

Status of Crop Insurance in India: A Study with Reference to Kodagu District of Karnataka State

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ABSTRACT

Agriculture is classified as a primary sector and is assigned an important role for giving employment opportunity, income generation and fulfilment of starvation needs considered as principal source of livelihood for more than 58% of the population of India. The agricultural production is highly dependent on the weather and is brutally impacted by attack of pests and diseases. The unpredictable and uncontrollable extraneous peril in Indian agriculture has made production risky.

The present study makes an attempt to study the status of crop insurance and adaptability of crop Insurance, purchase benefits and satisfaction level among 50 farmers through random sampling method spread over 10 villages in Madikeri taluk of Kodagu District. Questionnaire was distributed for identifying factors influencing and main constraints faced in adoption of crop insurance schemes.

The study reveals that landholding size of the farmers, age, income level, access to loan facilities, source of obtaining information about crop insurance programme, number of years occupied in farming activities and loss of crop due to unfavourable weather conditions were the major factors influencing the farmers to adopt crop insurance. Delayed settlement of claims, lack of compensation by the government and insurance companies, lack of awareness about the crop insurance schemes and lengthy procedure to obtain crop insurance after the high disasters were the major constraints faced by the farmers of Kodagu district.

Keywords: Crop insurance, adoption, Benefits and Satisfaction, Risks

INTRODUCTION:

India has been traditionally vulnerable to natural disasters on account of its unique geo climatic conditions. Flood, drought, cyclone, earthquake, and landslide have been continuous phenomenon in the country.

FAO (Food and agriculture organisation) estimates that feeding the world population will require a 70% increase in total agriculture productions. At the same time climatic variations threatens production stability and productivity. The Economic Survey 2016-17 states the growth rate for the agriculture and related sectors is estimated to be 4.1 per cent for 2016-17. The production of Kharif food-grains during 2016-17 is estimated at 135.0 million tonnes compared to 124.1 million tonnes in 2015-16.

World Health Organisation estimates that 9, 00,000 people worldwide die from farmer's suicide every year and over 60 million people die from chronic disease.. The National crime records bureau (NCRB) says 1, 35,000 suicide deaths were estimated by WHO.

Agriculture remains an important sector of economic development in most of the developing countries. It holds a promise of growth and serves as an effective tool for investment opportunities. Agriculture will contribute an urge of growth in economy, reducing poverty and sustaining environment. Risk Management in agriculture

contributes to rise in productivity.

In recent years productivity of major crops in India has declined. There was a need to raise domestic food production at a faster rate by much higher productivity without upsetting the agrarian structure. Government of India focused on Crop Insurance as a mechanism to mitigate risks on natural perils on farm production.

75% of the land being rain fed in Karnataka. It is the second largest drought-prone state in India. Minimization of impact of natural disasters, crop losses, particularly from drought and heavy rainfall is a major objective for the government. An effective crop insurance scheme is significant to reduce income loss to farmers. Karnataka has participated in each crop insurance programme introduced in India since 1972. Crop insurance was intended to provide farmers with insurance coverage and financial support against failure of any notified crop as a result of agricultural calamities.

REVIEW OF LITERATURE:

Bruce Sherrick, Peter Berry, Paul Ellinger and Gary Schnitkey (2004) analyzed farmer's decisions to purchase crop insurance and choices of farmers among alternative insurance products using two stage estimation procedures. The study discussed the influence of risk perceptions. The study indicated that insured farmers were more experienced and educated and responsive to modern and sophisticated approaches of risk management. Insured user's ranked revenue and yield insurance fifth and seventh. Income support program had received top risk management rating. The study recognizes that Crop insurance participants with personal, basic and other characteristics differ from non participants. Mid western farmers who were highly leveraged, riskier and less wealthy were likely to adopt revenue protection and hail protection. It is suggested that proving premium subsidies across the market would serve the need of small and medium farmers.

Raju and Ramesh Chand (2008) discussed agricultural production risks. This paper has examined the features and performance of National Agricultural Insurance Scheme (NAIS) operating in the country. The study specified that mechanisms such as 'contract farming' and 'future trading' have been introduced and were expected to provide some risk cover against price fluctuations. From 1999-2000 through 2005-06 the NAIS covered 79.17 million farmers and 128.91 million hectares area. Total sum insured during kharif and rabi seasons together was Rs 75827 crore and the premium collected was Rs 2333 crore.

Jayakumara Varadan and Pramod Kumar(2012) examined the impact of crop insurance on rice farming in Tamil Nadu. Primary data were collected during rabi 2008- 09 by using structured schedule on aspects such as socioeconomic characteristics of farmers, cropping pattern, access to loan and other sources of income and loss coping mechanism. The study compared insured and uninsured farmers and found that insured farmers were educated had high yield and longer farming experience and most of them were the members of social groups like Self help groups and farmers club. The study found that crop insurance increases the use of plant protection chemicals and fertilizers. The study concluded that nature of irrigation, education level, and access to loan; off farm income were the factors in adopting crop insurance.

Okpukpara and Benjamin(2013), investigated Risk Management in Agriculture Enterprise in Rural Anambra State from Financial Institutions and farmers perspective. The study recommended that Development of Microfinance Institutions (MFIs) will build existing social capital in the area of domain. The information on insurance premiums or policies must be made available to the rural agricultural entrepreneurs through education and capacity building workshops. There is a necessity to create awareness on the use of improved technological skills and accessibility of credit to enable farmers produce at commercial level. MFIs have to make business development services as a part of their loan advancement process.

Shweta Sinha and Nitin Kumar Tripathi(2014) identified the overview of policies and international practices related to the use of crop insurance with case studies of Thailand and India. The study revealed that both the countries were in diverse stages of adapting index- based crop insurance with different stages of government support. The challenges identified were lack of awareness among farmers, accuracy of appropriate weather information, and non- availability of weather information. The study suggested implementing additional weather stations for greater accuracy.

Pandaraiah, Sashidhar (2015) revealed that the government's role was restricted in advertising the risk mitigating strategies in agriculture. Short- term credit was distributed to small farmers by co- operative banks and medium term loans by commercial banks. It was suggested that there is a need to publicize the information to small and medium farmers about crop insurance. Recommendation was made by the authors to encourage the private sectors to offer crop insurance to the farmers.

OBJECTIVE OF THE STUDY:

1. To know the factors influencing and constraints in adoption of crop insurance schemes.
2. To ascertain the status of crop insurance scheme.

RESEARCH METHODOLOGY:

Research design:

The study was conducted in Kodagu district of Karnataka which is highly exposed to climate variability. The study is descriptive in nature. 50 farmers who were selected through random sampling technique. The respondents were interviewed by proving questionnaires to identify factors influencing have crop insurance and constraints in adoption of crop insurance schemes. The sample consists of small, marginal and large farmers.

Sampling technique:

The data was processed with the help Simple statistical techniques such as Percentage analysis.

Primary data:

The structured questionnaires was developed and randomly been issued to 50 selected respondents in Madikeri taluk of Kodagu District (Karnataka) to get the information for analysis. The study involved survey of Loanee farmers covered under National Agricultural Insurance Scheme (NAIS), Weather Based Crop insurance scheme (WBCIS) and Modified National Agricultural Insurance Scheme (MNAIS) and Pradhan Mantri Fasal Bhima Yojana (PMFBY) and non-loanee farmers.

Secondary Data:

Secondary data was elicited from various publications such as journals, Research articles, reports, Internet, Farmers bulletin, Agriculture Insurance Company limited, Report of the Committee to Review the Implementation of Crop Insurance Schemes in India and Economic Survey 2016-17.

STATUS OF CROP INSURANCE IN KARNATAKA:

Pradhan Mantri Fasal Bhima Yojana (PMFBY):

The government of Karnataka took initiatives to enrol more farmers under the Pradhan Mantri Fasal Bhima Yojana (PMFBY) to guarantee continued Central assistance to mitigate the impact of deficient rainfalls and crop damage in the state during the Kharif season has increased from 8.72 lakh in 2015 to 9.44 lakh farmers this year. Karnataka state has declared drought 177 talukas.

PMFBY provides comprehensive insurance to farmers against the vagaries of climatic conditions at a premium of 2 % of the insured value for the kharif crop and 1.5% for the rabi crop. The Central and state governments equally share the burden of the difference between the premium charged by the insurance company and that paid by the farmer. To increase number of enrolment in the PMFBY, the state government had started reducing compulsory insurance premiums for crop loans disbursed and has increased the number of crops during the Kharif season from 25 in 2015 to 40 in 2016. Karnataka's growth rate in farmer insurance scheme is higher compared to other states.

According to the agriculture ministry, during this kharif season, beginning June, 32.6 million farmers enrolled under PMFBY. The numbers represent a growth of 6.3% in enrolment compared to the 30.7 million farmers who opted for crop insurance the previous year. However, it is significantly lower than the 29.5% rise in coverage in 2015, and 13.4% rise in 2014. Further, data shows only 23.6% of farmers enrolled for PMFBY in 2016, compared to 22.2% in 2015. The Centre made a budgetary provision of Rs5,501 crore for the PMFBY in 2016-17, up 84% from Rs 2,995 crore spent the year before. The ministry reported that States Jharkhand, Karnataka, Madhya Pradesh, Uttar Pradesh and West Bengal saw a rise in enrolment.

Weather Based Crop Insurance Scheme (WBCIS):

The government has also introduced 16 crops under the Weather Based Crop Insurance Scheme (WBCIS) and has over 1.02 lakh farmers enrolled under this scheme in the Kharif season. Haveri district stood second in the state to get crop insurance of Rs.123.50 crore for Kharif season. Dharwad Rs. 84.04 crore, Bidar Rs. 69.73 crore, Uttara Kannada Rs. 40.92 crore, Gadag Rs. 34.22 crore, Yadgir Rs. 33.23 crore, Belagavi Rs. 31.22 crore, Koppal Rs. 16.15 crore, Shivamogga Rs. 13.78 crore, Davangere Rs. 11.40 crore, Bagalkot Rs. 6.85 crore, Hassan Rs. 5.92 crore, Kolar Rs. 4.03 crore, Chitraduraga Rs. 2.49 crore, Tumakuru Rs. 17 lakh, Bengaluru

Rural Rs. 14 lakh, Ballari Rs. 6 lakh, Mysuru Rs. 5 lakh and Bengaluru Urban Rs. 4 lakh. The rest of the districts have been sanctioned less than Rs. 1 lakh crop insurance.

State-wise Farmers Insured under Pradhan Mantri Fasal Bima Yojana and Restructured Weather Based Crop Insurance Scheme (combined) during Kharif 2016.

Government introduced yield based Pradhan Manthri Fasal Bima Yojana(PMFBY) and weather index based Restructured Weather based Crop insurance scheme(RWBCIS) from Kharif 2016 to monetary support to farmers suffering crop loss due to adverse natural calamities to increase the income of farmers.

Total 366.637 lakh were farmers insured in India under PMFBY and RWBCIS (combined) during Kharif 2016. The top 10 States in terms of number of farmers insured under PMFBY and RWBCIS (combined) during Kharif 2016 were: Maharashtra, Rajasthan, Madhya Pradesh, West Bengal, Uttar Pradesh, Odisha, Andhra Pradesh, Bihar, Chhattisgarh and Gujarat.

The number of farmers insured under PMFBY and RWBCIS (combined) in Maharashtra was 106.39 lakhs during Kharif 2016. It accounted for 29.02% of the total farmers insured under PMFBY and RWBCIS (combined) during Kharif 2016. The number of farmers insured under PMFBY and RWBCIS (combined) in Rajasthan was 53.06 lakhs during Kharif 2016. It accounted for 14.47% of the total farmers insured under PMFBY and RWBCIS (combined) during Kharif 2016. The number of farmers insured under PMFBY and RWBCIS (combined) in Madhya Pradesh was 36.54 lakhs during Kharif 2016. It accounted for 9.97% of the total farmers insured under PMFBY and RWBCIS (combined) during Kharif 2016. The number of farmers insured under PMFBY and RWBCIS (combined) in West Bengal was 32.4 lakhs during Kharif 2016. It accounted for 8.84% of the total farmers insured under PMFBY and RWBCIS (combined) during Kharif 2016. The number of farmers insured under PMFBY and RWBCIS (combined) in Uttar Pradesh was 30.04 lakhs during Kharif 2016. It accounted for 8.19% of the total farmers insured under PMFBY and RWBCIS (combined) during Kharif 2016. These top 5 states accounted for 70.49% of the total farmers insured under PMFBY and RWBCIS (combined) as a whole during Kharif 2016.

Farmers insured in Odisha under PMFBY and RWBCIS (combined) was 17.61 lakhs during Kharif 2016, which accounted 4.8% of the total farmers insured during the same period. Farmers insured in Andhra Pradesh under PMFBY and RWBCIS (combined) was 15.09 lakhs during Kharif 2016, which accounted 4.12% of the total farmers insured during the same period. Farmers insured in Bihar under PMFBY and RWBCIS (combined) was 14.61 lakhs during Kharif 2016, which accounted 3.98% of the total farmers insured during the same period. Farmers insured in Chhattisgarh under PMFBY and RWBCIS (combined) was 13.26 lakhs during Kharif 2016, which accounted 3.62% of the total farmers insured during the same period. Farmers insured in Gujarat under PMFBY and RWBCIS (combined) was 11.91 lakhs during Kharif 2016, which accounted 3.25% of the total farmers insured during the same period.

The above mentioned top 10 states accounted for 90.26% of the total farmers insured under PMFBY and RWBCIS (combined) as a whole during Kharif 2016.

Sl.No.	States/UTs	Amount (in lakhs)
1	Assam	0.51
2	Andhra Pradesh	15.09
3	Bihar	14.61
4	Chhattisgarh	13.26
5	Goa	0.007
6	Gujarat	11.91
7	Haryana	6.96
8	Himachal Pradesh	0.97
9	Jharkhand	8.49
10	Karnataka	10.59
11	Kerala	0.22
12	Madhya Pradesh	36.54
13	Maharashtra	106.39
14	Meghalaya	0.0006
15	Odisha	17.61

Sl.No.	States/UTs	Amount (in lakhs)
16	Rajasthan	53.06
17	Tamil Nadu	0.13
18	Telangana	6.55
19	Tripura	0.02
20	Uttar Pradesh	30.04
21	Uttarakhand	1.28
22	West Bengal	32.4

FINDINGS AND DISCUSSION:

The outstanding participation of the loanee as well as the non loanee farmers in the study has revealed some interesting results. The average age of the farmers was around 50 years which didn't vary much among the loanee farmers as well as the non loanee farmers. Male farmers were large in number compared to female farmers (34%), 14% of the respondents were the members of SHG's and other banks. These respondents had more awareness on agriculture risk mitigation and on crop insurance.

The farmers were unaware of the premium rates, and documentation regarding claims. During personnel interaction, many loanee farmers indicated ignorance about the coverage of their crops under the crop insurance. Further compensation was deposited with the borrowers bank account, the farmers didn't know whether they were covered under crop insurance scheme, what was the compensation paid to them and when was it deposited. The participation of methods of mass communication, like television, newspaper, and radio and village fairs is very less in educating the farmers about the same. A number of constraints are faced by the farmers while adopting a crop insurance scheme. The decision of the farmers to adopt crop insurance scheme depends on various factors. Some of the identified factors are farmer's landholding size, access to loan, age, educational attainment, access to non-farm income, access to irrigation. The farmers have also identified certain drawbacks in the performance of the prevailing crop insurance scheme, such as, inadequate estimation of crop yield loss, low indemnity rate and its delayed payment, and raised concerns over the limited role of Agricultural Insurance Company Limited at grass root level, which according to them was the root cause for many irregularities and misconceptions about the scheme.

Table1: Factors Influencing the Adoption of Crop Insurance

Factors	No. of respondents	Percentage (%)
To Protect against losses	32	64
Plantation / Horticulture	12	24
Compulsion by the Bank	06	12
Total	50	100

Source: Primary Data

The above table specifies the factors influencing for insuring the crop. Out of 50 respondents 64% of the respondents insure crops to protect against losses, for maintaining plantation/horticulture (24%). 12% of respondent's opinioned that crop insurance is compulsory by the bank.

The decision of the farmers to adopt crop insurance scheme depends on various factors such as farmer's landholding size, access to loan, age, income level, sources of obtaining information about Crop insurance Program, total number of years involved in farming activity.

Table 2: Source of income from various categories of occupation

Income categories	Number of respondents	Percentage (%)
Below 25000	07	14
25001-50000	09	18
50001-75000	03	06
75001-100000	08	16
100001-150000	13	26
150001-175000	10	20
Total	50	100

Variables	Main Source		Secondary Source	
	No. of respondents	Percentage (%)	No. of respondents	Percentage (%)
Agriculture	31	62	19	38
Cattle, Poultry, etc	-	-	05	10
Agricultural Wages	-	-	-	-
Small trade/Business	04	8	14	28
Money Lender / Landlord	-	-	02	4
Government Employee	12	24	08	16
Private Employee	-	-	-	-
Pensioner	03	6	-	-

Source: Primary Data

Table 2 is the evident of distribution of annual income among respondents showed that 26% of the respondents were in higher income group and 20% of the respondents above 150000. Majority of the respondents belong to medium category and 14% of the respondents were in lower income category. This implies the respondents were mostly small and marginal level farmers. The income distribution was not effected much in risk mitigation tactics in agriculture in selected area. Out of 50 respondents 62% of the respondents were considering agriculture as their main sources of income.

Table 3: Total number of years involved in farming activity

Years	No. of respondents	Percentage (%)
0-10	11	22
10-20	18	36
20-30	15	30
30-40years	06	12

Source: Primary Data

Table 3 implies the total number of years the respondents were involved in farming activity. It reveals that 36% of the respondents involved in farming activity from 10-20 years and 30% of the respondents possessing their operation from 20-30years.

Major crops produced in the study area are Paddy, coffee, Pepper, ginger, vegetables, vanilla, orange and aracanut by small farmers with land holdings of up to 5 acres (32%) by medium sized farmers with land holdings of 14% and 54% of the respondents were large farmers with land holding of above 10 acres. Most of the respondents (39%) had own irrigated land.

Table 4: Reason for destruction of the crop

Reasons	No. of respondents	Percentage (%)
Insect attack	06	12
More/less rain	31	62
Drought	-	-
Flood	-	-
Animal/ Bird Attack	05	10
Lack of electricity	-	-
Unseasonal rain	08	16
Power problem	-	-
Non availability of inputs (seeds, fertilizer, pesticide)	-	-
Total	50	100

Source: Primary Data

The farmers were asked about major risks which affects their crop production. In the study area more/less rain (62%) was the major reason for destruction of crop loss. Animal/bird attack place 10%, insect attack place 12% and unseasonal rain place 16% in crop production losses.

Table 5: Sources of obtaining information about Crop insurance Program

Reasons	No. of respondents	Percentage (%)
Newspaper	2	4
Radio	12	24
Television	9	18
Mobile	05	10
Inurance agent	-	-
Kian sabha	09	18
Village sabha	06	12
magazine	-	-
Agriculture department	07	14
Total	50	100

Source: Primary Data

Farmers acquire information about Crop insurance Program from various sources including Radio (24%), Television (18%), Kisan sabha(18%)Agriculture department(14%) and remaining is the portion of newspaper, mobile and village sabha play an important role in disseminating information about various insurance schemes implemented by the public and private companies.

Constraints in the Adoption of Crop Insurance Scheme:

Farmers in the study area faced several constraints in taking up crop insurance. Therefore, it was important to identify such constraints so that necessary remedial measures can be taken to increase the enrolment of the farmers under such scheme. Based on the opinion of the selected respondents, the constraints were ranked and the results are presented in Table 6. It is observed from Table 6 that, lack of awareness about the scheme was the major constraint in adoption of crop insurance like crops covered, sum insured, premium charged and loss assessment method which was expressed by (24%) of the respondents. Around 16 % of the farmers who had adopted crop insurance revealed that they were not satisfied with the delay in indemnity settlement. The main reason for this was that the banks did not notify about claims at the appropriate time to the farmers (the claim settlement process took a very long time-normally six months and even one year in some cases) and therefore, farmers were unable to get compensation against their losses at right time. In most cases, the deduction of premium from the loan amount was not informed to the borrowers and in some cases, the borrowers also did not take much care to know about the interest rate charged and deduction as premium from their accounts and so on. Therefore, the insurers and bankers are required to clarify all the details about the various components of crop insurance to the farmers. Lengthy procedures to avail insurance coverage were the main constraint in adoption of insurance as expressed by 12% of farmers.

Table 6: Constraints in Adoption of Crop Insurance Scheme

Sl. No.	Particulars	%
1	Lack of awareness about the scheme	24
2	Low premium paying capacity	10
3	Availability of relief fund from the government	16
4	Administrative reasons	14
5	Lengthy procedures	12
6	Delay in payment of indemnity	16
7	No compensation was paid even if loss occurred due to crop failure	08

Source: Primary Data

Farmers’ Suggestions to Refine the Crop Insurance Scheme are presented in Table 7.

Table 7: Suggestions of Beneficiary Farmers

Sl. No.	Particulars	%
1	Quick settlement and timely payment of compensation	34
2	Prompt information about the claim settlement to be sent to the farmers by the bankers	14
3	Local representatives should be appointed to monitor and record the rainfall and temperature data.	12
4	Crop insurance should not be compulsory	6
5	More number of crop cutting experiment should be conducted	14
6	Delinking crop insurance from the crop loan	20

Source: Primary Data

The major suggestions made by the respondents were quick settlement of claims to (34%) and prompt information about the claim settlement to be sent to the farmers by the bankers. Local representatives should be appointed to monitor and record the rainfall and temperature data. The major suggestions expressed by the farmers were delinking crop insurance from the crop loan and conducting of crop cutting experiment (CCE) at the respective field as identified strictly following appropriate procedures. However, in most cases, the respondents observed that, the team of government officials conducted the CCE along the road-side plots and not in an actual field number as identified by random number or following the appropriate procedures. The study shows that crop insurance has fared poorly, due to problems related to lack to information that leads to lack of awareness. Therefore better information dissemination is required to mitigate the problem and the access to such information should be made available at nominal cost.

CONCLUSION :

Taking the results of the study into consideration, necessary steps should be taken up by the implementing agency and the agricultural department to conduct crop cutting experiments at the earliest possible and claims should be settled within one month after the receipt of the yield data. To make the scheme more administratively efficient, the implementing agency need to establish its branch offices at least at district level for taking up monitoring and implementing the crop insurance schemes effectively. Besides, it should appoint its own staff at grass-root level to gain the confidence of farmers. Earnest efforts should be taken to make the farmers realize the real purpose of the scheme, beyond perceiving it as a mere fund granting developmental programme.

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