



ISSN NO. 2320-5407

Journal homepage: <http://www.journalijar.com>

INTERNATIONAL JOURNAL  
OF ADVANCED RESEARCH

## REVIEW ARTICLE

### Review of Agricultural Insurance In Punjab State of India

Lopamudra Mohapatra<sup>1</sup> & R K Dhaliwal<sup>2</sup>

1. Ph.D Scholar, Department of Extension Education, Punjab Agricultural University, Ludhiana, India

2. Professor & Head, Department of Extension Education, Punjab Agricultural University, Ludhiana, India

#### Manuscript Info

##### Manuscript History:

Received: 11 March 2014

Final Accepted: 25 April 2014

Published Online: May 2014

##### Key words:

Risk Mitigation, Crop Insurance, Agriculture Insurance, Livestock Insurance, Diversification, Risk

\*Corresponding Author

Lopamudra Mohapatra

#### Abstract

The present study looks into the genesis of agricultural insurance in India macroscopically and examines various agricultural schemes operating in the state of Punjab microscopically. The design for the study was descriptive research. The focus of the review was on the functional agricultural insurance schemes in Punjab state microscopically and macroscopically in the country. India has administered crop insurance scheme since 1972 of which all the variants of the scheme introduced from time to time had various flaws. Nevertheless India is not alone where public crop insurance has not been successful. In both developed and developing countries such insurance schemes have incurred losses without offering an effective product. The major role player in the public sector companies offering crop insurance is Agricultural Insurance Company (AIC). The private role players are IFFCO Tokio General Insurance Company Ltd, ICICI Lombard Insurance Company Ltd. The major insurance running in the country is NAIS but was not Punjab state since the paddy –wheat crops grown in the state are less risky crop in the wake of assured irrigation and high input agriculture. Weather based insurance products have got a good scope in the state to act as a tool of risk mitigation. The post green revolution era of Punjab State needs to address the challenge of diversification. The agriculture insurance can act as a motivation for the farmers of Punjab to go for diversification by setting themselves free from the risks involved and the loss in income which they shall face. Crop insurance needs to be strongly taken up at the policy level; with well defined risk to Punjab's agriculture, well devised products for these risks in current scenario.

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#### Introduction, Purpose & Objectives of Study:

Punjab state of Indian subcontinent is the largest surplus producer of food grain contributing 11 percent of national rice production and 20 per cent of national wheat production in 2007-08. The state is divided into three agro climatic zones; the sub mountainous region, the central region and the south western region. Currently, in Punjab rice is grown extensively in the *Kharif* season. Only in the southern western parts of the western agro-climatic zone cotton is grown during the same period. Other crops are also grown all across Punjab but in very small pockets, the diversity being more in the undulating sub mountainous agro-climatic zone of the state. In the Rabi season, the entire state grows wheat extensively. Potato is a dominant horticulture cash crop that seems to be growing in this season in the upper central region of the central plains. Other crops are also interspersed in small pockets all across the state, again with more crop diversity in the sub-mountainous undulating agro-climatic zone. In the summer season, mostly the land is kept fallow, except in the eastern part of Punjab, sugarcane is grown and in the central part vegetables are grown. (Panigrahy et al., 2009). Though area covered under fruit production in Punjab is only 1.1% of the national fruit area, it ranked 4<sup>th</sup> in terms of yield of fruits at 19.7 tons/ha in 2010-11. This is also above the average yield at India level which is 11.3 tons/ha. Kinnow, a variation of orange is the major fruit produce of the state which is now occupying about one fourth of the total area under fruit production in Punjab (SAP, 2011).

Besides, guava, mango, ber, and pear are other important fruits of Punjab. The state's agriculture has reached a plateau under the available technologies and natural resource base and has become unsustainable in terms of managing depleting water resources in the central region and poor-quality groundwater in the south-west region. Due to unregulated use and heavy subsidies on power, there has been a tendency of excess withdrawal of this precious resource.

As indicated by Sidhu & Vatta, 2012, there is absence of any risk in the production of food crops in Punjab, where as unconventional risks are rising due to climatic changes which impacts the production system. They further elaborate the unconventional risk to Punjab's agriculture; as the decline in rainfall, variability in temperature during the critical periods of wheat and increasing incidences of insect- pest attacks on the cotton crop due to rise in humidity. So, there lies a good amount of risk to the agriculture in the state which needs to be addressed by all the stakeholders. Here comes the need of insurance to agriculture, which is a highly risky economic activity, on account of its critical dependence on weather conditions. Thus agricultural insurance can be considered as not only as a hedge to protect farm economy from the adverse effect of crop failure but also as an incentive to the farmer to shoulder risk of using new technology and affecting improvement in farming (Ardhanareeswaran, 1985). Agriculture insurance may broadly be defined as an institutional response to risks faced by the farmers. The basic principle of Agricultural Insurance is that the loss incurred by the few farmers is shared by many in an area and losses incurred in bad years are compensated from resources accumulated in good years. Managing agricultural risk is an important ingredient of our development process. The idea is to encourage farmers to adopt improved farming technology and agricultural practices which, though with potential of higher return could be riskier. Thus this present study looks into the genesis of agricultural insurance in India macroscopically and examines various agricultural schemes operating in the state of Punjab microscopically.

### **Methodology:**

The design for the study was descriptive research. This study is an attempt to examine and analyse the past, present and the scope of agricultural insurance schemes in Punjab state. The existing literatures on agricultural insurance in India and Punjab state were mapped; available in different sources (papers in scientific journals, books, evaluation reports, scheme brochures, annual reports etc.). The focus of the review was on the functional agricultural insurance schemes in the state microscopically and macroscopically in the country. The various features viz. coverage of crops, farmers covered risk covered, sum insured, unit of insurance, levels of indemnity or threshold yield, claim procedure, period of insurance, implementing agencies were analysed under the scope of various operational insurance schemes in the state .

### **Discussion:**

The pioneering work on Crop Insurance in India was conceptualized by Chakrabarti, in 1920 and proposed an agricultural insurance scheme based mainly on the rainfall approach. The scheme consisted of a package that included insurance of buildings, granaries and agricultural implements; cattle insurance and insurance of crops. Two pilot schemes on crop and cattle insurance were prepared by Priolkar, an officer on special duty which was circulated to states for adoption. However none of the state agreed to implement the schemes, mainly due to paucity of funds. The interest in the subject was rekindled during the third five year plan (1961-66) Government of Punjab submitted a proposal to introduce Crop Insurance as a part of third five year plan of the state and sought financial assistance from the Central Government. The State Government could not introduce Crop Insurance as the powers to pass the legislation related to insurance were vested with the Central Government (Bhende, 2005).

Agriculture Insurance's evolution in India took many metamorphosing phases which will be discussed as one being the past and the other being the present which shall further lead to the upcoming schemes which have got good prospect in Punjab state. India has administered crop insurance scheme since 1972 of which all the variants of the scheme introduced from time to time had various flaws. Nevertheless India is not alone where public crop insurance has not been successful. In both developed and developing countries such insurance schemes have incurred losses without offering an effective product (Raju & Chand, 2008). Public crop insurance schemes are available to cultivators as means of reducing the cost associated with crop failure. In what follows is a brief on the past experience of various agricultural insurance schemes:

#### **Past of the Agricultural Insurance Scheme**

- I. 'Individual' approach basis Insurance Scheme (1972-1978)
- II. Pilot Crop Insurance Scheme (PCIS)- (1979 - 1984)
- III. Comprehensive Crop Insurance Scheme (CCIS) - (1985 - 1999)
- IV. Experimental Crop Insurance Scheme (ECIS) - (Rabi 1997 - 1998)

- V. Pilot Scheme on Seed Crop Insurance (PSSCI) – (Rabi1999-2000)  
VI. Farm Income Insurance Scheme (FIIS)- (Rabi 2003 - 2004 season Kharif 2004 season)

I. **Individual Approach Basis Insurance Scheme (1972-1978):** The Government of India introduced Crop Insurance in 1972 on experimental basis. The General Insurance Department of the Life Insurance Corporation (LIC) introduced the first ever crop insurance Scheme based on individual farm based approach in 1972 for H-4 cotton variety in Gujarat, though subsequently other crops were also brought under its ambit. The Crop Insurance programme was subsequently transferred to the General Insurance Corporation (GIC) of India after the nationalization of Property & Casualty insurance business in mid 1972. The scheme was extended to Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu and West Bengal and covered cotton, wheat, groundnut and potato. It selected progressive farmers having assured irrigation and timely supply of crucial agricultural inputs such as HYV seeds, fertilizers, pesticides and other inputs. However this scheme was uneconomic and unsuitable for implementation on a large scale due to very high claim premium ratio (8.34). This scheme was not functional for the state of Punjab which was leading the green revolution in the country with yield of paddy increasing at 5.30 per cent per annum and wheat production scaled up at its the highest (Sidhu & Vatta, 2012).

II. **Pilot Crop Insurance Scheme (PCIS)- (1979 - 1984) :** Government of India initiated Pilot Crop Insurance Scheme in 1979 based on Prof. Dandekar's suggestion which linked Crop Insurance with institutional credit i.e. crop loan due to which this scheme was limited to loanee farmers only. There was a shift from individual farm- based insurance to area yield based approach. The Scheme was first introduced in three States viz., Gujarat, Tamil Nadu, and West Bengal in *Kharif* 1979 on pilot basis which was later on extended to nine more states. The basic unit of insurance was 'homogenous area'. Taluka/revenue circle was considered as area unit. This scheme covered cereals, millets, oilseeds, potato and chickpea. The maximum sum insured was 100 per cent of the crop loan which was later increased to 150 per cent. The insurance premium ranged from 5 to 10 per cent of the sum insured. Premium charges payable by small / marginal farmers were subsidized by 50 per cent shared equally between the state and central governments. Since the insurance was linked to crop loans, many small and marginal farmers could not participate in the crop insurance scheme because a majority of these farms have poor access to institutional credit. There was also lack of awareness among the farmers about the crop insurance scheme (Raju & Chand, 2008).

III. **Comprehensive Crop Insurance Scheme (CCIS) - (1985 - 1999) :** It was in effect from first April 1985, during the seventh five year plan. The scheme operated on homogenous area yield based approach and it was a multi peril crop insurance scheme. The scheme was compulsory for the borrowers of the short-term crop loans from institutional sources like cooperative credit institutions, commercial banks and regional rural banks for rice, wheat, sorghum, millets, pulses and oilseeds during *kharif*, *rabi* and summer. The premium charged was two per cent of the crop loan borrowed for cereals (rice, wheat, millets) and one per cent of the sum insured for oilseeds and pulses. This scheme helped in restoring credit eligibility of farmers, after a crop failure, for the next crop season and also stimulated production of cereals. There was a three tier system in the notification of crops eligible for insurance. The coverage was restricted only to rain fed crops. It was for this reason that the scheme was not effective among the progressive farmers of Punjab. Punjab was not interested in multi peril Crop Insurance and wanted insurance cover against hailstorm only with higher indemnity limits (Bhende, 2005). Farmers' share of premium was collected at the time of disbursement of loan. Half of the premium payable by small and marginal farmers was subsidized equally by the Central and State Governments (Tripathi, 1987). Mishra, 1995 indicated that small and marginal farmers accounted for 57 to 61 per cent of the total farmers and shared 31 to 41 per cent of the area insured under CCIS during 1985 through 1994 kharif season, he also reported that farmers used to pressurize village level officials conducting crop cutting experiments to underestimate the crop yields so that farmers in the area could get the indemnity payments. Jain (2004) discussed the major short comings of the scheme that coverage was confined to loanee farmers, there was a uniform premium rate for all the farmers and regions, coverage of few crops and time lag for indemnity payment which varies from 6 months to one year.

IV. **Experimental Crop Insurance Scheme (ECIS) - (Rabi 1997 - 1998):** To extend the benefits of CCIS to more number of small and marginal farmers, the Ministry of Agriculture, Government of India suggested a new model of Crop Insurance. The ECIS was implemented during 1997-98 Rabi season, included loanee and non loanee small and marginal farmers only. The Scheme covered a few crops, the sum insured was restricted to the loan amount for loanee and eligibility of loan amount for non-loanee farmers with a ceiling of rupees ten thousand. The Scheme was implemented as an experimental project in 25 districts over 9 States. It provided 100 per cent subsidy on premium. The premium and claims were shared by Central and State Governments in 4:1 ratio. The Scheme covered 0.45 million small and marginal farmers.

- V. **Pilot Scheme on Seed Crop Insurance (PSSCI) (Rabi1999-2000):** The objectives of this scheme were:
- To provide financial security & income stability to the seed growers in the event of failure of seed crop.

- To build confidence in the existing seed growers & stimulate participation of new growers to undertake seed production programme of newly released hybrid/ improved varieties.
- To provide stability to the infrastructure established by the State owned Seed Corporations/ State Farms.
- To give a boost to the Modern Seed Industry to bring it under Scientific Principles.

In Punjab it was functional for the seeds of paddy, wheat, gram, red gram, soya gram, red gram, groundnut, soybean, sunflower and cotton. The risks are covered at following bean, cotton; breeder, foundation and certified seeds of paddy, wheat, maize, jowar, bajra. The scheme continued for three seasons (till Rabi 2000-01 season) and was suspended due to lack of participation from seed growers. The main reasons perceived for poor acceptance of the scheme was:

- Non-availability of premium subsidy
- Insurance unit identified for arriving at average yield for working out sum insured was too big
- Lack of cooperation from seed producers and lack of interest from States and State agencies
- Poor awareness & publicity
- Insurance demand for 'truthful' seed labels, which was not eligible for insurance coverage under the pilot scheme

VI. **Farm Income Insurance Scheme (FIIS)- (Rabi 2003 - 2004 season Kharif 2004 season) :** Farm Income Insurance Programme (FIIP) was launched on a pilot basis in 18 districts spread over 16 States. The FIIP targeted two critical components of a farmer's income yield and price through a single policy instrument. The pilot project covering wheat and paddy was being taken up during the *Rabi* or winter crop in 18 districts of 16 States for wheat and rice farmers. The district selected for wheat insurance was Sangrur in Punjab. The Insurance Programme was expected to benefit millions of marginal farmers who were not covered by any social security scheme and as such were totally dependent on farm income. Under this programme, a farmer's production and price risk for the crop produced by him would be protected by ensuring the minimum guaranteed income, determined by using the average yield of last seven years and Minimum Statutory Price (MSP). If the actual income fell short of the guaranteed income, the farmer would have been eligible for compensation to the extent of indemnity from the Agricultural Insurance Company (AIC) of India. Since this is the sole scheme covering both the production and market risk it has a very good scope in Punjab for stimulating the diversification. But not for the wheat and paddy but rather for the other crops which can be viably grown in the state to bring the diversification in farming and make the states' agriculture sustainable. This scheme can be revamped and it can be devised for the states' needed crops. Its needs attention from all the stakeholders so that the viability of this scheme can be checked and redesigned according to the states' need.

#### **Present status of the Agricultural Insurance Scheme**

##### **A. Insurance schemes taken over by Public Sector Companies**

- I. National Agriculture Insurance Scheme (NAIS)-1999 onwards
- II. Weather Based Crop Insurance (WBCIS) – *Kharif*-2003 onwards
- III. *Varsha Bima Yojna* – 2008
- IV. Modified National Agricultural Insurance Scheme (MNAIS)- Rabi 2010-11

By Agriculture Insurance Company of India Ltd. (AIC)

- V. Livestock Insurance Scheme 2006-2007

##### **B. Insurance schemes taken over by Other Agencies**

- I. *Sankat Haran Bima Yojana* 2001
- II. *Varish Beema Yojna* for *Kharif* Crops 2006-2007
- III. Weather Insurance of wheat, mustard & potato 2006-2007
- IV. *Pasu Dhan Bima Yojana* 2009

By IFFCO-TOKIO General Insurance Co. Ltd

- V. Weather Insurance scheme for wheat, paddy and cotton 2008.

By ICICI-Lombard General Insurance Co. Ltd

#### **Public sector companies**

##### **Agriculture Insurance Company of India Ltd. (AIC)**

AIC has taken over the implementation of National Agricultural Insurance Scheme (NAIS) that until 2003 was implemented by GIC (General Insurance Corporation of India). In future, AIC transacts other insurance

businesses directly or indirectly concerning agriculture and its allied activities. It became operational from first April 2003. AIC is promoted by General Insurance Corporation of India (GIC) , National Bank for Agriculture & Rural Development (NABARD) and four other Insurance Subsidiaries of GIC viz. National Insurance Company Ltd., New India Assurance Company Ltd., Oriental Insurance Company Ltd. , United India Insurance Company Ltd.

### I) National Agriculture Insurance Scheme (NAIS)-1999 onwards

The National Agricultural Insurance Scheme (NAIS) was introduced in the country from the *rabi* season of 1999-2000. Agricultural Insurance Company of India Ltd (AIC) which was incorporated in December, 2002, and started operating from April, 2003, took over the implementation of NAIS. This scheme is available to both loanees and non-loanees. It covers all food grains, oilseeds and annual horticultural / commercial crops for which past yield data are available for an adequate number of years. The scheme is operating on the basis of both “area approach”, for widespread calamities, and “individual approach”, for localized calamities such as hailstorm, landslide, cyclone and floods.

Initially, the premium in the case of small and marginal farmers was subsidized @ 50 per cent, which was shared equally by the Government of India and the concerned State/UT. The premium subsidy was to be phased out over a period of five years, at present 10 per cent subsidy was provided on the premium payable by small and marginal farmers.

Wheat Insurance based on biomass/crop vigour, un-seasonal rainfall and temperature (part of NAIS). The insurance cover is available for three components viz. Biomass/Crop Vigor, Temperature, Un-seasonal Rainfall components. The farmer has the choice to opt for all or any one of the components of cover. However, the option has to be exercised at the inception of the insurance cover. The insurance policy is optional and is available to all farmers, either loanee or non-loanee including sharecroppers, tenant farmers, etc. Insured farmer is entitled to claim the compensation within 45 days of completion of risk time. Rural branches of State Bank of India or other commercial banks or authorized insurance brokers act as links between AIC and the farmers. Timing and values of Insurance Policy are decided afresh. Premium rates are flexible ranging from (3-6)%.

The proposal forms and premium amount should reach AIC, Regional Office, Chandigarh on or before the prescribed date. AIC issues a Master Policy in the name of the bank along with insurance certificate in the name of individual insured farmers. Claims are automated and are settled on the basis of current NDVI and maximum temperature of the specified period. Insurance is available till 31<sup>st</sup> December of the year.

### II) Weather Based Crop Insurance (WBCIS) – *Kharif*-2007 onwards:

It aims to mitigate the hardships of the insured farmers against the likelihood of financial loss on account of anticipated crop loss resulting from incidence of adverse conditions of weather parameters like rainfall, temperature, frost, humidity etc. It has been piloted in the country since *kharif* 2003 in the States of Andhra Pradesh, Gujarat, Haryana, Punjab, Karnataka, Madhya Pradesh, Maharashtra and Rajasthan. It provides pay out against adverse rainfall incidence during *kharif* (both deficit and excess) and adverse incidence in weather parameters like frost, heat, relative humidity, un-seasonal, rainfall etc. during *Rabi*. All cultivators (including share croppers and tenant cultivators) growing the crop (insurable under the scheme) in any Reference Unit Area (RUA) in the pilot areas shall be eligible for coverage. The scheme is available for all loanee cultivators of lending banks/financial institution who have sanctioned credit limit for particular crops and optional for others. WBCIS during *Rabi* 2007-08 is available as a bundled weather insurance product and hence there is no need for a cultivator to make a decision to buy protection against some or all weather parameters. Premium rates depend on the expected loss, which depend on the patterns of weather parameters of historical period of about 25 to 100 years in the context of ideal weather requirements of a crop. The premium rates payable by the cultivator for different crops are as follows: wheat- 1.5 per cent, other cereals (millets, pulses, oilseeds)-2.0 per cent. The National Agriculture Insurance Scheme (NAIS) is not available for the locations and crops selected for WBCIS pilot. Weather insurance payouts are assured within 45 days from the end of insurance or risk period.

### III) Varsha Bima Yojna – 2008

Varsha Bima Yojna is meant for cultivators for whom National Agricultural Insurance Scheme (NAIS) is voluntary. The insurance operates during June to September for short duration crops June to October for medium duration crops and June to November for longer duration crops. Further, these periods are State-specific. The insurance policy is available at all the loan disbursing outlets viz. PACs branches of all Cooperative/ Commercial/ Rural

banks. For Punjab state three regional rural banks are involved *viz.* Punjab Gramin Bank, Sutlej Gramin Bank, Malwa Gramin Bank which have their headquarters at Kapurthala, Bhatinda, Sangrur districts of the state respectively. The coverage under Varsha Bima Yojna at the grass-root level shall be made mostly through the existing network of Rural Finance Institutions (RFIs) as in NAIS, particularly cooperative sector institutions. AIC also directly provides insurance subject to the availability of its network. The network of formal and informal institutions working in the rural areas such as NGOs, Self Help Groups (SHGs) and farmers' groups is being utilized for delivery of Varsha Bima Yojna. The cultivators proposed for insurance under Varsha Bima Yojna is required to have a bank account at the Rural Financial Institution (RFI) Branch, which will facilitate his/her insurance transactions. Presently there are no *Krishi Bima Sansthan* in the state. Sum insured is pre-specified and normally is between cost of production and value of production. In case of 'Sowing Failure' option, it is the maximum input cost incurred by the cultivator till the end of the sowing period, which again is pre-specified. Premium may vary from option to option and crop to crop. The premium rates have been optimized and starts from 1 per cent.

#### **IV) Modified National Agricultural Insurance Scheme (MNAIS)- Rabi 2010-11**

This scheme provides insurance coverage and financial support to the farmers in the event of prevented sowing & failure of any of the notified crop as a result of natural calamities, pests & diseases and encourages the farmers to adopt progressive farming practices, high value in-puts and better technology in Agriculture. The crops covered under this scheme are cereals, millets, pulses, oilseeds, annual horticultural crops. Comprehensive risk insurance is provided to cover yield losses due to non preventable risks, and coverage for post harvest losses are available for only those crops which are allowed to dry in the field after harvesting and upto a maximum period of two weeks from harvesting. The unit area of insurance for major crops is village/village panchayat. All individual owner-cultivator/ tenant farmers/ share croppers, farmers enrolled under contract farming, directly or through promoters / organizers, groups of farmers / societies serviced by fertiliser companies, pesticide firms, crop growers associations, self help groups (SHGs), non-governmental organisations (NGOs) are covered under the scheme. Out of the 21 states and 50 districts who have expressed willingness to implement MNAIS, in Punjab it will be implemented in the three districts *viz.* Hoshiarpur, Gurdaspur and Ropar.

#### **V) Livestock Insurance Scheme 2006-2007**

This scheme was being implemented during 2005-06 and 2006-07 on pilot basis in 100 selected districts. In Punjab it is functional in the districts of Amritsar, Sangrur, Ludhiana, Patiala, Ropar, and Ferozepur. The active involvement of the veterinary practitioners at the village level is required for the successful implementation of the scheme. They are associated with the work of identification and examination of the animals to be covered under the scheme, such as determination of their market price, tagging of the insured animals and finally issuing veterinary certificates as and when a claim is made. Only the veterinary practitioners working with the State Government are involved. Private veterinary practitioners may be involved only if government veterinary practitioners are not available. If any insurance company is offering cover for any type of disability in addition to death of the insured animal, such offer could be considered, however, no subsidy in the premium for such additional risk coverage is provided. However, if any additional risk covers is offered as a package along with death cover and the premium rate is not exceeding the maximum limit of 4.5 per cent for annual policies and 12 per cent for three year policies, such offer could be accepted and subsidy could be provided. Benefit of subsidy is to be restricted to two animals per beneficiary and is to be given for one time insurance of an animal up to a maximum period of three years. The farmers will have to be encouraged to go for a three-year policy which is likely to be more economical and useful for getting the real benefit of insurance on occurrence of natural calamities like flood and drought etc. However, if a livestock owner prefers to have an insurance policy for less than three years period for valid reasons, benefit of the subsidy under the scheme would be available to them also, with the restriction that no subsidy would be available for further extension of the policy.

The animal insured will have to be properly and uniquely identified at the time of insurance claim. The ear tagging should, therefore be fool proof as far as possible. The traditional method of ear tagging or the recent technology of fixing microchips is used at the time of taking the policy. The cost of fixing the identification mark is being borne by the Insurance companies and responsibility of its maintenance will lie on the concerned farmer. In case of sale of the animal or otherwise transfer of animal from one owner to other, before expiry of the insurance policy, the authority of beneficiary for the remaining period of policy will have to be transferred to the new owner.

#### **Private Sector & Cooperative Agencies**

### I) Sankat Haran Bima Yojana 2001

IFFCO-TOKIO General Insurance Co. Ltd for IFFCO/IPL and Bajaj- Allianz General Insurance Co. Ltd for KRIBHCO undertake this scheme. Though in this scheme crop is not insured but when a farmer (member of the society) purchases fertilizer of IFFCO/IPL/ KRIBCO through co-operative and Farmer Service Centers, he himself gets insured even without paying the insurance premium. Major features of this scheme are:

1. Compensation in the event of injury causing permanent total disablement or death for a sum of up to Rs. 4000/- per 50 kg bag of fertilizer purchased through co-operative and farmer service centers.
2. Maximum capital sum insured for a farmer will be Rs. 1,00,000/- against the purchase of 25 bags of fertilizer.
3. The policy will be effective for a period of 12 months from the date of purchase of fertilizer bag(s).

The cash receipt or the debit memo from the Co-operative Society/ Farmers Service Center will serve as the document for insurance also

### II) Varish Beema Yojna for Kharif Crops: 2006-2008 (By IFFCO-TOKIO General Insurance Co. Ltd)

Both owner/tenant (in summer season. only rainfall deficiency is covered) are covered under this scheme. It is operational in whole of Punjab state. The period of insurance is done before June 30 and is applicable from 1st July to 30th of September. The minimum condition for purchase of policy was at least a group of 10 farmers having minimum 50 acres or an individual farmer having 25 acres or more can also purchase this policy.

Sum insured is determined from the State average of crop yield per acre and its current market rate. Premium is different for different level of triggers of rainfall and area of policy operation. Premium is determined according to sum insured per acre and the extent of deficiency of rainfall than normal as measured by nearest metrological station of Indian Metrological Division (IMD). Higher premium is to be paid for choosing lower level of rain deficiency or trigger level. Premium and claims are through PACS/Co-op. Marketing Societies. These institutions act as agents of the company. Claims are settled within 3 months of expiry of the policy.

### III) Weather Insurance of Wheat, Mustard & Potato: (By IFFCO-TOKIO General Insurance Co. Ltd)

This Policy provides cover for various weather vagaries occurring during crop cycle of wheat and mustard. Whole crop period has been divided into four phases viz. initial, development, formation (mid) and harvesting (end). The cover seeks to provide relief only during mid and end stages of the crop. The crop cycle & availability of cover is given in Table 1.

**Table 1: Crop cycle & availability of cover for Weather Insurance by IFFCO-TOKIO General Insurance Co. Ltd**

Stage	Stage definition	Corresponding period	Availability
I	Initial	Ist November to 25th November	No
II	Development	26th November to 31st December	No
III	Middle	Ist January to 15th February	Yes
IV	End	16th February to 15th March	Yes

It was operational in the districts of Ludhiana, Nawasahar and Kapurthala for two seasons i.e. only in the year of its inception that was in 2008. The policy period is from 1st Jan to 15th of March and the premium amount is Rs. 175 per acre for sum insured 5000/-

### IV) Pasu Dhan Bima Yojana 2009 ( IFFCO-TOKIO General Insurance Co. Ltd)

This scheme covers death of cattle due to disease or accident. It is a one year credit linked cover for farmers with cattle loans. The sum assured is the value of the loan; if the value of the cattle is higher than the loan; the farmer bears the difference as the policy only covers the loan value. The farmer has the option to opt for a higher sum insured based on the valuation of the cattle. The identification of the animal is done through a new technology, Radio Frequency Identification Devices (RFIDs). This technology consists of a microchip within a capsule. The capsule is inserted beneath the hide of the cattle behind the ear area with the help of a syringe. Since the RFID

capsule is inserted beneath the skin of the animal, the risk of it falling off or being removed is mitigated. The RFID tagging process is considered less painful than plastic tags for the animal. With ear tags it was common for the milk production of animals to reduce for a few days after tagging because of the trauma of the experience. Each chip is identifiable through a unique number readable using a RFID reader. The premium has been set at (3- 5) % of the sum assured which is lower than the existing (5-7) % in the market. The insurance product is distributed through the Primary Agricultural Cooperative Societies. On an average the claim settlement takes 8 to 30 days. The multi year policies are offered at a discounted rate. The various services like enrolment, claim processing, value added services are available at the doorstep through the companies own network of relationship executives or *bima sahayaks* who run the *bima kendra* who are accessible by a phone call from the farmer.

### **III) Weather Insurance scheme for wheat, paddy and cotton. (By ICICI-Lombard General Insurance Co. Ltd)**

ICICI-Lombard, World Bank and the Social Initiatives Group (SIG) of ICICI Bank collaborated in the design and pilot testing of India's first Index-based Weather Insurance product. The crops covered under this scheme are soybean, paddy, cumin, coriander, fenugreek, wheat, oranges, grapes, and apples. The crops are covered for various weather perils like deficient, excess and unseasonal rainfall, high relative humidity, excessive high and low temperature, prolonged dry spell. In Punjab, paddy is insured against prolonged dry spell and excessive rainfall. Area covered in the State for paddy is 7,643 acres. Wheat is insured against high temperature and unseasonal rainfall with an area coverage of 875 acres. It also provides cover for potato crop of the contracted farmers of PepsiCo which is the major MNC involved in contract farming of potato in Punjab.

### **Conclusions:**

The above discussion clearly focuses the macroscopic aspect of agricultural insurance which had been attempted in the country since independence taking tolls through various approaches, i.e from the one of individual to homogeneous area approach (NAIS) and then shifting the focus to index based insurance approach of WBCIS. But looking into the microscopic aspect in the state of Punjab it can well said agricultural insurance had not been the need in the green revolution era which has been the aura of production with no production risk to be addressed. So, neither of the stakeholders have been involved into it. But the post green revolution era of the state has many challenges to be addressed. Since the last decade the need of diversification has been in fade. The receding ground water table, the stagnation of paddy wheat rotation, the climatic variability pose many risks to the economy of the state which has been in plateau since long. At this juncture it can be well said that crop insurance can be a mechanism to motivate the farmers to go for high value agriculture by assuring them the risk involved in it. It is hours need to sensitize the risk awareness among the farmers of Punjab involved in agriculture in shifting from paddy wheat rotation and the risk involved in climatic variability. Thus crop insurance can very well act as a motivation for the farmers of Punjab to go for diversification by setting themselves free from the risks involved and the loss in income which they shall face. Crop insurance needs to be strongly taken up at the policy level; with well defined risk to Punjab's agriculture, well devised products for these risks in current scenario, appropriate PPPs in delivering such products and a subsidy support in premium amount by diverting some of the subsidy being provided in electricity which can really work forward for addressing the diversification of agriculture. The case of livestock insurance has been a successful model (RFID technology) which can be further extended to other potential states of the country.

Acknowledgement: I am grateful to Department of Science & Technology, Ministry of Science & technology, Government of India, for providing me INSPIRE fellowship which provide me financial support to carryout this piece of work.

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