CROP INSURANCE IN INDIA

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INTRODUCTION

Agriculture constitutes the backbone and forms an essential part of every economy. Despite its importance, it is still dependent on vagaries of nature. It is affected by number of natural disasters (floods, storms, cyclones, landslides, droughts and earthquakes) and man - made disasters like price crashes, fire and sale of spurious seeds, fertilizers and pesticides etc. All these events are beyond the control of farmers and affect farmers through loss in production and farm income. Agriculture Insurance is considered an important mechanism of protecting the farmers against financial losses to agriculture sector due to natural and man- made uncertainties.[i] Crop Insurance is based on the principle of large number. The losses suffered by farmers in a particular locality are borne by farmers in other areas or the reserves accumulated through premium in good year can be used to pay the indemnities. Crop Insurance protects farmer's investment in crop production and also improves the risk bearing capacity. It facilitates adoption of improved technologies and encourages higher investment in agricultural production.[ii]

EMERGENCE OF CROP INSURANCE

Agricultural Insurance markets were initiated in Europe over 200 years ago in the form of privately offered protection against Livestock Mortality and named Peril events such as Crop-Hail. In the 19th century the first type of Crop Insurance to be offered was single peril for hail in Europe and North America. Some countries like Uruguay (1914) and Mexico (1926) were early adopters of single peril and mutual insurance products. Moreover, in most of the countries the federal or national government provides multi- peril insurance coverage. Yet, only in the last 50 years has there been a rapid expansion and development in the scope of insurance products offered to producers. Most of this expansion is accounted for by an extensive range of government supports including subsidized premiums, subsidized delivery and loss adjustment expenses and the public provision of reinsurance services.[iii]

INTERNATIONAL PERSPECTIVE OF CROP INSURANCE

Agriculture plays an important role in the economies of developed and under developed countries and in lives of their population. Agricultural insurance offers a possibility to stabilize agricultural income. Traditional agricultural insurance at present in developed countries, based on indemnification of actual losses as assessed by agricultural experts, is unsuitable for implementation in these countries due to problems related to moral hazard, reinsurance too costly and claims handling process is also too slow. The measures used to overcome these problems in developed countries are infeasible. Historically, agriculture has been subjected to various types of risks and uncertainties, which cause a major concern for producers and consumers. Farmers face a variety of risks such as production risk or yield risk, market risk or price risk, institutional risk, financial, credit and personal risk. Insurance is the mechanism to manage agricultural risk to safeguard from income losses under adverse weather conditions.[iv]

Crop Insurance in developed countries originates in named peril products that were originally offered by private companies approximately two hundred years ago, first in Europe and then in the United States. Today, many agricultural insurance products are offered, most of them heavily subsidized by governments. USA and many European countries have had some form of crop or livestock insurance for more than a century and now they are mature markets with high penetration rates.[v] On the other hand, Agriculture in tropical and sub-tropical zones, where most developing countries are located, is extremely dependent on natural resources.[vi]

The economics of agriculture in developing countries is quite different and more complex than that in developed countries. The reason is that the overall agricultural system is much stable in the former than the later.[vii] Governments of under developed countries face heavy tasks in promoting economic development. In providing leadership in the development of agriculture they face great risks. They should not throw burden of experiments on the peasants without assuming a share of the risks nor can they face the possibility of mass dissatisfaction unless they have a great deal of political and economic strength elsewhere in the society.[viii]

NATIONAL SCENARIO OF CROP INSURANCE

Indian Agriculture is deliberately dependant on rainfall which largely occurs during monsoon which causes natural disasters such as floods, drought, cyclones etc. An average 12 million hectares of crop area is annually affected by these calamities.[ix]

The average of drought was one in every fifteen years but in the last decade there were three droughts. Moreover, rainfall has also been moving towards below normal. Three decades have seen a gradual drop in the quantum of precipitation during monsoon. Rainfall statistics from 2011- 17 indicate the same result which is given below:[x]

Table: Rainfall Statistics during 2011- 17

Decades	1981- 90	1991- 2000	2001- 10	2011- 17
Rainfall in mm	881	877	847	840

From: Skymet Weather Services Pvt. Ltd

In India about two thirds of the cultivated area has no irrigation and even large part of area does not get any sufficient water supply for exhaustive cropping. Sowing of Kharif crops starts with the onset of monsoons and the delay in the onset of monsoons delays in the rainfed areas. Sowing of Rabi crops is also affected from the rains especially during the latter part of the monsoon season. Furthermore, even excess rainfall may also affect the yield realization. Heavy rainfall may cause floods which disturb the sowing schedule and also damage the existing crops.[xi]

Agricultural insurance is one method by which farmers can stabilize farm income and investment and guard against disastrous effect of losses due to natural hazards or low market prices.[xii]

Crop insurance provides cover against unavoidable loss of production due to or arising as a result or one of more of the following causes:

a) Climatic reasons such as drought, flood and cyclone,
b) Pest infection,
c) Plant diseases,
d) Riots and strikes[xiii]

Crop Insurance was introduced in 1947- 48 soon after independence of India. Ministry of Food and Agriculture has given an assurance to introduce crop and cattle insurance in the country. The first view regarding crop insurance was whether it should be on Individual Approach or Homogenous Area Approach.[xiv] The Individual approach seeks to indemnify the farmer against the losses incurred to him and the premium paid by him is decided with reference to his past yield and loss experience. While in Homogenous Area Approach, a homogenous area would form the basic unit in place of an individual approach. The homogenous area would comprise of villages that are homogenous from the point of view of crop production and whose variability of crop productivity would be similar. Regarding this the ministry of food and agriculture circulated the whole scheme to the state governments for their adoption but the states did not accept the same. Further the Central Government introduced a Crop Insurance Bill in the year 1965 and circulated to the state governments for their views on compulsory basis. But none of the states accepted it due to its very high financial obligations.[xv]

TYPES OF CROP INSURANCE IN INDIA

There are different forms of crop insurance and the details of these are given below:

1. As per Peril Insured

i. Single Peril Insurance e. g. Hail Insurance
ii. Named Peril Insurance (up to four perils are covered)
iii. Multi- Peril Insurance (at least 5 or more perils are covered)
iv. All Peril Insurance (It covers all natural and non- preventable perils)

2. As per Object Insured

- **i.** Single Crop Insurance (This scheme covers a single crop like Apple Insurance).
- **ii.** Multiple Crop Insurance (Single scheme covers a host of crops e. g. National Agricultural Insurance Scheme).

3. According to Basis of Administration

- i. Public Insurance (In this Government run schemes).
- ii. Private Insurance (without any Government support).
- iii. Cooperative Insurance (In this both Government and Private Agencies are involved).

4. According to Scope and Application

- i. Voluntary Insurance (Schemes are optional for States or farmers).
- ii. Compulsory Insurance (Scheme compulsory for States or farmers).
- iii. Optional local application of compulsory Insurance (Scheme compulsory for certain crops).

5. As to Basis of Unit Size

- i. Individual Farm Basis (In this, settlement of claims will be on individual farm basis).
- ii. Individual Household Approach (In this, settlement of claims will be on household basis and covering all farms owned or cultivated by the farmer).
- iii. Homogenous Area Approach (In this, settlement of claims will be on area basis which covering group of farmers growing crops under same conditions)[xvi].

CROP INSURANCE SCHEMES IN INDIA

There are number of crop insurance schemes which provide means for protecting the agriculturist against financial losses to agriculture sector due to uncertainties arising from unforeseen perils beyond their control and list of these schemes are given below:

Table: Crop Insurance Approach in India[xvii]

Sr. No.	Insurance Schemes	Year of Scheme	Crops covered

1.	First Individual Approach Scheme	1972- 1978	H- Cotton, Groundnut, Wheat and Potato
2.	Pilot Crop Insurance Scheme (PCIS)	1979- 1984	Cereals, Oilseeds, Cotton, Potato and Chickpea
3.	Comprehensive Crop Insurance Scheme (CCIS)	1985- 1999	Paddy, Wheat, Jowar, Bajra, Groundnut Oilseeds, Pulses, Cereals and Millets
4.	Experimental Crop Insurance Scheme (ECIS)	1997- 98	Rabi crops
5.	National Agricultural Insurance Schemes (NAIS)	1999- 2000	Kharif and Rabi crops
6.	Weather Based Crop Insurance Scheme (WBCIS)	2003- 04	Soya, Paddy, Orange, Kharif and Rabi crops
7.	Farm Income Insurance Scheme	2003- 04	Wheat and Rice
8.	Sookha Suraksha Kavach (Draught Risk Insurance)	2004- 05	Gaur, Bajra, Maize, Jowar, Soyabean and Groundnut
9.	Pilot Coconut Palm Insurance Scheme	2009- 10	Coconut Palm

10.	National Crop Insurance Programme	2012- 13	All Crops

An Agriculture Insurance scheme was examined soon after the Independence in 1947. Following an assurance given in this regard by the Ministry of Food and Agriculture (MOFA) in the Central Legislature introduced crop and cattle insurance. A special study was commissioned during 1947- 48 to consider whether insurance should follow an 'Individual Approach' or a 'Homogenous Area Approach'. The study favoured 'Homogenous Area Approach'. In 1965, the government introduced a Crop Insurance Bill and circulated a model scheme of crop insurance on a compulsory basis to State governments for their views. The Bill provided for the Central government to frame a reinsurance scheme to cover indemnity obligations of the States.[xviii]

However, none of the States favoured the scheme because of the financial obligations involved in it. On receiving the reactions of the State governments, the subject was referred to an Expert Committee headed by the then Chairman, Agricultural Price Commission, in July 1970 for full examination of the economic, administrative, financial and actuarial implications of the subject.[xix]

Following the Constitutional mandate and in pursuance of various agricultural insurance schemes adopted by the International Community, India has been proactive in the formulation of various schemes related to Agriculture Insurance and the outline of such schemes are as follows:

- The General Insurance Department of General Insurance Corporation of India introduced a crop insurance scheme namely First Individual Approach Scheme (1972-78) on H-4 cotton. This scheme was based on 'individual approach' and later included Groundnut, Wheat and Potato was implemented in the States of Gujarat, Maharashtra, Tamil Nadu, Andhra Pradesh, Karnataka and West Bengal.[xx]
- Upon the recommendations of Prof. V.M. Dandekar, a Pilot Crop Insurance Scheme was launched by the General Insurance Corporation in 1979, which was based on 'Area

Approach' for providing cover against a decline in crop yield below the threshold level. In this scheme, the participation of the State Governments was voluntary and it covered millets, cotton, cereals, barley, potato, gram and oilseeds.[xxi]

- Comprehensive Crop Insurance Scheme (CCIS) was introduced in the Kharif Season 1985- 86 by the Government of India with the active participation of State Governments. This scheme was optional for the States and it covered those farmers who availing crop loans on compulsory basis from financial sectors for growing oilseeds and food crops.[xxii]
- Experimental Crop Insurance Scheme (ECIS) was introduced during the Rabi season (1997- 98) with the intention to cover those small and marginal farmers who do not borrow from institutional sources. This scheme was implemented in fourteen districts of five States and provided hundred percent subsidies on premium.[xxiii]
- National Agricultural Insurance Scheme (NAIS) or Rashtriya Krishi Bima Yojana (RKBY) was introduced from the Rabi season of 1999- 2000. This scheme is available to both loanees and non- loanees. Under this scheme all food grains like oilseeds, annual horticultural and commercial crops, pineapple, banana, jute, coriander, chillies, turmeric, onion, ginger, cotton, potato, and sugarcane are covered.[xxiv]
- Pilot Scheme on Seed Crop Insurance (PSSCI) was introduced in Kharif Season in the year 2000 for providing financial security and income stability to the seed growers in case of seed crop failure.[xxv]
- Weather Based Crop Insurance Scheme (2003) is to provide protection to the farmers against likelihood of financial loss on account of crop loss resulting from incidence of adverse conditions of weather parameters like deficit and excess rainfall, frost, wind speed, cloud- burst, high or low temperature, relative humidity etc. This scheme has been implemented in our country since Kharif Season of the year 2003 in the States like Punjab, Haryana, Chhattisgarh, Rajasthan, Madhya Pradesh, Andhra Pradesh, Karnataka, Maharashtra, Gujarat etc.[xxvi]
- Farm Income Insurance (2003-04) was implemented during the Rabi season (2003- 04) in respect of Wheat and Rice on the basis of homogenous approach in eighteen districts of eleven States and Kharif Season (2004) in nineteen districts of four states for rice

only. This scheme was made to protect the farmer and also to reduce the government expenditure on minimum support price.[xxvii]

- The Agriculture Insurance Corporation introduced Sookha Suraksha Kavach (Drought Risk Insurance) in the state of Rajasthan for crops like Bajra, Maize, Jowar, Soyabean, Groundnut and Gaur.[xxviii]
- Coconut Palm Insurance Scheme (CPIS) was implemented in the coconut growing areas of Karnataka, Kerala, Orissa, West Bengal, Andhra Pradesh, Goa, Tamil Nadu and Maharashtra from 2009- 10.[xxix]
- Modified National Agricultural Insurance Schemes (2010- 11) was to provide insurance coverage and financial support to the farmers in the event of prevented sowing and failure of any of the notified crop as a result of natural calamities, pests and diseases. The present scheme also encourages the farmers to adopt progressive farming practices, high value inputs and better technology in agriculture.[xxx]
- National Crop Insurance Programme (NCIP) has been constructed with some improvements by merging the pilot scheme like Modified National Agriculture Insurance Scheme, Weather Based Crop Insurance Scheme and Coconut Palm Insurance Scheme from Rabi Season 2013- 14.[xxxi]
- Under the Pradhan Mantri Fasal Bima Yojana all risks are covered like post-harvest losses due to cyclone, rain or thunder are covered for farmers across India. It also covers loss due to adverse weather conditions preventing sowing of crops after expenditure has been incurred.[xxxii]

REPORTS OF COMMISSIONS AND COMMITTEES IN INDIA

There are various reports of the commissions and committees which are given below:

Report of the Working Group on Risk Management in Agriculture (For the Eleventh Five Year Plan: 2007- 2012)

The agricultural sector is exposed to a variety of risks which occurs high frequency. These includes climate and weather risks, natural catastrophes pest and diseases, which cause highly variable production outcomes.[xxxiii] The Planning Commission on June 28, 2006 constituted a Working Group on Risk Management in Agriculture for the formation of the XI Five Year Plan (2007- 12) under the Chairmanship of R.C.A Jain, former Secretary (Agriculture and Cooperation), Government of India. The terms of reference of the group are as under:

- To examine the nature and types of Risks in Agriculture and their different ways to manage those risks.
- To examine the farming community and government policies in the light of the emerging agri- insurance sector.
- To identify appropriate and profitable target segment for agri- insurance business and suggest a portfolio of products which the insurance companies should offer to identified customer segments
- To suggest the basis for fixing the sum insured and the nature of coverage.
- To inspect financial support to Crop Insurance and to provide effective arrangements for the implementation of Crop Insurance.
- Define the possibilities for Re- Insurance.
- To check the suitability of various types of crop insurances like: -
    a. Individual verses Area Based Crop Insurance
    b. Single Risk verses Multi- Risk Insurance
    c. Rainfall verses all weather Insurances
    d. Cost Effective and Beneficial Crop Insurance Scheme
- To review the status of the National Agricultural Insurance Scheme (Modified Comprehensive Crop Insurance Scheme)
- To suggest measures for making the schemes more effective and beneficial for the farming sector.[xxxiv]

Swaminathan Report

The National Commission on Farmers (NCF) was constituted on Nov 18, 2004 under the chairmanship of Prof. M. S. Swaminathan. The NCF submitted four reports but the fifth report became the final which was substituted on Oct 04, 2006. The NCF suggest the following:[xxxv]

- Expand the outreach of the formal credit system to reach the really poor and needy people.
- Reduce rate of interest for crop loans to 4 percent simple, with government support.
- Establish an Agricultural Risk Fund to provide relief to farmers in the aftermath of successive natural calamities.
- Issue Kisan Credit Cards to women farmers.
- Develop integrated credit- cum- crop- livestock- human health insurance package.
- Expand crop insurance cover to cover the entire country and all crops, with reduced premiums and create Rural Insurance Development Fund to take up development work for spreading rural insurance.

Report on the performance of Agriculture Crop Insurance Scheme

The Comptroller and Auditor General (CAG) on July 21, 2017 submitted a report on the performance of Crop Insurance Schemes (includes NAIS, MNAIS and the WBCIP) between the period of 2011- 12 and 2015- 16. Followings are the key findings and recommendations of the audit report:

i. As per CAG report the agriculturists in these schemes was small in numbers as compared to the population of farmers and the subsidy provides by the NAIS for the farmers was between 2 to 13 percent.
ii. Data on beneficiary farmers was not maintained by the governments (centre or state), Agriculture Insurance Company (AIC) and other private insurance companies.
iii. CAG found that Department of Agriculture Cooperation and Farmers Welfare released funds on time but delay was always on the part of state governments.
iv. Further, the AIC always failed to verify the claims which were submitted by the insurance companies before releasing funds under the schemes.
v. Monitoring of schemes by the implementing agencies (AIC and other private companies) and the governments was very poor.

CAG recommended that effective measures to ensure large coverage should be taken by the Department of Agriculture Cooperation and Farmers Welfare, Central and State governments should maintain databases of beneficiary farmers, effective measures should be taken by the implementing agencies, banks and state governments regarding delay process. Moreover, the department should take the responsibility that payments to private companies are made only after verification of claim.[xxxvi]

SETTLEMENT OF CROP INSURANCE DISPUTES

If a changing society is conscious of its rights only and not its duties it will create a lot of disturbance in the law and order and consequently the enforcement of duties in conformity with the law lies heavily on the shoulders of the law enforcing agencies.[xxxvii] There are number of means of settlements of insurance disputes which are as follows:

Adjudication through Courts: Section 109[xxxviii] of *the Insurance Act, 1938* provides that no court inferior to that of a Presidency Magistrate or a Magistrate of first class try any offence under this Act. No Court shall take cognizance of any offence punishable under sub-section (ii) of section 34 B or sub-section (IA) a section 102 except upon complain in writing made by an officer of the central government generally or specially authorized in writing in this behalf by the authority and the court inferior to that of a Presidency Magistrate or a Magistrate of the first class shall try any such offence.[xxxix]

- Courts have power to order restoration of property of insurer or compensation in certain cases.[xl]
- In any proceedings, Civil or Criminal, the Court has power to grant relief.[xli]

Insurance Ombudsman: As per Rule 6 of the *Redressal of Public Grievances Rules*, 1998[xlii], the governing body shall appoint one or more persons as Ombudsman. An Ombudsman is an independent body and avail impartial approach at the time of investigations. An Ombudsman shall be appointed by the governing body from a panel prepared by the Committee consisting of the followings:

1. Chairman of Insurance Regulatory Authority as a Chairman,
2. Two representatives of Insurance Council as members including one each from the Life Insurance Business and from General Insurance Business,

3. One representative of the Central Government as member.

Adjudication by Consumer Protection Redressal Agencies: The Preamble of the *Constitution of India*, 1950 declares its resolve to secure 'social justice to all its citizens. Article 38(1) of the constitution imposes a duty on the State to strive "to promote the welfare of the people" by securing and protecting a social order in which justice- social, economic and political, shall inform all the institutions of the national life. Article 39(b) and (c) imposes a duty on the state and consumer protection is one of the duties imposed on the State.[xliii]

The *Consumer Protection Act*, 1986 was enacted as a result of widespread consumer protection movement. On the basis of the report of the Secretary General on Consumer Protection dated May 27, 1983, the United Nations Economic and Social Council recommended that the world governments should develop, strengthen and implement a coherent consumer protection policy. As per the Preamble of the Act, this Act was enacted to provide the protection to the interests of the consumers in commercial sense as purchaser of the goods and in larger sense a user of services.[xliv]

The Supreme Court in ***France B Martius v. Mafalda Maria Teresa Rodrigues***[xlv] has held that the purpose of the Consumer Protection Act is the better protection of interests of consumers and to make provision for the establishment of consumer councils and other authorities for the settlement of disputes.

CROP INSURANCE IN THE STATE OF PUNJAB

Crop Insurance is a way to protect the agriculturists from crop loss due to natural calamities like flood, draught, hailstorm or the loss due to crop diseases. In the public sector Agricultural Insurance Company offering Crop Insurance against the various crop losses. Besides this, ICICI Lombard Insurance Company Limited and IFFCO Tokio General Insurance Company Limited performed major role in the private sector. The National Agricultural Insurance Scheme (NAIS) which is prime insurance runner in the country but was not in the State of Punjab since Wheat and Paddy crops are less risky which are mainly grown in the state.[xlvi]

Weather Based Crop Insurance Scheme is functioning in the State of Punjab against the crop losses which is occurred on account of adverse weather conditions like humidity, heavy rainfall, frost, temperature etc.[xlvii]

Furthermore, the Pardhan Mantri Fasal Bima Yojana which is one of the most cordial crop insurance schemes for the Indian farmers has run into stony weather in the state of Punjab. The present scheme assigns an indemnity level of ninety percent but in Punjab the average loss of the crucial crops like wheat and paddy is only between 2- 3 percent. Because of this, the agriculturists of Punjab were not acquired any benefit from this scheme. Moreover, Punjab is never declared drought hit and the agriculturists are provided with free power from the state government but this scheme is aligned to the needs of the rainfed states[xlviii]

To overcome WBCIS, the Pradhan Mantri Fasal Bima Yojana arrived in 2016 and all the previous schemes were discontinued due to some inherent drawbacks. Government has introduced the various schemes on crop insurance but these schemes are failed to meet the expected result due to the unawareness among the farmers, low policy implications, unsatisfactory performance of the agencies regarding implementation of the schemes.[xlix]

WBCIS is still in force but has been renamed as Restructured Weather Based Crop Insurance Scheme (RWBCIS). This scheme provides comprehensive insurance to cover yield losses of standing crops due to non- avoidable risks like lightning, hailstorm, thunderstorm, drought, dry spells, floods, landslides, pest infestation and disease outbreak. The enrolment for the farmers in the notified area who have a crop loan/ kisan Credit Card account is compulsory in this scheme.[l]

The Agricultural Insurance Company of India along with some private companies was participated in the government schemes. There would be one insurance company for a bunch of districts (near about 20 districts). The premium would be two percent of the sum insured for Kharif Season and fifteen percent sum insured for Rabi Season crops. Commercial crops like Cotton and other horticulture crops will attract premium rated of five percent of the sum insured. However, the insurance companies would change the rates and that fixed premium would be subsidized by the governments (borne by both Centre and State Government).[li]

Moreover, Insurance claims are settled only based on weather data of automated stations in the reference unit area. No paper work is required for the settlement of claims. Losses for the covers are assessed on individual basis and it is the responsibility of the farmers to inform the insurance company within forty-eight hours of the occurrence of the incident.[lii]

Pradhan Mantri Fasal Bima Yojana run into trouble in the State of Punjab

The present scheme has run into trouble in Punjab. Punjab is at loggerheads with the centre over the effectiveness of the crop insurance scheme. Punjab Agriculture Minister Tota Singh said that "The new scheme provides an indemnity level of ninety percent. In Punjab the average loss of major crops like wheat and rice is between 2 to 3 percent. So our farmers will not benefit from this scheme. In a written submission to the Union Ministry of Agriculture, the state has sought the indemnity level be raised to ninety five percent."[liii]

The State of Punjab is preparing its own crop insurance scheme after rejecting the Central Government insurance scheme. After West Bengal, Punjab will be the second state to have its own insurance scheme. Draft of the new insurance scheme is being prepared and a committee was also formed for this purpose. Suggestions were also sought for this purpose from the various agri- economists including the Vice- Chancellor of Punjab Agricultural University, Ludhiana and also from the Punjab Farmer's Commission.[liv] There are following reasons for rejecting the present scheme and these are given below:

1. As per the insurance scheme, PMFBY is applicable only if there is forty percent crop damage in a village which is counted as a single unit for availing any particular relief.[lv]
2. Ten years benchmark for assessing normal yield level while deciding on the insurance premium.[lvi]
3. There is no coverage of crop which is lying in the market yard after harvesting.
4. Crop losses are very low (below ten percent) in Punjab.[lvii]

CONCLUSION

Crop Insurance, subsidized by the government is purchased by the farmers and other agricultural producers to protect against the loss of crops due to natural disasters like drought, floods, hailstorm, landslide or the loss of revenue due to declines in the prices of agricultural commodities. Crop Insurance in developed countries is heavily subsidized by the governments. USA and many European countries have had some form of crop or livestock insurance for more than a century and now they are mature markets with high penetration rates. On the other hand, Governments of underdeveloped countries face heavy tasks in promoting crop insurance schemes. In India too Crop insurance is one method by which farmers can stabilize farm income and investment and guard against disastrous effect of losses due to natural hazards or low market prices. There are number of crop insurance schemes which provide means for protecting the agriculturist against financial losses to agriculture sector due to uncertainties arising from unforeseen perils. Further, there are number of crop insurance schemes which are functioning in the State of Punjab against the crop losses which is occurred on account of adverse weather conditions.

ENDNOTES

[i] S. S Raju, Ramesh Chand, *Agricultural Risk and Insurance in India : Problems and Prospects* 15(Academic Foundation, New Delhi, 1st edn., 2009).
[ii] *Ibid* at 23.
[iii] Vincent H Smith and Joseph W Glauber, "Agricultural Insurance in Developed Countries: where have we been and where are we going?" *available at* https://www.researchgate.net/publication/275352083-Agricultural-Insurance-in-Developed-countries-where-have-we-going (last visited on Jan 02, 2018).
[iv] K.J. Arrow, "The role of securities in the optimal allocation of risk bearing", *Review of Economics Studies* 31: 91-96 (1964).
[v]Rattani Viseta, "Overview of Agricultural Insurance in Africa and Asia" *available at* www.cseindia.org/userfiles/africa-asia-conclave-vjeta. pdf (last visited on August 2, 2017).
[vi] Ramon Lopez, "The Economics of Agriculture in Developing Countries: The Role of the Environment", B. Gardner and G. Ravsser (ed.), *Handbook of Agricultural Economics*, 1218 (Elsevier Science, vol. 2, 2002).
[vii] *Ibid* at 1233.
[viii] Food and Agriculture Organization of the United Nations, The Owner Cultivator in a progressive Agriculture, 63(FOA, Italy, 1958).
[ix] "Report of the Working Group on Risk Management in Agriculture for Eleventh Five Year Plan" *Planning Commission, Government of India*, New Delhi (2007- 12) *available at* http://planningcommission.nic.in/aboutus/committee/wrkgrp11/wg11_risk.pdf (last visited on April 30, 2019).

[x] Knowledge Paper, "Accelerating Agriculture Insurance", *National Conference on Accelerating Agriculture Insurance, 7(2018) available at* ficci.in/spdocument/22946/Agri-Insurance-book.pdf (last visited on April 09, 2019).
[xi] Gurdev Singh, "Crop Insurance in India" *Indian Institution of Management Ahmedabad India*, 2 (June 2010) *available at* www.indg.in/agriculture (last visited on April 23, 2019).
[xii] Lopamudra Mohapatra, R.K Dhaliwal *et.al*., "Farmers knowledge about the Agriculture Insurance Scheme in Punjab", *International Journal of Advanced Research* 49(Jan 2016).
[xiii] S.R. Myneni, *Law of Insurance* 524 (Asia Law House, Hyderabad, 2015).
[xiv] *Supra* note 11 at 8.
[xv] *Supra* note 11 at 8.
[xvi] *Supra* note 9.
[xvii] *Supra* note 1 at 23.
[xviii]Julia Holyoake and William Weipers, *Insurance*, Institute of Financial Service, UK 43(AITBS Publishers and Distributors, Delhi, 2002).
[xix] Radha Mohan Singh, "Farm Income Insurance Scheme to Provide Protection to Farmers Against Natural Calamities is on Cards" *Ministry of Agriculture & Farmers Welfare, Government of India, available at* pib.nic.in/newsite/PrintRelease.aspx?relid=109321(last visited on April 25, 2019).
[xx] Insurance Institute of India, *Agricultural Insurance*, 45(2014).
[xxi] Lopamudra Mohapatra and R. K. Dhaliwal, "Review of Agricultural Insurance in Punjab State of India", *International Journal of Advanced Research*, 461(2014).
[xxii] Nilabja and S. S. Yadav, "Problems and Prospects of Crop Insurance: Reviewing Agricultural Risk and NAIS in India" *Institute of Economic Growth, University of Delhi* 34- 35(Sep 30, 2008) *available at* www.iegindia.org/ardl/2008_Crop%Insurance%20Report_Nilabja.pdf (last visited on April 28, 2019).
[xxiii] *Supra* note 1 at 49.
[xxiv] "National Agricultural Insurance Scheme" *Agriculture Insurance Company of India Limited*, *available at* http://www.aicofindia.com/AICEng/Pages/NAIS_Features.aspx?ItemID=3 (last visited on May 01, 2019).
[xxv] "Evolution of Crop Insurance", *Agriculture Insurance Company of India Limited, available at* www.aicofindia.com (last visited on May 29, 2019).
[xxvi] "Weather Based Crop Insurance Scheme" *Bajaj Allianz, available at* https://www.bajajallianz.com/Corp/general-insurance/weather-based-crop-insurance.jsp (last visited on May 01, 2019).
[xxvii] *Supra* note 19.
[xxviii] "Sookha Suraksha Kavach (SSK) Drought Risk Insurance" *Agriculture Insurance Company of India Limited, available at* agritech.tnau.ac.in/crop_insurance/Sookha_Suraksha_Kavach.pdf (last visited on May 29, 2019).
[xxix] K. Sasidharan and Alex K. Mathews, *Financial Services and System* 509 (Tata McGraw- Hill Publishing Company Limited, New Delhi, 2008).
[xxx] *Supra* note 22.
[xxxi] *Supra* note 22.
[xxxii] *The Indian Express*, Jan 21, 2016.
[xxxiii] 'Report on Agriculture' *available* at www.planningcommission.nic.in/aboutus/committee/wa11risk (last visited on July 16, 2016).
[xxxiv] *Supra* note 9 at 1- 2.
[xxxv] 'Swaminathan Report' *available at* www.prsindia.org/parliamenttrack/report-summaries/swaminathan-report-national-commission-on-farmers-662/ (last visited on August 24, 2016).
[xxxvi] 'CAG Report Summary' *Agriculture Crop Insurance Scheme, available at* https://prsindia.org/report-summaries/agriculture-crop-insurance-schemes (last visited on June 13, 2019).
[xxxvii] M. V. K. Sivamohan (ed.), *Law and Society: Lectures and Writings of Justice P. Jagnanmohan Reddy* 80(Ajanta Books International, Delhi, 1st edn., 1986).
[xxxviii]*The Insurance Act*, 1938.
[xxxix]*Ibid* ., S. 109.
[xl]*Id*., S. 106.
[xli]*Id*., S.108.
[xlii] The Central Government in the exercise of the powers conferred by the Insurance Act, 1938 framed the Redressal of Public Grievances Rules 1998. As per Rule 2, these rules shall apply to all the Insurance Companies operating in General Insurance Business and in Life Insurance Business. Provided that the Central

Government may exempt Insurance Company from the provisions of these rules, if it is satisfied that an insurance company has already grievance redressal machinery which fulfills the requirements of these rules.

[xliii] J. N. Panday and Vijay Kumar Pandey, *Law of Torts with Consumer Protection Act and Motor Vehicles Act* 455(Central Law Publications, Allahabad, 9th edn., 2014).

[xliv] Dr. Avtar Singh & Dr. Harpreet Kaur, *Dr. Avtar Singh's Introduction to the Law of Torts (and Consumer Protection*) 240(Lexis Nexis Butterworths Wadhwa, Nagpur, 2nd edn., 2009).

[xlv] (1999) 6 SCC 627.

[xlvi] *Supra* note 21 at 459.

[xlvii]Lopamudra Mohapatra, R K Dhaliwal, *et.al.*, "Performance of Agricultural Insurance in Punjab State of India" *Indian Res. J. Ext. Edu. 14(3)*, 115 (September, 2014).

[xlviii] Komal Amit Gera, "Punjab seeks inclusive crop insurance scheme" *Business Standard*, *available at* https://www.business-standard.com/article/economy-policy/punjab-seeks-inclusive-crop-insurance-scheme116020601213_1.html (last visited on June 25, 2019).

[xlix] Dr. Shrikrishna S. Mahajan, "Growth of NAIS: A study of Crop Insurance in India" *Bauddhik*, vol- 3, No.- 1, 1(Jan- April, 2012)

[l] *Supra* note 49 at 16- 17.

[li] *Supra* note 49 at 16- 17.

[lii] "Handbook on Crop Insurance" *Insurance Regulatory and Development Authority of India*, *available at* www.policyholder.gov.in/uploads/CEDocuments/crop%20Insurance.pdf 8- 9(last visited on April 10, 2019).

[liii] "Punjab Seeks Comprehensive Crop Insurance Scheme" *available at* https://policyx.com/news/punjab-seeks-comprehensive-crop-insurance-scheme/ (last visited on May 07, 2019).

[liv] "Punjab rejects PMFBY, to have its own Crop Insurance Policy" *available at* https://dailypost.in/news/chandigarh/punjab-pmfby-crop-insurance-policy/ (last visited on Feb 18, 2019)

[lv] "Punjab Government to go for its own crop insurance policy" *The New Indian Express*, March 03, 2019.

[lvi] *Supra* note 54.

[lvii] "Punjab Farmers want crop Insurance only if it is a freebie" The Hindu Business Line (August 21, 2016) *available at* https://www.thehindubusinessline.com/economy/agri.business/punjab-farmers-want-crop-insurance-only-if-it-is-a-freebie/article9014647.ece (last visited on April 08, 2019).