

## Crop Insurance in India

**Ritika Garg**

**Assistant Professor, Deshbandhu College, Department of Economics**

### Abstract

Though India is self-sufficient in production of food grains through advancement in modern technologies but still the income of the farmers is not fixed and is unstable, due to weather conditions and fluctuations in price and demand. Farmers face a lot of risk due to changing weather conditions. The poor farmers who have extremely limited resources are facing adverse situations and this problem can be solved only through a insurance mechanism. Therefore, crop insurance is a major solution provider in addressing the issue regarding crop losses and price related problems. This paper examines the benefits of crop insurance and various types of schemes formulated by government for redressal of problems of farmers.

**Keywords:** Crop insurance, Agriculture solution provider.

### Introduction

India being an agriculture economy and more than 65% of the population is being involved in agriculture and allied activities, agriculture contribute 21% of the GDP and any change in the multiplier effect as a whole. Economic growth and agricultural growth is independent on each other. The Indian business cycle is influenced by the crop pattern and it depends mainly on changing weather conditions and every flood or drought has its own impact on Indian economy. Agriculture business encompasses a wide range of activities of agriculture sector under one roof like production integration, processing and marketing,

The process starts at the product level and reaches out to the final consumer in every possible way be it policy, climate and several of the benefits that India has in production. Crop insurance helps in stabilization of farm production and income of the farming community. It helps in optimal allocation of resources in production process. Government of India is more concerned about risk and uncertainties that are prevalent in agriculture and try to solve these problems time to time in the form of crop insurance.

Thus, according to I.S Kanwal,

“Crop insurance is a device under which the insurance company agrees to indemnify the loss caused due to occurrence of uncertain events to the standing crop of the farmers”

### **Objectives of crop insurance:**

The main objectives of a crop insurance are:

- Increase in saving.
- Promotion of agriculture activities.
- Provide security of investment.
- Increase in agricultural production.
- Protection against price declining.
- Protection against loss of revenue.

### **Importance of crop insurance:**

Natural and Unnatural disasters can cause damage to crops. The damage of crops makes farmers panic, and in this situation, crop insurance provides financial security to farmers. The importance of crop insurance is:

- Insurance provides financial assistance for the damage of crops and harvest. The insured farmers can recover the losses where he takes from the insurer.
- Natural and unnatural disasters cause financial loss to the farmers thus insurance policy removes the uncertainties of financial risks.
- Crop production is being stopped when crops are spoiled and farmers face adverse situation but by providing financial support the insurance helps the insurer help to continue production of crops.
- Farmers are in a position to repay their loans and debts even during crop failure with the support of the right insurance partner.
- Insurance companies provide advance campaigns to help farmers understand the effect of natural calamities and also protect their farms.
- Farmers seek financial solvency by cultivating the crops, insurance removes the risk of bankruptcy so that the farmer cultivate the crops and achieve self-dependency.

### **Methodology and Analysis:**

The research is based on mainly secondary information since farmers lack knowledge about crop insurance and is unknown about the benefits of crop insurance. The secondary data available is more reliable and accurate and helps in understanding the real scenario of crop insurance in India.

### **Discussion**

Crop insurance schemes in India.

### **Pilot Scheme on Seed Crop Insurance (1999 -2000)**

This multiple-peril scheme was introduced during the year 1999-2000. The main purpose of this scheme was to cover the risks in seed production at the field level, compensate for the loss in seed yield, and post-harvest loss. The production of „foundation“ and „certified“ seeds for State Seed Certification Agency (SSCA) were included under the scheme. The production of „breeder“ seed was eligible only when it was carried out under the supervision of the designated monitoring committee. The sum insured was calculated based on the preceding three/five year's average seed yield. The sum insured may be enhanced up to 150 percent of the seed yield accrued after processing and tagging.

### **National Agricultural Insurance Scheme - NAIS (1999 - 2007)**

After years of thinking, experiments, and experiences, and to solve the problems encountered during the execution of CCIS and to meet the expectations of the states regarding the enhanced scope and content of CCIS, a wider-scope National Agricultural Insurance Scheme (NAIS) was implemented in 1999-2000 Rabi season. Agricultural Insurance Company of India Ltd (AIC) incorporated in December 2002 and started working from April 2003 took over the execution of NAIS. This scheme used an “area approach” to assess widespread calamities and “individual approach” for localized calamities such as hailstorm, landslide, cyclone, and floods. This scheme was compulsory for the farmers who obtained a loan from institutional sources and it was optional for other farmers

### **Weather index-based crop insurance**

It was another insurance instrument developed to cover losses in crop yield triggered by adverse weather parameters. The loss was estimated and compensated by adopting an area approach. For crop loss assessment, a Reference Unit Area (RUA) deemed to be a homogenous area was framed and linked with a Reference Weather Station (RWS). The claims were assessed based on the weather parameters observed and recorded by the RWS. The adverse weather conditions determine the pay-out based on the weather trigger mentioned in the „Pay-out Structure“ and the other guidelines of the scheme. The claim settlement was automated as per the weather observations recorded in the RWS. The pay-out assessed in a RUA was the same for all the farmers under the same RWS

### **Modified National Agricultural Insurance Scheme - (MNAIS) 2010**

MNAIS was introduced during the 2010–11 Rabi season on a pilot basis in selected 50 districts as per the recommendations of the Government of India and Joint Group. Loanee farmers are registered compulsorily and for others, it was optional. The salient features of MNAIS were: premium rates were charged on actuarial rate, 75% subsidy in premium to all the farmers, sharing of premium subsidy equally by the central and state government, claim liability was vested with the insurance company, the unit area was redefined to village

panchayat for major crops, compensation for prevented sowing/planting risk and for post-harvest losses due to cyclone (in coastal areas), payment of 25% of expected claims as immediate relief, realistic threshold yield calculation, minimum compensation level increased to 70% from 60% under. The other features of this scheme were the presence of a competitive environment due to private sector participation in crop insurance, the establishment of the catastrophe-relief fund at the national level with an equal share of central and state governments, protection to insurance companies when premium to claims ratio exceeds 1:5 at the national level. Farmers monitored the crop cutting experiments (CCEs) in real-time as the details of video recordings of CCEs with GPS-tagged footage were sent to the farmers by SMS

### **Farm Income Insurance, 2003-04**

This insurance was a revenue-based insurance scheme commenced on a trial basis for wheat crop in 18 districts from 10 states and for paddy crop in three districts from three states in 2003-04 to safeguard the crop income of the farmers by insuring yield and the market risks through proper changes in the design of insurance product. NAIS focused on income concerning individual crops, and not the farm income. The scheme was mandatory for loanee farmers and others it was optional. The sum insured was the product of the average yield of the past 7 years  $\times$  indemnity level  $\times$  minimum support price (MSP) of the current year. A subsidy of 75% was given on the actuarial premium rate for small and marginal farmers and for other farmers, it was 50% and the subsidy component was fully paid by the Government of India. The Scheme operated on an "Area Approach" basis. The central government bore the cost of claims over the premium amount after deducting the administration and marketing expenses. Rural agents obtained a commission of 5 percent of gross premium paid by non-loanee farmers. All farmers had to pay a service charge of 2.5% to the banks. The plan was ceased on the suggestion of the Joint Group

### **KBS pilot scheme for soya farmers in Ujjain, 2003:**

BASIX (Bhartiya Samruddhi Investments and Consulting Services Limited)/KBS (Krishna Bhima Samruddhi Local Area Bank Limited (Samruddhi Bank) designed a policy for soybean cultivators in Ujjain, Madhya Pradesh in 2003. The insurance component was integrated in the crop loans availed from banks. If the cumulative weighted rainfall was below 80% of the average recorded at the time of critical crop growth stages, then the policyholders got a concession of Rs. 10 per mm of deficit rainfall on the bank interest charges for the loan availed. But, the banks charged higher interest rates for the crop loans since the insurance component was integrated.

### **Bio-Fuel Tree or Plant Insurance, 2004:**

The plants included in this policy were *Jatropha curcas* (*Jatropha*), *Pongamia pinnata* (*Karanja*), *Azadirachta indica* (*Neem*), *Bassia latifolia* (*Mahua*), *Calophyllum* (*Polanga*) and *Simarouba glauca* (*Paradise Tree*). The compensation was given for the cost of the inputs incurred in case of total loss or damage of the trees/plants due to natural shocks due to natural shocks like a flood, cyclone, storm, frost, and pest and diseases, etc., either in separately or simultaneously. The compensation amount was based on the cost of inputs incurred per unit area that varies with the type and age of the plant and can be extended up to 125% or 150% of the input cost

### **Wheat Insurance (Weather and Biomass), 2005:**

This plan is a distinctive agriculture technology-based instrument that joined crop biomass (Normalized Difference Vegetative Index-NDVI) and weather (temperature) parameters. This scheme was introduced in 2005. This insurance scheme was operated during peak wheat crop growth stage, more particularly during parts of February and March. AIC collected the past 10 years of satellite images during the 3<sup>rd</sup> week of January and 2<sup>nd</sup> week of February and estimated the average values of NDVI and revealed that it was significantly correlated with the final yield. Based on this relationship the triggers were fixed as 95 to 85 percent of the past 10 years' average. The costs of procurement of historical images and its processing were very high and there was a lack of ground realities in the calculation of the current season's NDVI.

**Coconut Insurance** This insurance was introduced to help small and medium coconut growers. Under this scheme, the subsidy component was shared by the Coconut Development Board, state government, and farmers in the ratio of 2:1: respectively. For the age group between 4 and 15 years palm, the insured sum shall be Rs. 900 per palm and the premium payable per plant per year was Rs.9. For the age group between 16 and 60 years, the insured sum was Rs. 1750 per palm and the premium payable per plant per year was Rs.14. The scheme covered storm, hailstorm, typhoon, cyclone, tornado, flood, and heavy rains; pest attack that leads to irrecoverable damage to the coconut palm; forest fire, bush fire, accidental fire and lightning that destroys the palm completely; earthquake, tsunami, and landslide; a severe drought that can lead to death and turn the palm unproductive. Claims are not allowed for the losses that occurred because of robbery, civil war, revolt, insurgency, natural death, or uprooting under the scheme

**Rubber Plantation Insurance** This scheme was a collaborative project of the Rubber Board and the National Insurance Company. This scheme covered both well grown mature and immature plantations. For immature plantations, the policy can be availed for 7 years from the last day of the month of planting. Compensation was estimated by adding the replacement cost of the plant with the present value of future returns arising out of the

## **Ritika Garg (August 2022). Crop Insurance in India**

*International Journal of Economic Perspectives*, 16(8), 5-11

Retrieved from <https://ijeponline.org/index.php/journal>

loss/death of the plant. Compensation can be claimed from the second year onwards. The mature plantations from the 8<sup>th</sup> year onwards can be insured for 3/2/1 year(s). All the input costs and expected yield were added and recurring maintenance costs were subtracted from that in the process of computation of compensation.

**National Crop Insurance Programme (NCIP), 2013.** Various components under the previous schemes were improved considering the recommendations of evaluation studies, insights from the execution of various crop insurance schemes, and the demands of stakeholders for designing farmer-friendly insurance products namely NCIP. This consisted of three components: the MNAIS, WBCIS, and the Coconut Palm Insurance Scheme (CPIS). This scheme was effective from 2013-14. A maximum subsidy was provided at the rate of 50% in WBCIS and 75% in MNAIS. For different crops and seasons, the premium rates were capped accordingly.

### **Pradhan Mantri Fasal Bima Yojana (PMFBY), 2016:**

The NAIS and MNAIS were supplemented with a new multi-hazard crop insurance scheme by the government of India on 13 January 2016 to achieve 50% coverage by 2018. In this scheme provisions that are desired by the farmers and considered as farmer-friendly such as a reduction in the share of insurance premiums to be paid by farmers, claims for prevented sowing, and losses in the mid-season or post-harvest have been introduced to address additional risks faced by cultivators. The number of crops covered and the types of hazards have also been expanded. The premium rates for Kharif and Rabi seasons are different. It is 2 percent of the amount insured for food crops and oilseeds in the Kharif season and 1.5 percent in Rabi season. For cash/horticultural crops the premium is declared as 5%. The premium subsidy is shared by the central and state governments equally. The amount insured by a single farmer is determined by multiplying the cost of cultivation by the area notified by the farmer under cultivation of the crop. The important feature of this scheme is that there is no upper limit for government subsidy. The significant advantages of this scheme over the previous schemes are: the stipulation on the number of crop cutting experiments (CCEs) is fixed as 4 for major crops and 8 for other crops at the village level; harnessing the advantage of mobile phone technology and GPS for enhancing the quality and quicker estimation of loss; involvement of other public and private insurance companies in addition to AIC; wider coverage of risks at different stages of crop growth and post-harvest losses incurred due to natural calamities. The accomplishment of 41% inclusion of farmers inside a few years after the commencement of PMFBY seems noteworthy, especially when contrasted with 28% inclusion of farmers accomplished under three plans consolidated (WBCIS, NAIS, and MNAIS) before the execution of PMFBY

### **Bihar Rajya Fasal Sahayata Yojana, 2018:**

© 2022 by The Author(s).  ISSN: 1307-1637 International journal of economic perspectives is licensed under a Creative Commons Attribution 4.0 International License.

*Corresponding author:* **Ritika Garg**

*Submitted:* 27 May 2022, *Revised:* 09 June 2022, *Accepted:* 18 July 2022, *Published:* August 2022



On June 5th, 2018 the state government of Bihar has launched Bihar Rajya Fasal Sahayata Yojana to provide crop insurance to farmers in replacement to PM Fasal Bima Yojana (PMFBY) which is effective for Kharif crops. In this scheme, the government estimate the crop loss and pay the compensation without any involvement of insurance company and collecting premium from farmers.

### **CONCLUSION:**

Traditional farmers are now expanding their operations to include new and different options. In doing so they meet out the liability and issues of risk management and overall solution of the problems is agriculture insurance. Agriculture insurance is a risk management and a risk transfer device that will help the farmers in reducing risk in the event of crop failure. In a country like India where crop production has been subjected to vagaries of weather and large scale attack of pests then agriculture insurance schemes can play a vital role in stabilizing Indian agriculture?

### **REFERENCES:**

- 1) Sinha Sidharth (2005) "Agriculture insurance in India": Scope for participation of private insurers: Indian Insurance Report Series Allied Publishers Private Limited.
- 2) Narayan H (2006) " Indian Insurance A profile" Jaico Publishing House Mumbai
- 3) Parimal Kumar Ray (2009)" Agricultural Insurance: Theory and Practice and Applications to Developing Countries" Science Publishers.
- 4) Nair R (2010) "Crop Insurance in India: Changes and Challenges, Economic and Political Weekly Vol 45.
- 5) Rangnathan, T Gaurav (2016) "Demand for Price Insurance among Farmers in India: A choice Experiment based Approach" Vol 10.