India is a farming-oriented nation. A large number of people in the country depend on agriculture for their livelihood. However, in India, it is not easy for farmers to earn sufficient income as agriculture is dependent on uncertain weather and other biological factors. Low productivity or crop failure due to such unfavorable conditions results in poor economic conditions for farmers. Less income or no income at all and high loans taken for agriculture add to their misery. They find themselves trapped in such a situation where government schemes do not effectively reach them and thus they find themselves left with no other option but suicide. Moreover, low agriculture productivity affects agribusiness activities as well, which in turn has a direct bearing on the national income of the country. In such a scenario, agricultural insurance becomes a need to improve the condition of farmers, support them economically, and thus saving their lives which will ultimately benefit the country. This paper analyzes the major risks involved in Indian agriculture and the growing need for agricultural insurance.

**Keywords**: Agriculture, agricultural insurance, biological factors, uncertain weather.

**INTRODUCTION**

In India, agriculture is a venture due to various uncertainties as agriculture production fluctuates in India because of its dependence on weather and biological uncertainties in managing crops. Agriculture in India does not only contribute to the national income but also provides employment and livelihood to a large number of people in the country. Despite being the primary sector of the Indian economy, agriculture faces the most difficulties to yield proper results and thus has direct impact on both the national income and the farmers or the cultivators. Ultimately, farmers are the ones who are the most vulnerable or the real sufferers of all these inevitable happenings. The impact of climate change is not uniform across all sectors of the economy, agriculture is comparatively more susceptible to it, and a large mass of people are connected with it. Thus, it is not only the national income that faces its adverse effects, but such people are also victimized to a great extent; therefore, there is a great need for agriculture insurance to provide economic support to poor farmers, induce them to invest in agriculture and supplement them in the event of crop failure. This in turn would decrease the need for relief measures in the event of crop failure.
Meaning of insurance:- Insurance is nothing but a tool to protect an individual against a probability including a large unexpected loss. It is thus, a mechanism to help compensate an individual or business for the losses incurred which would otherwise cause a financial disaster.\(^1\) Agricultural insurance is an effective mechanism for reducing the losses, farmers suffer due to natural calamities such as floods, droughts, and outbreaks of pests and diseases. However, agricultural insurance can be divided into two categories namely, yield based crop insurance and weather based crop insurance.

**HYPOTHESIS**

Risks involved in agriculture and ineffective working of various agricultural insurance schemes ultimately results in worsening the economic conditions of the poor farmers.

**RESEARCH QUESTIONS**

- What are the various risks involved in Indian agriculture?
- What are the initiatives taken by the government to deal with such risks?
- What is the need of agricultural insurance in India?

**RESEARCH OBJECTIVE**

- To discuss and explore the risks involved in agriculture.
- To analyze the growing need of agricultural insurance and the modifications in this field.

**RISKS INVOLVED IN INDIAN AGRICULTURE**

Indian agriculture is susceptible to various uncertainties and therefore has always been a risky venture. Risk in agriculture can be categorized into yield risk and price risk. Price risk is the risk which mainly occurs due to changing supply and demand, market imperfections, changing consumer preferences, differences in prices between two markets within a small geographical area. Yield risk on the other side occurs mainly due to low productivity on account of unfavorable weather conditions and other biological factors. Despite technological and economic advancements, the condition of farmers continues to be unstable due to natural calamities and price fluctuations.\(^2\) The need to protect farmers from agriculture uncertainties has always been a continuing concern of policy makers but the

\(^1\) [http://www.aicofindia.com/AICEng/General_Documents/Product_Profiles/WBCIS_FAQ.pdf](http://www.aicofindia.com/AICEng/General_Documents/Product_Profiles/WBCIS_FAQ.pdf)

\(^2\) National Agriculture Policy(NAP), 2000.

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unfavorable situation still continues to exist and farmers are still susceptible to the above mentioned risks and uncertainties.

*Price risk*⁴:- Price needs special importance when farmers are producing for the market. Prices are influenced by demand and supply factors. Food crops and vegetables are usually subjected to certain predictable changes in demand. The impact of supply fluctuations on prices depends upon demand elasticity. The fluctuations in prices, particularly when they are decreased, of agricultural products directly affect the economic status of the farmers. The farmers may resort to distress sale under pressure of immense need of money or because of perishable nature of the products of agriculture. With the removal of quantitative restrictions on imports in India under WTO agreement, price risks are more likely to grow in such situation.⁴ Therefore, this risk has to be dealt with immediately as it has serious impacts on the economic conditions of the farmers. There have been various policies made by the government which aim at minimizing the hardships of the farmers.

Minimum Support Price (MSP) is a form of market intervention by the government of India to insure agricultural producers against any sharp fall in prices. Recommendations on market intervention scheme include price fixation, reimbursement based on actual losses, changes in import / export policies etc. These are some of the ways or measures to deal with the price risks.

*Yield risk*:- Climate change or the unfavorable weather is the major yield risk factor in Indian agriculture. This is because the irrigation completely depends upon rainfall which is inadequate and unreliable. A large sphere of farming is practiced as rain fed agriculture and is at the mercy of the weather. Moreover, rainfall is not the only factor but droughts, temperature variation, humidity and biological factors such as, outbreak of pests and diseases are also some of the yield risk factors. In all the above situations the abnormal behaviour of monsoon is the only factor that gives rise to other factors as well as it may cause different natural disasters such as scarcity conditions or droughts, floods, cyclones, etc., and it also contributes in the development of diseases and growth of the pests. Thus, since time immemorial weather has been the major adversary that the farmers are not able to control and therefore become victims of its tyrannies⁵.

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⁴Sinha Sidharth, Agriculture Insurance in India, Centre for Insurance and Risk Management
⁵https://ideas.repec.org>ess>wpaper.
⁶Raju S.S and Ramesh Chand, Agricultural Insurance in India - Problems and Prospects, National Centre for Agricultural Economics and Policy Research (Indian Council of Agricultural Research)

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There have been various technological advances and institutional support but they have made little impact on risk factors and uncertainties in agriculture in India. Various agricultural insurance schemes have been introduced to insure risk of millions of farmers whose livelihood completely depends upon the pattern and distribution of monsoon and other ventures in India. Some of the schemes are as follows:

- **Comprehensive Crop Insurance Scheme (CCIS)** - The Government of India introduced the Comprehensive Crop Insurance Scheme with effect from 1st April 1985. This scheme was introduced with the active participation of State Governments and it was optional for the State Governments.

- **National Agricultural Insurance Scheme (NAIS)** - This scheme was introduced in 1999 to replace the Comprehensive Crop Insurance Scheme. Gradually, the Agriculture Insurance Company of India Ltd (AIC) was incorporated in 2002 and it took over the implementation of NAIS.

- **National Crop Insurance Programme (NCIP)** - The most important change in the field of agriculture insurance is the introduction of this programme subsequent to the withdrawal of NAIS. It had three component schemes - Modified National Agricultural Insurance scheme (MNAIS), National Agricultural Insurance Scheme and Coconut Palm Insurance Scheme (CPIS).

- **Pradhan Mantri Fasal Bima Yojana (PMFBY)** – However, this new scheme has been introduced from Kharif 2016 replacing NAIS and MNAIS and it has been implemented by AIC and 15 other insurance companies.

**NEED OF AGRICULTURAL INSURANCE AND MODIFICATIONS IN THIS FIELD.**

Indian economy is an agriculture based economy where agriculture is the primary sector providing livelihood to a large number of people. But Indian agriculture is not an easy job as it depends upon the natural factors i.e. adverse weather conditions, floods, droughts, etc., this uncertainty of nature leads to various agriculture related problems for farmers. Apart from these factors, there are various other factors as well such as outbreak of epidemics, fire and market fluctuations. All these factors are the major hurdles for practicing agriculture in India. These result in low productivity and thus less income of farmers. This ultimately creates serious impacts on the economic conditions of the farmers, they live a stressful life. Low

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productivity, less income and high loans taken for agriculture are forcing the farmers or the cultivators of India to commit suicide. Therefore, to cope up with all these problems and to reduce the risk involved, a risk management mechanism—‘agricultural insurance’ has been adopted by the government.

The Indian farmers play a crucial role in the development of economy but they are still living in bizarre conditions of poverty and deprivation. Therefore, it becomes obligatory for the government to help them earn the basic necessities of life. Agriculture insurance plays an important role in helping them to quickly recover from damages and losses. However, the mechanism of insurance is not proving to be effective with the changing situations of time as the number of cases of suicide by farmers are increasing day by day.

**Finding 1: Farmer’s suicide (agriculture related causes)-2014**

<table>
<thead>
<tr>
<th>Causes of suicide</th>
<th>No. of farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) farming related issues</td>
<td>969</td>
</tr>
<tr>
<td>1.1 failure of crop</td>
<td>952</td>
</tr>
<tr>
<td>due to natural calamities</td>
<td>491</td>
</tr>
<tr>
<td>due to other reasons</td>
<td>461</td>
</tr>
<tr>
<td>1.2 inability to sell</td>
<td>17</td>
</tr>
<tr>
<td>2) Bankruptcy or indebtedness</td>
<td>1163</td>
</tr>
<tr>
<td>2.1 due to crop loan</td>
<td>965</td>
</tr>
<tr>
<td>2.2 due to farm equipments loan</td>
<td>22</td>
</tr>
<tr>
<td>2.3 due to other loans</td>
<td>176</td>
</tr>
</tbody>
</table>

**Finding 2 : Farmers suicide (agriculture related causes)- 2015**

<table>
<thead>
<tr>
<th>Causes of suicide</th>
<th>No. of farmers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Farming related issues</td>
<td>1562</td>
</tr>
<tr>
<td>1.1 failure of crop</td>
<td>1552</td>
</tr>
<tr>
<td>due to natural calamities</td>
<td>879</td>
</tr>
<tr>
<td>due to other reasons</td>
<td>673</td>
</tr>
<tr>
<td>1.2 inability to sell</td>
<td>10</td>
</tr>
<tr>
<td>2) Bankruptcy or indebtedness</td>
<td>3097</td>
</tr>
<tr>
<td>2.1 loan from banks and other financial institutions</td>
<td>2474</td>
</tr>
<tr>
<td>2.2 loan from money lenders and other non-financial institutions</td>
<td>302</td>
</tr>
<tr>
<td>2.3 loan from both 2.1 and 2.2</td>
<td>321</td>
</tr>
</tbody>
</table>

**Discussion:** If we look at the data provided, it becomes evident that no. of suicides, due to farming related issues, have increased. In 2014 the figure was 969 which has increased to

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1562 in 2015. The no. of suicides increased are 593 which means that 593 farmers committed suicide within an year.

Moreover, if we analyze the data more deeply and cautiously, we will find that no. of suicides particularly due to crop failure have increased more, i.e. the figure was 952 in 2014 which increased to 1552 in 2015. Which means 600 hundred farmers committed suicide within an year only due to failure of crop. Further suicides due to bankruptcy or indebtedness occurred due to loans taken for agriculture have also shown rise in the figures. In 2014 the no. of suicides were 1163 which increased to 3097 in 2015 due to bankruptcy. This data directly puts a question mark on the working and the effectiveness of the insurance schemes. The no. of farmers getting insured under different insurance schemes are increasing but inspite of such increment the figure of farmer’s suicide is showing no downfall. These figures to some extent indicate the inefficient working of the insurance schemes.

There could be various reasons behind it. Some of them are that though these schemes are subsidized by the government, still they are out of reach of the poor farmers who are unable to acquire even the basic amenities of life. Already burdened with the loans taken, they fail to pay even the subsidized premium for insurance. They are in the worst conditions where such insurance schemes prove to be ineffective.

Another point of discussion is that there is no proper regulation of these schemes due to the prevalence of corruption. Proper data regarding the payment of premiums and the crop grown and percentage of it destroyed is required to claim insurance money, but the people authorized in that respect manipulate the facts and figures available just to debar the poor farmers to have the benefit of the schemes.

CONCLUSION

After analyzing the different factors hampering the agriculture production in India and causing serious impacts upon the poor farmers, I have arrived to the following conclusion that with the more advancement in technologies and passage of time, the needs of the farmers are also changing. Therefore, new and effective insurance schemes have to be introduced to deal with the emergent problem of farmer’s suicide. The natural conditions or the factors cannot be changed, not even their effect can be regulated but different methods, techniques and mechanisms can be introduced to do away with the problem of uncertainties in practicing agriculture in India. The need of the hour is the introduction of innovative insurance policies covering multiple perils and thus, safeguarding the interests of the farmers, encouraging and
inducing them to invest more in agriculture. Thus, it can be concluded that agricultural insurance in India is an essential requirement to manage risk in yield loss by the farmers so that the impact of income loss on the farmers and their family can be reduced.

RECOMMENDATIONS

The paper has analysed and discussed the different risks that are prevalent in Indian agriculture and the serious impacts they cause on production and economic conditions of the farmers. The paper has also attempted to discuss the inefficient working of the insurance schemes and the modifications required. Therefore the following recommendations can be put forth:

- The regulation of the schemes introduced by the government must be proper, there must be some check and balance kind of mechanism to ensure the proper implementation of these schemes.
- The problem of landlessness must be dealt with as in that situation cultivators with no land of their own are not able to acquire the benefits of such kind of schemes. Landlessness is the root cause of various miseries of the farmers therefore, this problem should be taken as a priority by the government and the welfare schemes should be introduced accordingly.
- More innovative and enhanced insurance schemes must be introduced to cope up with the problems of the dynamic society.
- There must be some kind of security to insure the payment of premiums in case farmers fail to pay the same just in order to prevent the policy of insurance from becoming null and void. Provisions can be made to regulate such payment and recover the premium money from the farmers afterwards within certain prescribed time.

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