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# **Prospects and Challenges of Crop Insurance in India: An Analytical Study**

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### Abstract:

Crop insurance plays a crucial role in mitigating risks faced by farmers due to climatic uncertainties. This study analyses the prospects of crop insurance policies in India, examines the challenges in implementation and adoption, and provides policy recommendations for improvement. Using data from Agricultural Statistics at a Glance 2021, the study evaluates trends in coverage, premium collection, and claim settlements under schemes like PMFBY and RWBCIS.

**Keywords:** crop insurance, Climate risk, Prime Minister's Crop Insurance Scheme, Climate Based Crop Insurance Scheme, National Crop Insurance Scheme, Agricultural Policy, Economic Stability

### Introduction

The Indian economy is primarily agriculture-based, making agriculture the backbone of the country's economy. The agricultural sector operates under conditions of uncertainty and risk, as production is influenced by various unpredictable factors. Some agricultural challenges faced by Indian farmers can be mitigated, while others, such as droughts, floods, climate change, pest infestations, crop diseases, and economic instability, are unavoidable.

To help farmers manage these risks, crop insurance plays a crucial role. However, effective coordination between farmers and the government is essential. When farmers require crop insurance, it is necessary that they receive timely support. Crop insurance provides protection against adverse weather conditions and natural disasters, helping to compensate for losses to some extent and reducing the financial burden on farmers.

The objective of this research is to analysed the potential of crop insurance policies, study their implementation and adoption, and examine the challenges faced while executing crop insurance schemes. Additionally, the study aims to propose solutions to overcome these challenges.

This research will primarily follow a qualitative and quantitative approach, relying on secondary data sources such as government reports, RBI reports, annual reports from the Ministry of Agriculture and Farmers' Welfare of the Government of India, policy documents related to agricultural insurance, and reports and statistical data from the fields of agriculture and economics.

### **Objectives of the Study**

1. To analyse the prospects of crop insurance policies.



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- 2. To identify key challenges in implementation and adoption.
- 3. To provide policy recommendations for improving crop insurance schemes.

### **Research Methodology**

For the research paper titled "**Prospects and Challenges of Crop Insurance in India: An Analytical Study,**" secondary sources have been used as the primary basis. The secondary data sources include government reports, reports from the Ministry of Agriculture, insurance companies, RBI reports, newspapers, reference books, the Economic Survey of Maharashtra, socio-economic reviews, agricultural journals, *Yojana* magazine, and various internet websites.

#### **Analysis and Findings**

### **Increasing Farmers' Participation in PMFBY and RWBCS**

It has been observed that farmers' participation in both Pradhan Mantri Fasal Bima Yojana (PMFBY) and Restructured Weather-Based Crop Insurance Scheme (RWBCS) has been increasing steadily over time. In PMFBY, the number of farmers insured was 56,271,253 lakh in 2016-17, which further increased to 60,622,878 lakh in 2020-21, reflecting a growing acceptance of crop insurance among farmers.

#### Growth in Insured Area and Premium Collection

Across National Agriculture Insurance Scheme (NAIS), PMFBY, and WBCIS, there has been a consistent increase in the area insured under these schemes. Additionally, a significant rise in premium collection has been observed across all three schemes, indicating a greater financial contribution from both farmers and the government towards securing agricultural risks.

	_		~	_	~ ~	~ ~		~. ·	~. ·	_
No.	Farmer	Area	Sum	Farme	State.G	Gol	Gross	Claims	Claims	Farmer
of	s	Insured	Insured	rs	ovt.	Premi	Premi	Payable	Paid	s
yea	Insured			Premi	Premiu	um	um			Benefitt
rs				um	m	(Shar				ed*
				(Share	(Share)	e)				
				)						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
201	16,793,	23,385,	3,477,1	85,651	9,016.9	2,534.	97,202	220,899	220,816	3,131,9
1-	860	766	04.5	.4		4	.7	.3	.6	81
12										
201	16,791,	24,384,	4,290,9	104,16	25,446.	3,023.	132,63	489,687	488,685	4,467,8
2-	080	857	14.7	5.1	1	6	4.8	.6	.8	28
13										
201	13,720,	20,707,	4,155,4	102,52	22,037.	2,961.	127,51	432,361	432,259	3,808,6
3-	042	899	14.7	1.2	1	0	9.3	.6	.7	24
14										

# Table No.1 National Agricultural Insurance Scheme(NAIS)-Cumulative Form 2011 To 2015-16( in lakh)



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201	16,738,	20,769,	4,588,0	115,43	20,485.	3,893.	139,81	428,801	428,182	6,411,6
4-	205	685	82.4	1.4	1	6	0.1	.7	.8	20
15										
201	30,907,	33,905,	8,062,2	201,88	37,679.	14,16	253,72	1,755,7	1,735,0	18,373,
5-	885	309	08.7	1.2	1	3.6	3.9	79.0	70.2	656
16										

Source :- Agricultural Statistics at a Glance 2021



In the National Agriculture Insurance Scheme, it has been observed that the area insured has been increasing over time. In 2011-12, the area insured was 23,385,766 lakh hectares, which increased to 33,905,309 lakh hectares in 2014-15. Similarly, the number of farmers insured has also shown an upward trend. In 2011-12, the claims payable amounted to 3,131,981 lakh, and there has been a continuous rise in the farmers' premium share, state government premium share, and Government of India premium share over the years.

 Table No.2
 WeatherBasedCropInsuranceScheme(WBCIS)-Cumulative
 (Form 2011 To 2015-16)

 (in lakh)

						, ,				
No.	Farmer	Area	Sum	Farme	StateG	GoI	Gross	Claims	Claims	Farmers
of	s	Insured	Insured	rs	ovt-	Premi	Premiu	Payab1	Paid	Benefitt
yea	Insured			Premi	Premiu	um	m	e		ed*
rs				um	m	(Share				
				(Share	(Share)	5				
				)		-				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
201	11,671,	15,633,	2,020,9	54,00	65,854.	64,57	184,43	117,70	109,14	6,329,8
1-	398	625	43.1	2.8	2	4.4	1.3	1.4	3.3	38
12										
201	13,599,	17,112,	2,352,5	66,20	77,783.	77,78	221,77	192,06	157,55	10,805,
2-	651	196	99.7	9.9	8	3.8	7.5	2.9	4.5	097
13										
201	14,156,	16,513,	2,552,5	97,16	72,561.	69,65	239,37	201,69	195,05	10,721,
3-	596	072	88.6	5.3	5	0.5	7.3	5.4	7.4	564
14										
201	11,251,	12,775,	1,764,3	93,88	59,257.	59,09	212,23	204,29	201,59	9,624,3
4-	844	464	07.2	2.3	6	6.2	6.1	5.4	5.3	67
15										
201	9,030,7	9,435,5	1,473,7	78,70	46,801.	46,62	172,13	208,34	196,26	7,519,0
5-	41	37	14.4	0.2	9	9.4	1.5	9.8	6.6	04
16										

Source :- Agricultural Statistics at a Glance 2021





During the period 2011-12 to 2015-16 under the Weather-Based Crop Insurance Scheme (WBCIS), the area insured initially showed an increasing trend. It rose from 15,633,625 lakh hectares to 17,112,196 lakh hectares in the first two years. However, after this increase, there was a decline, and by 2015-16, the area insured had dropped to 9,435,537 lakh hectares. A similar trend was observed in other factors, where there was an initial rise followed by a decline over time.

# Table No.3 WeatherBasedCropInsuranceScheme(WBCIS)-Cumulative (Form 2016-17 To 2020-21) (in lakh)

No.	Farmer	Area	Sum	Farme	StateGo	GoI	Gross	Claim	Claim	Farmers
of	s	Insured	Insured	rs	vt.	Premi	Premi	s	s Paid	Benefitte
year	Insured			Premi	Premiu	um	um	Payab		d*
S				um	m	(Share		le		
				(Share	(Share)	)				
				)						
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
201	2,099,8	1,644,4	1,006,1	40,415	61,385	61,385	163,18	166,0	166,0	1,724,24
6-17	63	44	21				6	25	25	6
201	2,024,1	2,067,4	1,207,4	46,171	95,206	95,206	236,58	189,4	189,4	1,576,92
7-18	76	40	96				3	82	34	8
201	2,148,6	1,788,4	1,257,4	53,683	105,676	106,97	266,33	361,7	339,0	1,897,70
8-19	46	00	98			6	5	11	33	5
201	2,475,8	2,189,2	1,793,6	60,254	135,898	157,26	353,41	348,8	299,0	1,856,08
9-20	40	69	64			2	5	87	25	1
202	966,79	1,516,4	706,43	34,481	55,174	82,135	171,79	92,28	82,29	407,444
0-21	3	07	7				0	0	0	

Source :- Agricultural Statistics at a Glance 2021





During the period 2016-17 to 2020-21 under the Weather-Based Crop Insurance Scheme (WBCIS), all factors showed an increase from 2016-17 onwards. However, from 2019-20 onwards, a decline was observed across these factors, indicating a reduction in coverage and participation in the scheme.

Table No.4	Progress under Pradhan Mantri Fasal I	BimaYojana(PMFBY)-Cumulativeupto
	( Form 2016-17 To 2020-21)	( in lakh)

No.	Farmer	Area	Sum	Farme	StateG	GoI	Gross	Claims	Claims	Farmers
of	s	Insured	Insured	rs	ovt.	Premiu	Premiu	Payabl	Paid	Benefitt
yea	Insured			Premi	Premiu	m	m	e		ed*
rs				um	m	(Share				
				(Share	(Share)	)				
				)		,				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
201	56,271,	54,919,	19,282,	368,0	804,44	834,04	2,006,	1,514,	1,514,	13,938,
6-	253	919	026	94	7	0	581	769	768	868
17										
201	51,241,	48,746,	19,055,	374,1	915,68	934,07	2,223,	2,026,	2,025,	16,138,
7-	875	038	948	64	4	9	927	279	485	873
18										
201	55,629,	50,695,	21,695,	415,3	1,094,3	1,128,	2,638,	2,573,	2,480,	20,525,
8-	638	216	521	01	72	984	657	267	196	549
19										
201	59,759,	48,295,	20,209,	392,9	1,209,4	1,258,	2,860,	2,381,	2,306,	21,041,
9-	486	217	360	67	74	444	885	227	958	770
20										



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202	60,622,	43,469,	19,049,	367,6	1,242,6	1,385,	2,996,	1,817,	1,570,	14,415,
0-	878	106	599	19	74	762	055	229	829	002
21										



Source :- Agricultural Statistics at a Glance 2021

Under the Pradhan Mantri Fasal Bima Yojana (PMFBY), in the initial years, the number of farmers insured increased at a higher rate compared to the area insured. Additionally, the number of farmers benefited was the highest in 2019-20, reaching 21,041,770 lakh, which was significantly higher compared to other years.

### **Challenges in Implementation and Adoption**

- 1. **Delays in Claim Settlement:** After registering a crop insurance claim, farmers experience significant delays in receiving the insured amount, which discourages them from opting for crop insurance in the future. The primary reasons for these delays include complex administrative procedures, timeconsuming verification processes, and inadequate administrative capacity. These issues lead to financial instability for farmers during times of crop loss.
- 2. Lack of Awareness and Accessibility Among Farmers: Farmers in hilly and remote areas of India often lack complete information about crop insurance schemes. Due to this, they do not fully understand the terms and conditions, eligibility criteria, registration, and claim processes. As a result, many farmers are unable to take advantage of these schemes.
- 3. High Premium Burden for Small Farmers: For small farmers with fragmented landholdings, the premium cost of crop insurance becomes a significant financial burden. This prevents a large number of farmers from participating in the insurance schemes.



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4. Challenges in Crop Damage Assessment and Compensation: Accurately assessing crop damage caused by natural disasters is highly challenging. This leads to disputes over claim amounts and inconsistencies in the compensation received by different farmers. Such issues reduce farmers' trust in the crop insurance system.

### **Policy Recommendations**

- **1. Enhanced Awareness Campaigns:** Conduct outreach programs and utilize mass media to educate farmers about crop insurance schemes and their benefits. Clearly and simply explain the registration process and the steps to file claims, making the information easily accessible to farmers.
- **2. Simplification of the Claims Process:** Use modern technology to speed up the claim verification and payment process. Implement online portals and mobile applications to quickly collect necessary data and complete claim processing efficiently.
- **3. Government Support for Premium and Subsidies:** Provide government subsidies for premium payments in high-risk areas, ensuring that more farmers can participate in crop insurance schemes without financial burden.
- **4.** Advanced Crop Damage Assessment Techniques: Utilize drones and remote sensing technology for more accurate crop loss assessment. This will improve the precision and reliability of compensation distribution, increasing farmers' trust in the insurance system.
- **5.** Capacity Building: Organize specialized training programs for insurance companies and government officials involved in crop insurance implementation. This will enhance their understanding of rural agricultural systems and challenges, leading to more effective execution of crop insurance schemes.

#### Conclusion

This research reveals that the number of farmers insured has been increasing steadily across all crop insurance schemes. Similarly, there has been a rise in the number of farmers benefiting from these schemes, along with an increase in premium collection. However, in certain years, a decline in these figures has also been observed. Crop insurance is important for economic security in agriculture, but challenges remain in its effective implementation. Strengthening governance, technology adoption, and policy reforms can increase its effectiveness and reach. To achieve long-term success in crop insurance, it is essential to develop a farmer-centric insurance model that reduces administrative hurdles and encourages maximum farmer participation. Incorporating innovative financial mechanisms such as parametric insurance models and blockchain-based claim settlements can enhance transparency and efficiency in the system. Additionally, public-private partnerships should be promoted in crop insurance policies to bring in greater expertise, investment, and efficiency. By adopting an integrated and strategic approach that includes policy reforms, technology adoption, and farmer education, India can build a robust crop insurance system. This will effectively mitigate agricultural risks and provide financial security to farmers, protecting them from economic uncertainties.

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