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Impact of Crop Insurance on Agriculture : A Study of Bihar

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Abstract:-

Agriculture is the backbone of our country. Farmers play an important role in sustaining the economy of the country. But unfortunately, all the efforts made by farmers for production depend on the mercy of nature. Due to natural calamities and uncertain weather, in spite of the development of all technology, the yield is reduced as well as wasted. Crop insurance plays an important role in protecting the farmer from the risk of this natural calamity and uncertain weather. Crop insurance has been done since time immemorial to provide financial assistance in case of crop damage, encourage damage, encourage farmers to use new and modern technology, food security, crop diversification, rapid development and protection from risk in competition. Due to this, the farmers are getting help in dealing with the debt burden to a great extent. Due to crop insurance, the farmer does not suffer much loss in times of calamity or uncertain weather conditions. In this article, the impact of crop insurance on agriculture in the state of Bihar has been studied. In order to bring more benefits to farmers, an attempt has been made to understand the obstacles in the way of crop insurance, and many suggestions have been made to overcome them.

Keywords:- Crop insurance, Technology, Financial, Diversification, Development etc.

Introduction:-

The foundation for a farm's stable and sustained development is its long-term economic performance. Government intervention is frequently required to manage the erratic nature of economic performance and secure agricultural production. However, decoupled types of supportive payments are being discussed in order to reduce the effect of such governmental support on the markets for agricultural commodities. Enhancing and encouraging the use of crop insurance is one such tactic. Agricultural insurance programmes could be used as a tool to handle income losses through indemnity payments, stabilising farm revenue and economic performance in the process. Support for insurance use could come in the form of reinsurance, direct subsidies for insurance premiums, or more indirect support like improved insurance product development and institutional support for the agricultural insurance market. Support for insurance may fall under the WTO agreements "Green Box" category under specific circumstances.

Governmental agricultural support does, however, require the transfer of public funds, and from the standpoint of the social planner, it is imperative to ensure that these public expenditures are used effectively. In other words, the usage of insurance should have a favourable effect on farm economic performance.

Since the demand side may be affected by the economic performance of the farm, there may be endogeneity issues. An analysis of the demand side must also be included in any analysis of the effect of insurance use on farm economic success. It is reasonable to infer that the use of insurance and economic performance are reciprocally causative. Financial constraints resulting from poor economic performance, which lower demand for insurance products, represent the reciprocal cause in the context of Indian agriculture. The simultaneous model in this study uses two coupled equations to solve the reciprocal causation system. The effects of

different explanatory factors, such as the use of insurance, on economic performance are described in the first equation. The second equation describes the effect of various explanatory variables on insurance demand, including economic performance.

Because India is an agricultural country, more than 70% of its people live in rural areas. About 40 percent of the country's workers and about 70 percent of the rural population are dependent on agriculture. However, they earn very little from agriculture. The 2011 census revealed that the number of landless agricultural labourers has exceeded the number of farmers for the first time. There are two categories of people dependent on agriculture. One is a farmer and the other a landless agricultural labourer. Landless agricultural labourers account for 55 percent of all agricultural workers, totalling 14.4 crore. The same tenant represents 45 percent of farmers, with a total population of only 118 crores.

Crop Insurance in Bihar:-

Crop production is a source of income for Indian farmers, not just an occupation. Nearly 75% of the Indian population and 89.53% of the Bihar population live in rural areas where crop cultivation is the primary occupation. Crops feed our growing population, and crop products are used in agro-based industries as raw materials. Large agricultural investments are thus critical for the country's development. Crop failure caused by natural disasters such as floods, droughts, pests, and diseases is a significant impediment to increasing crop production. Crop failures like this have a negative impact on India's resource-constrained farmers. Crop insurance can provide farmers with financial security in such cases. It can assist them in maintaining their income levels by increasing their risk-bearing capacity and, as a result, encouraging large agricultural investment, which results in increased crop yield and agricultural production.

Because of more equitable land distribution, crop insurance performs well in developed countries such as the United States and Canada. In India, medium and large farmers account for nearly 14% of the total area operated, accounting for 61% of the total area operated. In comparison, only 9% of the total land area is worked by 51% of sub-marginal and marginal farmers. For the scheme to succeed, land inequalities must be reduced through tenancy reforms. Nonetheless, despite relatively high claim premium ratios, farmers have not enrolled in large numbers in the National Agriculture Insurance Scheme. It only reaches about 10% of all farmers.

According to historical data, the number of farmers in Bihar is very small in comparison to other states in our country. This situation can be attributed to a variety of factors. In Bihar, a village-level study on the impact of crop insurance was conducted. It is critical to understand why Bihar farmers do not purchase crop insurance. A micro-level study on crop insurance was conducted in 2006-07 to investigate various issues. A pilot study involving 100 farmers was conducted in two villages from each zone of the state of Bihar.

Role of Credit Institutions

Crop insurance schemes are offered by all three rural financing institutions: cooperative banks, regional rural banks, and commercial banks. Despite the fact that notified crops in notified areas were required to be insured, commercial banks failed to provide insurance to all crop loanees. Despite having poor infrastructure, the co-operatives did much better at offering crop insurance services to farmers in Bihar. Since the program's beginning, agricultural insurance in Bihar has advanced slowly. The primary causes of the slow growth are a lack of crop loans, commercial banks' indifference, co-ops' poor financial standing, and the exclusion of vegetables, fruits, and spices from crop insurance programmes. Furthermore, farmers' lack of knowledge about crop insurance and insufficient publicity for the programme are impeding the expansion of the crop insurance plan in Bihar.

Wild animal agricultural destruction is now becoming a significant threat in Bihar. Even while these instances may be rare and localised to a few areas, many farmers experience significant crop loss as a result. In order to ensure agricultural damage caused by wild animals, a project for crop insurance must be implemented immediately, much like in some industrialised nations, particularly Japan and Korea.

The preceding discussions make it abundantly clear that there is ample opportunity to provide insurance assistance to a large number of loaned and unloaned farmers for a wide range of crops. Crop failures disproportionately affect small and marginal farmers, as well as tenant farmers and farm labourers, so agricultural insurance must be implemented as soon as possible to protect society's most vulnerable members. As a result, preferential treatment should be prioritised for small and marginal farmers, as well as tenant farmers and farm labourers.

Weather-based crop Insurance:-

The weather-based crop insurance plan (WBCIS) was put into place as a pilot programme in several Karnataka regions in 2007–2008. In order to protect farmers from unfavourable weather conditions, including shortfall and inadequate rainfall, which are known to have a detrimental effect on crop productivity, WBCIS plans to offer insurance cover. The benefit is that claims are resolved as quickly as possible. Although the BWCIS is based on actual premium rates, the premium that farmers actually charge has been constrained to be on par with NAIS in order to make the system more appealing. The Agriculture Insurance Company of India Ltd. (AICIL) implemented a weather-based crop insurance programme in three districts (Patna, Muzaffarpur, and Araria) during the 2007–2008 growing season. In May 2008, farmers received a claim payment of Rs. 170.16 lakh. In the Rabi season of 2008–2009, WBCIS covered all blocks in the five districts of Patna, Muzaffarpur, Gaya, Bhagalpur, and Purnea for wheat, lentil, gramme, and potato. Less than 1% of the entire area of the corresponding crops grown in Bihar is covered by the scheme's agricultural area. It should be extended to all the blocks for all the major crops, including vegetables and fruits, as the programme appears to be advantageous to farmers.

In order to estimate crop losses in Bihar, a block for rice and wheat and a district for other crops are designated as "units." However, the agro-economic and physical conditions in districts and blocks are not uniform. Despite a district's better crop output, some villages in the district have low yields because of localised natural disasters, and farmers in these villages are consequently not eligible for crop insurance benefits. To handle this kind of circumstance, this panchayat should be designated as a unit for crop insurance. The State Government shall take the required actions to officially designate each panchayat as a unit for crop insurance of all Bihar crops.

Impact of crop Insurance in Bihar

It has been shown that there is a negative association between insurance participation and the overall area under cultivation. Because of crop insurance, the total area under cultivation may or may not rise as the insured area grows. On the other hand, there is a strong correlation between the area under cultivation and both the total amount insured as well as the total premiums paid for all crops. Our empirical investigation also demonstrates that all of the model's explanatory variables have a direct impact on how much overall production is produced. According to insurers' standard operating procedures, a rise in the premium rate results in a reduction in the quantity of loans that farmers take out. However, we saw the least amount of volatility in premium rates during the period of data collection. Therefore, we claim that a rise in the amount of premium collected is the result of an increase in the amount of loans obtained from insured farmers. As a result, both the insured area and insurance participation grow, which also aids in raising crop production. As a result, the total premium collected encourages both an increase in productivity and total area.

Conclusion:-

In this study, we looked at how insurance participation, total sum insured, and total premium collected affected rice and potato output from 2002 to 2021. In this case, the empirical analysis includes the balance panel model, which is calculated using the ordinary least squares method.

According to the empirical findings, insurance participation requires farmers to take precautions to boost the output of our research crops, such as Aman Paddy, Boro Paddy, and potato, but it does not result in an increase in the overall area under cultivation. It also implies that both the total amount insured and premium payments are appropriate for expanding the growing area and output of the three crops we have chosen.

Therefore, crop insurance is a way to improve risk-bearing capacity, to increase resource allocation, to properly utilise land, and to give farmers livelihood stability.

It should be noted that a number of agricultural insurance programmes have been created to safeguard farmers against crop failure. However, suicide rates are rising across the nation on a daily basis. The fundamental reason is that the agriculture ministry's bureaucrats are unclear on the issues facing our farmers. They keep conducting insurance experiments, sometimes for certain crops, sometimes for consistent farm incomes, and sometimes for particular regions.

To better understand the impact of crop insurance participation on the financial security of small and marginal farmers, additional research should include all other crops covered by the insurance programme.

Way Forward:-

According to the Ministry of Agriculture and Farmers' Welfare report, only 37% of the 5,993 farmers who participated in the study were aware of the insurance schemes, premium costs, types of risks covered, claim procedures, losses incurred, etc. The remaining 63% were completely unaware of the insurance plans. This demonstrates how insufficient or ineffective the publicity was. If farmers lack knowledge about credit, insurance, premium deduction, yield-loss assessment, and non-payment of claims, they are not included in the programme intended to enhance their standard of living. The majority of farmers viewed insurance as a means of investment. They were unaware that it was intended to lower risk. Therefore, using a variety of outreach techniques, there should be widespread awareness among farmers of the advantages of crop insurance. The lessons learned thus far indicate that neither PMFBY nor WBCIS would be adequate to address all the pure hazards associated with agricultural activities. Instead, a comprehensive insurance package ought to be created and made available to farmers as a subscription.

Crop production statistics derived from commercial insurance companies' crop cutting trials have the potential to be manipulated for financial gain. As a result, widespread use of remote sensing, drones, satellite images, and land record digitization should be encouraged at all levels in order to ensure proper PMFBY implementation and avoid yield data manipulation.

Private insurance companies made substantial financial investments in the plan and are still profitable. Processing claims and awarding compensation ought to be transparent. Selling insurance at the cluster level has been delegated to a specific insurance provider. Due to a lack of competition, the situation currently exists as a monopoly. Because of this, there is little to no potential for them to modernise their offerings and adopt competitive pricing.

The state governments' tardy transfer of premium subsidies; the insurance companies' disagreements with the state governments regarding the yield data; the missing bank account information for farmers as a result of a breakdown in communication to credit the compensation amount; NEFT-related issues, etc., all contributed to the delay in the settlement of claims. To ensure that the compensation for farmers is paid on time, certain improvements to the operational rules should be made to prevent delays in claim settlement.

To increase accuracy and objectivity when calculating crop loss based on weather index characteristics, the most recent technologies, such as remote sensing, simulation modelling, 3D imaging, and ICT tools, should be used. A single information repository containing all insurance-related meteorological and crop yield data should be established for easy access by all crop insurance organisations. Farmers who practise climate-smart farming should be rewarded by insurance companies by developing and making available insurance products at competitive prices.

Crop-specific, temporal, and spatial hazards are all included in crop insurance programmes. An area strategy cannot be used to eradicate this; while an individual approach is best, it is also the most expensive. Agriculture insurance does not always adhere to the "utmost good faith" in the compliance method of the insurance companies disclosing important information to the insured farmers. The real causes were the farmers' heterogeneous risk attitudes, which led to various levels of worry about paying insurance premiums; their choice of

crop and source of agricultural income; and their level of financial literacy. As a result, multi-agency product design for insurance should be encouraged. The GoI should immediately establish an efficient dispute and grievance resolution process to encourage private insurance companies to actively participate in crop insurance promotion in rural agricultural markets.

Because most farmers are unfamiliar with loss computation methods (including concepts like threshold yield) and damage assessment mechanisms are unfavourable to farmers, improved loss detection can undoubtedly be advantageous. As a result, farmers are "misled" when they do not receive compensation despite having insurance and suffering agricultural losses.

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