Crop insurance: A Study on Its Awareness and Perceptions

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ABSTRACT

Agriculture being a mainstay of Indian economy is vulnerable to many risks and uncertainties. Lately, farmers have been introduced to the concept of crop insurance to minimize the risks and uncertainties. It helps in bringing stability in the produce of farmers. It is a phenomenon where risk is rolled over to other party by paying a premium. Government has taken some good steps in introducing crop insurance schemes in India with one such scheme being National Agricultural Insurance Scheme, since the livelihood of millions of people in India depend on agriculture these schemes are much needed at this juncture, however the penetration of such schemes in most of the areas is found to be less. This study is an attempt to understand the existing scenario of crop insurance in India with a special reference to Kashmir. The study concludes with various suggestions for increasing the awareness level of the farmers for ensuring better penetration of crop insurance in Kashmir.

Key Words: Agriculture, Crop Insurance, National Agricultural Insurance Scheme, Farmers' Awareness

Introduction

Crop insurance is purchased by agricultural producers, including farmers, ranchers, and others to protect themselves against either the loss of their crops due to natural disasters, such as hail, drought, and floods, or the loss of revenue due to declines in the prices of agricultural commodities. The two general categories of crop insurance are called crop-yield insurance and crop-revenue insurance. Agricultural production is an outcome of biological activity which is highly sensitive to changes in weather. The erratic and uneven distribution of monsoon rains perpetuated yield/price volatility and hence increased farmer's exposure to risk and uncertainty. In this scenario of high risk and uncertainty of rain fed agriculture, allocating risk is an important aspect of decision making to farmers (Reddy, 2004). The risk burden of the farmers 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 (Singh, 2004).

Agricultural Insurance in India

Agriculture in India is highly susceptible to risks like droughts and floods. It is necessary to protect the farmers from natural calamities and ensure their credit eligibility for the next season. For this purpose, the Government of India introduced many agricultural schemes throughout the country. Some of these schemes are:

1) **The Pradhan Mantri Fasal Bima Yojana** (Prime Minister's Crop Insurance Scheme) was launched by Prime Minister of IndiaNarendra Modi on 18 February 2016.[1][2] It envisages a uniform premium

of only 2 per cent to be paid by farmers for Kharif crops, and 1.5 per cent for Rabi crops. The premium for annual commercial and horticultural crops will be 5 per cent.

2) **Farm Income Insurance Scheme**: The Central Government formulated the Farm Income Insurance Scheme (FIIS) during 2003-04. The two critical components of a farmer's income are yield and price. FIIS targeted these two components through a single insurance policy so that the insured farmer could get a guaranteed income. The scheme provided income protection to the farmers by insuring production and market risks. The insured farmers were ensured minimum guaranteed income (that is, average yield multiplied by the minimum support price). If the actual income was less than the guaranteed income, the insured would be compensated to the extent of the shortfall by the Agriculture Insurance Company of India. Initially, the scheme would cover only wheat and rice and would be compulsory for farmers availing crop loans. NAIS (explained in the section below) would be withdrawn for the crops covered under FIIS, but would continue to be applicable for other crops

3)National Agriculture Insurance Scheme(NAIS) The Government of India experimented with a comprehensive crop insurance scheme which failed. The Government then introduced in 1999-2000, a new scheme titled "National Agricultural Insurance Scheme" (NAIS) or "Rashtriya Krishi Bima Yojana" (RKBY).[5] NAIS envisages coverage of all food crops (cereals and pulses), oilseeds, horticultural and commercial crops. It covers all farmers, both loanees and non-loanees, under the scheme. The premium rates vary from 1.5 percent to 3.5 percent of sum assured for food crops. In the case of horticultural and commercial crops, actuarial rates are charged. Small and marginal farmers are entitled to a subsidy of 50 percent of the premium charged- the subsidy is shared equally between the Government of India and the States. The subsidy is to be phased out over a period of 5 years.

NAIS operates on the basis of

1. Area approach- defined areas for each notified crop for widespread calamities.
2. On individual basis- for localized calamities such as hailstorms, landslides, cyclones and floods.

Under the scheme, each state is required to reach the level Gram Panchayat as the unit of insurance in a maximum period of 3 years. Agriculture Insurance Corporation of India is implementing the scheme.

Literature Review

In this section, various articles in relation to crop insurance in India have been reviewed.

In India, ICICI Lombard pioneered this insurance as a weather risk mitigation tool. In support of this suggestion, Ifft (2001) recommended use of indexed based contracts such as rain fall contracts where in farmers would be compensated if the rainfall in an area would go below a set level, with varying levels of payment depending upon the level of rainfall. Pal and Mondal (2010) studied the approaches and challenges for agriculture insurance in India. They advocated peril-indexed insurance and options as a risk management technique aimed at stabilizing the revenue of farmers, which is highly dependent on Indian weather conditions. Like Pal and Modal (2010), Venkatesh (2008) also advocated the use of weather insurance as a panacea to ills of crop insurance. Mahajan and Bobade (2012) made an attempt to study the growth and development of NAIS and to examine the important features and performance of NAIS. As per the findings, even after the 10 rears of launching the program, there is lack of awareness of farmers about scheme. Thus, the review of literature in relation to agriculture insurance in general and crop insurance in particular reflected that majority of the Indian studies were taken up at macro level. They were conceptual in nature and their main emphasis was to highlight the evolution and growth of crop insurance with various government schemes.

Research Objectives

Objectives of the study may be described below:

1. To understand the prevailing scenario of crop insurance in India
2. To study the coverage of crop insurance in Kashmir valley

3. To analyze the importance of various risk factors and the risk mitigating strategies used by the farmers.

4: scope of improvement for crop insurance in India

Research Methodology

The data has been collected from various secondary sources like books, magazines, periodicals, journals, research papers and articles**.**

Scenario of crop insurance in India

A crop insurance scheme linking institutional credit (crop loan based on area approach) was suggested by Prof.Dandekar in 1976 & this scheme called as CCIS1 was implemented from kharif 1985 on all-India level. The objectives of the scheme were financial support to farmers in the event of crop failure as a result of drought, floods. Credit eligibility of farmers after a crop failure for the next crop season. All natural risks were covered excluding nuclear and war risks. Premiums as well as the indemnity rate for notified crop were uniform for all insured farmers irrespective of their actual yield. Indemnities were paid to all insured farmers when average output of a given area fell below the normal output. The CCIS was in operation until Rabi 1999.

Effectiveness of the schemes: Agricultural output is greatly influenced by vagaries of nature. Some of the current responses to adverse weather conditions include changes in cropping patterns (shift to less remunerative more sturdy crops) and reduced input usage and low technology adoption. Government subsidies on fertilizers, power and interest on debt is available to farmers. Multi peril crop insurance has been tried out in various forms, but the effectiveness of these measures has been, regrettably, low. This insurance can only be provided by government agencies due to unpredictable weather risk and co-variate risk of crop damage / failure over a large area. Crop insurance is cumbersome to administer and prone to losses. Claims ratio has been around 500 per cent. Insurance companies may feel that crop insurance is a liability – there is a feeling that it is not a profitable proposition at all. Estimating crop loss due to an unexpected weather event is difficult so also estimation of potential yield and actual yield. This is why weather insurance is needed.

Coverage of crop insurance Kashmir

SLCCCI held on 15th of March 2017 has conveyed approval for notification in favour of three insurance Companies viz. Reliance General, ICICI-Lombard and Oriental Insurance as the service providers for Crop Insurance for the notified crops in notified Districts of Jammu Division (Cluster of Blocks) in Jammu Division of J&K State and the Scheme shall be operative in the Jammu Division covering 10 Districts/148 blocks and Four crops in the Districts with area to be covered shown against each Service Provider (L1)

S. No	Name of the Insurance Company	District	Area to be covered (Ha)	Crops to be covered
01	ICICI-Lombard	Poonch	912	Paddy
		Reasi	364	
		Ramban	194	
		Doda	468	
		Poonch	4053	Wheat
		Reasi	3501	
		Ramban	620	
		Doda	935	
		Poonch	5974	Maize
		Reasi	4831	
		Ramban	3641	
		Doda	6558	
02	O ie nl al Ir st	Samba	7476	Wheat

All farmers including sharecroppers and tenant farmers growing the above notified crops in the above notified areas are eligible for coverage. However, farmers should have insurable interests for the notified/insured crops. A non-loanee farmer is required to submit necessary documentary evidence of land records prevailing in the State (Records of Right), Land Possession certificate (LPC) or girdawari extract etc. and/or applicable contract/agreement details/other documents notified/permitted by the State of Jammu and Kashmir. Comprehensive risk insurance is provided to cover yield losses due to non-preventable risks viz. drought, dry-spells, flood, inundation, incidence of pests and diseases, landslides, natural fire and lightening, storm, hailstorm, cyclone, typhoon, tempest, hurricane and tornado Losses arising out of war and nuclear risks, malicious damage and other preventable risks are not covered.

Various risk factors and the risk mitigating strategies used by the farmers

The risks faced by agriculture have often been classified into such categories as production, marketing, financial, legal and human risks. This taxonomy follows to a large extent directly from the sources of uncertainty. An alternative and possibly more useful taxonomy is to categorize risk as either operational risk or strategic risk. As agriculture becomes more industrialized, strategic risks are likely to become increasingly important, and, as we will contend, are typically more difficult to manage.

Operational Risks: The traditional risks associated with operating farm and agribusiness firms can be categorized as business risk and financial risk. Business risk is commonly defined as the inherent uncertainty in the financial performance of a firm independent of the way it is financed. Thus, business risk includes those sources that would be present with 100 percent equity financing. The major sources in any production period are price, cost, and production uncertainty; a number of factors may affect price, cost, and production variability over time. **Financial risk** is defined as the added variability of net returns that results from the financial obligation associated with debt financing. This risk results primarily from the use of debt as reflected by leverage. Leverage multiplies the potential financial return or loss that will be generated with different levels of operating performance. Furthermore, there are other risks inherent in using debt. Uncertainty associated with the cost and availability of debt is reflected partly in interest rate fluctuations for loans and partly through non-price sources. Non-price sources, a type of institutional uncertainty, include differing loan limits, security requirements, and maturities, depending on the availability of loan funds over time. Thus, financial risk also includes uncertain interest rates and uncertain loan availability.

Strategic Risks Most of the risk analysis in the agricultural sector has focused on the operational risks that are associated with production, costs, or debt use. Recently, however, strategic risk is receiving more emphasis. The focus of strategic risk is the sensitivity of the strategic direction and the ultimate value of a company to uncertainties in the business climate. These uncertainties include: political, government policy, macro-economic, social and natural contingencies, and 2) industry dynamics involving input markets, product markets, and competitive and technological uncertainties. Several examples of strategic risks are summarized.

Economic theory suggests a tradeoff between risk and returns, i.e. people who accept higher risk should expect higher returns assuming there are no other alternatives with equal returns less risky. Selecting the appropriate risk-return tradeoff is a critical management decision. Those who are particularly adverse to risk will desire alternatives where little risk is incurred and/or the reward (return) is very high relative to the amount of risk taken. Those who are less risk adverse will be willing to accept risk without expecting as big a payoff in return and will likely consider alternatives that more risk adverse managers may consider totally unacceptable from the perspective of risk-reward tradeoff. Managers have a variety of mechanisms for managing risk. The best method(s) of managing risk depends upon the nature of the risk involved.

Four general procedures for managing risk are: (1) avoidance, (2) reduction, (3) assumption/retention, and (4) transfer. A discussion of each follows

Avoidance Avoidance is the process of structuring the business so that certain types of risk are nonexistent. For example in swine production, there are considerable risks associated with farrowing operations including disease, low conception rates, death loss of newborn pigs, and others. The farrow-to-finish hog producer can not avoid these risks, although producers buying feeder pigs and finishing them out could avoid such risks. The problem for the producer buying feeder pigs in the past was that it introduced the risks associated with buying feeder pigs from various sources. The quality of the pigs was highly variable, genetics were mixed, and disease may have been a problem. Swine finish operations producing in an integrated system can largely avoid these risks, although other sources of risk may result and returns may be altered.

Reduction: Reduction is the process of lowering the risks associated with the business venture. Consider the following example from the crop production side. A grain producer can hire crop scouts to spot disease, nutritional imbalances, and pest control problems. This helps reduce the risk of poor yields, but the risk is not eliminated completely. In an industrialized form of agriculture, there are often good opportunities for producers to reduce these risks. Contractors for grain and livestock production may, for example, supply experts who help the producer reduce production risks through timely advice. Again, this reduction of risk may result in implicit or explicit reductions in net returns. Another common way for producers to reduce risk is to diversify across different enterprises. For example, traditional independent swine producers are often diversified across crop and livestock enterprises. For industrialized agriculture, risk reduction through enterprise diversification is seldom a driving force. Rather, industrialized agriculture often involves specialized production as a means of achieving economies of size in one particular enterprise.

Assumption/Retention:Assumption/retention is the process of retaining or accepting risks with the objective that assuming this increased risk is to maintain control and/or enhance overall profitability. Assumption may occur simply because we cannot transfer it, rather than accepting in willingly. However, by accepting/retaining it we do assess and catalogue it. Integrators in both crop and livestock production may retain ownership of products being produced under contract. Consider for example, an integrator who contracts with growers to finish hogs. The grower is often responsible for providing the grow-out facilities, for a fixed or minimum guaranteed fee, while the contractor retains ownership of the market hogs. Since the grow-out facilities are not recorded on the balance sheet of the contractor, traditional measures of financial leverage (such as the debt/asset ratio) may not reveal the risks associated with this arrangement. Because the contractor retains ownership of the animals and has a signed contract with the grower, one can think of this arrangement as a pseudo guarantee by the contractor for the loan taken out by the grower. The integrator is retaining more risk with the expectation of enhanced profits.

Transfer: Transfers of risk occur when one party lowers their risk by shifting that risk to someone else, often for fee. There are numerous methods in agricultural production to shift risks in this 9 manner. Common examples include futures and options contracts, crop insurance, and fire and hail insurance. These transfers

are accomplished with a known cost, i.e. the cost of insurance, options contracts or the like. Risk transfer can also occur in situations in which the "cost" of the transfer is more disguised or vague. For example, grain farmers can transfer price risk through forward contracts. Likewise, a contract producer of vegetables may be able to transfer price risk to the contractor. The monetary and non-monetary costs of such risk transfer are often in the form of lost opportunities (the unexpected price rise) and are less clear.

Scope of improvement for crop insurance in India

Globally, crop insurance schemes have not succeeded as they have failed to address moral hazard and adverse selection risks. Currently in India, we have two main crop insurance schemes namely the Pradhan Mantri Fasal Bhim Yojana (PMFBY) and the Revised Weather-Based Insurance Coverage Scheme (RWBICS).PMFBY is yield-based insurance that uses crop-cutting experiments (CCEs) to determine the yield lost by farmers due to natural catastrophes and adverse weather conditions. The yield obtained through the CCE's determine the payout made by the insurance firm to the farmer. The new scheme looks to improve on the existing schemes by removing caps on the premiums and making use of modern technology. However, there are several problems that exist with the PMFBY such as the delay in crop cutting experiments and its associated high costs, delayed/non-payment of insurance claims to farmers and lack of transparency. As a result, farmers lose interest in the crop insurance schemes. Another problem that faces crop insurance schemes in India is coverage. The new scheme reveals that overall area insured has decreased over the last 2 years (from 53.7 million hectare in 2015-16 and 57.2 million hectare in 2016-17 to 47.5 million hectare in 2017-18). This is less than 24% of the gross cropped area (against a target of 40%) as compared to 89% in the US and 69% in China.

A promising insurance product that mitigates the risks associated with yield based crop insurance is weather-indexed insurance. It is a financial instrument consisting of contingent claims contracts held by farmers. The payouts are determined by a combination of objective weather parameters (rainfall, temperature etc.) that are highly correlated to crop yields and are automatically triggered once the weather parameters reach a pre-specified level. This results in timely payouts farmers and low administrative costs as there is no need for field-level damage assessment. As the weather index is publicly available & transparent, it allows the insurance companies to transfer a part of their risk to international markets.

However, for weather-indexed insurance to be viable, it is necessary to mitigate basis risk. Basis risk is the possibility that the insurance may not pay out even though the customer has experienced a loss or the insurance pays out even though no loss occurs. In order to address basis risk, it is pertinent to increase the density of automatic weather stations (AWS) and rainfall data loggers in India

Conclusion

Weather conditions are beyond the control of farmers and as such crop insurance is a catalytic tool to manage the production risk of crop. . Apart from less awareness, the other reasons as surfaced for not availing crop insurance were: this insurance being non institutional source of loan, lack of co-operation from banks and fear on their part to undertake the procedure involved. . For this product to be successful, farmers should be convinced that taking this insurance is in their own interest. The actual penetration of crop insurance would depend on how and to what extent the farmers perceive it as beneficial to them. Farmers should believe that the terms of the insurance are reasonable, and have the confidence that there would be timely settlement of claims. Communication with farmers may be undertaken through kisan sabha, mass media, education programs and group interactions as reflected in data analysis. A linkage and close working relationship with banking sector is significant for better penetration of crop insurance. Marketing of this insurance would be

facilitated if it is linked to credit. Further, the administrative work can be integrated with the lending operation of banks which would help in keeping the expenses low. The banks can play a crucial role here by convincing the loanee farmers to avail insurance while taking loans for their crop. It is in the interest of the banks as they would be direct beneficiaries of crop insurance. This is because in case of claim, payment would be directly credited to farmer's loan account or bank account. Other than banks institutes with agriculture linkages such as suppliers of fertilizer, pesticide, seeds and farm equipment; trade associations, processors of the produce, marketing organizations, various government departments, agricultural universities and research institutions; can also be involved in marketing crop insurance scheme. There is a need for continuous interaction between all the stake holders involved in implementation of NAIS to make it more successful i.e. banks, farmers and government agency.

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