

CROP INSURANCE CHALLENGES AND OPPORTUNITIES

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Risk and uncertainties are common in agriculture due to the very characteristic of agriculture i.e., dependence on nature. There are number of factors that affect the returns from farming, many of which are beyond the control of farmers. Occurrence of drought, flood, untimely rainfall, hailstorm etc. are only a few among the long list of factors that affect the returns from farming directly. The increase in the probability of occurrence of such extreme climatic events have worsened the status of farmers, who are at the receiving end. The occurrence of such untoward climatic incidents have become very normal, in recent years, as a consequence of global climate change.

India is considered to be vulnerable to the effects of climate change due to several factors like high dependence on agriculture, low coverage of irrigation, lower resource availability at individual farms and unavailability of proper technology to combat the risk. Other factors like dominance of small and medium sized holdings coupled with inherent lacunae like farmers' apathy towards newer technologies, unscientific post-harvest management, and un-organized and chaotic marketing system, also contribute to making agriculture a perilous endeavor in India.

So far, the country is not fully equipped to handle risk situations and, to insulate its farmers from both production and price risks. Farmers, on the other hand, are compelled to adopt adaptation strategies, both ex-ante and ex-post. Crop diversification, occupational diversification, staggered sowings, self-stabilization funds, contract farming etc. are some of the ex-ante strategies. Apart from these, farmers may also resort to the ex-post adaptation strategies like sale of assets, migration, loans (formal and non-formal), and consumption credits etc. The protection offered by these strategies, however, is

not always sufficient since it depends on the nature and scale of risk incidence. Under such circumstances insuring crops is considered as a key strategy.

Crop insurance, which is an ex-ante adaptation strategy, can transfer the risk from the insured farmers to the insurer agency. By paying a nominal premium amount, it facilitates the farmers to receive larger compensations subject to the incidence of unforeseen loss. Insurance



lends support to farmers after distress: compensation amount can help to start new agricultural season after a bad year. At the same time, it reduces the burden on Government's disaster payments. For an agrarian economy like India, crop insurance is an important part of agricultural policy.

In crop insurance schemes, as in other insurance, the insurer agrees to pay the sum insured in the event of realization of underlying risk, on payment of prescribed

premium. Insurance works on 'law of large number', i.e., risks are independently distributed rare events provided sample is sufficiently large. The insured will be paid compensation at the realization of risk by the premium collected from those who haven't faced the risk or from the accumulated premium of good years. Indeed, Insurance programme to be successful, risk diversification through pooling across space and time is essential.

Evolution of crop insurance schemes in India

Considering the importance of publicly supported insurance scheme for agriculture, Government of India constituted the expert committee under the chairmanship of Dharam Narain to study the possibility of crop insurance schemes. The committee ruled out the possibility of implementing the scheme. In contrary, Prof. Dhandekar recommended starting insurance programme for farmers. Accepting the recommendations, Government of India set up General Insurance Corporation (GIC) in 1973.

GIC introduced a crop insurance scheme on pilot basis in Gujarat in the year 1973, which was later extended to West Bengal, Tamil Nadu and Andhra Pradesh. Later, in 1985, the first ever full-fledged crop insurance programme, the 'Comprehensive Crop Insurance Scheme' (CCIS), was introduced by GIC in most of the states. The scheme targeted to provide risk protection to all the loanee farmers. In this scheme, sum insured was limited to Rs. 10,000 per farmer irrespective of the magnitude of loan. The insurance premium was fixed at two per cent for cereals and one per cent for pulses and oilseeds. Despite these efforts, the scheme could not achieve its intended targets due to the flaws like limited crop coverage, capping on sum insured, and availability limited to loanee farmers.

CROP INSURANCE ...

Continued from page 1

The Government, then, decided to launch the National Agricultural Insurance Scheme (NAIS) in the year 1999. The scheme covered most of the crops, all the states and was available to both loanee as well as non-loanee farmers, with the difference that it is mandatory to the former. For an effective implementation of the scheme, Agriculture Insurance Company was also set up in the year 2002, with General Insurance Corporation of India (GIC) National Bank of Agriculture and Rural Development (NABARD) and four public-sector general insurance companies as its stakeholders.

Weather Based Crop Insurance Scheme (WBCIS) was then piloted across India from Kharif 2007, to explore the effectiveness of weather based crop insurance as an approach to overcome the constraints of National Agricultural Insurance Scheme (NAIS). WBCIS provides protection against losses in crop yield resulting from weather related risks. Weather parameters are used as an index for compensating crop loss based on the simulation models of crop yield and concerned weather parameters. Farmers get compensation if the insured weather parameters moves above or below the normal range. The scheme is bound with many limitations since it can be operated in only such areas where automatic weather stations are available, and can insure only parametric weather risks.

Subsequently, NAIS was modified and re-launched as Modified National Agricultural Insurance Scheme (MNAIS) and was implemented in selected states, on pilot basis. Unlike NAIS, MNAIS works in the regime of actuarial premium and has a broader definition of risk which includes cyclones and prevented sowings. In 2013, NAIS, WBCIS and Coconut Palm Insurance Schemes (CPIS of 2009) were merged into a comprehensive scheme- National Crop Insurance Programme (NCIP). This scheme is operation in all the districts from Kharif, 2014.

Premium, Sum Insured and Claims

Usually three levels of indemnity viz., 90, 80 and 60 per cent corresponding to low risk, medium risk and high risk areas are available for crops, based on coefficient of variation in their yield for past ten years. Sum insured is extended to the value of threshold yield of the insured crop, even though farmers have the option to insure less than the threshold value. Threshold yield for a crop in an insurance unit is the moving average based on the past

three years average yield in case of rice and wheat, and five years average yield in case of other crops, multiplied by level of indemnity. In most crop insurance schemes, if a farmer wish to insure more than threshold value of crop, he is required to pay actuarial rate (No subsidy on premium above threshold value of crop). The premium rates depends on the scheme, risks covered and crop. Compensation can be calculated by the following formula:

Compensation = (Short fall in yield/Threshold yield) x Sum insured of the crop

Whereas, shortfall in yield is the difference between threshold yield and actual yield of crop. Actual yield could be calculated based on requisite number of Crop Cutting Experiments (CCE) conducted during the crop season.

Some issues and challenges in crop insurance schemes

Indian crop insurance works on 'area approach' i.e area is the basic unit for estimating yield loss and rate of compensation. The area approach works well only when correlation between farmers' yield and yield at crop cutting experiments are high. This condition is rarely met resulting in 'Basic Risk' i.e., farmer suffering crop loss but not receiving compensation. In addition, for the people who finally receives the compensation; the payment is delayed considerably in most of the cases. Loss sharing between center and state governments and operational formalities involved in it are sighted as the major reason for the delay.

Since the insurance market in agriculture sector is far from perfect, it needs to be bundled with other products like credit which India has done. Whoever buys short term agricultural credit, they automatically and mandatorily insure their crops. But for a farmer, who wishes to take insurance product voluntarily, banks act as financial intermediaries. Experience till date suggest that the poor incentive that the banks have in promoting crop insurance is one of the reason for lesser coverage of insurance schemes. Only 4 per cent of the premium is paid to bank as service charge, which is very low. This poor incentive along with the increase in work load makes the banks poor promoters of voluntary crop insurance.

Insurance is a financial tool to manage risk and not an investment to increase income. It also involves complicated terminologies like sum insured, indemnity levels etc. understanding of which is crucial for farmers to make informed choices. Awareness creation and training programmes play a crucial role in convincing farmers to take up insurance. Lack of adequate database for determin-

ing premiums and indemnities is another challenge that the insurance providers and policy makers face.

Opportunities

Even though hurdles exist in the way forward, intend should be to see the opportunities. The large pool of uninsured farmers existing and still continuing farming in our country is the biggest opportunity for any crop insurance scheme. In future, these millions of farmers will be compelled to insure at least some part of their crops, since the risk in farming may increase in future due to the effects of global climate change. Diverse climatic conditions across parts of India may be best of a bad bunch as it imparts some randomness to systematic risks (provided the insurance scheme is implemented throughout the country). The government have realized the level of distress in which the farmers are in, and this has led to a high policy thrust in favour of crop insurance. Finally, the good network of self-help groups and cooperatives existing in India can be used for micro-insurance, provided a good model of such kind is developed through proper planning and research.

Pradhan Mantri Fasal Bima Yojana: Silver lining on dark cloud Pradhan Mantri Fasal Bima Yojana launched on 13 January, 2016 is a brand new insurance scheme of the central government. The scheme which is administered by the Ministry of Agriculture and Farmers' Welfare will be implemented in all the states with the cooperation of the respective state governments. The scheme targets at providing a better insurance support to the farmers by low premium insurance cover. The new crop insurance scheme removes the capping on premium subsidies when compared to earlier schemes. It also covers risks like post-harvest losses, preventive sowings and many localized calamities like cyclones, which were excluded in most of the earlier schemes. Giving high priority to awareness creation is also a welcome step in this new scheme. The major attractions of the scheme are:

- Insurance protection for all crops
- Uniform maximum premium for all farmers (2 per cent of sum assured in kharif and 1.5 per cent in rabi)
- Claims of full sum insured, without capping
- Due to adverse weather, if sowing is not done, claims upto 25 per cent of sum insured will be paid
- Assessment at individual farm level for loss due to inundation, hailstorm and landslide
- Use of better technologies like Remote Sensing and drones to supplement the efforts for faster claim settlements

Crop insurance offers benefits for both, farmers as well

Table 1: Cumulative Statistics on Indian Crop Insurance

Premium, Sum Insured and Claims

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Crop insurance offers benefits for both, farmers as well as Government: it helps farmers to cope with risk through pay offs at the event of crop loss, and help Government by reducing the burden on disaster payments to farm sector. In spite of its importance, crop insurance in India has not gained much popularity amongst the farming community. Innate lacunas in insurance schemes coupled with apathy of farmers to such schemes rooted through lack of awareness are the main reasons for low spread of crop insurance in India. Giving much required policy thrust to crop insurance, the Government has launched new insurance programme PMFBY, which is an improved version of earlier similar schemes. Though there are many issues and challenges, the new scheme will be a boon to farming community, if implemented in the right spirit.

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Table 1: Cumulative Statistics on Indian Crop Insurance

Schemes	Period	No. of Farmers Insured (in '000)	Area Insured ('000 ha.)	Amount in Rs. Crores				No. of Farmers benefitted (in '000)
				Sum Insured	Premium	Subsidy	Claims	
NAIS	Rabi 1999 to Kharif 2014	229349	339674.2	349666.8	10598.75	1392.35	33329.38	59154
WBCIS	Kharif 2007 to Kharif 2014	34136.42	45987.167	62714.04	5950.344	3948.405	4078.835	19005.57
MNAIS	Rabi 2010-11 to Kharif 2014	9681	10836.36	21359.41	2363.4	1444.01	1719.49	1656

Source: Retrieved from http://www.aicofindia.com/AICEng/Pages/Business_Profiles_Tenders/BusinessProfileAllIndia.aspx