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Crop insurance in India: Policies, challenges and way forward

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Abstract
Crop insurance is a tool which can protect farmers and spread their risks among themselves so that individual pressures would reduce. According to the Indian council of food and agriculture, crop insurance schemes have not been very successful all over the world and in India too it has not shown impressive results. In this paper we will discuss the need for crop insurance in India, status of crop insurance in India, the private participation in crop insurance, issues faced in crop insurance schemes, adverse selection and moral hazard problem in crop insurance, challenges to crop insurance in India, recommendations and way forward for crop insurance in India. Along with small landholdings, the farmers are unaware of the schemes too which deters them to avail crop insurance. Awareness on the specific schemes is crucial. An insurance scheme should be designed which has greater coverage with respect to area, crops and farmers too. A database can be created which stores all the information regarding the land, crop-yield, weather conditions of all areas, which could be accessed by all the stakeholders of crop insurance schemes.

Keywords: crop insurance, challenges, private participation

Introduction

Indian agricultural sector is facing several problems like crop failures, non-remunerative prices for crops, poor returns on yields etc and is referred to be facing a “farmer crisis” (Rai, 2019) [8]. With 10,349 farmer suicides in 2018 in India, the country may become the farmer suicide capital of the world (Joy, 2019) [3]. Al these concerns call for protection of farmers and assuring their well being through a proper well structured channel. The market price risk and yield risk are a major concern in India which cannot be left to the market forces to correct themselves and need attention from the government. Among various policy instruments crop insurance is a tool which can protect farmers and spread their risks among themselves so that individual pressures would reduce.

Historically, crop Insurance was first introduced in Germany by the Hail damage Society of Braunschweig in 1791. Other such insurance was given in Europe in the course of time with regards to specific risks. Realty Guaranty Company started to offer all risk crop insurance in 1899 under the Optional sale contract in USA. Attempts of all-risk insurance schemes were made in 1917 again in Montana and Pennsylvania (Yoga *et al.*, 2012) [12]. Since then various crop insurance schemes have been initiated in countries across the world with continuous improvements. Generally speaking crop insurance schemes have not been very successful all over the world (Indian council of food and agriculture) and in India too it has not shown impressive results which we will discuss in detail later. Although the production of food grains has increased in India over the years, the yields face constant threat from unstable climatic conditions.

In the following chapters we will discuss the need for crop insurance in India, status of crop insurance in India, the private participation in crop insurance, issues faced in crop insurance schemes, adverse selection and moral hazard problem in crop insurance, challenges to crop insurance in India, recommendations and way forward for crop insurance in India.

Why crop Insurance?

Before diving into the evolution of crop insurance the need for it and the rationale behind it needs to be studied. In spite of the fact that agriculture is one of the world’s oldest activities, it still depends heavily on rainfall in our country. A major part of agriculture in India is rainfed which clearly depicts the vulnerability of Indian agriculture. The crops face the threat of being completely ruined because of lower levels of rainfall. Not just shortage of rainfall, but excessive rainfalls too are a threat in the country. In order to provide the farmers protection from this crop insurance schemes become necessary. If a scheme is specifically targeted to this cause, it is easier to keep track of the crop failures and the whole process may be more efficiency ruling out moral hazard problem to a great extent.

Another reason for crop insurance is increasing indebtedness in India. As the agricultural sector is moving towards more and more commercialization, farmers require more credit. With majority of the farmers being small and marginal farmers in the country it becomes difficult to avail credit from formal institutions. Turning to non-institutional money lenders is the only option left for farmers in this case because of which they get exploited with soaring and unfair interest rates, leaving them indebted for a long time and sometimes even for generations. Indebtedness in India is a huge issue.

Apart from weather shocks and indebtedness, size of landholding in India is also a crucial factor which makes crop insurance important. Small and marginal farmers are more prone to crop failure and lack the resources to handle it. Farmers with less than two hectares of land make for a large proportion of farmers in India. Although there are examples of nations where productivity has not suffered because of small land holding like China but India has not been able to make the most the technological advancements to achieve the same.

One may argue that in the case of crop failure, relief packages and other such measure can take care of the farmers and thus crop insurance is not very important but studies have shown that such programs have limitations and are not able to efficiently deal with crop failures. This makes crop insurance schemes important.

Crop Insurance allows the farmers to adopt new technologies more freely as they have the protection of insurance. Taking risks is a lot more convenient with crop insurance. The compensations through crop insurance can help in the repayment of debt taken from instutions. Thus crop insurance maintains stability in the income of farmers and encourages taking risks which encourages consumers too as risks may result in better outcomes like increased productivity or increased usage of environment friendly inputs.

Evolution of Crop Insurance in India

(Mansingh P, 2020)- Evolution of crop insurance in India dates back to the Mughal empire with the introduction of Dashuri tax by Mughal emperor Akbar and to the times when in the case of crop failure, land revenue was either suspended or cancelled. If we talk about more recent time, India witnessed the first crop insurance scheme when a rain insurance scheme was drafted in 1920 by J.S. Chakravarti. Mr. Chakravarti wrote a book- “Agricultural Insurance: A practical scheme suited it Indian conditions” which marked the beginning of crop Insurance in India in the pre-independence era. Mr. Chakravarti drafted a rain insurance scheme in Mysore to protect the farmers from the crop failures due to monsoon. This particular scheme was in lines with the scheme suggested by World Bank (2019) and focused on specific date, particular degree of rainfall deficiency and amount of compensation prescribed for the loss due to crop failure. This scheme was area based, rain gauge and station specific.

1. First Individual Approach Scheme (1972-79)

The general insurance department of LIC introduced a crop insurance scheme on experimental basis in 1972. This scheme was executed by General Insurance Corporation of India (Raju, S., 2008) [6] and was based on individual approach. The scheme provided cover for wheat, potato, gram crops and groundnut in Maharashtra, Andhra Pradesh, Gujarat, Karnataka, West Bengal and Tamil Nadu. It discontinued after 1978-79 due to its non-viability. The total premium collection from the scheme was Rs. 4.54 lakhs and the claims amounted to Rs. 37.88 lakhs. Even with the huge amount of claims, the total number of farmers covered in the scheme was only 3110 (Singh, 2010) [9].

In 1978-79, another insurance scheme was introduced on experimental basis by the Rashtriya Chemicals and Fertilisers Company for cotton. In Madhya Pradesh, Maharashtra and Gujarat covering 909 farmers.

2. Pilot Crop Insurance Scheme (1979-84)

After adopting individual approach earlier General Insurance Corporation adopted area approach in the Pilot crop insurance scheme as per the suggestions of Prof. Dandekar. It was introduced in three states as a pilot scheme in 1979 and expanded to 12 states in 1984. The premium rate was 5-10 percent and the scheme was optional and catered to only loanee farmers. Subsidy was also given to the small and marginal farmers of 50 percent on the premium amount which was shared by the state and central government equally. Cereals, grams, cotton, potato, oilseeds and millets were covered in the scheme. The risk sharing was 2:1 between General Insurance Corporation of India and the state governments. It went on till 1984 covering 6.27 lakh farmers. Total premium covered by it was Rs. 196.95 lakh and compensation of Rs. 157.05 was paid. As this scheme was available to only those farmers who had taken loan from institutional sources, it was not available to small and marginal farmers as they could not get credit from institutions. There was very little awareness about the scheme and major cash crops were not covered in the scheme. All this caused the failure of the scheme.

3. Comprehensive Crop Insurance Scheme (1985-1999)

After implementing the crop insurance schemes at pilot level or on experimental basis. This scheme was compulsory for the farmers who took institutional credit. The premium for the sheme was low (Mishra, 1996) [4], (Tripathi, S.L., 1987) [10] at 2% for cereal and 1% for oilseeds and pulses. Wheat, pulses, millets, oilseeds and rice were covered under it and it operated onn homogenous area basis. The ceiling for crop insurance was Rs. 10,00 for farmers and small and marginal farmers were given subsidy of 50% which was shared by the state and central governments (Tripathi, S.L., 1987) [10]. The scheme was deemed non-viable and various reasons have been given to end it like covering very few crops, having an area based approach, non- payment or delayed payment of claims, fixed premium rates at all places etc. A lot of losses were also reported in the scheme. The scheme reported losses in 27 seasons out of the 29 seasons it was executed and thus was found non-viable. The ceiling of Rs. 10,000 for all sizes of the farms was also one of the criticisms of the scheme (MoA, 2014) [5].

4. Experimental Crop Insurance Scheme (1997-1998)

The earlier scheme was compulsory for the farmers who had taken loan but this scheme included the non-loanee farmers too. Five states and 14 districts in these states were covered under this scheme and a 100% subsidy was provided on the premium which was shared in a ratio of 4:1 between the central and state governments. Covering the small and marginal farmers this scheme paid Rs. 37.80 crores as claims and the premiums received were Rs. 2.84 crores. The total number of farmers enrolled were four lakh, fifty four thousand,five hundered and fifty five and the sum insured was Rs. 168.11 crores (Singh, 2010). Administrative and financial issuess were the reason for withdrawing this scheme just after one season.

5. Pilot Scheme on Seed Crop Insurance (2000)

This scheme was aimed at encouraging seed production by institutions, organizations, seed growers and all other seed-producing organizations. by covering the risks in seed production, compensating the loss in seed yield and post-harvest losses. This scheme started in the Kharif season of 2000. The seed yield of the past 3 or 5 years was consideredas base to calculate the insured sum. It worked in 11 states. It attempted to provide stability to the infrastructure of the state owned seed corporations and state farms. All the farmers who were involved in the production of foundation and certified seed crops in the identified states and had offered the seed crop for certification and got registered with the concerned certification agency were eligible for coverage under this scheme.

6. National Agricultural Insurance Scheme

The National Agricultural Insurance Scheme was introduced in the Rabi season of 1999-2000 and used the area approach to assess calamities which are widespread and used the individual approach for local calamities. Initially it was implemented by LIC and later was taken over by Agricultural Insurance Company of India Limited from 2003 (Raju, S., 2008) [6]. The farmers who had taken a loan had to compulsorily enroll for crop insurance too and for others it was optional. Subsidy of 50% was also provided to small and marginal farmers which was shared equally by the state and central governments. This subsidy was decreased to 10 % in 2007. There were some issues in this scheme. The coverage of the scheme was not much and it was financially non-viable. There was no mechanism which could help in reducing adverse selection problem and that it was compulsory for loanees was also seen as a shortcoming.

7. Weather Based Crop Insurance

As monsoon is one of the major causes of crop failure in India which makes it important to cover the risk posed by rainfall issues. To address this issue weather index based crop insurance was introduced in 2007. Area approach was adopted to estimate and compensate the losses in agriculture. ICICI Lombard General Insurance Company introduced a crop insurancce scheme which was based on a composite rainfall index and covered castor and groundnut crops underr it. This scheme was initiated in 2003-04 in Andhra Pradesh. Agricultural Insurance Corporation also interoduced a “Varsha Bima” in 2004 which was another rainfall based crop insurance scheme. Compensation under this scheme was paid when actual rainfall in a field would go below the expected normal levels of the area it falls in.

8. Modified National Agricultural Insurance Scheme (2010-11)

This scheme was introduced in 50 districts on a pilot basis in 2010-11. Similar to other schemes, this was also compulsory for loanee farmers and optional for other farmers (Yasmin, S. and Hazarika, C., 2017) [11]. 75 percent subsidy on premium was provided to all the farmers which was shared between state and central governments and the premium rates were charged on actuarial rate. The private sector was also allowed in the scheme thus making it competitive in nature. The crop cutting experiments were made available in video recordings and its details with GPS- tagged footage were sent through SMS to the farmers.

The premium rates were very high, which was the main cause for low number of enrollment in the scheme. The farmers and the government paid these costs to the insurance company in the beginning of the crop season.

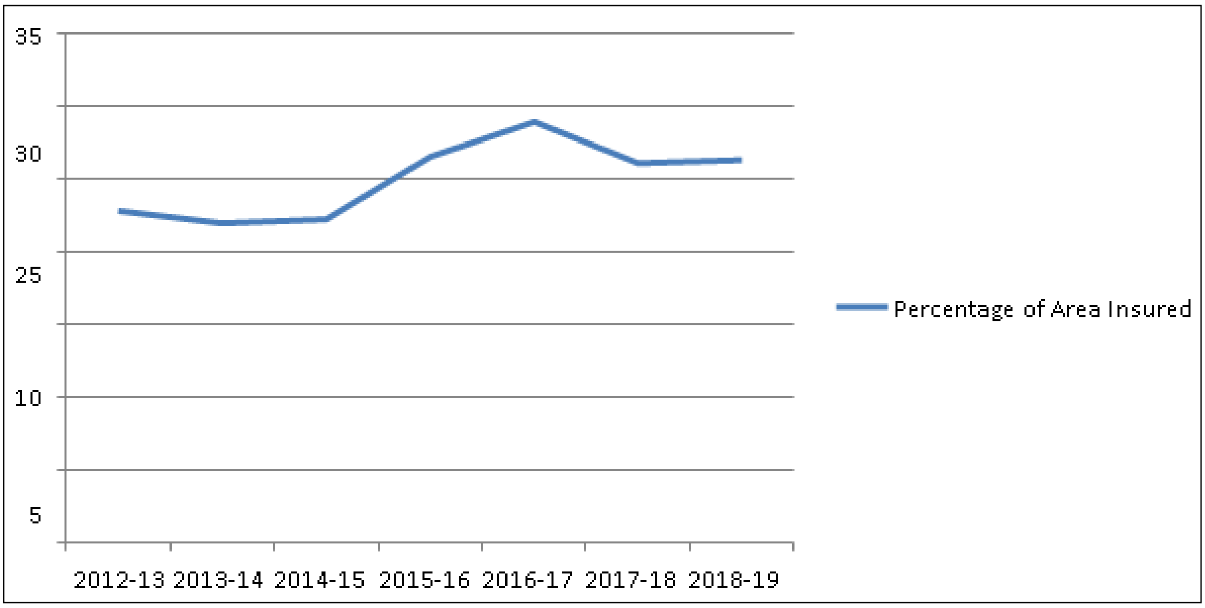
9. Pradhan Mantri Fasal Bima Yojna (2016)

Introduced in 2016 Kharif season, Pradhan Mantri Fasal Bima Yojna offers crop insurance in the whole country. This scheme follows area approach and is compulsory for the farmers who avail a loan and is optional for others. This scheme aims to cover the crop losses due to non-avoidable risks, post-harvest losses, local calamities and prevented sowing. Private companies are also allowed to enter in this scheme to offer insurance under it. Some improvements were made in this scheme such as reduced share of the premiums to be paid by the farmers, claims for mid- season losses etc. More number of crops and hazards responsible for crop failure were included in this scheme (Rajeev, M. and Nagendran, P., 2019) [7]. 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 (Gulati, 2018) [2]. The premium for food crops and oil seedin the Kharif season is 2 percent of the insured amount and 1.5 percent in the Rabi season. In case of crash crops the premium is 5%. The subsidy provided under the scheme is shared between the state and central governments in an equal ratio. Under this scheme there is no upper limit on government subsidy.

It has been observed that the mechanism used for assessing the damage is not farmer friendly and the requirements of the documents affected the adoption of the insurance scheme (Rajeev, M. and Nagendran, P., 2019) [7]. The process of registration is also complex for non-loanee farmers which may be one of the reasons of low enrollment of farmers who do not avail credit from institutional sources. Some of the farmers who were insured were not satisfied because if losses are even 74% in the case of prevented sowing (approved 75%) or 49% (approved 50%) then claims were not at all paid (Rajeev, M. and Nagendran, P., 2019) [7]. Such issues lead to reduced trust in the scheme thereby reducing further enrolment in the scheme. Another problem with is crop insurance is that if the farmer suffers a loss due to a damage that is not common to the area it falls in, he/she is not covered for the losses. The enrolment of farmers is low in the scheme as the number of farmers who have taken loan makes up for a small proportion of the total number of farmers and the voluntary enrolment is extremely low (EPW engage, 2020). The computation method id also not known to many farmers which can make them feel mislead.

Status of crop insurance in India

Although a lot of different crop Insurance have been introduced in India percentage of area insured has not seen a considerable high in the country.



Source: Ministry of Agriculture and Farmers Welfare, Department of Agriculture, Cooperation & Farrmers Welfare; Directorate of Economics and Statistics.

Fig 1: Percentage of Area Insured

Private participation in crop insurance

A lot of countries allow private companies to provide crop insurance and in India too IIFT has recommend that private companies should be included in the crop insurance market. The problem of crop failure in India is very acute because of which government schemes also run losses frequently but private companies cannot afford to incur such losses and thus, it is very difficult for them to stay in the crop insurance market.

Some of the insurance companies in India are Reliance general Insurance Co. Ltd., HDFC ERGO General Insurance, Bajaj Allianz General Insurance Co.Ltd. ICICI Lombard General Insurance Co. Ltd., Cholamandalam MS General Insurance Co. Ltd., Future General India Insurance Company Limited. etc.

Challenges to crop Insurance in India

As pointed out in a lot of researches and studies the crop insurance schemes in India have not been very successful in covering the land and farmers efficiently and haveran losses too. There are a lot of issues when it comes to formulating and implementing crop insurance scheme. Here we will discuss the challenges to crop insurance in India.

The number of small and marginal farmers in India is huge. This makes it very difficult to target the farmers on the basis of Individual approach. Along with small landholdings, the farmers are unaware of the schemes too which deters them to avail the benesfts of getting a cover for their crops. The hugely varied climatic conditions across regions is also a factor which makes it difficult to target at areas where there is possibility of crop failure. Inadequacy of baseline data on the crops cultivated, land cover, climatic conditions, crop failure records etc makes it difficult to register the farmers for the scheme. The farmers who have not taken a loan face problems with the payment of the premium amount too. It has also been found that the farmers often are dissatisfied with the terms and conditions of the crop insurance schemes because of which there is hesitation in enrolling for crop insurance. The challenges in crop insurance can be discussed under the following broad heads:

The "bad risks"

As is common in many other insurance scheme, there is always the challenge of avoiding the beneficiaries who are undercharged and taking advantage of the insurance. Adverse selection is a common problem in any insurance system. It occurs due to asymmetric information. As the insurance agency might not know about the risks to which the farmer is prone. Farmers who cultivate on agricultural land which is not properly irrigated or falls in the region which suffers with non-favourable climatic conditions making crop failure a frequent occurrence or in a drought prone area can lead to exploit the insurance scheme and be responsible for losses to the insurance agencies. The pressure of this will ultimately fall on the government.

Poor execution

The crop Insurances schemes in India have been poorly executed in the past and implementing in the future has it challenges with the small farm sizes, poor reach, lack of awareness and poor administration. Due to lack of accountability it is tough to imagine that such schemes will be executed properly. Even though loan schemes are mandatory for the farmers who have taken institutional credit, many of the farmers are not insured even though they are loanees.

Recommendations and way forward

In most of the cases the farmers are not well aware of the crop insurance schemes. In many instances it has been seen that there is no information of the schemes whatsoever and in other if it is known that they can cover their crops, the terms and conditions of the schemes, information of the premium rates, the procedure of claiming, kinds of risks dealt with are not known to the farmers. Sometimes there is misinformation too regarding the nature of the scheme and is believed to be a kind of investment techniques.

This calls for spreading awareness on a larger scale which covers all the necessary information regarding the benefits of the scheme as well as the procedures of availing it, premiums, terms and conditions etc. Awareness on the specific schemes and details related to those particular schemes is also crucial. The district administration, insurance companies and state governments can collaborate to increase awareness through training programs and other innovative measures. Information about the benefits and procures of the schemes can be communicated through ads, posters, TVs, radios etc. A proper marketing plan should be formulated to spread awareness.

According to (Jeyabal singh, 2020) an insurance scheme should be designed which has greater coverage with respect to area, crops and farmers too. Schemes like the Pradhan Mantri Fasal Bima Yojna and WBCIS are not considered to be enough to cover the risks of crop failures in the country. Apart from formulating large scale schemes, maintaining the records is also important for smooth execution. In order to check the private companies from misusing the information on farmers and agricultural land to enjoy profits, remote sensing, satellite imagery can be used which can precisely estimate the crop area, crop health, crop damages etc. This will maintain transparency and can avoid manipulation by the agencies. This will improve the accuracy too. Transparency in the processing of the claims in the scheme should also be maintained to avoid any kind of exploitation of the farmers.

Studies which reviewed Pradhan Mantri Fasal Bima Yojna found that there was a lag in settling claims which has been an issue with the previous schemes too. This shows that there needs to be changes in the execution of the schemes and some form of accountability would really help in increasing efficiency. Problems like delay in transmitting the yield data, delay in the transfer of premium subsidy by the state governments, missing bank account details etc are all issues in the workings which need to be tackled.

A database can be created which stores all the information regarding the land, crop-yield, weather conditions of all areas, which could be accessed by all the stakeholders of crop insurance schemes. This will induce accountability as well as make the whole process a lot more transparent. The farmers who adopt agricultural practices, keeping in mind the climatic conditions should be given incentives by offering them insurance at more affordable prices. Digitization of land documents is also done in a lot of states but many states are still behind. The Digital India Land Record Modernization Programme has been started to keep record of land etc. but constant monitoring is important to ensure that all the details are updated regularly.

According to (Mishra, 2018) one of the issues faced with the implementation of crop insurance schemes that there is very less time for coverage of farmers. He suggested that the notification for the scheme should be made at least 3 months before so that the district administration and insurance companies involved may have enough time to cover more farmers.

An important step in making the whole experience of availing crop insurance comfortable for the farmer is creating a platform to address the grievances of the farmers. This will help in case of delayed claim settlement, addressing doubts regarding premium payment and other issues.

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