

The perspective of crop insurance in india



**ASSIGN
BUSTER**

The farming community in India continually faces risks in crop production due to natural calamities right from the time of sowing to harvesting. Floods may wash away the growing fields, droughts may wither plants, diseases may attack during crop growth and hailstorms may wipe out months of farmers' labour and likely production in a single stroke. The yield uncertainty prevents farmers from maximizing production and discourages credit institutions from advancing loans for agricultural purposes. Further, the risk bearing capacity of majority of our farmers is limited due to scarce resources and small holdings. They cannot withstand risks which are disastrous in nature. A serious crop failure means not only the loss of farm income but also the loss of investment for the next crop season. This leads to their indebtedness. The risk burden of the farmers and the agricultural lenders can be reduced through crop insurance, which is primarily a way of protecting farmers against the element of chance 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. Moreover, the liability of the Government to bear the cost of relief measures to the farmers following crop failure is reduced to some extent as through crop insurance the farmers themselves contribute to their relief.

I. INTRODUCTION

Agriculture plays an important role in the economic life of India. From time immemorial, agriculture has occupied a pivotal position in India's economic development and it has been regarded as a major economic powerhouse

that has a bearing on the whole economy. It has been realized that the success of economic planning in India largely depends on the growth of agricultural sector.

The agricultural sector has been accorded top priority since independence. A cursory look at the growth of agriculture in the past five decades indicates that agricultural production has reached comfortable heights especially after the Green Revolution. India has reached a stage of self sufficiency but it is still dominated by nature, which means that the instability still haunts agricultural sector and seriously threatens the Indian farmer's ability to step up the agricultural output and their viability.

It has been observed that in the Indian sub-continent, fluctuations in crop yields have mainly been due to the inclemencies of weather. The presence of ups and downs in dryland agricultural production over the years bears ample testimony to the continuing instability in agriculture.

Instability in the agricultural sector cannot be completely eliminated, but its adverse effects can be minimized through various measures. Different strategies have been evolved by the government to combat these risks and uncertainties'. Some of them include providing tax remissions, waiving off loans and interest on loans, drought or flood relief measures, etc. However, a major hurdle in such types of relief is that such measures depend primarily on the policies as well as the resources of the government. Therefore, though these measures guarantee some security in a situation at uncertainty, it infract makes the farmers to wait in anticipation for some relief when there is a loss. Farmers on the other hand have sought to reduce

those risks by utilizing modern technology, diversifying the agricultural operations, through intercropping or through the flexible use of fertilizers, pesticides, etc. But again, one major impediment here is that by and large financial facilities are utterly inadequate amongst the Indian farmers. Thus, because of these drawbacks, the policy makers of the country have sought to insurance of crops as a feasible measure to combat against the risks and hazards and provide protection to the farmers. This will encourage them to carry on with their productive efforts, which not only improve the well being of the farmers but also ultimately help in stabilizing the agricultural output.

INSURANCE

Insurance is the transfer of risk between the insured and the insurer at a cost which reduces the intensity of loss that would have otherwise been suffered by the insured. Insurance not only reduces the uncertainty faced by the insured, but it evens out the burden of a loss especially if the loss is of a large scale one.

Ray (1960) defines insurance as a “ social device which aims at reducing the uncertainty of loss through combination of a large number of similar uncertainties and through the use of accumulated funds, distributing the burden at loss, should there be any over space and time”.

CROP INSURANCE: Its significance and importance

Insurance of crops is regarded as an essential part of a well-rounded agricultural programme designed to provide protection to farmers against physical failure of crops due to weather and other unavoidable natural hazards. Crop insurance advances the process of stabilizing the agricultural

industry to a stage of production, making such a process more comprehensive, effective and useful.

The principal benefits derived from crop insurance are as follows:

- i. Crop insurance prevents farmers from financial disaster due to crop failure through its indemnity function,
- ii. It improves the position of farmers in relation to agricultural credit. As crop insurance guarantees protection against crop failure, the insured farmers have a better credit rating, when a loan is provided to them. It also considerably strengthens the financial position of the involved agricultural cooperative credit institutions,
- iii. The crop insurance scheme, besides stabilizing farmers income by indemnifying them for damage to their crops, plays a positive role of increasing productivity through prevention and limitation of the operation of natural calamities especially plant pests and disease infections and
- iv. Crop insurance contributes to greater stability of the economy by spreading economic damage resulting from crop losses over time and space.

Crop insurance, though is relatively a new concept, it has been recognized both in developing as well as developed countries as one of the available mechanisms which provides the farmers with some relief for the purpose of re-investment in the future. It not only provides protection and also

safeguards the interest of the farmers in general, but also helps in ensuring the well being of the small and marginal farmers in particular.

CROP INSURANCE IN INDIA: Its evaluation, development and present status

Crop insurance has been an important policy measure which has gained the attention of our policy makers ever since independence. Various studies regarding the modalities of the crop insurance programme were carried out since 1947. Different experiments on crop insurance on a limited, Adhoc and scattered scale was started from 1972-73. In 1972-73 the General Insurance Department of the Life Insurance Corporation of India introduced a crop insurance scheme on H-4 cotton. In 1972, General Insurance business was nationalized and by an Act of parliament, the General Insurance Corporation of India was setup. The General Insurance Corporation took over the experimental scheme in respect of H-4 cotton,

Groundnut, etc., grown by small and marginal farmers. The schemes which operated between 1973 and 1976 resulted in heavy financial losses. In view of these economic difficulties, the crop insurance scheme was discontinued.

Prof. Dandekar (1976) a leading agricultural economist, recommended a crop insurance scheme to be based on homogeneous area approach and the linking of insurance with crop loans. Based on his report, a pilot crop insurance scheme was introduced from 1979. The important features of the pilot scheme were as follows:

- i. It was based on area approach

- ii. The scheme covered cereals, millets, oilseeds, cotton, potato and gram
- iii. It was confined to loanee farmers only and on voluntary basis
- iv. The risk was shared between General Insurance Corporation of India and State Governments in the ratio of 2: 1.
- v. The maximum sum insured 100% of the crop loan, which was later increased to 150%.
- vi. Fifty per cent subsidy was provided for insurance charges payable by small and marginal farmers was to be jointly shared by Central and State Governments
- vii. The premium rate and guaranteed yield in each stratum (usually sub-district for any particular crop) were determined on the basis of data on yields for the proceeding ten years as compiled by the State Governments.

The following were the short comings of this pilot scheme:

1. Guaranteed yield was fixed on the basis of the average of last ten years yield
2. The unit of insurance was large
3. There was a non-coverage of high risk areas and non-coverage of individual risks
4. High level of non-indemnifiable limits viz., 30 per cent for low risk areas and 40 per cent

for medium risk areas.

Objectives of the scheme

1. To provide a measure of financial support to farmers in the event of failure a crop as a result of drought, flood, etc.
2. To restore the credit eligibility of the farmers after failure a crop for the next season, and
3. To support and stimulate production of cereals, pulses and oilseeds.

Crop insurance schemes

A Comprehensive Crop Insurance Scheme (CCIS) was implemented in 1985.

The scheme was based on the homogeneous area approach and linked to short-term credit. Coverage was restricted to 100% of the crop loan subject to a maximum of Rs10, 000 per farmer. The premium was fixed at 2% for cereals and millets and 1% for pulses and oilseeds. Small and marginal farmers were eligible for a premium subsidy of 50%. The burden of premium and claims was shared by the central and state governments in a 2: 1 ratio.

The scheme was criticized on the following grounds:

- Financial non-viability as low premium to claim ratio (17. 28%) over the operational period due to non - actuarial based premium
- Exclusion of important horticultural and commercial crops
- Coverage restricted to loanee farmers
- Cross-subsidization across states (e. g., Gujarat received 48. 8% for groundnut)

The present National Agriculture Insurance Scheme (NAIS) replaced the CCIS in 1999. NAIS was implemented in all states/union territories with premium rates that vary from 1.5 to 3.5% for food-grain and oilseed crops on an actuarial basis for annual commercial and horticultural crops. While CCIS was restricted only to loanee farmers, NAIS widened the coverage by envisaging voluntary participation of non-loanee farmers. NAIS has enabled farmers to choose indemnity limits of 60%, 80% or 90% of the threshold yields as indemnity limits. The limit of the sum insured was increased to the value of 150% of average yield against payment of an actuarial based premium. Though NAIS was launched to cover the short falls observed in CCIS, the scheme is far from breaking even or achieving the desired coverage. The following have been observed:

Financial non-viability - Up to the rabi season 2007-08, claims of about Rs. 11607 crore have

been reported against a premium collection of about Rs. 3626 crore (Economic Survey, 2009). Thus the overall premium to claim ratio of NAIS stands at 31.24% which may be better than that of CCIS but is far from achieving self-sufficiency even after eight years of existence.

Limited coverage - Raju and Chand (2008) report that in different years from 1999/2000 to 2005/2006, NAIS covered 9-15% farmers, 8-16% crop area and 2.14-3.57% of crop output in money terms.

Delay in claim settlement - Involvement of financial institutions as delivery channels and government departments in crop cutting experiment sand

subsidy release resulted in a longer period of settlement, sometimes over a year.

Moral hazard -The area approach based NAIS fails to provide the right incentives to farmers. As crop yields are insured irrespective of the grower's efforts, the incidence of moral hazard could not be eliminated.

Adverse selection – One of the main drawbacks of NAIS is its failure to address adverse selection by non-loanee farmers (Ifft, 2001).

Comprehensive – The scheme ignores the fact that rainfall, whether deficient or excessive, causes 70% of crop losses in India (Parchure, 2002).

Cross-subsidization across states – While the claim premium ratio was less than unity in states like Assam, Goa and Haryana, NAIS paid claims more than ten-times of premium in Bihar and Jharkand (Raju & Chand, 2008).

Crop loan insurance scheme – Due to its very nature of linking insurance with short term

credit, NAIS is arguably a crop loan insurance scheme instead of crop insurance (Bhende, 2005). Bhende also argued that the aim of NAIS is predominantly to underwrite agricultural credit and not agricultural risk.

Since NAIS provides only partial protection to farmers' income as it covers only production risks, the Farm Income Insurance Scheme (FIIS) was launched on a pilot basis during rabi 2003/04 to protect farmers' income by combining the mechanism of insuring both production and market risks. The scheme envisaged protecting farmers' income through ensuring a minimum

guaranteed income. During the season, 1.8 lakh farmers were covered over an area of 1.9 lakh hectares. Implemented by the National Insurance Company (NIC), the scheme carried a subsidy of 75% on the premium, borne by the central government in respect of small and marginal farmers and 50% in respect of others. But the poor response from farmers resulted in the withdrawal of the scheme.

The National Agricultural Insurance Scheme has again come out with new promises. It is expected that the area covered and the number of farmers to be insured would increase in the future. It is hoped that with the knowledge gained through experience and through further refinements it would help the scheme to fulfill its basic objectives.

An Emerging Alternative

The reason for the failure of multi-peril crop insurance worldwide is the sheer complexity of risk and lack of adequate risk modeling technology to understand these risks. These complexities have largely been responsible for the non-entry of private insurers in the field of yield insurance in the country.

Crop insurance in India was, till recently, confined to compensating yield loss. The recent years have seen a change in this trend with the emergence and rising popularity of weather-based insurance products. Weather insurance pays indemnities based not on the actual losses experienced by the insured, rather on the realisation of a weather index that is highly correlated with actual losses. The index measures a specific weather variable (e.g., rainfall, temperature, relative humidity, wind speed, etc) rather than

the extent of loss (in crop yield). In other words, the product proxies the loss that farmers face owing to the adverse weather incidence.

The weather insurance product is designed after a critical study of the weather parameters affecting crop growth in its three critical phases – sowing, growth and flowering, and yield formation to harvest. During each period, the “ trigger” (level below which weather parameter must fall for a farmer to begin receiving the payouts) and “ exit” levels (level below which the weather parameter must drop for a farmer to receive the maximum payout) are defined. No additional indemnity is paid for realised values of the index that exceed the exit level.

Weather insurance has clearly expanded the domain of crop insurance programme in the country as insurance can now also be provided for crops with no historical yield data as also for horticultural crops where age group-wise yield estimates are not available. Index-based insurance is less susceptible to some of the problems intrinsic in traditional multi-peril crop insurance

and benefits both the insured and the insurer. For the insured, the most important advantage over the traditional scheme is the prospect of receiving timely indemnity payouts given that payouts for indexed contracts are automatically triggered once the weather parameter reaches the pre-specified level.

The biggest disadvantage of the yield insurance scheme is the delayed claim settlement procedure (that takes at least a year), denying the insured the benefit of insurance when it matters most, and in the process negating the

<https://assignbuster.com/the-perspective-of-crop-insurance-in-india/>

very objective of insurance. The delay is the result of the time taken for the crop cutting experiments (CCE) data to be collated and the inability of the state and central governments to expeditiously contribute their share towards claim settlements. The popularity of weather index products also owes it to the transparency as the weather data can be uploaded almost immediately so that the insured is aware of weather performance vis-à-vis the given trigger. The product also provides the insured with the incentive to put in additional efforts or cost to save the crop as the claim is payable irrespective of the yield.

Weather insurance products are easier to administer and significantly reduce costs by eliminating the need for yield estimation and field visits. Unlike the traditional scheme, the insured is not likely to have better information than the insurer about the underlying index; neither would he be in a position to influence the realization of the index.

Weather Insurance in India

Weather derivative as a financial instrument to hedge weather risks emerged first in U. S. A in

1997 and is the fastest growing derivative market today according to Chicago Mercantile Exchange (see Brockett, Wang & Yang, 2005). In India the concept is still nascent. On a pilot

basis ICICI Lombard launched a rainfall insurance scheme with support from World Bank, for groundnut in Mahabubnagar, Andhra Pradesh in 2003. The insurance policy sold a non-linear put option on a rainfall index correlated with crop yield. Due to delayed monsoon that year the rainfall index fell by

<https://assignbuster.com/the-perspective-of-crop-insurance-in-india/>

21 percent resulting in a payment to the farmers (Sinha, 2004). ICICI Lombard also launched a pilot scheme for insurance against excess rainfall for rice farmers in Aligarh, Uttar Pradesh. As documented by Manuamorn (2005), ICICI Lombard views a substantial profitability potential in weather insurance and expects that 'the weather insurance business, if underwritten properly, is at least as attractive a business proposition as other lines of general insurance'. Similarly in 2004, IFFCOTOKIO targeted four Indian states-Gujarat, Maharashtra, Andhra Pradesh and Karnataka for a deficit rainfall insurance scheme during monsoon months.

The Agriculture Insurance Company of India Limited (AIC) introduced Varsha Bima-2005 in about 125 India Meteorological Department (IMD) station areas spread across 10 states. Under each IMD rain gauge station area, two or three blocks adjoining the station were chosen to implement major crops in that area. The product is also available to non-loanee farmers and provides for at least two options: one covering the limited sowing period and the other covering the complete season. The farmers can choose any one coverage option-either "sowing failure" or the full season option ("seasonal rainfall" or "rainfall index"). AIC on has also launched crop-specific and location-specific weather based crop insurance scheme, as Rainfall Insurance Scheme for Coffee, Apple Insurance, Rubber Plantation Insurance, etc. AIC Annual Report, 2007-08 mentions that while the major share of premium still comes from NAIS (82%), the other commercial products' portfolio is on increasing trend.

Conclusion:

Crop insurance was conceived as an instrument of risk management in agriculture and as a measure to provide relief to farmers whose crops were damaged by one or the other means. Limited success in traditional crop insurance schemes is attributed to the financial non-viability due to non-actuarial based premium as well as the serious problem of moral hazard, adverse selection and complex administrative procedures. In contrast the weather indexed insurance schemes would result in financial viability for the insurer by effectively transferring his risk to the investors in the secondary capital market and eliminating adverse selection and moral hazard problems while reducing administrative costs by using an objectively calculated index. The scheme would also ensure quick settlement of claims attributed to the independently monitored weather indices besides protecting farmers for overall income rather than crop specific yield.