



## Research Article

# ADOPTION LEVEL OF WHEAT CULTIVATION PRACTICES UNDER NAIS AND WBCIS IN SOUTHERN RAJASTHAN

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**Abstract-** The majority of farmers reported moderate level of adoption, out of total, 38 (50.67 per cent) insured loanee farmers of Vallabh Nagar and 42 (56.00 per cent) insured loanee farmers of Salumber were fell under this category. Likewise, 29 (38.66 per cent) insured loanee farmers of Vallabh Nagar and 14 (18.67 per cent) of Salumber possessed low level of adoption. Similarly, 19 (25.33 per cent) insured loanee farmers of Salumber fell under the category of high level of adoption than those of Vallabh Nagar only 8 (10.67 per cent).

**Keywords-** Crop insurance, Adoption, Progressive farming system, High value inputs, Wheat, NAIS and WBCIS.

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## Introduction

Crop insurance is an insurance arrangement aiming at mitigating the financial losses suffered by the farmers due to damage and destruction of crops as a result of various production risks. The agricultural sector in India has been accorded top priority since independence. A cursory look at the growth of Indian agriculture in the past five decades indicates that agricultural production has reached comfortable heights especially after the Green Revolution. India has reached a stage of self-sufficiency, but it is still dominated by nature, which means that the instability still haunts agricultural sector and seriously threatens the Indian agriculture. Government of India started offering widespread crop insurance in 1985, with the Comprehensive Crop Insurance Scheme. It includes empirical evolutions of programmes in Mexico, Japan, Australia, United States, Japan and Brazil.

These experiences and those of other countries provide lessons, the design and management of agricultural insurance programmes about the role of crop insurance as a public risk management policy. Countries such as the United States, Japan, Brazil, Sri Lanka, Mauritius and Mexico have several decades of experiences with publicly supported crop insurance programmes. The Government of India had temporarily suspended the operation of the comprehensive crop insurance scheme (CCIS) from April 1, 1988 but again started the scheme during *kharif* 1988 (while in Karnataka, the State Government decided to continue the crop insurance scheme during 1989-90). The Comprehensive Crop Insurance Scheme was in operation till spring 1999. Then it was replaced by National Agriculture Insurance Scheme (NAIS). It was improvement over CCIS, but it has simply replaced one flawed scheme with another slightly less flawed one. 2010 Govt. of India came out with Modified National Agricultural Insurance Scheme (MNAIS), which is being implemented in 50 selected districts of India on a pilot basis in place of National Agricultural Insurance Scheme (NAIS), and NAIS was withdrawn for both loanee and non-loanee farmers from those areas/crops where MNAIS was implemented. Weather based crop insurance scheme (WBCIS) was introduced in India from Rabi 2007-08. It aims to mitigate hardships of insured farmers against the likelihood of

financial loss due to anticipated crop failure resulting from incidence of adverse conditions of weather parameters like the deficit or excess rainfall and also other parameters like temperature, frost, humidity and wind, etc. [4].

Just before the inception of WBCIS, NAIS was wound up. As per the field officers, farmers and other stakeholders, there is earnest need of evaluation and partial comparison between NAIS and WBCIS, so that their strengths and weakness could be determined. The comparison may lead to further strengthening the existing scheme or to evolve any new crop insurance scheme.

## Materials and Methods

The present investigation was conducted in Udaipur district of Rajasthan. Udaipur district lies between 28.3° N latitude and 75° E longitude at an elevation of 579.5 meters above mean sea level. Udaipur district is divided into eleven Panchayat samities. The district consists of 498 Gram Panchayats with a total population of about 30,67,549 as per the census 2013. According to the latest estimates, total geographical area of Udaipur is 19,13,696 hectares, out of which 5,20,622 hectares is cultivated. Udaipur district comprises eleven tehsils viz. Jhadol, Lasadia, Girva, Gogunda, Kherwara, Kotda, Mavli, Sarada, Salumber and Vallabh Nagar, Highest area covered under crop insurance schemes was observed in Salumber tehsil followed by Vallabh Nagar during 2011-12 [1]. Therefore, Salumber and Vallabh Nagar tehsils were selected on the basis of highest insured loanee farmers (ILFs) under crop insurance schemes. The information regarding crop insurance also revealed that there were considerable number of insured loanee farmers covered under NAIS and WBCIS in both the tehsils.

The NAIS and WBCIS had been operated in around 200 villages of Salumber and Vallabh Nagar tehsils. Ten villages (5 from Salumber and 5 from Vallabh Nagar), which fell in the radius of 10 kms from the tehsil headquarters of Salumber and Vallabh Nagar were included for the investigation. A list of such villages was prepared; care was taken to select first five villages from each of the tehsils with higher number of insured loanee farmers (ILFs). The number of respondents appears to be 300 in case, while comparison between NAIS and WBCIS schemes

has been attempted because of multiples responses of ILFs. Good number of farmers under NAIS and WBCIS were insured loanee farmers in both the tehsils. It was planned to select 150 (75 from Salumber and 75 from Vallabhnagar tehsils) insured loanee farmers from selected villages. To achieve the desired size of sample, proportionate random sampling procedure was followed in identifying real insured loanee farmers under both the schemes. Prior to drawing sample from every village, a pre-survey was conducted for preparing the list of those insured beneficiaries and who have drawn loan under crop insurance through NAIS and WBCIS. The study partially depends on the responses of field functionaries. Therefore, SMSs, AOs, AAOs, Bank officials and VEWs, those, who were available during the official meetings, training programmes and office visits, were interviewed. Total 40 field functionaries constituted this second set of respondents. The present investigation is a comparative study of NAIS and WBCIS of both the tehsils. NAIS is no more in operation. WBCIS is still being executed. Therefore, the investigation was carried out combining 'Ex-post-Facto Research design (for NAIS) and process evaluation study design (for WBCIS). Process evaluation is carried out during execution of any programme.

## Results and Discussion

### Respondents adoption level of progressive farming practices, high value inputs and higher technology of wheat crop under both the schemes

The data given in [Table-1] regarding level of adoption brought to focus that majority of the ILFs 80 (53.30 per cent) were of moderate level of adoption. 43 (28.70 per cent) of the farmers were having low level of adoption and 27 (18.00 per cent) of the respondents possessed high level of adoption of progressive farming practices under both the schemes for wheat cultivation.

**Table-1** Respondents adoption level of progressive farming practices, high value inputs and higher technology of wheat crop under both the scheme.

n=150

S. No	Adoption level	Tehsil		Total
		Vallabhnagar	Salumber	
1	Low (15.08-41.01)	29 (67.44) 38.66*	14 (32.56) 18.67*	43 (28.70)
2	Moderate (41.01-66.94)	38 (47.50) 50.67*	42 (52.50) 56.00*	80 (53.30)
3	High	8 (29.63)	19 (70.37)	27

	(above 66.94-92.87)	10.67*	25.33*	(18.00)
Total		75 (100)	75 (100)	150 (100)

n= Total number of respondents, \*= Percentage to columns, Figures in the parentheses show percentage of rows

Comparative analysis shows that 38 ILFs (50.67 per cent) of Vallabhnagar and 42 ILFs (56.00 per cent) Salumber farmers reported moderate level of adoption. Likewise, 29 ILFs (38.66 per cent) of the Vallabhnagar and 14 ILFs (18.67 per cent) of Salumber farmers possessed low level of adoption. Similarly, Salumber in 19 ILFs (25.33 per cent) fell under the category of high level of adoption than those of Vallabhnagar only 8 ILFs (10.67 per cent), respectively. Salumber tehsil were found adopting progressive farming practices, high value, inputs and higher technologies with higher level in comparison to Vallabhnagar. Hence, crop insurance schemes were proved to be more effective in Salumber tehsil than that of Vallabhnagar. Further, it could also be concluded that majority of the ILFs possessed moderate to high level of adoption of progressive farming practices under both of schemes for wheat cultivation.

The present findings of the study are supported by the findings of [3] who revealed that majority (55.55 per cent) of the respondents possessed medium level of scientific temperament, while about one fourth (25.25 per cent) of the respondents possessed high, and 18.88 per cent possessed low level of scientific temperament. They also observed that mean value of scientific temperament of FLD beneficiaries was higher (76.35 per cent) than the mean score (62.20 per cent) of scientific temperament of non-beneficiaries. Thus, it can be stated that there was an impact of FLD programme on scientific temperament of the wheat growers.

Data based recommendations are made to enhance the adoption level of Vallabhnagar farmers under insurance schemes regarding progressive farming practices, high value, inputs and higher technologies. This is possible through training programmes through field functionaries for harnessing the benefits of wheat crop insurance.

### Overall adoption level of progressive farming practices, high value inputs and higher technology of wheat crop among the insured loanee farmers under both the schemes

**Table-2** Overall adoption level of progressive farming practices, high value inputs and higher technology of wheat crop among the insured loanee farmers under both the schemes

n=150

S. No	Sub-aspect	Tehsil				Total	
		Vallabhnagar		Salumber		MPS	Rank
		MPS	Rank	MPS	Rank		
1	Field preparation	63.02	2	64.77	4	63.90	3
2	High yielding varieties	64.29	1	72.57	1	68.43	1
3	Seed rate and sowing	57.08	4	57.85	6	57.47	6
4	Use of Manures and fertilizers	55.83	5	60.09	5	57.96	5
5	Irrigation Water Management (IWM)	62.78	3	67.17	2	64.98	2
6	Plant protection techniques	54.05	7	55.14	7	54.59	7
7	Post-harvest techniques and marketing	55.74	6	65.68	3	60.71	4

MPS= Mean per cent score

\*\* = Significant at 1 per cent level

rs = 0.86\*\*

In depth look of the figures in the [Table-2] reveal that adoption level was high about "High yielding varieties (MPS 68.43)", "Irrigation Water Management (IWM) (MPS 64.98)", "Field preparation (IWM) (MPS 63.90)", "Post-harvest techniques and marketing (MPS 60.71)" and "Use of Manures and fertilizers (MPS 57.96) which were ranked as 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup>, respectively. Least adoption level was observed about "Seed rate and sowing (MPS 57.47) and "Plant protection techniques (MPS 54.59).

It is also apparent that the calculated value of rank order correlation ( $r_s$ ) 0.86, was found to be significant at 1 per cent level of significance. There was a significant correlation between the ranks assigned by both the schemes of insured loanee

farmers about adoption of progressive farming practices, high value inputs and higher technology of wheat crop aspects, though there was difference in magnitude of mean per cent scores of the insured loanee farmers from both the schemes. From the above discussion, it could be concluded that Salumber insured loanee farmers had relatively better adoption level of wheat practices as compared to Vallabhnagar. This might be due to the reason that Salumber insured loanee farmers had relatively better economic condition and they possessed comparatively more knowledge about the progressive farming practices of wheat cultivation, with better economic status.

Therefore, it is suggested and recommended on the basis of above discussion

that ILFs of Vallabh Nagar should be trained more regarding progressive farming practices, high value inputs and higher technology of wheat crop, so as to enable them take advantages of crop insurance schemes. More clearly, it is recommended that the ILFs of Vallabh Nagar are in need of more and more adoption of progressive farming practices of wheat cultivation in order to increase wheat production under insurance. This can be achieved by effective transmission of know-how by the extension workers and the time bound strict follow-up action by the agents.

The present findings of the study are supported by the findings of [2], who revealed that almost all the wheat growers adopted water management practices of wheat crop. They also observed that technologies like sowing time and crop duration (60.00 per cent) were adopted by the majority of wheat growers. Most of the wheat growers were not adopting practices as per recommendations in respect of sowing, aphids and jassids pest control and disease control measures (80.00 per cent).

**Conflict of Interest: None declared**

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