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"CROP INSURANCE: AN EFFECTIVE TOOL FOR AGRICULTURE RISK MANAGEMENT IN INDIA"

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ABSTRACT:
The enterprise of agriculture is subject to lot many uncertainties. Still, more people in India earn their livelihood from this sector, than from all other economic sectors put together.In recent years, natural disasters, particularly climate-related disasters have increased both in terms of frequency and magnitude. As a consequence of climatic disasters, agriculture and agricultural dependent livelihood of India is facing its substantial impacts. Structural measures for disaster risk management are often found less effective. In this regard, non-structural measures such as crop insurance is suggested as a risk management strategy. The farmers are not assured of good quality and disease free crop which is essential for obtaining reasonable yield sufficient to recover expenses. Crop insurance is one of the major management strategies to overcome risk to greater extent. It is regarded as an essential part of well-rounded agricultural programme designed to provide protection to farmers against physical failure of crops due to weather and other unavoidable natural hazards. Compared to other traditional risk reducing strategies, such as crop diversification, inter-cropping, mixed farming, integration of farm etc., available to farmer's crop insurance is more efficient. If a farmer is assured of financial compensation when his income is considerably low for reasons beyond his control, he would more likely allocate his resources in a manner that would maximize his return. Crop insurance not only helps the farmers to withstand the shock from uncertain situation but also acts as incentive to use the resources efficiently and achieve higher level of productivity. The present paper is a try to an attempt to know that Indian crop insurance scheme is really effective or not. Also paper has tried to find the potential for Agriculture insurance companies and also made an attempt to realize the importance of Agriculture Insurance Industry in the rural and economy development.

KEY WORDS: *Crop insurance, Agriculture live hood, Agriculture Risk Management.*

INTRODUCTION :

Agriculture has been the backbone of Indian economy for several centuries. Indian agriculture is characterized by lack of technology, low productivity, under employment, multiplicity of crops, unequal distribution of land, predominance of small farmers, etc. agricultural production therefore is inherently a risky business and farmers face a variety of weather, pest, disease, input supply and market related risks. Given an uncertain income each year, farmers must worry about their ability to repay debt, to meet overhead costs (eg. land rents and taxes) and, in many cases, their ability to meet essential living costs for their families. These same risks are also of concern to agricultural lending institutions. The prevalence of risk in agriculture is not new and farmers, rural institutions and lenders have, over generations, developed ways of reducing and coping with risk. Although the virtues of these traditional risk management mechanisms are widely recognized they also have their own limitations. They can be costly in terms of income opportunities that farmers forgo. They can discourage investments and technological changes that, while risky, enhance long-term productivity growth. They have limited capacity to spread covariate risks like droughts that affect most farmers in a region at the same time. In theory these limitations would not exist if insurance markets were perfect.

OBJECTIVE OF THE STUDY:

The aim of the study is to improve knowledge about climatic and natural risk in Indian Agriculture and to examine the role and the functioning of Agriculture Insurance as a risk management tool. Its main objectives are to know the agricultural condition of India and find out the problems and prospects of agricultural insurance.

IMPORTANCE OF STUDY:

Spite several challenges, agriculture in India has been able to produce enough food to feed the burgeoning population; from feeding about 31.86 crore people in 1951 to feeding more than 125 crore people in 2016. Improvement in agricultural technologies and management practices post green revolution has helped the cause. However, only irrigated and high-potential rain-fed areas could actually reap the benefits of green revolution. More than 15 percent people still remained undernourished in India in 2015. Agricultural production is inherently a risky business, and farmers face a variety of weather, pest, disease, input supply and market-related risks. Given an uncertain income each year, fanners must worry about their ability to repay debt, to meet overhead costs (e.g. land rents and taxes) and, in many cases, their ability to meet essential living costs for their families. These same risks are also of concern to agricultural credit institutions. Confronted with risky borrowers, lenders must seek to reduce the possibility of poor loan recovery rates in unfavourable years, even if this means only modest levels of lending to agriculture. The prevalence of risk in agriculture is not new and farmers, rural institutions and lenders have, over generations, developed ways of reducing and coping with risk. A key question is whether these traditional mechanisms of risk management are sufficient, or whether, given the highly covariate nature of many agricultural risks, public interventions, such as crop insurance, can provide a more efficient alternative.Therefore, this paper has tried to find the potential for Agriculture insurance companies and also made an attempt to realize the importance of Agriculture Insurance Industry in the rural and economy development.

RESEARCH METHODOLOGY:

The current paper is using descriptive research methodology with library as well as field research. It is mainly based on the secondary data collected from various sources. We have also used some primary data which is collected by oral interviews of the farmers who avail the benefit of the crop insurance are selected randomly from nearby area also the observation and survey methods are used for the same. Various research publications have been reviewed to make this study more relevant.

REVIEW OF LITERATURE:

The review is very important part in the research because it shows the work done and carried out on the problem also it provide correct path to researcher to find out and discover new conclusion based on old research. There are various studies related to Agriculture Insurance. Few reviews are discussed here under:

*Narayanan H. (2006),*concluded from his study that agriculture insurance is playing an important role in managing the risk of the agriculture sector, whose contribution to the growth of economy is substantial. The role of agriculture insurance for India can never be underplayed.

Parchure Rajesh (2009), expressed that the aim of crop insurance schemes is not to make profits, profits can be used either to give indemnities covering principle repayments and/ or the funds of the fine surer can be directed towards investments in agriculture infrastructure.

Sinha Sidharth (2005), drawn conclusion from his study that Agriculture insurance has potential to improved by increasing the accuracy and timeliness of crop estimation methods possible through the use of new technologies. This would need to be supplemented by institution and operating procedures which enable the private sector to provide agriculture insurance.

Sinha Sidharth (2004), told that crop insurance is one of the instruments protecting farmers from agriculture variability.

TYPES OF RISKS IN AGRICULTURE SECTOR IN INDIA:

Agriculture in India is subject to variety of risks arising from rainfall aberrations, temperature fluctuations, hailstorms, cyclones, floods, and climate change. These risks are exacerbated by price fluctuation, weak rural infrastructure, imperfect markets and lack of financial services including limited span and design of risk mitigation instruments such as credit and insurance. These factors not only endanger the farmer's livelihood and incomes but also undermine the viability of the agriculture sector and its potential to become a part of the solution to the problem of endemic poverty of the farmers and agricultural labour.Management of risk in agriculture is one of the major concerns of the decision makers and policy planners, as risk in farm output is considered as the primary cause for low level of farm level investments and agrarian distress. Both, in turn, have implications for output growth. In order to develop mechanisms and strategies to mitigate risk in agriculture it is imperative to know the sources and magnitude of fluctuations involved in agricultural output. Farmers are exposed to risk from rainfall variability, market price fluctuations, credit uncertainty and adoption of new technology. The diversities in the sources of risks require a variety of instruments for protecting the farmers. In India, these include crop insurance, rainfall insurance, farm income insurance and a calamity relief fund. Most of these measures other than crop insurance are in the experimental stage. Different sources of risk that affect agriculture are classified below.

- Production Risk
- Price or Market Risk
- Financial and Credit Risk
- Institutional Risk
- Human or Personal Risk

- Legal / Policy Risk
- Resource Risk
- Health Risks
- Assets Risks
- Technology Risk

HISTORICAL BACKGROUND OF CROP INSURANCE IN INDIA:

The idea of Crop Insurance in India in existence for more than a century, took decades to solidify into concrete, workable schemes. Only after independence in 1947, crop insurance received concrete attention. It was discussed in 1947 by the Central Legislature and in 1950; two pilot schemes were circulated among States for adoption. But States were unwilling to operate the schemes because of resource constraints. Crop insurance again received attention at the time of formation of Third Five Year Plan (1961-1966), but the Working Group on Agriculture was not in favor of its inclusion in the Plan. In October 1965, the Government of India decided to draw up a Crop Insurance Bill and model scheme of crop insurance. In March 1970, the Government referred the Bill and the Model Scheme to an Expert Committee under the Chairmanship of Dr. Dharm Narayan. But the Committee concluded against the introduction of crop insurance because of the financial burden. Prof. V. M. Dnadekar, a prominent economist, examined the expert committee report and advocated strongly for introduction of crop insurance based on an area approach.

Agriculture is prone to systemic and co-variate risks where a single risk affecting a large number of properties across large geographical regions, doesn't easily lend itself to insurance. Lack of past yield data, small sized farm holdings, low value crops and the relatively high cost of insurance; have further made it more difficult to design a workable crop insurance scheme. Despite these constraints, India debated the feasibility of crop insurance schemes, since independence. However, the first concrete attempt could be made only in the 1970s. The summary of important schemes evolved, is as follows:

a) Scheme based on 'Individual' approach (1972-1978): The first ever scheme started on H-4 cotton in Gujarat was extended later, to a few other crops and states. The scheme covered 3,110 farmers for a premium of Rs. 4.54 lakhs and paid claims of Rs. 37.88 lakhs.
b) Pilot Crop Insurance Scheme– PCIS (1979-1984): PCIS was introduced on the basis of report of late Prof. V.M. Dandekar and was based on the 'Homogeneous Area' approach. The scheme covered food crops, oilseeds, cotton and potato; and was confined to loanee farmers on a voluntary basis. The scheme was implemented in 13 states and covered 6.27 lakh farmers, for a premium of Rs. 196.95 lakhs and paid claims of Rs. 157.05 lakhs.
c) Comprehensive crop Insurance Scheme–CCIS (1985-1999): The scheme was an expansion of PCIS, and was made compulsory for loanee farmers. Premium rates were 2 per cent of the sum insured for cereals and millets and 1 per cent for pulses and oilseeds, with premium and claims, shared between the Centre and States in 2:1 ratio. The scheme was implemented in 16 States and 2 UTs and covered 7.63 crore farmers for a premium of Rs. 403.56 crores and paid claims of Rs. 2,319 crores.
d) National Agriculture Insurance Scheme–NAIS (1999): NAIS was introduced during Rabi 1999-2000 by improving the scope and content of the erstwhile CCIS.

CROP INSURANCE: SPECIALTY INSURANCE

The agricultural risks are more in the nature of systemic risks that are pervasive over a large area and are not random as seen in other types of general insurance products. The natural disasters may severely damage crops over a very large area and the domain of insurance on which it is based, i.e., working of the law of large numbers on which premium and indemnity calculations are based breaks down. In view of the systemic nature of the risks, individual insurance policies are both difficult to sell and administer in practice.

Insurance policies operating on 'individual approach' or that seeks to indemnify the losses suffered by the individual farmer are undoubtedly the most desirable as they reflect the crop losses on a realistic basis. However, the implementation of such programmes is beset with immense practical difficulties. First and foremost are the problems associated with adverse selection and moral hazard. These twin problems have played a major role in rendering multi-peril crop insurance unsuccessful on standard commercial criteria throughout the world. While these problems do exist in other kinds of insurance, the nature and implications are widely different in case of crop insurance. This is because crop output depends crucially on the efforts and resources put in by the farmer. No insurance authority could ever maintain a supervising agency which would be able to watch and enforce that every insured field receives the required amount of care and attention at the hands of its cultivator.

The usual remedy applied in other types of insurance to overcome the problem of moral hazard is what is commonly called a deductible (partial insurance/ underinsurance). The same may not be effective in the case of crop insurance as the commodity i.e. crop to be covered is yet to exist and its existence or nature thereof depends on the actions of the insured farmer. It may become impossible for any insurer to monitor whether the insured farmer is deliberately not putting in adequate effort to optimize production. This contravenes the basic principle of insurance, "the principle of utmost good faith", whereby the insurer has the faith that the insured client will not do anything that will contribute to lowering the production. The difficulty thus lies in designing a crop insurance programme that will respond only to definitive action of the insured peril as opposed to normal yield variation or the effects of factors within the farmers' control. Since individual yield contracts are associated with irreducible problems of moral hazard and adverse selection, the area yield programme, which offers some protection against yield risk to most farmers but vastly reduces incentives for adverse selection and moral hazard, is widely considered as a viable alternative.

Further, the premium rating under crop insurance is associated with twin problems of un-viability and un-affordability. While the flat rate system lends the crop insurance financially un-viable, a shift to the alternative actuarial system would render the premium rates un-affordable for the farmers. Thus the actuarial premium rates may have to be supported by adequate level of upfront premium subsidy, keeping in mind the affordability of the economically vulnerable farmers.

NEED FOR RURAL/AGRICULTURAL INSURANCE –INDIAN CASE

Indian agricultural sector still depended mostly on monsoons. The erratic and uneven distribution of monsoon rains perpetuated yield/price volatility and hence farmers exposure to risk and uncertainty. In this scenario of high risk and uncertainty of rain fed agriculture, allocating risk is an important aspect of decision making to farmers. This indicates a need for contingent plans that will help to improve the handling of risky outcomes across individuals. The design and implementation of contingent contracts is thus an integral part of development process in Indian agricultural sector.

In India, traditionally risk would be managed either privately or through implicit contracts within the family or network (caste groups/extended families/joint families). Such contracts can be quite useful to handle no covariant risks. However, yield risks are often locally covariant, implying that these traditional contracts within village and families would not perform well to insurance against yield risks. Another form of risk coping strategy among farmers is income diversification/crop diversification that will reduce variance of their income. If benefits of reduced risk exposure from such crop diversification are large, then farmers may be willing to forego some of the possible gains from trade/specialization; that is they would diversify crop rather than specialize in the activities in which they have a comparative advantage. This strategy is may seems optimal from individual point of view, but it may undermine the competitive advantage of a nation through specialization that hinders national development. Productivity labour would likely increase under specialization. Also, agricultural research could focus on fewer products and thereby increase its effectiveness in developing new technologies. Moreover, transportation costs and other market transaction costs would be lowered, thus stimulating trade and increasing the gains from trade. This regional specialization helps in development of infrastructure relating to the production activity.

By reducing the need for farm diversification, these contracts can stimulate specialization. The specializing in competitively advantageous crops/products by regions will increase efficiency of farms as well as helps in easy implementation of research and development and other crop based government programs through scale economies. The specialization helps in growing of off-farm and non-farm employment opportunities to a large section of rural population.

Hence a development policy which includes explicit insurance arrangements for both farm as well as non-farm activities/workers helps in economic development of the country through specialization and also helps in increase/stabilize income of the farmers/non-farm workers.

CROP INSURANCE: A TOOL TO AGRICULTURE RISK MANAGEMENT

India is an agriculture oriented country where main dominant form of occupation is agriculture. But it is not so easy for the farmers of India to earn income from agriculture. Indian agri-business is synonymous with risk and uncertainty because the agriculture in India depends upon the natural factors, i.e. adverse weather conditions, flood, draught, peril etc. Uncertainty of nature leads the farmers to various agriculture related problems.Low productivity, less income and high loans taken for agriculture are forcing the farmers of India to commit suicide. They are living a stressful life even after giving others an unstressful life by fulfilling their most wanted need in the form of farm products. In agriculture, agribusiness is a generic term for the various businesses involved in food production, including farming and contract farming, seed supply, agrichemicals, farm machinery, wholesale and distribution, processing, marketing, and retail sales The process starts at the product level and reaches out to the final consumers through vertical integration. Agribusiness favors Indian farmers in every possible way be it policy, climate and several other advantages points that India inherently possess in production.

Therefore, to cope up with these agro-problems, a risk management tool "Agriculture Insurance" is launched for the farmers. Economic growth and agricultural growth are directly related to each other. This tool helps in stabilization of farm production and income of the farmers. It helps in optimal allocation and utilization of resources in the production process. Agriculture or crop insurance has assumed importance with large scale damage caused due to pest attacks, crop diseases and vagaries of weather. The objective is to provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crop as a result of natural calamities, pests & diseases. Agriculture insurance schemes are of immense help to farmers, providing them with financial security. Agriculture insurance for farmers helps greatly in reducing risk horizontally across the states and vertically across big and small farmers. In fact, states which have accepted the scheme require that any farmer borrowing from any financial insists take insurance too.

Agricultural insurance coverage till rabi season 2014–15

Schemes/items	**NAIS (since rabi 1999-2000)**	**WBCIS (since kharif 2007)**	**MNAIS (since rabi 2010-11)**	**CPIS (since 2009-10)**	**Total**
Farmers insured (lakh)	2,558	688	211	0.73	3,457.73
Area insured (lakh ha)	3,733	892	233	0.3	4,858.3
Premium collected (Rs in crore)	12,836	11,539	4,202	2.66	28,579.66
Claims paid (Rs in crore)	38,697	8,457	3,673	3.26	50,830.26
Farmers benefitted (lakh)	663	438	57	0.07	1,158.07

DISCUSSION, OBSERVATION AND FINDINGS:

- It is observed from the oral interviews taken of the farmers thatpenetration of insurance schemes is low, near about only 20 per cent farm households and 23 per cent of gross cropped areas annually are covered. There is low awareness about crop insurance among farmers in the rural area.
- Respondents who are participate in the crop insurance scheme were asked the question is there any change in their debts and uncertainty about farm income after insured their crop, the most of farmers give positive response that they are getting benefitted from the scheme.
- Respondents were asked question that their opinion about advertisement of crop insurance is sufficient or not, and most of farmers are complained that the coverage is quite low and the period also very less to pay premium, and majority famers getting trouble because of the short period given by the insurance company.
- It is observed that farmers believe the crop insurance as a source of expenditure, than a risk transfer mechanism. Further, constraints in crop insurance in terms of the delay in delivery of compensation, procedural difficulties and the sum received by the farmers are sources of discontent among farmers against crop insurance.

CONCLUSION:

It can be concluded from the study that coverage of crop insurance schemes is sufficient in terms of the number of farmers covered, and number of crops brought under the schemes and total area covered. With focus to the development of agriculture especially in management of risks associated with agriculture crop insurance plays key role. It is important for us to encourage farmers to get into the crop insurance scheme so that there will be some amount of assured income for them in case of any unexpected loss in production process. It is very important for the government and crop insurance implementing agencies to take up more studies to evaluate the performance of crop insurance scheme in each and every region so that, the problems/constrains can be identified and appropriate actions can be initiated for making the scheme more effective and efficient.

After an intense review of literature (as above) and going through various available secondary data it can safely asserted that the help of agricultural insurance schemes, farmers can get benefits and protection of high farm production, regular income, savings and investment, loans against security etc. Agriculture insurance contributes in rapid economic development of the country. It is an adaptive solution in order to ensure viability and profitability for agriculture. However there are attempts are needed to enhance the depth and coverage of crops insurance, so that it is more inclusive and effective as a risk management mechanism.

REFERENCES:

- Narayanan H. (2006), Indian Insurance A profile, Jaico Publishing house, Mumbai. Pp 438-456.
- Sinha Sidharth (2004), Agriculture Insurance in India: Scope for participation of private insurers, Economic and Political Weekly, June 19, 2004.
- Dandekar V.M.(1985), crop Insurance in India: A Review, Economic and Political Weekly, Vol.XX, June.
- Rustogi N.K.(1988) Crop Insurance in India, B.R. Publishing co. Ltd., new Delhi
- ParchureRajes- Varsha Bonds& Options capital market solutions for crop insurance problems.(5th global Conference of actuaries) volume:2 managing Insurance Business: perspectives, Analytics and operations(MIB)
- Sinha Sidharth (2005) Agriculture Insurance in India: Scope for participation of private insurers, Indian Insurance Report Series-1, Allied Publishers Pvt. Ltd New Delhi. pp 343-361.
- Government of India(1999) National Agriculture Insurance Scheme, ministry of Agriculture, new Delhi.
- SommerTrieschmannHoyat -Risk Management and Insurance (Thomson, south-western, Publication) www.swlearning.com.
- Rao K.N. and S.P. Kulkarni (2001) agriculture Insurance in India, IC-817, insurance Institute of India,
- Raju, S. S. and Ramesh Chand (2009) Problems and progress in agricultural insurance in India. *Policy Brief (Number 31),* National Centre for Agricultural Economics and Policy Research (NCAP), DPS Marg, Pusa, New Delhi – 110 012.
- Nair, R. (2011) Risk mitigation and crop insurance in India: A performance analysis. *Journal of Social and Economic Development*, **13**(1): 67-86.
- Agricultural Statistics *at a glance*, (various issues), Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi.
- Economic Survey of India,(various issues), Ministry of Finance, Government of India, New Delhi.