rainfall (mm)	June	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.0	0.0	14.0	0.0	0.0
	July	13.0	13.8	8.6	0.0	3.0	0.0	6.2	1.6	1.0	20.4	7.2	34.4	33.6	8.6	16.0
	August	0.0	0.0	30.4	0.0	6.0	0.0	22.4	81.2	98.8	57.0	2.4	0.0	16.8	42.0	171.0
	September	1.2	8.2	0.0	0.8	0.2	0.0	0.0	0.0	0.8	0.6	0.8	12.8	0.4	0.0	0.0
	October	2.4	3.2	0.8	30.4	0.0	1.8	6.6	0.0	3.6	2.4	1.4	0.2	0.2	18.2	0.0
	November	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	December	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	January	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	32.2	6.0	11.4	16.8
	February	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	March	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	April	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	May	0.0	16.2	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.8	0.0	0.0	0.0

		Day															
		16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Rainfall (mm)	June	22.4	0.0	4.8	0.0	7.0	26.0	0.6	18.2	2.4	6.8	0.0	0.0	0.8	0.0	3.4	-
	July	0.8	34.0	3.8	0.0	1.0	1.4	8.6	50.6	2.6	0.0	0.4	4.2	0.0	0.0	1.4	0.0
	August	1.2	0.0	2.4	4.8	79.0	2.8	9.2	2.8	0.6	4.0	0.8	0.0	0.0	0.0	0.0	0.0
	September	0.0	0.0	0.8	20.6	60.6	4.8	0.0	0.4	0.0	0.0	0.0	1.0	0.0	1.0	2.4	-
	October	1.2	23.4	0.0	0.6	13.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	November	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-
	December	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	January	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	February	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	-	-
	March	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	April	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	May	0.0	0.0	1.4	6.2	9.4	0.0	0.0	0.0	1.2	0.0	0.0	8.6	0.0	0.0	4.0	0.0

Table-23: Impact of contingency measures taken up in the village (Relate the dry spells/floods/heat wave/cold wave/etc., with crops and their growth stages)

(Please provide your inputs about the performance of the interventions with reference to the rainfall, climatic vulnerability (drought, flood/ cold wave/heat wave, etc.) crop growth, soils, etc. at the end of table)

S. No	Dry spell (no. of days)	Duration (from --- to---)	Crop name	Crop stage affected	Intervention taken up*	Number of farmers involved	Impact on crop yields (q/ha)		
							Farmers' practice	Demo	Increase over farmers' practice
-	-	-	-	-	-	-	-	-	-

Table-24: Details about agro advisories issued (Organization giving the forecast: Department of Meteorology, forecast is based on the district or the block: District, Organization giving the agromet advisory Department of Meteorology, HP); How the advisories are disseminated in the NICRA village: Through WhatApp groups
Agromet advisory Bulletins issued

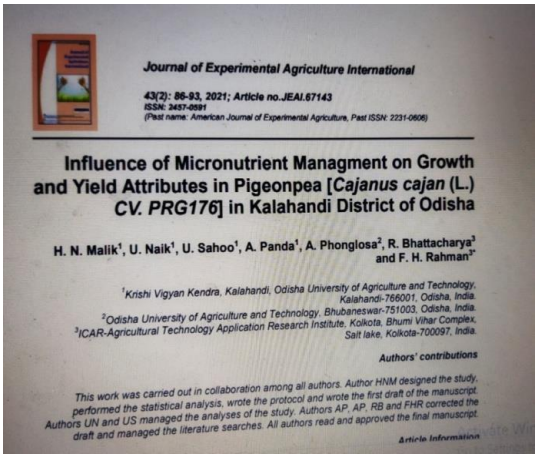
(Please provide your inputs about the performance of the advisory with reference to the rainfall forecasted at the end of table)

Month	June	July	August	September	October	November	December	January
Number of agromet bulletins issued	-	-	-	-	-	-	-	-
Other advisories issued	-	-	-	-	-	-	-	-

How the advisories are disseminated and their reach

Method	Number of farmers reached during the year
Whatsup group (messaging system)	-
Display on black boards, at panchayat, etc,	-
Any other method	-

Table-25: Please send Photographs of significant achievements of the year 2022-23 be attached (with JPEG Photographs) through mail along with the annual report



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Influence of Micronutrient Managment on Growth and Yield Attributes in Pigeonpea [*Cajanus cajan* (L.) *CV. PRG176*] in Kalahandi District of Odisha

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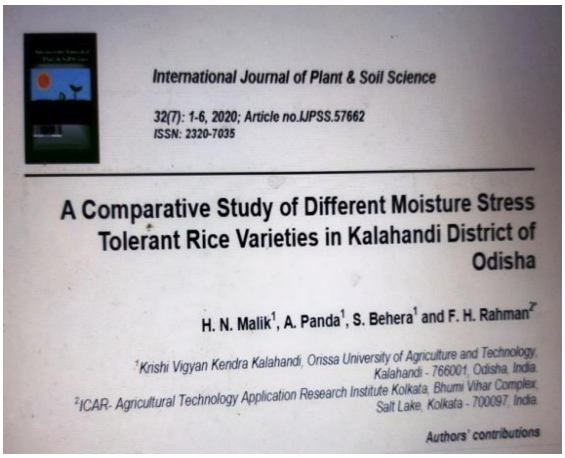
Authors' contributions

This work was carried out in collaboration among all authors. Author HNM designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors UN and US managed the analyses of the study. Authors AP, AP, RB and FHR corrected the draft and managed the literature searches. All authors read and approved the final manuscript.



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A Comparative Study of Different Moisture Stress Tolerant Rice Varieties in Kalahandi District of Odisha

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