



## Impact of Crop Insurance on Indian Agriculture

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### ABSTRACT

*Crop Insurance is a major solution for addressing the issues related to crop losses and price related problems. The farming community is at the front end of this major issue, it is important to recognize the solutions for such issues. Crop insurance is still in its initial stage in India, to study impact of crop insurance on farmers is of prime importance. The issues and benefits of crop insurance are mainly discussed in the paper. Traditional farmers are expanding their operation to include new and different options in doing so they are met with new liability; issues and new risk management needs. Agriculture Insurance is a risk management tool and as a risk transfer device that farmers can depends on as an instrument of indemnity in the event of crop failure.*

**KEYWORDS : Crop Insurance, Insurance, Agriculture, NAIS.**

### I INTRODUCTION

India being an agrarian economy and more the 60% of the population being involved in agriculture and allied activities, agriculture contributes 24% of the GDP and any change has a multiplier effect on the economy as a whole. Economic growth and agricultural growth are inextricably linked to each other. The Indian business cycle is influenced by the crop pattern that mainly depends on the vagaries of nature; every flood or drought has its own impact on the Indian economy. Agri-business encompasses whole lot of activities of agriculture sector under one umbrella, like integration of production, processing and marketing. The process starts at the product level and reaches out to the final consumers through vertical integration. Agribusiness favors Indian farmers in every possible way be it policy, climate and several other advantages points that India inherently possess in production. Crop insurance helps in stabilization of farm production and income of the farming community. It helps in optimal allocation of resources in the production process. Indian Government has been concerned about the risk and uncertainty prevalent in agriculture.

Indian agriculture is heavily dependent on rainfall which largely occurs during monsoon season of about two and half months. The abnormal behavior of monsoon may cause natural disasters such as scarcity conditions or drought, floods, cyclones, etc. Nearly two thirds of the cropped acreage is vulnerable to drought in different degrees. On an average 12 million hectares of crop area is affected annually by these calamities severely impacting the yields and total agricultural production.

#### Risk and its management Agriculture

Uncertainty refers to an event the outcome of which is not certain i.e. the outcome may be one of the many possible outcomes. As such it cannot be measured. But certain probability may be attached to individual outcome. Risk on the other hand refers to the impact of the uncertain outcome on the quantity or value of some economic variable. The value of the economic variable may be on either side of the mean value. Repeated events would result different outcomes having a range of values. Thus risk refers to the variations in value of an economic variable resulting from the influence of an uncertain event. Since the variations in the value are measurable risk can be measured.

Agricultural production is an outcome of biological activity which is highly sensitive to changes in weather. Important weather variables such as temperature, humidity, rainfall, wind etc. influence the biological process directly or indirectly. For instance, low soil moisture due to poor precipitation in the pre-sowing period adversely affects seed germination resulting in reduced plant population. The poor precipitation during growth period results in stunted plant growth. Heavy rainfall during early growth period causes. Submersion of plants. Similarly hailstorms, wind and cyclones damage the standing crops by lodging and uprooting especially the perennials (trees and shrubs). High humidity may cause outbreak of pests and diseases. All these result in partial loss in yield and sometimes complete crop failure and hence reduced income to farmers. In other words, deviations in the weather variables from the normal adversely affect the crop yields and hence production and income on individual farms. As variations

in weather are more a regular phenomenon crop yields are not stable. As if all this is not enough the sword of uncertain agricultural prices always hangs on the farmers' fate. As a consequence farm incomes fluctuate violently from year to year.

Risk Management is "A systematic way of protecting the concern's resources and income against losses so that the aims of the business can be achieved without interruption". Risk Management is increasingly recognized as being concerned with both positive and negative aspects of risk. Risk management is a central part of any organization's strategic Management. It is the process whereby organizations methodically address the risks attaching to their activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities. In the safety field, it is generally recognized that consequences are only negative and therefore the management of safety risk is focused on prevention and mitigation of harm. In the insurance parlance, the Risk Management is a tool identifying business opportunities Humans have always sought to achieve security and reduce uncertainty.

### II REVIEW OF LITERATURE

Insurance is a contract made for financial arrangement between two parties when few suffered losses are met from the funds accumulated through small contributions made by many who are exposed to similar risks. The farmer is likely to allocate resources in profit maximizing way if he is sure that he will be compensated when his income is catastrophically low for reasons beyond his control. A farmer may grow more profitable crops even though they are risky. Similarly, farmer may adopt improved but uncertain technology when he is assured of compensation in case of failure (Hazell 1992). This will increase value added from agriculture, and income of the farm family. Bhende (2005) found that income of the farm households from semi-arid tropics engaged predominantly in rain-fed farming was positively associated with the level of risk. Hence, the availability of formal instrument for diffusion of risk like crop insurance will facilitate farmers to adopt risky but remunerative technology and farm activities, resulting in increased income.

Narayanan H. (2006), reports that agriculture insurance is destined to play an important role in managing the risk of the agriculture sector, whose contribution to the growth of economy is substantial. The role of agriculture insurance for India can never be underplayed. Parchure Rajesh (2009), shows that the aim of crop insurance schemes is not to make profits, profits can be used either to give indemnities covering principle repayments and/ or the funds of the insurer can be directed towards investments in agriculture infrastructure. Sinha Sidharth (2005), founds that Agriculture insurance can be improved by increasing the accuracy and timeliness of crop estimation methods possible through the use of new technologies. This would need to be supplemented by institution and operating procedures which enable the private sector to provide agriculture insurance. According to the National Agriculture Policy (2000), "Despite technological and economic advancements, the condition of farmer continues to be unstable due to natural calamities and price fluctuations". The impact of this variability is highlighted in drought years with news of farmer suicides

from agriculture variability. Sinha Sidharth (2004), Says that crop insurance is one of the instruments protecting farmers from agriculture variability. Considering the contribution of the sector to the economy, the former Governor of the Reserve Bank of India, Dr. Y. V. Reddy, had suggested a national policy on agricultural risk management.

### III METODOLOGY AND ANALYSIS

The research is mainly on the basis of secondary information, since the farmers and other beneficiary group lacks knowledge about crop insurance and is unknown about the benefits of the crop insurance, this will lead to errors. The secondary data available are more reliable and help to access and understand real scenario of impact of crop insurance in India.

#### Crop Insurance

Insurance is a technique where losses suffered by few are met from funds accumulated through small contributions made by many who are exposed to similar risk. Crop insurance is a means to protecting the cultivators against financial loss on account of anticipated crop-loss arising out of practically all natural factors beyond their control such as natural fire, weather, floods, pests, diseases etc. The sum insured could be the total expenditure or a multiple of it or a proportion of expected income from crop(s) for which premium is paid. The indemnity (claims payable against the paid out of pocket expenses) is payable on the basis of shortfall in average yield from the guaranteed yield (threshold yield). The claims are paid after the loss in yield is ascertained. Weather based crop insurance is another avenue for transferring production risk to the insurer. It aims to mitigate the hardship of the insured farmer against the likelihood of financial loss on account of anticipated crop loss resulting from incidence of adverse conditions of weather parameters like rainfall, temperature, frost, humidity etc. While crop insurance specifically indemnifies the cultivator against shortfall in crop yield, weather insurance is based on the fact that weather conditions affect crop yield even when a cultivator has taken all the care to ensure good harvest. Studies of historical correlation of crop yield with weather parameters help us in developing weather.

In order to provide a boost to the agriculture in India, a number of experimental crop insurance schemes have been introduced in the country. The first ones of the experimental crop insurance schemes has been a Pilot Crop Insurance scheme. This was introduced by GIC from the year 1979. Some of the important features of the scheme were that the scheme was based on "Area Approach". This scheme covered crops such as Cereals, Millets, Oilseeds, Cotton, Potato and Gram. The scheme was confined to loanee farmers only and on voluntary basis. The risk was shared between General Insurance Corporation of India and State Governments in the ratio of 2:1. The maximum sum that could be insured under the scheme was 100% of the crop loan, which was later increased to 150%. Under this scheme, 50% of the subsidy was provided for insurance charges which was payable to the small / marginal farmers by the State Government & the Government of India on 50:50 basis. Among the earlier crop insurance schemes that were introduced was a comprehensive Crop Insurance Scheme. The Government of India introduced the Comprehensive Crop Insurance Scheme with effect from 1st April 1985. This scheme was introduced with the active participation of State Governments. The Scheme was optional for the State Governments.

This Scheme was linked to the short-term crop credit that was extended to the farmers and was implemented using the Homogeneous Area approach. The number of states that were covered under the scheme were 15 States and the number of UTs that were included were. This Scheme was implemented until Kharif 1999. Some of the important features of this scheme allowed a cover to the farmers availing crop loans from Financial Institutions for growing food crops & oilseeds on compulsory basis. The coverage under this scheme was restricted to 100% of crop loan subject to a maximum of Rs. 10,000/- per farmer. The premium rates for Cereals and Millets were 2% and for Pulses and Oil seeds 5%.

#### National Agricultural Insurance Scheme

Keeping in view the demands of States for improving scope and contents of CCIS, a broad-based National Agricultural Insurance Scheme (NAIS) has been introduced in the country from Rabi 1999-2000 with the following objectives.

a. To provide insurance coverage and financial support to the farmers

in the event of failure of any of the notified crop as a result of natural calamities, pests and diseases.

b. To encourage the farmers to adopt progressive farming practices, high value inputs and higher technology in Agriculture.

c. To help stabilize farm incomes, particularly in disaster years.

Some of the improvements incorporated in the new scheme are visible from the following.

#### Benefits Expected from the Scheme

##### The scheme is expected to:

A. A critical instrument of development in the field of crop production, providing financial support to the farmers in the event of crop failure,

B. Encourage farmers to adopt progressive farming practices and higher technology in Agriculture,

C. Help in maintaining flow of agricultural credit,

D. Provide significant benefits not merely to the insured farmers, but, to the entire community directly and indirectly through spill-over and multiplier effects in terms of maintaining production and employment, generation of market fees, taxes etc. and net accretion to economic growth, and

E. Streamlines loss assessment procedures and help in building up huge and accurate statistical base for crop production.

#### Weather Based Crop Insurance Scheme

Weather Based Crop Insurance Scheme (WBCIS) is a unique weather based insurance product designed to provide insurance protection against losses in crop yield resulting from adverse weather incidences. It provides payout against adverse rainfall incidence (both deficit and excess) during Kharif and adverse incidence in weather parameters like frost, heat, relative humidity, un-seasonal rains etc. during rabi season. As such it is not yield guarantee insurance. WBCIS has been piloted in the country since Kharif 2003 season. Some of the states where the scheme is piloted over the years are Andhra Pradesh, Bihar, Chattisgarh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Uttar Pradesh etc.

### IV CONCLUSION

Traditional farmers are expanding their operation to include new and different options in doing so they are met with new liability; issues and new risk management needs. Agriculture Insurance is a risk management tool and as a risk transfer device that farmers can depend on as an instrument of indemnity in the event of crop failure. Risks like the price for the agriculture produce and Monsoon are two major factors on which the agriculturalist has absolutely no control. In a country like India, where crop production has been subjected to vagaries of weather and large scale damage due to attack of pests and diseases, agriculture insurance assumes a vital role in the stable growth of the agriculture sector. Agriculture Insurance requires the full support of the IRDA. The present Agriculture insurance policies are weak on the various fronts.

Crop insurance has been found to absorb the production risk effectively, encouraging the farmers to concentrate on a fewer number of profitable crops instead of spreading their resources and energy across many crops. In this way, it has acted as an incentive for specialization in agriculture. The crop insurance scheme has led to the use of high-value inputs like seed, fertilizer and plant protection chemicals. The insured farmers have realized more returns than their non-insured counterparts. It has been revealed that the factors like access to loan, education, off-farm income, and region (based on nature of irrigation) in which a farmer is located have significantly influenced the adoption of crop insurance. Moreover, landholding-size, whether insured or non-insured, has depicted a positive influence on the income of farmers. Farmers face constraints like tedious and time consuming procedure, non-availability of crop loan, lack of motivation and information from officials, etc. On the other hand, the agencies implementing crop insurance expressed that lack of staff, lack of coordination among them and hindrance to their routine functions were the major constraints.

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