

A Study on Impact of NICRA (National Innovation of Climate Resilient Agriculture) Project on Adoption of Recommended Production Technology of chickpea in Indore block, Indore district

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Abstract

National Innovations on Climate Resilient Agriculture (NICRA) is a network project of the Indian Council of Agricultural Research (ICAR) launched in February, 2011. The project aims to enhance resilience of Indian agriculture to climate change and climate vulnerability through strategic research and technology demonstration. The research on adaptation and mitigation covers crops, livestock, fisheries and natural resource management. The project consists of four components viz. Strategic Research, Technology Demonstration, Capacity Building and Sponsored/Competitive Grants. Aim of NICRA is to make Indian agriculture resilient to climate change through development and application of adaptation and mitigation technologies. National Innovations on Climate Resilient Agriculture (NICRA) is a network project of the Indian Council of Agricultural Research (ICAR) launched in February, 2011. The project aims to enhance resilience of Indian agriculture to climate change and climate vulnerability through strategic research and technology demonstration. The research on adaptation and mitigation covers crops, livestock, fisheries and natural resource management. The project consists of four components viz. Strategic Research, Technology Demonstration, Capacity Building and Sponsored/Competitive Grants. Aim of NICRA is to make Indian agriculture resilient to climate change through development and application of adaptation and mitigation technologies. 75 beneficiary farmers of NICRA Project were taken from DARP, for this study 75 non beneficiary farmers were taken for this study. Study revealed that according to adoption of recommended production technology of Chickpea regarding the beneficiaries of NICRA project 12.00% were having low adoption, 24.00% were having medium adoption, while 64.00% were having high adoption. In case of non-beneficiaries 48.00% were having low adoption, 36.00% were having medium adoption, while 16.00% were having high adoption. Therefore majority of NICRA beneficiaries had high adoption, while majority of non-beneficiaries had low adoption.

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I. Introduction

National Innovations on Climate Resilient Agriculture (NICRA) is a network project of the Indian Council of Agricultural Research (ICAR) launched in February, 2011. The project aims to enhance resilience of Indian agriculture to climate change and climate vulnerability through strategic research and technology demonstration. The research on adaptation and mitigation covers crops, livestock, fisheries and natural resource management. The project consists of four components viz. Strategic Research, Technology Demonstration, Capacity Building and Sponsored/Competitive Grants. Aim of NICRA is to make Indian agriculture resilient to climate change through development and application of adaptation and mitigation technologies.

Chickpea is commonly known as gram which is one of the important pulse crops of India. About 71% of global area with 71.95% of Global chickpea is contributed by India (Source-Annual Report of DPD 2016-17). It is important point to note that chickpea continues to be the largest consumed pulse in home as well as industrial purpose comprising of about 50% of total pulse production in India.

Objective

To determine knowledge and adoption of recommended production technology of chickpea

II. Review of Literature

Jasna V.K.(2015) studied on Impact of Climate Resilient Technologies in Rainfed Agro-Ecosystem. The present study was conducted in year 2015 in Gumla(Jharkhand) and Tumkur(Karnataka) district. NICRA farmers and Non-NICRA farmers were well aware on aspects of Climate Change but NICRA farmers had a higher level of awareness of Climate Resilience (78.83%) which was lacked by non-NICRA farmers (23.85%).

Biswas Sujana and *et. al.* (2018) studied on Impact of NICRA Project through Analysis of Different Success Point. The present study was conducted in the Cooch Behar district of West Bengal in KVK Cooch Behar. The major highlighting points of above study that horizontal impact of the Project and attachment with the different line department with this project. The project extended it is impact through different farmers club, SHGs and district line department. KVK scientists perceived that the motivation and interest level of farmers of NICRA adopted Village (Cooch Behar) on agriculture were high compared to other village. The first and foremost objectives of the project which was perceived by scientist and farmer that adoption of new technology with changing of agro climatic, agro-ecology and demographic condition and ultimate aim to established the resilience agriculture system.

III. Method & Material

The proposed study was confined to Indore district of Madhya Pradesh. From this district the Indore block was selected purposively for the present study because this block was taken by DARP, COA, Indore. From this block only 1 village i.e. Nignoti was selected since NICRA project was implemented only in 1 village during year 2017-18. All the 75 beneficiary farmers of NICRA Project were taken from DARP, for this study 75 non beneficiary farmers were taken from the nearby villages on random basis for comparison.

The data was collected with the help of interview schedule, which was prepared on the basis of objective of the study. Before the actual collection of data, the interview schedule was subjected to pre-test.

IV. Result & Discussion

Table: Distribution of NICRA beneficiaries and non beneficiaries according to their Knowledge of recommended production technology of chickpea:

S.No.	Practices	Beneficiaries level of knowledge						Non-beneficiaries level of knowledge					
		High		Medium		Low		High		Medium		Low	
		F	%	F	%	F	%	F	%	F	%	F	%
1.	After Bakkhar, prepare the field by Pata.	19	76	5	20	1	04	3	12	14	56	8	32
2.	Seed rate 70-100kg / hac adopted.	16	64	6	24	3	12	2	08	10	40	13	52
3.	Spacing- 30x10cm adopted	16	64	5	20	4	16	3	12	11	44	11	44
4.	Seed treatment. (i) 2gm Thiram + 1gm Carbendazim (ii) 5gm Rhizobium + 5gm PSB Cultures + 1gm ammonium molibded	18	72	6	24	1	04	3	12	7	28	15	60
5.	Sowing between 15 oct to 15 nov	18	72	5	20	2	08	4	16	6	24	15	60
6.	Fertilizer ratio N: P: K: S - 15-20: 40-50: 20: 60 adopted.	18	72	5	20	2	08	4	16	6	24	15	60
7.	Adopted recommended measures for non-irrigated farming.	18	72	6	24	1	04	3	12	7	28	15	60
8.	Water conservation and water promotion - (i) Soil water conservation through deep plowing. (ii) By use of subsoiler. (iii) rainwater harvesting (iv) Used mulch.	18	72	5	20	2	08	4	16	6	24	15	60
9.	Irrigated before flowering and filling stage.	13	52	7	28	5	20	2	08	8	32	15	60
10.	Weed control by using pandimethylene 1lit / hac.	19	76	5	20	1	04	3	12	14	56	8	32
11.	Disease management by recommended measures and use of medicines.	16	64	6	24	3	12	2	08	10	40	13	52
12.	Pest management by use of recommended pesticides and remedies.	16	64	5	20	4	16	3	12	11	44	11	44

Table : Mean, S.D. and t-value for knowledge between NICRA beneficiaries and non beneficiaries:

Respondents	Mean	S.D.	t value
Beneficiaries	21.33	13.66	1.456**
Non- beneficiaries	13.66	4.64	

**=significant at 0.01 probability level

The calculated t value for knowledge in NICRA beneficiaries and non beneficiaries was 1.456 which was found to be significant at 0.01 probability level. Thus the earlier stated null hypothesis that there is low difference between the knowledge of the NICRA beneficiaries and non beneficiaries is rejected. Hence it can be concluded that there is significant difference between knowledge of beneficiaries and non-beneficiaries of NICRA.

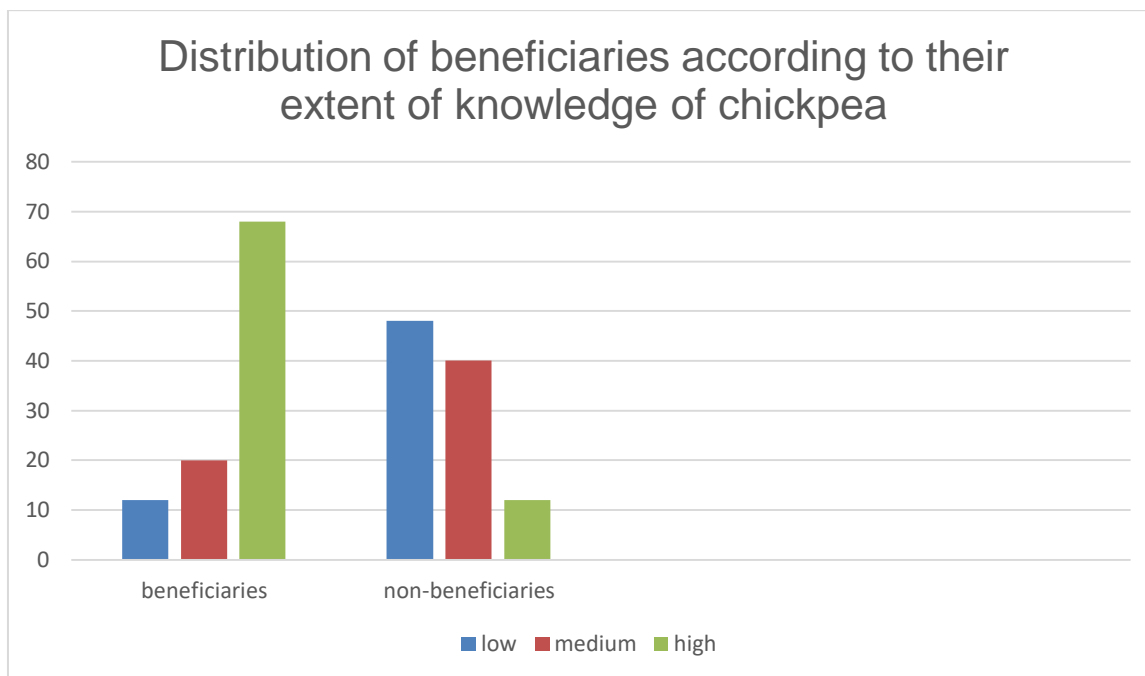


Table: 4.21 Distribution of NICRA beneficiaries and non beneficiaries according to their adoption of recommended production technology of chickpea.

S. No.	Practices	Beneficiaries level of adoption						Non-beneficiaries level of adoption					
		High		Medium		Low		High		Medium		Low	
		F	%	F	%	F	%	F	%	F	%	F	%
1.	Plowing by cultivator or bukhari before sowing.	19	76	5	20	1	04	3	12	14	56	8	32
2.	Prepared the field by Pata.	18	72	6	24	1	04	3	12	7	28	15	60
3.	Deep plowing once in three years.	17	68	4	16	4	16	3	12	11	44	11	44
4.	Soil testing	14	56	9	36	2	08	3	12	10	40	12	48
5.	Sowing time- third week of June to first week of July.	16	64	6	24	3	12	2	08	10	40	13	52
6.	Method of sowing in queues at a distance of 30-45 cm by the ridge and furrow method.	16	64	5	20	4	16	3	12	11	44	11	44
7.	Adopt seed rate-70-100kg.	18	72	6	24	1	04	3	12	7	28	15	60
8.	Seed treatment - (per kg seed) 2gm Thiram + 1 gm Carbendazim and 5 gm Rhizobium + 5 gm PSB Culture	18	72	5	20	2	08	4	16	6	24	15	60
9.	Adopted recommended improved varieties	19	76	5	20	1	04	3	12	14	56	8	32
10.	Adopted intercrop of pigeon pea and soybean.	18	72	6	24	1	04	3	12	7	28	15	60
11.	Nutrition Management 5 ton / hac organic fertilizer and N: P: K: S = 20: 60: 20: 20 kg / hac	17	68	4	16	4	16	3	12	11	44	11	44
12.	Weed Management -By recommended chemicals weedicide	14	56	9	36	2	08	3	12	10	40	12	48
13.	Disease Management- By recommended drugs and chemicals.	16	64	6	24	3	12	2	08	10	40	13	52
14.	Pest Management- By recommended pesticides and remedies.	16	64	5	20	4	16	3	12	11	44	11	44

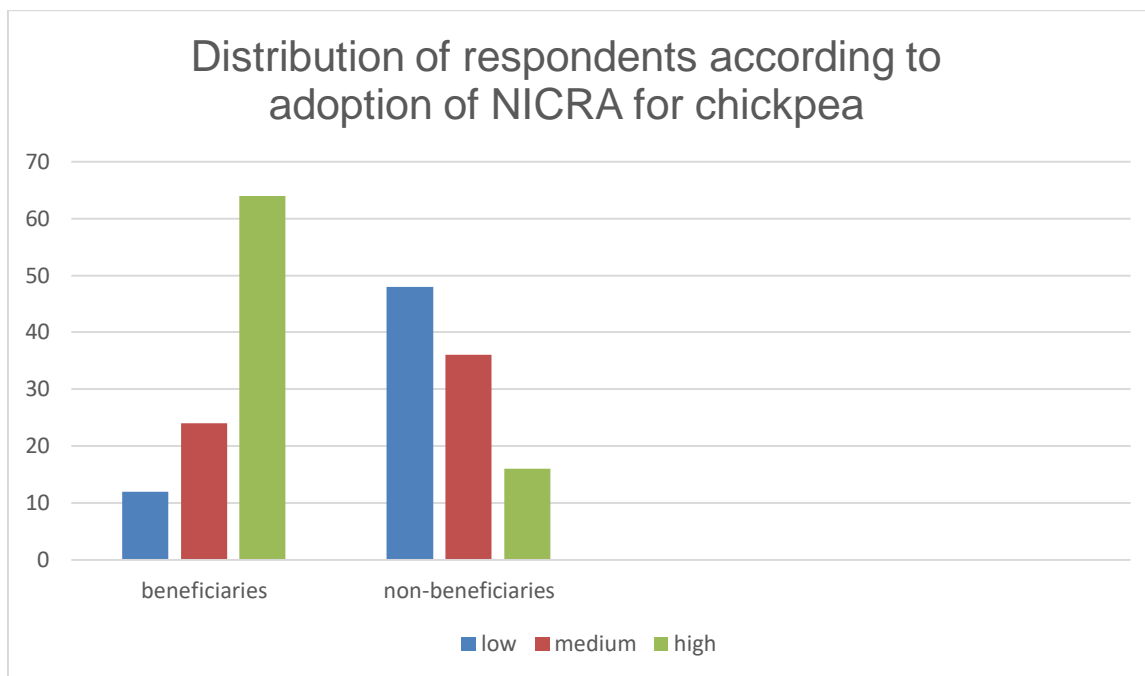


Table : Mean, S.D. and t-value for adoption between NICRA beneficiaries and non beneficiaries:

Respondents	Mean	S.D.	t value
Beneficiaries	19	20.54	1.20**
Non- beneficiaries	14	2.82	

**=significant at 0.01 probability level

The calculated t value for adoption in NICRA beneficiaries and non beneficiaries was 1.20 which was found to be significant at 0.01 probability level. Thus the earlier stated null hypothesis that there is low difference between the adoption of the NICRA beneficiaries and non beneficiaries is rejected. Hence it can be concluded that there is significant difference between adoption of chickpea among beneficiaries and non-beneficiaries of NICRA.

Adoption of recommended production technology of Chickpea:

Study revealed that according to adoption of recommended production technology of Chickpea regarding the beneficiaries of NICRA project 12.00% were having low adoption, 24.00% were having medium adoption, while 64.00% were having high adoption. In case of non-beneficiaries 48.00% were having low adoption, 36.00% were having medium adoption, while 16.00% were having high adoption. Therefore majority of NICRA beneficiaries had high adoption, while majority of non-beneficiaries had low adoption.

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