Study To Find Out The Product-Insurance Attribute Tradeoffs For Marginal Farmers In Context To Crop Insurance Scheme In Punjab

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ABSTRACT

A population, circumstance, or phenomena is intended to be correctly and methodically described through descriptive study. What, where, when, and how inquiries can be answered, but why questions cannot. A descriptive research strategy can study one or more variables using a wide range of research techniques. From the conjoint analysis result it has been found that all the combination the sensitive score for crop type is-0. 735, mode of payment is-2. 18, & insurance service provided is 6.45. Final results of The Conjuring analysis shows that all the available alternative farmers prefer to rely on cooperative societies for their insurance where the prefer the annual mode of and this option they would like to pursue for the kharif crop.

Introduction to Crop Insurance:

Crop insurance is a financial protection plan for farmers who experience financial losses as a result of crop damage and destruction caused by a variety of production hazards. Crop insurance, often known as agriculture insurance, protects against the loss of expected crop yields. Schemes or Programme account for nearly all of Crop Insurance's business. These Schemes are in operation based on the 'Area Approach' concepts Coverage is available obligatory for farmers who take out crop loans RFIs (rural financial institutions) for the development of rural areas lone farmers, i.e. crops Farmers that do not have a loan can participate in the programme. Likewise, they insure their crops using the same techniques. The critical risk in agriculture is uncertainty of crop yield. The majorities of the farmers are very poor and are not capable to tolerate the risks of crop failure. For rising population, the food production ought to be enhanced to make available food and nutritional security across the country. The earnings from the farm holdings are requisites to be greater than before in order to keep and exert a

pull on younger generation to pursue agriculture as a profession. Punjab is one of the most fertile land across globe. Punjab State has received a title of "Food Basket of the Country" & "Granary of India". Punjab has been contributing 40 % of rice and 50-70 percent of wheat over last two decades.(Department of Agriculture & Cooperation Mechanisation & Technology Division & Agriculture, n.d.) Punjab is self sufficient state in producing food grains. Besides, Punjab contributes around 60% food grains to the central pool. The Agriculture in Punjab state is extremely concentrated in terms of land, capital, energy, nutrients, agriculture input and water etc. A variety of other essential crops of the state are rice, cotton, sugarcane, pearl millet, maize, barley and fruit.In the country like India where approximately 70% of land is under agriculture sectors, the need to amplify the production and to make this sector a profitable sector is equal responsibility of farmers and governments. There are certain natural calamities, disasters, and others possible reasons that the crop production is not as per expectations. Here lies the need of crop insurance which can act as savior for farmers. In comparison to the conventional risk reducing strategies like crop diversification, inter-cropping, mixed farming, integration of farm etc., accessible to farmers, the crop insurance is most efficient (Shashi Kiran & Umesh, 2012). It could assist them in making cover for loss and streamline their production without any problem. In many countries the government offers assistance or aid to the agriculture sector in the occurrence of natural disaster in the form of public policy. Some nations offer it on temporary basis and in other countries it is offered via formal planning and even legislation for this purpose. It is the accountability of the government to take necessary actions to offer a helping hand. In this way crop insurance is the financial mechanism introduced by the government to diminish the impact of crop loss to provide secure income to the farmer. There are numerous schemes available in our country also. The main Schemes available to farmers in respect of crop insurance are as under:

- National Agricultural Insurance Scheme (NAIS) of Government of India
- National Crop Insurance Programme (NCIP) of Government of India
- Modified National Agricultural Insurance Scheme (MNAIS)
- Weather Based Crop Insurance Scheme (WBCIS)

National Agricultural Insurance Scheme (NAIS)

The National Automated Identification System (NAIS) was introduced in 1999 and is already in use in a few states. Based on the 'Area Yield Index,' the Scheme is effectively an all-risk insurance policy. Theres are certains crops covered in this scheme like all food, oilseeds, and annual commercial / horticultural crops for which historical yield data is available and crop cutting trials are scheduled for the current year are covered by the Scheme. At the start of each cropping season, state governments publish notifications with names of crops, locations eligible for insurance, premium rates, and so forth. The Scheme is open to all farmers, with borrowing farmers being required to participate and non-borrowing farmers having the choice to participate. Farmers must complete a short Proposal Form and send it to their nearest bank branch or Primary Agricultural Credit Society,

along with the premium amount. The Sum Insured must be at least equal to the loan amount, but the farmer has the option of increasing it to 150 percent of the average produce value. Non loanee farmers are subject to restrictions set forth in a state government notice. Premium rates for food crops and oilseeds range from 1.5 to 3.5 percent, whereas annual commercial and horticultural crops are paid at actuarial rates. Small and marginal farmers are eligible for a premium subsidy of 10%.

State governments in certain cases provide a larger subsidy. Intermediaries are a network of financial institutions, such as commercial banks, regional rural banks, and cooperative banks, dispersed around the country. The system is based on the bancassurance paradigm. The indemnity levels are 60 percent, 80 percent, and 90 percent, respectively, implying that farmers are responsible for the first 40%, 20%, and 10% of the loss. The term 'deductible' is sometimes used to describe this state. The Scheme is based on the Area-Yield Index or Guarantee principles. A crop in every Homogenous Area, such as a taluka, block, or gramme panchayat, has a guaranteed yield called Threshold Yield. Threshold Yield is calculated by multiplying the moving average of the previous five years' actual yield (three years in the case of Paddy and Wheat) by the appropriate amount of indemnity. If the current season's actual yield is less than the Threshold yield, claims are due. General Crop yield data is used for claims. Claims estimation and payment are automated procedures, and the claim money is credited to the bank account of covered farmers. Insured farmers and middlemen are not needed to do any paperwork. Crop cutting experiments are used to conduct surveys (GCES). The procedure of assessing and settling claims is automated, and the claim money is credited to the bank account of the covered farmers. Insured farmers and middlemen do not have to complete any paperwork.

National Crop Insurance Programme (NCIP)

MNAIS, WBCIS, and CPIS are the three components of NCIP. MNAIS and WBCIS components share several similar properties, such as implementation agencies or private insurance firms are permitted. Premium rates are calculated actuarially. Insurance firms use actuarial rates of premium to shift risk to the global reinsurance market, while governments use them to budget their responsibilities. Farmers' premiums are heavily subsidized to keep them cheap. The amount insured is about equivalent to the cost of production. There will be no pooling of claims between state and federal governments; therefore the insurance firm will pay all claims. There are mainly two components of this scheme namely: Modified National Agricultural Insurance Scheme and Weather Based Crop Insurance Scheme

Modified National Agricultural Insurance Scheme (MNAIS) is an improved version of NAIS. All food, oil seed, and annual commercial/horticultural crops for which historical yield data is available and crop cutting trials are scheduled for the current year are included in the Scheme. At the start of each cropping season, state governments publish notifications that include the names of crops and locations that are eligible for insurance, as well as premium rates. It is available to all farmers and is mandatory for borrowers and optional for non-borrowers who must complete a short Proposal Form and submit it together with the premium amount to a bank

or Primary Agricultural Credit Society branch near them. Sum Insured is determined by the cost of cultivation and must be at least equivalent to the amount of loans given. The amount insured for various crops for a district within the state is sometimes determined by the state government. The maximum amount covered is equal to the Threshold Yield. Premium prices differ by crop and locale, and are determined by the risk profile reflected in historical production statistics, prior insurance, and claims experience. Intermediaries are a network of financial institutions that span the length and width of the country, including commercial banks, regional rural banks, and cooperative banks. Non-loane farmers can also be insured by insurance intermediaries who have been licenced by the IRDAI. Farmers must shoulder the first 20% or 10% of losses, respectively, at indemnity levels of 80 percent and 90 percent. Area-Yield Index (AYI) or Guarantee concepts are used.

The guaranteed yield, known as the Threshold Yield, for every crop in every Homogenous Area, such as a taluka, block, or gramme panchayat, is based on the moving average yield of the previous seven years, with a provision for removing yields from up to two catastrophe years. The second procedure is identical to the NAIS. This scheme also covers coverage for 'Prevented sowing,' post-harvest losses, individual farm level evaluation in the event of localised calamities, and On-Account claim settlement in the event of catastrophic crop losses/major disasters.

The second component is Weather Based Crop Insurance Scheme (WBCIS). The Scheme covers all food, oilseeds and annual commercial / horticultural crops. All crops for which historical yield data is not available can also be covered. It is open to all farmers required for borrowing farmers and optional for non-borrowing farmers. It is must to complete a short Proposal Form and submit it together with the premium amount to a bank or Primary Agricultural Credit Society branch near them. The major risk components are deficit, excess, and deviation of rainfall, relative humidity, temperature (high and low), and wind speed. Hail and cloud burst risks can also be addressed as add-on coverage. For each crop and district, the state determines the Sum Insured, which is pre-determined and based on cultivation costs. Premium rates for Kharif and Rabi seasons can be as high as 10% for commercial and horticultural crops and as low as 8% for Kharif and Rabi season. Premium subsidies range from 25% to 50% of the cost of the product. Intermediaries are a network of financial institutions that span the length and width of the country, including commercial banks, regional rural banks, and cooperative banks. Non-loanee farmers can be insured through insurance brokers regulated by the IRDAI. The Indian weather indexed insurance market has precisely fascinated concentration from educational economists concerned in piloting and learning from new ideas(Clarke et al., 2012)

It is noted that Weather-based insurance products are always helpful for farmer in obtaining faster claim settlement (Venkatesh, 2008). This could also mean lower premiums for farmers buying these insurance products. Under this scheme the claims can be computed per unit area if the observed weather index value is below or above the notified trigger value. Weather data from automated stations deployed in the Reference Unit Area for the purpose is used to assess and pay claims. The calculations are made using the term sheets that are presented in the notices. The process of evaluating and settling claims is automated. Insured farmers and middlemen do not have to complete any paperwork. Add-on cover losses are assessed on a case-by-case basis, and farmers must notify the insurance carrier within 48 hours of the covered danger occurring.

Review of literature:

(Nagentran & Rajendran, 2019) in a study "Economic Analysis of Crop Insurance A Critical Review" has tried to examine the economics of crop insurance. Crop insurance protects farmers from natural disasters beyond their control, reducing the financial impact of crop loss. In recent years, the Indian government has established a number of crop insurance programmes, both at the national and state levels. The studies show how farmers handle risk in an informal manner, as well as the efficacy of government policy and crop insurance, as a result of the aforementioned assessments. Furthermore, it was critical to assess the efficacy of India's crop insurance system and identify implementation issues. Due to this void, research into crop insurance concerns was required. Farmers in India have been dealing with the same problem for a long time since agriculture activity is unpredictable. As a result, it was critical for scholars to examine crop insurance concerns in order to improve crop insurance in order to secure agrarian life in India.

(Ali et al., 2020) in a study "Recent Advances in the Analyses Recent Advances in the Analyses of Demand for Agriculture   insurance   in Developing and   Emerging Countries" has discussed that despite the enormous risks and uncertainties that farmers in developing and emerging nations confront in their production processes, efforts to persuade them to purchase agricultural insurance to reduce such risks have mostly failed. The study has summarised recent research on crop insurance demand in developing and emerging nations, including the current stage of adoption, demand factors, and possible welfare advantages. While risk aversion is required for the demand for crop insurance in poor nations, cash restrictions, rates of time preference, base risk, and trust are also important factors to consider. The growing use of randomised control trials to examine data is an intriguing discovery. Our thorough assessment identified several information gaps in the literature and suggests some future directions.

(DUANGMANEE, 2020) in a study title "Feasibility of Group Risk Income Protection Insurance for Para Rubber in Thailand" has looked into a promising long-term crop-insurance risk mitigation strategy, known as Group Risk Income Protection (GRIP) insurance, for the cultivation of para rubber, a crop that accounts for more than half of Thailand's harvested area but has recently seen a price and yield shift that has impacted farmers significantly. The study began with historical data regarding this crop's cultivation in three provinces along

Thailand's Andaman South Coast: Trang, Krabi, and Phangnga, from 2001 to 2018. The findings showed that Trang's yields decreased rapidly from a very high base in 2001 before gradually declining (presumably still ongoing), but Krabi and Phangnga's yields followed a smoother downward trajectory throughout the timeframe. Meanwhile, prices grew steadily across the board before plummeting starting in 2011 and showing no signs of slowing down. One province had a negative yield/price connection, whereas the others had a minor positive association. Furthermore, the income from para rubber in all provinces climbed steadily at first before declining after 2011, a pattern that appears to be continuing to this day. The findings of the report indicated that, following early efforts to establish GRIP insurance, it is likely to become a viable alternative for para rubber, making policy agreement details an intriguing issue for future research.

(Mahesha MB and N.N, 2020) in study on "An Overview of Crop Insurance Schemes in India" has provided an overview of crop insurance in India. Agriculture has a crucial role in the country's overall growth. On the other hand, weather and yield risk due to natural disasters, as well as pests and diseases, have had a significant impact on agriculture. Crop insurance was an excellent measure made by the nation to safeguard farmers from crop loss. Due to a high number of farmers and tiny fragmented land, the methodologies used for loss assessment, particularly the individual and area approaches, were not successful in India. According to the report, the government failed to meet its goal of introducing crop insurance due to complicated procedures at various levels of implementation and a lack of farmer understanding.

(Rahmat Fadhil, Muhammad Yasir Yusuf, T. Saiful Bahri, Hafiizh Maulana, 2021) in research named "Agricultural Insurance Policy Development System in Indonesia: A Meta-Analysis" has explained that agriculture insurance is an attempt to reduce the risks and uncertainties associated with the agricultural sector. Farmers in Indonesia, who are at danger of crop loss due to a variety of factors, require this programme. Agricultural insurance is still being implemented in Indonesia, and there are a number of roadblocks to overcome. The purpose of this research is to describe how agricultural insurance policies have evolved in Indonesia. A meta-analysis was used to conduct this research, which followed the Policy Development System Engineering strategy. This study resulted a number of policy recommendations for the future improvement of Indonesia's agriculture insurance system. Increased coordination between the institutions involved, systematic information sharing between the parties, quality improvement in field staff human resources, and an improvement in the socialization programme at the local level were only a few of the proposals.

Increased coordination between the institutions involved, systematic information exchange between the parties, quality improvement in field staff human resources, socialization programme improvement at the farmer level, establishment of quick and swift insurance claim procedures, increased role of farmer group chairpersons, premium subsidy increases with various schemes, and Islamic agricultural insurance policies in Indonesia are just a few of the recommendations. Policy suggestions were strategic initiatives made by numerous stakeholders to ensure that Indonesia's agriculture insurance system is integrated and sustainable.

(Ghosh et al., 2021) in a research " Demand for Crop Insurance in Developing Countries: New Evidence from India" has described that it is tough to figure out what farmers really want from crop insurance, especially in developing nations where there is a lack of formal financial sector integration and a strong dependence on informal risk mitigation measures. In the context of a large-scale subsidized project in India, this article presented some fresh estimates of farmers' willingness-to-pay for insurance. The author used a discrete choice experiment with agricultural households in four Indian states to estimate preferences for certain insurance policy parameters such coverage length, loss assessment technique, indemnity payment schedule, and insurance cost. Findings imply that, under some circumstances, farmers value crop insurance, and that some were ready to pay a premium for it above the subsidised rates they are now compelled to pay under this programme.

PRESENT SCENARIO OF CROP INSURANCE SCHEME IN PUNJAB

The flagship programme, Pradhan Mantri Fasal Bima Yojana, was launched on January 13, 2016, with the goal of increasing farmer productivity and earnings. The Weather Based Crop Insurance Scheme (WBCIS), which was restructured and launched by the Government of India in March 2016, aims to protect insured farmers against the risk of financial loss due to expected crop loss due to adverse weather conditions. Both the PMFBY and MWBCIS programmes have not been implemented in Punjab, although they have received widespread awareness at district level camps organized by the Indian Council of Agricultural Research's Krishi Vigyan Kendra (KVK) (ICAR). In April, 2016, the government of India had launched Pradhan Mantri Fasal Bima Yojana (PMFBY) after rolling back the earlier insurance schemes viz. National Agriculture Insurance Scheme (NAIS), Weather-based Crop Insurance scheme and Modified National Agricultural Insurance Scheme (MNAIS). Thus, at present, PMFBY is the only flagship scheme of the government for agricultural insurance in India.

Rejecting the Pradhan Mantri Fasal Bima Yojana (PMFBY) initiated by the Central government, the state is preparing its own crop insurance policy. After West Bengal, Punjab will become the second state to have its own crop insurance scheme.This study examines the level of knowledge of these two programmes among the three stakeholders, namely scientists, extensionists, and farmers. The majority of scientists are aware of the elements of PMFBY& WBCIS, such as crop coverage and risk coverage, but are less aware of post-harvest coverage losses. Both the PMFBY and MWBCIS programmes have not been implemented in Punjab, although they have received widespread awareness at district level camps organised by the Indian Council of Agricultural Research's Krishi Vigyan Kendra (KVK) (ICAR). This study examines the level of knowledge of these two programmes among the three stakeholders, namely scientists, extensionists, and farmers. The majority of scientists are aware of the elements of PMFBY& WBCIS, such as crop coverage and risk coverage, but are less aware of post-harvest coverage losses. Only 37 percent of scientists were aware that the insurance unit was the village panchayat, while 28 percent were aware that the sum insured was the same for loanee and non-loanee

farmers, and extensionists had a similar level of understanding. Almost half of the progressive farmers had heard of PMFBY and were familiar with its many elements. Through an awareness drive, farmers should be made aware of crop/weather insurance. Insurance education may be included into a variety of risk management training programmes. The major difficulty in implementing crop insurance schemes is asymmetric information between insurer and the insured regarding the cause of crop failure, which may lead to dual problems of moral hazard and adverse selection. Moral hazard occur when n insurer deliberately alters his behaviour . so as to increase the magnitude of potential less or probability of loss and adverse selection occurs when those purchasing insurance face higher risk than those who do not, as a result there is a need for monitoring and supervision, which inflict high administrative and transaction costs on the insurer(Hazell et al,1986 & Godwin ,2001).

Objective

To find out the product-insurance attribute tradeoffs for marginal farmers.

Research Methodology

Research design

The framework of research methodologies and techniques selected by a researcher to carry out a study is known as the research design. Researchers may fine-tune the study techniques appropriate for the topic and set up their studies for success other thanks to the design. The present study uses descriptive research design. A population, circumstance, or phenomena is intended to be correctly and methodically described through descriptive study. What, where, when, and how inquiries can be answered, but why questions cannot. A descriptive research strategy can study one or more variables using a wide range of research techniques. When the goal of the research is to discover traits, frequencies, trends, and classifications, descriptive research is the best option. When little is known about the subject or issue, it is helpful. Understanding how, when, and where something occurs is necessary before you can investigate why it occurs.

SAMPLE DESIGN AND SAMPLE SIZE:

In studies where the plan is to estimate the proportion of successes in a dichotomous outcome variable in a single population, the formula for determining sample size is:

$$n = p\left(1 - p\right)\left(\frac{Z}{E}\right)^2$$

where **Z** is the value from the standard normal distribution reflecting the confidence level that will be used (e.g., Z = 1.96 for 95%) and **E** is the desired margin of error. p is the proportion of successes in the population. Here we are planning a study to generate a 95% confidence interval for the unknown population proportion, **p**. The equation to determine the sample size for determining p seems to require knowledge of p, but this is obviously

this is a circular argument, because if we knew the proportion of successes in the population, then a study would not be necessary. The range of p is 0 to 1, and therefore the range of p(1-p) is 0 to 1. The value of p that maximizes p(1-p) is p=0.5. Consequently, if there is no information available to approximate p, then p=0.5 can be used to generate the most conservative, or largest, sample size.

$$n = 0.5\,(1-0.5)\left(\frac{Z}{E}\right)^2 = 0.5\,(0.5)\left(\frac{1.96}{0.05}\right)^2 = 384.2$$

The sample respondent in the study is the farmers. The selection of the farmers in the study is based on a criteria i.e. a list of the farmers having less than or equal to five acres of operational holdings in the selected villages, has been prepared with the help of village Patwaris, officials of cooperative credit societies and village Panchayats. The farmers across the three geographical region of Punjab have been included in the study. Punjab state is geographically divided into three major regions called Majha, Malwa and Doaba.

Table 4.1

Distribution of Respondents among Different Cities

District	No. of respondents	Percent
Gurdaspur	28	9.1%
Amritsar	54	17.5%
Hoshiarpur	23	7.5%
Jalandhar	59	19.2%
Firozpur	24	7.8%
Patiala	40	13.0%
Sangrur	28	9.1%
Sri Ganganagar	30	9.7%
Hanumangarh	22	7.1%
Total	308	100.0

A list of all the villages in each selected block was taken from the respective Block Development Officer. Two villages from each selected block, away from the periphery of the main town of the block were selected randomly. Also the district like Hanuman garh and Sri ganaga nagar has been chosen from Rajasthan. Hanumangarh district of Rajasthan state has highest production under rice cultivation. Wheat is largest grown cereal crop in the state and Ganganagar and Hanumangarh are the key production areas. Sri Ganganagar is the district in Rajasthan which is the largest producer of sugarcane. The farmers in these district have availed the

benefits of national agricultural schemes. These respondent farmers can possibily provide us exact data with desired accuracy. Although the sample farmers contacted for survey were more than the sample specified (383) but final only 308 farmers were included in survey who has given complete response.

STATISTICAL TECHNIQUES USED:

In order to make the final conclusion about the study the following statistical tools for the analysis of data are employed. Statistical calculations have been made by using making use of Microsoft Excel and SPSS Software Packages on the computer.

Conjoint Analysis: Conjoint analysis is an analysis technique that has gained a huge momentum in the marketing world. The result of menu-based conjoint analysis is that we can identify the trade-offs consumers are willing to make. Conjoint analysis methods use statistical analysis to compute mathematical representations of survey respondents' preferences for product features and how attribute changes affect demand, and even predict market acceptance of new products before they launch

Conjoint Analysis:

The main objectives of the study is kept in mind and around it, the attributes, levels, and construct for the present preferences are designed. The conjoint method is used and the questionnaire is designed to obtain the preferences of the customers. The data collection is done by spreading questionnaires directly to respondent. In this method, respondents were asked to give ranking to each stimulus in questionnaire.

Card List

Card ID	ISP	Paymentmode	CropType
1	RRB	Annually	Kharif
2	Coop Socities	Six Monthly	Kharif
3	RRB	Six Monthly	Others
4	Insurance agents	Monthly	Kharif
5	RRB	Monthly	Rabi
6	Insurance agents	Annually	Others
7	Coop Socities	Annually	Rabi
8	Coop Socities	Monthly	Others

There are twenty seven different profile are designed stating preferences for insurance service provider(s) for availing National Agriculture Insurance Scheme. The above table represents the top most eight preferred profile

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
1 (Constant)	14.157	.257		55.143	0.000
disp	3.028	.297	.318	10.206	.000
disp2	-3.431	.296	-.360	-11.609	.000
dsixmonth	1.096	.306	.112	3.583	.000
dkharif	-1.095	.511	-.115	-2.142	.032
drabi	-.360	.450	-.044	-.800	.424
dmonth	-1.093	.297	-.118	-3.679	.000

First, ranking data from questionnaire will be transformed to numeric data and second, ordinary least square between variable independent X (attributes) and variable dependent Y (transformed data). Ordinary least square variable independent X and variable dependent Y is employed so that we get coefficient regression which is utility value. We also can obtain relative importance value of each attribute by using equation. An attribute that has high importance relative value is the most considered attribute. Table 3 is the result of utility value estimation and importance relative value of this research

Sensitivity Analysis:

Insurance Service Providers	Utility Score	Mode of Payment	Utility Score	Crop Type	Utility Score
Insurance agents	3.028	Six-month	1.096	Rabi	-.360
Coop Societies	-3.431	Month	-1.093	Kharif	-1.095
RRB	0.403	Annual	-0.003	Others	1.5
Senstivity score	6.458934		-2.18		-0.735

On the basis of results obtained of parameter estimation, the utility of each levels and relative importance each attributes is determined. The Utility Score for Insurance agents is 3.028, Coop Societies is -3.431 and RRB is 0.403. The sensitivity score for Insurance Service Providers is calculated as 6.458934. In addition to this the utility score for six-month mode of payments is 1.096, monthly is -1.093 and annual is -0.003. The sensitivity score for mode of payments is -2.18. Lastly the utility score for Rabi crop is -.360, kharif is -1.095, and other crop is 1.5. The overall sensitivity score for crop type is -0.735. It is best combination extracted. Out of these the utility score for insurance service provider is most sensitive among crop type, mode of payment and type of insurance service provider. Farmers prefer Cooperative society with annual mode of payment for Kharif crop.

Findings of the study:

Conjoint methods are used to bring forth preferences about different crop insurance programs and product attributes(Sherrick et al., 2017). Conjoint method is applied to obtain the preferences of the farmers for various insurance service providers, mode of payment and types of crops. A Card List is designed which presents twenty seven profile showing preferences for insurance service provider(s) for availing National Agriculture Insurance Scheme.

- From the results of Sensitivity Analysis it has been identified that the Utility Score for Insurance agents is 3.028, Cooperative Societies is -3.431 and RRB is 0.403. The sensitivity score obtained for Insurance Service Providers is 6.458934.

- Further from the sensitivity analysis it has been found that the utility score for six-month mode of payments is 1.096, monthly is -1.093 and annual is -0.003. The sensitivity score for mode of payments is -2.18.

- In addition to above findings it has been noticed that the utility score for Rabi crop is -.360, kharif is -1.095, and other crop is 1.5. The overall sensitivity score for crop type is -0.735. It is best combination extracted. Out of these the utility score for insurance service provider is most sensitive among crop type, mode of payment and type of insurance service provider. Farmers prefer Cooperative society with annual mode of payment for Kharif crop.

- The results of t test pin points that there exists a significant level of difference in the level of awareness of the respondents of Punjab and Rajasthan farmers. The factors Publicity of Scheme($p \leq 0.05$), Scheme performances ($p \leq 0.05$),, Scheme Offerings ($p \leq 0.05$), and Alternative Options ($p \leq 0.05$), are found to have profound impact on awareness between the respondents of Punjab and Rajasthan since in all these cases the significance two tailed value comes out to be less than 0.05. It is concluded that for the factor 5 and 6 respondent farmers of both States have the same opinion.

- The study shows that for factor Banking services and Complex Documentation the significance value $p \geq 0.05$ which indicates that banking services and complex documentation has no impact on awareness level of respondents. This indicates that farmers have less knowledge about complex procedures and paper work of banks.

Conclusion:

From the conjoint analysis result it has been found that all the combination the sensitive score for crop type is-0. 735, mode of payment is-2. 18, & insurance service provided is 6.45. Final results of The Conjuring analysis shows that all the available alternative farmers prefer to rely on cooperative societies for their insurance where the prefer the annual mode of and this option they would like to pursue for the kharif crop.

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