

Does Crop Insurance Really Sway The Indian Farmers – An Evaluative Study

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Abstract

Agriculture sector is demographically the most significant and widest economic sector in India. Indian agriculture is characterized by lack of technology, low productivity, underemployment, multiplicity of crops, unequal distribution of land, predominance of small farmers, etc. Even a marginal dip in the agricultural production has trickled down effect on the whole economy. Indian agriculture sector highly depends upon weather conditions which gives farmers an uncertain income every time. Agriculture sector is composed of various risks such as production risk, price risk, credit risk and institutional risk. Among these risks the most serious risk faced by farmers are production risk. The government has introduced various crop insurance schemes for protecting farmers from production risk. This paper is an attempt to analyse the growth, challenges and opportunities of crop insurance in India.

Keywords: *Agriculture, Crop Insurance, AIC, Risk Management, Agriculture Census*

JEL code: *Q1, G22, G32*

Introduction

Agriculture plays an important role in India's economy. More than 58 per cent of the rural population depends on agriculture as their major means of livelihood. Agriculture, along with fisheries and forestry, is one of the largest contributors to the Gross Domestic Product. In India, agriculture is highly vulnerable to risks like weather, pest, disease, input supply, price fluctuations, droughts and floods. Due to this farmers suffer heavy losses and uncertain income every time. The necessity to protect the farmers from these risks has moved to an

alarming stage. Now a day's farmers have developed their own risk management strategies to cope up with these adverse events. But these measures are not sufficient. Therefore, the Government of India has introduced several agricultural insurance schemes throughout the country to safeguard the farmers from various risks.

Crop insurance is a risk management technique available to farmers for extenuating their production risk. Crop insurance, which is primarily a way of protecting farmers against the element of chance of risk in crop production. Crop insurance spreads the crop losses over space and time, provides social security to the farmers, helps in maintaining their dignity, offers self-help, encourages large investments in agriculture for improving crop yield and increasing agricultural production. Thus, crop insurance cushions the shock of crop loss by assuring farmers a protection against natural hazards beyond their control. Realising the importance of crop insurance as a tool for managing risk and uncertainties in agriculture the Union and the State Governments jointly implemented various insurance schemes. The Weather-based crop insurance scheme (WBCIS) and the Modified national agriculture insurance scheme (MNAIS) are the two components of the National Crop Insurance Programme of the Union government, are being extended to farmers. Besides this Pradhan Mantri Fasal Bima Yojana (PMFBY) launched in 2016 to provide financial support to farmers suffering from crop loss or damage arising out of unforeseen events will also add to insurance penetration. Paddy, Pepper, Cashew, Coconut, Mango, Tapioca, Turmeric and Cardamom are the major crops covered under these schemes. Agricultural Insurance Company of India Ltd., a Union Government enterprise, is the implementing agency of these schemes in India.

Review of Literature

To study the present scenario of crop insurance in India, the literature on crop insurance schemes and agriculture risk management are reviewed as under:

Raju and Chand (2008) in their study on Agricultural Insurance in India: Problems and Prospects states that Crop insurance not only stabilizes the farm income but also helps the farmers to initiate production activity after a bad agricultural year. It cushions the shock of crop losses by providing farmers with a minimum amount of protection. They empirically examined the perceptions of the farmers in Andhra Pradesh regarding the Agricultural insurance. It was observed that those who availed crop insurance mentioned financial security

as the most important factor for getting their crop insured and wanted quick settlement of claims. The non loanee farmers mentioned lack of awareness as the major reason for not availing such insurance schemes.

Shrikrishna and Mahajan (2012) made a study on Growth of NAIS: A Study of Crop Insurance in India. They observed that Indian agriculture sector is dependent on monsoon which is always flexible which leads to operating risk in cultivation of different crops. Natural calamities may affect on the yield from agriculture sector. To cover the risk which may occur in future, there is a need of crop insurance to safeguard against production risk in agriculture. For fulfilling these needs the Government of India has made experiments and efforts by introducing various schemes of crop insurance. Since the year 1999-2000, National Agricultural Insurance Scheme has been launched by National Agricultural Insurance Corporation of India. This study has made an attempt to analyse the growth and development of National Agricultural Insurance Scheme and to examine the performance of NAIS. The study found that Even after 10 years of launching the NAIS there is lack of awareness of farmers about this scheme. The main problem in NAIS is that all crop are not covered under NAIS and are subjected to Crop Cutting Experiments, another is delay in the timely availability of data as many departments and layers of administration are involved.

Sundar and Ramakrishnan (2013) focused on a study titled “A Study on Farmers’ Awareness, Perception and Willing to Join and Pay for Crop Insurance” discuss the awareness level and farmers’ perception towards willingness to paying for crop insurance. The study was conducted in Kunichampet village, Puducherry District, India and 140 respondents were chosen based on convenience sampling method. From the analysis it is found that farmer’s awareness level about crop insurance was very low. Most of the farmers were not willing to pay for crop insurance because of instable income, premium rate, no or low compensation, problems with distribution channel and lack of financial knowledge.

Soni and Trivedi (2013) conducted a study on “Crop Insurance: An Empirical Study on Awareness and Perceptions”, they made an attempt to understand the existing scenario of crop insurance in India with a special reference to Gujarat. The study empirically checks upon the awareness level of farmers in Anand district towards crop insurance. They further examine the perception of those who have availed or not availed crop insurance in various villages of Anand district. It was found that only two out of 55 farmers covered under the

study were having crop insurance. The reason behind this problem are lack of awareness, lack of co-operation from banks and procedure delay. The study suggested that crop insurance at village level should be simple in design with user friendly policies so that they can understand the utility of this product. Various Self-Help Groups (SHGs) operating at grass root level and E Choupal, the initiative by ITC can be taken in a loop to spread awareness and ensure better penetration of crop insurance.

Mukherjee and Pal (2017) made a study on Impediments to the Spread of Crop Insurance in India. They discuss the key issues behind the low spread of crop insurance among the farmers such as lack of awareness among farmers, delay in claim settlement and absence of adequate number of channels. They states that the PMFBY has brought lower and standardised premium rates, and emphasised the use of technology improved the penetration of crop insurance in India and it is concluded that there are some other structural constraints that may need to be tackled if the targeted coverage of crop insurance in India needs to be achieved.

Objectives

The specific objectives of the study are:

1. To evaluate the advancement of crop insurance in India.
2. To identify the challenges and Opportunities of crop insurance in India.

Data and Methodology

The study is based on secondary data collected from various sources such as articles published in journals, websites of NSSO, AIC, Agriculture Census report and Census Survey 2011. The whole paper is divided into two parts .The first part deals with the growth of crop insurance from 1999 to 2018 by collecting state-wise data of farmers insured in Kharif and Rabi season under various insurance schemes from the website of AIC. The second part discusses the challenges and opportunities of crop insurance in India with the help of Data's from the Agriculture census report and Census report 2011.

Growth of Crop Insurance in India

Crop insurance a way to protect the farmers from the loss of revenue due to declines in the prices of agricultural commodities or from the loss of their crops due to natural disasters

such as flood, storms, pests, diseases, drought, etc. Thus, farmers should adopt a Crop Insurance to stabilize farm incomes, especially in the years that disaster hits. It provides farmers with financial support and insurance coverage in the event of natural calamities, diseases and pests. It also encourages farmers to implement progressive farming practices with better technology. The major crop insurance schemes introduced in the country include:

- 1972–78- First individual approach crop insurance scheme - First scheme in India after independence.
- 1979–84- Pilot Crop Insurance Scheme - First area index based scheme.
- 1985–99- Comprehensive Crop Insurance Scheme (CCIS) - Crop Insurance made mandatory for loanee farmers.
- 1997–98- Experimental Crop Insurance Scheme (ECIS) - Fully subsidised scheme.
- 1999–2016- National Agricultural Insurance Scheme (NAIS) - Sharecroppers were included for insurance cover.
- 2003–04 -Farm Income Insurance Scheme (FIIS) - First scheme to cover farm income, rather than the cost of cultivation.
- 2007–to date -Weather Based Crop Insurance Scheme (WBCIS) - First scheme to ascertain crop loss based on deviation in rainfall.
- 2010–2016 - Modified National Agricultural Insurance Scheme (MNAIS) - Private sector participation encouraged.
- 2016–to date Pradhan Mantri Fasal Bima Yojana (PMFBY) Premium rates lowered. Use of technology emphasised.

Thus the Government has introduced these schemes in order to provide protection to farmers against various production risks. Each new scheme is a modification or improvement over the previous schemes. The Table 1 shows the number of farmers who had taken crop insurance from 1999 that is from the introduction of NAIS up to PMFBY 2018 by taking all states and union territories in India.

Table 1

Farmers Insured Under All Insurance Scheme

(In 000's)

Year	Kharif	Rabi
1999-2000		347
2000-2001	7960	2658
2001-2002	8181	2376

2002-2003	8768	3411
2003-2004	7429	5086
2004-2005	10693	10730
2005-2006	13553	5729
2006-2007	12633	7903
2007-2008	13385	8375
2008-2009	11174	8518
2009-2010	27124	9038
2010-2011	13262	8522
2011-2012	15820	11435
2012-2013	19818	17421
2013-2014	20914	5290
2014-2015	18226	9641
2015-2016	23790	11838
2016-2017	15459	7844
2017-2018	9300	4026

Source: Consolidated from AIC Report

Note- Kharif season-July to October, Rabi season –October to March,
Agricultural year (July-June)

Table 1 shows the total number of farmers covered under various crop insurance scheme from 1999-2018 by taking all the states and union territories in the country. It is observed from the table that number of farmers covered under crop insurance in Kharif season is more than that of Rabi season and there is a remarkable increase in the number of farmers insured since 1999-2000. Number of Insured farmers is 7960 million in the year 1999-2000 Kharif season and it increased to 9300 million in the year 2017-18 Kharif season. Rabi season also shows a rising tendency even though there were frequent ups and downs. Number of farmers insured in 1999 Rabi season is 347 million which is increased to 4026 million in the year 2017-18.

Table 2 shows a list of farmers insured under various insurance schemes among major states.

Table 2
Farmers Insured Under All Insurance Scheme

(In 000's)

Year	Season	Kerala	Tamil Nadu	Karnataka	Andhra Pradesh	Maharashtra	Gujarat	Madhya Pradesh	Uttar Pradesh	Chhattisgarh	Odisha	Total
1999-2000	K											
	R	23	0	0	0	121	15	187	0	0	0	346
2000-2001	K	16	16	327	1772	2529	1118	869	438	472	233	7790
	R	21	94	41	215	421	32	382	510	6	682	2404
2001-2002	K	12	19	611	1566	2667	1254	864	249	385	124	7751
	R	19	145	66	210	86	26	482	342	7	628	2011
2002-2003	K	9	15	874	1685	1793	1169	1196	559	704	212	8216
	R	21	73	141	145	248	27	582	571	8	1205	3021
2003-2004	K	19	9	704	1502	1727	1016	978	359	496	143	6953
	R	22	57	1160	235	1035	22	543	641	7	638	4360
2004-2005	K	15	12	789	2357	2070	1068	1461	859	726	203	9560
	R	18	133	174	2360	141	0	672	874	13	873	5258
2005-2006	K	14	13	854	1980	2316	880	1399	506	654	211	8827
	R	18	107	116	267	239	11	777	772	11	900	3218
2006-2007	K	13	46	792	1965	1638	864	1277	887	716	230	8428
	R	17	269	548	305	38	14	582	1111	13	880	3777
2007-2008	K	17	18	616	2111	1892	825	1391	1046	700	200	8816
	R	17	539	65	223	92	14	836	1352	23	841	4002
2008-2009	K	9	36	1081	1706	3456	813	1080	708	792	145	9826
	R	20	842	290	447	52	28	795	1475	37.2	611	4597

2009-2010	K	19	83	1082	3068	3152	1056	1570	1420	881	243	12574
	R	21	877	122	302	82	34	1061	1548	29	1069	5145
2010-2011	K	22	80	696	2308	2520	1060	1742	1282	866	210	10786
	R	23	968	79	470	60	39	1410	1229	65	1148	5491
2011-2012	K	14	140	766	2578	2239	1201	1543	1087	1011	72	10651
	R	21	448	890	621	366	109	1384	1190	65	1443	6537
2012-2013	K	17	264	726	2165	1335	1144	2033	784.3	1182	77	9727
	R	40	1002	127	430	1054	33	1986	1052	100	1446	7270
2013-2014	K	34	201	507	2221	1495	1005	2341	880	651	146	9481
	R	28	594	55	659	302	27	438	18	121	1319	3561
2014-2015	K	24	45	1076	736	2523	659	0	755	974	1800	8592
	R	25	663	38	216	2637	2	0	1447	94	118	5240
2015-2016	K	26	138	872	1520	2960	502	0	1689	1204	2153	11064
	R	35	936	326	179	1584	2	0	2017	79	106	5264
2016-2017	K	31	3	0	432	4832	415	2484	3299	0	0	11496
	R	18	402	797	563	0	0	1571	2746	77	0	6174
2017-2018	K	28	53	250	396	3135	360	2116	0	0	429	6767
	R	26	402	2	11	0	0	1717	0	67	18	2243

Source: Consolidated from AIC Report

Note 1: **K**- Kharif , **R**-Rabi, **T**-Total, **Note**- Kharif season-July to October, Rabi season –October to March, Agricultural year (July-June)

2: National Agricultural Insurance Scheme (NAIS) introduced in **1999**, Weather Based Crop Insurance introduced in **2007**, Modified National Agricultural Insurance Scheme (MNAIS) introduced in **2010**, Pradhan Mantri Fasal Bima Yojana (PMFBY) introduced in **2016**

From the Table 2 it is observed that Madhya Pradesh, Maharashtra, Tamil Nadu, Gujarat, Odisha, Andhra Pradesh, Karnataka, Chhattisgarh, Kerala, and Uttar Pradesh are the major states having maximum number of insured farmers in India. These states alone contributes 72.75 per cent of total farmers insured in Kharif season and 55.71 per cent of total farmers insured in Rabi season in India in the year 2017-18.

Opportunities of Crop Insurance in India

Agriculture sector plays a crucial role in the process of economic development of a country. India is an agriculture based country which employs more than 50 per cent of the total workforce in the country and contributes around 17-18 per cent to the country's GDP. According to Agriculture Census 2015-16 the total number of operational holdings in the country has increased from 138 million in 2010-11 to 146 million in 2015-16 i.e. an increase of 5.33 per cent. This data reveals that in a total of 146 million operational holdings in the country, the highest number of operational holders belonged to Uttar Pradesh (23.82 million) followed by Bihar (16.41 million), Maharashtra (14.71 million), Madhya Pradesh (10.00 million), Karnataka (8.68 million), Andhra Pradesh (8.52 million), Tamil Nadu (7.94 million), Rajasthan (7.65 million) and West Bengal (7.24 million).

Operational Holdings

Operational Holdings are that land which is used wholly or partly for agricultural production and is operated as one technical unit by one person alone or with others without regard to the title, legal form, size or location. Table 3 shows the number of operational holdings in India from 1970-71 to 2015-16

Table 3

Number of Operational Holdings

(In 000's)

Year	Marginal	Small	Semi Small	Medium	Large	Total
1970-71	36200	13432	10681	7932	2766	71011
1976-77	44523	14728	11666	8212	2440	81569
1980-81	50122	16072	12455	8068	2166	88883
1985-	54147	17922	13252	7916	1918	95155

86						
1990-91	63389	20092	13923	7580	1654	106638
1995-96	71179	21643	14261	7092	1404	115579
2000-01	75408	22695	14021	6577	1230	119931
2005-06	83694	23930	14127	6375	1096	129222
2010-11	92826	24779	13896	5875	973	138349
2015-16	99858	25777	13776	5485	831	145727

Source: Agriculture census 2015-16, Agriculture Census Division Department of Agriculture,

Co-Operation & Farmers Welfare Ministry of Agriculture & Farmers Welfare Government of India 2018, New Delhi.

From the Table 3 it is clear that there is an increasing trend in number of operational holdings each year from 1970-71 to 2015-16. Number of operational holdings is 71.01 million in the year 1970-71 which is increased to 145.7 million in the year 2015-16. In case of marginal farmers, small farmers and semi-small farmers, there is a radical raise in the number of operational holdings from the year 1970-1971 to 2015-16. But in case of medium and small farmers there is a drastic decrease in the number of operational holdings from the year 1970-71 to 2015-16.

TOTAL NUMBER OF CULTIVATORS IN INDIA

Table 4 shows the total number of cultivators from the year 1951 to 2011.

Table 4

Total Number of Cultivators in India

Year	Number of cultivators (In Millions)	Increase (In per cent)	Decrease (In per cent)
1951	69.9		
1961	99.6	42.48	
1971	78.2		21.48
1981	92.5	18.28	

1991	110.7	19.67	
2001	127.3	14.99	
2011	118.8		6.67

Source: Registrar General of India, Census Report 2011

The number of cultivators in India from the year 1951 is having an upward movement that is from 69.9 million cultivators in 1951 to 99.6 million in the year 1961. In the year 1981 and 1991 number of cultivators increased by 18.28 and 19.67 per cent respectively and by 2011 it become 118.8 million that is a decrease of 6.66 per cent from the year 2001.

Challenges to Crop Insurance in India

It is observed that even if Government is providing various attractive crop insurance schemes to protect the farmers from production risk and to encourage them to indulge in agricultural activities the coverage of crop insurance is very low. The following reasons are identified as some of the reasons behind this scenario.

- **Mandatory Requirement of Aadhaar card**

Aadhaar card has been made mandatory for availing crop insurance from Kharif 2017 season onwards. Therefore, all banks have been asked to mandatorily obtain the Aadhaar number of farmers and the same applies for non-loanee farmers enrolled through banks/Insurance companies/insurance intermediaries. This led to many farmers not being eligible for the scheme and therefore dropping out of the system.

- **Delays in Payments**

Settlement of claims get delayed due to reasons like a delayed transmission of yield data, damage assessment, late release of premium subsidy, yield-related disputes between insurance companies and states.

- **Scantiness of Compensation Amount**

The scantiness of amount of compensation in case of crop failure is a serious problem faced by farmers. They are not getting adequate compensation for the actual loss suffered by them in the event of crop failure.

- **Restricted Fund Allocation**

Reluctance of Government to allocate adequate funds for providing subsidy required to support crop insurance become problematic when centre and state have to agree on a subsidy sharing formula.

- **Lack of Awareness**

Without awareness no amount of schemes, programmes and innovations can pull farmers out of their misery. Awareness about crop insurance is low and hence the usage of crop insurance is also very low.

- **Lack of Technology usage**

Even though PMFBY mandates the use of technology there is a lack of infrastructure and technical knowledge about the use of technology which leads to low enrolment of farmers in crop insurance in India.

- **Delay in Crop Cutting Experiments**

PMFBY is yield-based insurance that uses crop-cutting experiments (CCEs) to determine the yield lost by farmers due to natural catastrophes and adverse weather conditions. The yield obtained through the CCE's determines the payout made by the insurance firm to the farmer .But this process takes a long time.

Conclusion

This paper highlights the present scenario of crop insurance in the country. It is evident from the study that number of farmers covered under crop insurance in Kharif season is more than that of Rabi season. The study reveals that Madhya Pradesh, Maharashtra, Tamil Nadu, Gujarat, Odisha, Andhra Pradesh, Karnataka, Chhattisgarh, Kerala, and Uttar Pradesh are the major states having greatest number of insured farmers in India. These states alone contributes 72.75 per cent of total farmers insured in Kharif season and 55.71 per cent of total farmers insured in Rabi season in India in the year 2018. There is an increase of 105 per cent in number of operational holdings from 1970-71 to 2015-16. The number of cultivators in India is increased by 70 per cent from 1951 to 2011. So there is much scope for the development of crop insurance in India.

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