

Agriculture Insurance in India; Now & Then

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Abstract

Agriculture is dependent on various factors that bring risk to expected output and the revenue from the business. Agriculture is one of the largest sector that contributes to the Indian GDP and economic growth is also largely dependent on agriculture as around more than half of the population is dependent on agriculture for their living hood, certain industries also depends on agriculture for its raw material. Hence to minimize the risk and maximize the revenue generated from the sector government launched various risk management schemes. One of them is insurance. Discussion on launching such schemes have been started right after the independence and government launched the first bill as early as 1965 which was not supported by state governments, hence couldn't be implemented, then after government launched schemes one after the other since 1972. None of them were perfectly successful as major risk is from weather which cannot be predicted certainly hence cannot be mitigate completely; the schemes are launched to reform the last one.

This study aims at reviewing the efforts taken from government, evaluation of schemes launched till now in India and their performance with their features are discussed in details, their lacunas are also discussed and recommendations for future schemes are made on the basis of the discussion.

Key Words: Agriculture Insurance, NAIS, WBCIS, MNAIS

Introduction
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Agriculture Insurance:

According to Agriculture Insurance Company India, "Agriculture insurance is a means of protecting the agriculturist against financial losses due to uncertainties that may arise from crop failures/losses arising from named or all unforeseen perils beyond their control".

Agriculture production is effected by different risk related to adverse weather conditions, except these fire, sale of spurious seeds, pesticides and fertilizers, market failure, price crashes etc. risk other than adverse weather conditions, can be managed by various means like changing the crop pattern, planting the crops in favorable conditions only, by development of good infrastructure facilities like irrigation and water supply etc. or they can spread or transfer the risk to third party by way of insurance. Insurance is a risk management tool used to minimize the contingent loss Agriculture by sharing the risk among so many.

Significance of insurance in agriculture

Agriculture is a crucial sector for development of Indian economy. It is one of the major contributors to Indian GDP. The sector provides employment to more than 50% of the whole population of the country. Agriculture production is inevitably affected by weather conditions. Effect of adverse weather conditions can harm around 50% of agriculture production in India. Farmers and people associated with Agribusiness, face many risks from the uncertainties pertaining to weather such as drought, flood, cyclone, pest and diseases etc. to manage such risks these people takes different actions like changing crop pattern, needless to say that these measures are not enough to mitigate these risks.

As has been mentioned above that the agriculture risks are largely related to nature. It is impossible to predict these risks; hence these risks are unavoidable and unmanageable. This makes these risks to be managed efficiently, particularly in India where a vast majority of population survives on agriculture and its associated businesses. Realizing this, the government has taken different measures to manage the risks related to agriculture. Agriculture Insurance is a major action taken by government. First initiation was taken in October, 1965 when Government of India introduced 'Crop Insurance Bill'

Review of Agriculture Insurance in India:

Discussion on Crop Insurance started soon after the independence in 1947. First aspect to be discussed was whether the insurance follow the 'Individual Approach' or 'Homogeneous Area Approach'. The first approach takes the farmer's own experience of loss and yield and the other takes the homogenous area as the base for fixation of the premium.

The first step was taken by Government in 1965 and this was circulated to all the states for their views. But the reactions of the states were not favorable for the scheme because of the financial obligation involved. Initial attempts were turned out to be a failure because of the moral hazards involved in Individual Approach. To avoid such moral hazards 'Homogenous Area Approach' was chosen as the basis for the fixation of the premium. Following section reviews the agriculture insurance launched so far.

First Crop Insurance scheme (1972-1978):

GIC India launched the first ever crop insurance scheme which has coverage of H-4 cotton with which groundnuts, wheat, potato were also included later. The scheme was launched in Andhra Pradesh, Gujarat, Karnataka, Maharashtra, Tamil Nadu and West Bengal. 3110 farmers were covered under this scheme. But the scheme was not a successful efforts hence the other scheme launched in 1979.

Pilot Crop Insurance Scheme (1979-1985):

After the failure of first scheme, GIC India commissioned a study under Prof. Dandekar. The study suggested different reformations which were considered and PCIS was launched in 1979. This insurance scheme followed Homogenous Area Approach. PCIS was implemented in 12 states of India which covered crops like Cereal, Millets, Oil Seeds, Cotton Potato and Chickpea. This schemes covered total 6.23 lakh

farmers were covered.

Major drawbacks of the scheme:

- Lack of awareness between farmers
- Scheme was limited to the farmers who had taken loan from institutional source exclude small and marginal farmers who could not take loan

Comprehensive Crop Insurance Scheme (1985-1999):

The third attempt was CCIS which was launched by Government of India during 1985-86. The scheme was based on 'Homogenous Area Approach'. GIC administered this scheme in collaboration with respective State Government 15 states and two UTs where the scheme was implemented. CCIS also confined to the loanee farmers of financial institutions. Voluntary basis also was introduced in PCIS. The scheme was to boost production of cereals, millets, pulses and oilseeds. The sum insured was 150% of crop loan which was decreased to be the 100% of crop loan subject to maximum of Rupee 10,000 per farmer. Premium rates were 2% on cereal, millets and for pulses and oilseeds it was 1%.half of the premium was subsidized for small and marginal farmers and the burden was borne and claim shared by the Central and State Government in the ratio of 2:1.

This scheme covered 76.3 million farmers in total. The scheme majorly benefitted the groundnut farmers in Gujarat around 58% of indemnities were paid to them, remaining 42% was cumulatively distributed among the other states, from where total of 85% of premium was collected.

Shortcoming of the scheme:

- Area approach, coverage was confined to the farmers, who had borrowed loans from institutional source,
- Same premium rate for all the farmers and regions (difference of region and farmers was taken into consideration for deciding the premium rate),
- Few crop were covered
- Delay in indemnity payments

National Agriculture Insurance Scheme (1999-2008):

NAIS was succeeding scheme after CCIS in 1999 Rabi season. This scheme followed both the approaches; for widespread calamities; it followed 'area approach' and localized calamities like hailstorm, flood, cyclone, landslides etc; it followed 'individual approach'. Covered crops under the scheme were food grains, oilseeds with annual commercial and horticultural crops, crops for which past yield data are available of past 10 years.

Applicable Premium Rates:

Wheat: 1.5% Other Rabi crops: 2.0%

Bajra and Oilseeds: 3.5% Other Kharif crops: 2.5%

Annual commercial/ horticulture crops: Actuarial Rate

Government (state and UTs) subsidized 50% of premium but the subsidy was decreased later to 10% of premium for small and marginal farmers. Scheme was launched in all the States on the optional basis. Almost all the states and UTs have opted for the scheme.

Sum insured was different for loanee and non-loanee farmers, for loanee farmers it was at least equal to loan taken, but it can be extended to the value of threshold yield of the crop insured optionally, in case of non loanee farmers the coverage is available at normal premium rate up to the value of threshold yield at market price.

Table 1: NAIS - BUSINESS STATISTICS FROM RABI 1999-2000 TO Kharif 2014 i.e. FOR 30 SEASONS (AS ON 5/1/2015)

No. of Farmers Insured (000')	Area Insured (000' Ha)	No. of Farmers benefitted
229349	339674.2	59154

*AIC India, <http://www.aicofindia.com>

Drawback of NAIS:

- The scheme didn't appear to be an efficient risk management tool for farmers in many regions
- Low scheme coverage
- High actuarial rate discourage the progress of the scheme.
- Major part of the farmers covered is loanee farmers and who have taken cover because of compulsion. Less than 1/5th of the total covered farmers have taken the scheme voluntarily
- Large insurance unit as the base for calculation of losses is the major drawback of the scheme, which resulted in unjust distribution of claims.
- In some states NAIS is implemented on Individual Approach as an experiment, but past experiences proves that individual approach is not appropriate for the insurance. To avoid moral hazards area approach is suitable.

Weather Based Crop Insurance Scheme (2008 to present):

WBCIS is an insurance scheme which has unique features like it provides protection to farmers against losses due to adverse weather conditions, during Kharif season; against deficit and excess rainfall, and during Rabi season; against adverse weather like frost, heat, relative humidity etc. WBCIS was introduced in India in kharif-2003 season by ICICI Lombard in Mehboobnagar district of Andhra Pradesh. Scheme is available in various States i.e. Andhra Pradesh, Bihar, Gujarat, Karnataka, Madhya Pradesh, Rajasthan, Punjab, Haryana, Maharashtra, Uttar Pradesh etc. (Kothari A & Bhatnagar, A. 2013)

This scheme followed area approach. Reference Unit Area (RUA) is linked to a reference weather station (RWS). All the farmers in one RUA are supposedly have suffered same level adverse weather condition.

Table 2: WBCIS - BUSINESS STATISTICS FROM KHARIF 2007 TO KHARIF 2014 i.e. FOR 16 SEASONS (AS ON 1/5/2015)

No. of Farmers Insured (000')	Area Insured (000' Ha)	No. of Farmers benefitted
34136.42	45987.17	19005.57

*AIC India, <http://www.aicofindia.com>

Issues with WBCIS:

- Like NAIS area approach can be considered to be the biggest drawback of WBCIS. Weather data is recorded at Taluka level which could be at Risk Retention Group level. RRGs are available at smaller level and can be a better parameter for the calculation of actual loss as a result of adverse weather conditions.
- Lack of weather stations and insufficient weather data is one of the major drawbacks of the scheme. Availability of the accurate data on a daily basis is a necessity for implementation of the scheme besides this installation of large number of weather station will incurred a big cost.
- It is also essential to establish the correlation in between crop productivity and weather variations. Correct estimation the correlation is complex because of the complexity of the variables like temperature, relative humidity etc.
- Claim payout starts at certain level of deviation like farmers will get 50% of claim only at 80% of deviation in rainfall index. With such restriction utility of the product is less than what it needs to be.
- High premium rates are also restricting the success of the product. High premium rates levels up the claim premium ratio and farmers end up getting nothing though the loss is actually occurred.
- Low awareness of farmers contributes as a restricting factor for the scheme. Even the insured famers often don't have the knowledge of all the products available in WBCIS scheme.
- Weather Insurance can not cover all the weather risks because there are certain events related to weather which are non parametric.

Modified National Agriculture Insurance Scheme:

Government launched MNAIS as an improvement of NAIS on Pilot basis from 2010-11 Rabi season. Covered crops were Food Crops (Cereals, Millets, & Pulses) Oilseeds, Annual commercial and Horticultural crops (Crops covered are subjected to the availability of past data).

Loanee farmers were covered on compulsory basis where as non loanee farmers were covered on optional basis. Sum Insured for loanee farmers is the amount of the loan taken or the threshold yield whichever is highest and for non loanee farmers threshold limit is applicable.

Features that are improved in MNAIS are;

1. subsidy on actuarial premium at the rate of 40 percent to 75 percent depending upon the slab
2. Unit area is reduced to Village Panchayat Level, for some major crops
3. All claim liability remains with the insurer
4. Pre and post harvest losses are compensated with 25 percent in advance will be given to farmers for probable claim as immediate relief.
5. More proficient basis is used to decide threshold yield.
6. Minimum indemnity level is rose up to 70 percent from that of 60 percent.
7. Private participation (short listed companies with good infrastructure and experience) is allowed to provide the insurance.

Table 3: MNAIS - BUSINESS STATISTICS FROM RABI 2010-11 TO KHARIF 2014 i.e. FOR 8 SEASONS (AS ON 5/1/2015)

No. of Farmers Insured (000')	Area Insured (000' Ha)	No. of Farmers benefitted
9681	10836.36	1656

*AIC India, <http://www.aicofindia.com>

Table 4: Complete Snap Shot of Agriculture Insurance in India

Insurance Scheme	Period	Approach	Crop covered	Farmers covered (lakh)	Amount (in Crore)		Salient features
					Premium	Claim	
Crop Insurance Scheme	1972-78	Individual	H4 Cotton, groundnut, wheat and potato	0.03	0.05	0.38	Voluntary Implimented in 6 States
Pilot Crop Insurance Scheme	1979-84	Area	Cereals, millets, oilseeds, cotton, potato and chick pea	6.23	1.95	1.56	Confined to loanee farmers, voluntary, 50% subsidy on premium for small and marginal farmers
Comprehensive Crop Insurance Scheme	1985-99	Area	Food grains and oilseeds	763	404	2303	Compulsory for loanee farmers
National Agriculture Insurance Scheme	1999-2008	Area and Individual	Food crops, annual commercial and horticultural crops	229	10598.75	33329.38	Available to all farmers. 10% premium subsidy for small and marginal farmers.
Farm Income Insurance Scheme	2003-04	Area	Wheat and rice	2.22	15.68	1.5	Insurance against production and market risks. Compulsory for loanee farmers
Weather based Insurance Scheme	2007-Continuing	Area	Food crops, annual commercial and horticultural crops	341	5950.344	4078.835	Available to all farmers. Based on weather index
Modified National Agriculture Insurance Scheme	2010-present	Area	Food Crops, oilseeds, annual commercial & horticulture	96.81	2363.4	1719.49	Available to all farmers

*Source: Problems and Progress in Agricultural Insurance in India-S S Raju and Ramesh Chand

Other available agriculture insurance schemes

- Pradhan Mantri Fasal Bima Yojna
- Restructured WBCIS
- Unified Package insurance Scheme
- Bio-Fuel Tree/Plant Insurance
- Cardamom Plant & Yield Insurance
- Potato Crop Insurance

- PulpWood Tree Insurance Policy
- Rainfall Insurance Scheme for Coffee
- Rubber Plantation Insurance
- Varsha Bima
- Weather Insurance
- Coconut Palm Insurance Scheme

Private Participation in Agriculture insurance in India

ICICI Lombard General Insurance Company and IFFCO-Tokio General Insurance Company launched First ever rainfall insurance scheme in Kharif 2003.

In MNAIS private participation is increased by allowing some private sector companies with proper infrastructure and experience are selected out of the companies short listed by Department of Agriculture and Cooperation. Except these cholamundlum is also operating in the sector.

Complementary instead of substitutive

Since 1972 when crop insurance was launched, Indian Government has been evaluating and reviewing the schemes. Recent schemes NAIS and WBCIS are inevitably improved schemes, but have their own merits and demerits. These schemes are good but not mutually exclusive. Limitation of one insurance schemes can be compensated by the other. In this way these scheme are rather complimentary than substitutive.

Government Support

To make Crop Insurance successful in India government should take following measures:

- Provide information on weather data and crop yield data
- Research before any agriculture insurance program is launched in India
- Subsidized the premium for farmers so that schemes can be affordable for

Some Other Recommendations

- Awareness among farmers for these insurance schemes should be increased
- Transparency in the process of these scheme should be enhanced
- Even after applying area approach there should be field surveyor who can collect real loss data
- Assessing units should be decreased to Taluka level

Conclusion

Agriculture insurance is a good effort to manage the risk but it has to be launched after proper research. Till now all the schemes that were launched has not been successful. They have covered so many farmers yet they are not efficient and effective compensating the loss. Even after launching different schemes there are losses and farmers have not got the claims that they need in such situations which force farmers to leave the sector and resort to some other source or exploitation for survival. If both don't work they are left with no choice but to suicide. These schemes should be launched and managed efficiently and empathetically.

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