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CROP INSURANCE: FARMERS PERCEPTION AND AWARENESS:

A Case Study in Kuram Pally Village of Kanagal Mandal of Nalgonda District, Telangana State

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ABSTRACT

Agriculture is a Spinal card of Indian Economy. Where production process in agriculture is entirely different than in other industries. The production in this sector bearing Risk and Uncertainty because of many factors like Irrigation, Weather conditions, Usage of Seeds Fertilizers pesticides, Lack of awareness on risk mitigation and Government failure in disseminating information on Crop Insurance Schemes in India. The Risk bearing capacity of the average small farmers in the semi-arid tropics is very limited. This paper investigates the awareness and perception on crop insurance scheme, in Kuram pally village of Kanagal Mandal, NalgondaDistrict of Telangana State. In order to avoid the risk and uncertainty in agriculture, government of India andstate governments have launched several schemes such as National Agriculture Insurance Scheme and Weather index based crop insurance schemes. But their coverage and usages of these programes are limited among the farmers because of lake of sufficientinformation on schemes. This paper has reported the results of a survey of 100 farmers conducted to assess their perception about various facets of crop insurance schemes. The Probit model has been employed to analyze the factors affecting awareness among the farmers. The survey has revealed that 35% of the farmers are aware of risk mitigation measures of the government. This implies that there is a need to disseminate information about insurance schemes across the target group particularly small farmer and middle farmers.

KEY WORDS: Crop Insurance, Agriculture production risk, Farmers, Awareness, Probit model.

INTRODUCTION

The agricultural sector plays a pivotal role in growth of economy and in lives of people in India as well as in Telangana state. Agriculture is an important sector of the Indian economy, accounting for 14% of the nation's GDP, about 11% of its exports, about half of the population still relies on agriculture as its principal source of income and it is a source of raw material for a large number of industries. Accelerating the growth of agriculture production is therefore necessary not only to achieve an overall GDP target of 8 per cent during the 12th Plan and meet the rising demand for food, but also to increase incomes of those dependent on agriculture to ensure inclusiveness. It not only contribute to the national income but also provides livelihood roughly two thirds of the workforce in the country. The fluctuations in agriculture impinge on other sectors of the economy due to its forward and backward linkages. From a social point of view, the problems are more acute when widespread or flooding leads to crop failure affecting large number of producers. In this case, the farmers' problem becomes a community problem that affects the welfare of everyone. Agriculture is a spinal card of Indian economy. Where production process in agriculture is entirely different than in other industries. The production in this sector bearing risk and uncertainty because of many factors like irrigation, weather conditions, usage of seeds fertilizers pesticides, lack of awareness on risk mitigation and government failure in disseminating information on Crop Insurance Schemes in India. The Risk bearing capacity of the average small farmers in the semi-arid tropics is very limited. In order to avoid the risk and uncertainty in agriculture, government of India and state governments have launched several schemes such as National Agriculture Insurance Scheme (NAIS) and Weather Index Based Crop Insurance Schemes (WIBCIS) etc. But their coverage and usages of these programs are limited among the farmers because of lake of sufficient information on schemes.

Indian agriculture is much dependent on rainfall which largely occurs during monsoon season of about two and half months. The abnormal behaviour of monsoon may cause natural disasters such as scarcity conditions or drought, floods, cyclones, etc. Nearly two third of the cropped acreage is vulnerable to drought in different degrees. On an average 12 million hectares of crop area is affected annually by these calamities severely impact the yields and total agricultural production. About two thirds of the cultivated area has no irrigation, even large part of irrigated area does not get adequate water supply for intensive cropping (double cropping). In rainfed areas sowing of kharif crops commences with the onset of monsoons and the delay in the onset of monsoons delays sowing with its adverse impact on yield. Further the growth of crops and realization of output are determined by the quantum of rainfall and its distribution during the monsoon season. Even sowing of Rabi crops is determined by the soil moisture retained from the rains especially during the latter part of the monsoon season. Rainfall pattern affects the irrigated crops also. Rainfall during flowering period washes the pollens adversely affecting the crop yield. Excess rainfall may adversely affect the yield realization. Heavy rains may submerge the growing crops in the early stages and may cause lodging in the later stages of crop growth. In the catchments heavy rains may cause floods in the plains. The floods disrupt the sowing schedule and damage the standing crops

resulting in reduced yield or even total loss of crops and farm income in addition to loss of property. Other weather variables that affect yield include sunlight, temperature, wind, hails. In fact since time immemorial weather has been the major adversary that the farmers are unable to manage. It has been established that 50% of the variations in crop yield is due to variations in rainfall.

CROP INSURANCE IN INDIA: A BRIEF HISTORY

The policy makers in India are concerned about the risk and uncertainty prevalent in agriculture. Work on crop insurance received much attention after India's independence in 1947. However, crop insurance was conceptualized and J.S. Chakravarthi presented a practical scheme suited to Indian conditions as early as in 1920. A book entitled "Agricultural Insurance: A practical Scheme Suited to Indian Conditions" was published in 1920. In this book he proposed a rain insurance scheme for the Mysore state to protect farmers against vagaries of monsoon culminating in drought. The subject of crop insurance was discussed in the Parliament (Central Legislature) the 1947 and then minister of Food and Agriculture, gave an assurance that the feasibility of introducing crop and livestock insurance should be considered by government. Two pilot schemes on crop insurance, prepared by Mr. G.S. Priolkar, an officer on special duty, were circulated to the states for adoption. However, none of the states agreed to implement the schemes, mainly due to paucity of funds. The interest in the subject was rekindled during the third five year plan (1961 – 1966). However, the working group on agriculture was averse to included crop insurance in the plan. At the same time the government of Punjab proposed the inclination of crop insurance in its state plan and sort financial assistance from the central government.

The state government could not introduce crop insurance as the powers to pass the Legislation related to insurance was vested with central government. Following these developments and increasing demand for crop insurance, in 1965, the government of India decided to have a Crop Insurance Bill and Model Scheme of Crop Insurance. It and it was formulated so that the interested states could introduce crop insurance in the area under their jurisdiction. A Draft Bill and Model Scheme were prepared and circulated to states to elicit their views and comments on the same. Further, incorporating the comments and the views of the states, the government of India in March 1970 considered the Draft Bill and Model Scheme. The Draft Bill and Model Scheme were then referred to the expert committee (Under the Chairmanship of DharmNaraian) in July 1970 for fuller examination of the economic, administrative, financial, actuarial implications. The committee reported that in the conditions obtaining in the country, it was not advisable to introduce crop insurance in the near future on pilot or experimental basis. Despite the unfavorable report of the DharmNaraian Committee, political compulsions forced the government to introduce crop insurance in the country on experimental basis under the General Insurance Department (Danadekar 1976). The following schemes have been implemented by government of India.

Crop Insurance Scheme (CIS) 1972-1978:-

Based on "Individual Approach" the General Insurance Corporation of India introduced this programme and this covered H-4 cotton in Gujarat and it extended to Paddy, Groundnut. Later this CIS was extended to other states.

Pilot Crop Insurance Scheme (PCIS) 1979-1984:-

In the history of Crop Insurance in India this scheme was introduced based on 'Homogeneous Area Approach' by General Insurance Corporation of India. This scheme covered the crops like cereals, millets, oil seeds, cotton, potato, and gram spread across the 13 states but the programme was restricted to loanee farmers.

Comprehensive Crop Insurance Scheme (CCIS) 1985-1998:-

It had also introduced by GIC based on 'Homogeneous Area Approach'. This scheme covered cereals, millets, oilseeds and pulses spread cross the 15 states and 2 union territories in India, latter it spill over to five more states in later few years. Scheme was restricted to loanee farmers up to 100% of the crop loan or maximum of 10,000 per farmers.

National Agriculture Crop Insurance Scheme (NAIS) 1999-2000:-

India's modified crop insurance program which is called as National AgriculturalInsurance Scheme is implemented since rabi 1999-2000.Union budget 2002-03 proposedset up of Agricultural Insurance Corporation (AIC) with capital participation fromGeneral Insurance Corporation of India (GIC), four public sector general insurancecompanies viz. 1. National Insurance Co Ltd., 2. New India Assurance Co. Ltd., 3.Oriental Insurance Co. Ltd and 4. United Insurance Co. Ltd., and NABARD. Thepromoter's subscription to the paid up capital will be: 35% by GIC, 30% byNABARD and 8.75% each by the four public sector general insurance companies.The authorized capital of the new organization will be Rs.1500 crore, while the initialpaid-up capital will be Rs.200 crore. National Agricultural Insurance Scheme (NAIS)shall be transferred to the new organization and shall form the core of business to beginwith. Transition to actuarial regime will be made over a period of time. The neworganization will, in due course of time covers other allied rural/agricultural risk along with cropinsurance. The specific objectives of the program areto 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 and diseases.To encourage the farmers to adopt progressive farming practices, high value inputs andimproved technology in agriculture.

LITERATURE SURVEY

Ali, Jabir and Sanjeev Kapoor (2008),this paper provides an assessment of agricultural diversificationtrends towards fruits and vegetables production in the state of UttarPradesh. In the first part, food consumption, crop productionpatterns and value of output in the region during the past twodecades are reviewed. Next, the farmers' perceived risks on a varietyof sources and the use of different risk management strategies arediscussed. The principal contribution of this paper is to draw ofattention towards some neglected aspects of diversification,especially the bio physical and economic constraints to the processof fruits and vegetables production system. The data were collectedusing a pre tested structured questionnaire and data was alsocollected from the Agricultural Statistics at a glance.The study has revealed that the annual growth in production ofhigh value crops has increased to augment income and manage risksand uncertainties. Cultivation of high value crops involves risk anduncertainty due to high resource requirement and high perishability.Thus, farmers' adoption of crop diversification practices requires afavorable environment that fulfills resource requirements andeffective policy support for

reducing their risk. Public interventionscan facilitate better risk management through improved informationsystem, development of financial markets and promotion of marketbased price and yield insurance schemes, thus ensuring that themarginal farmers are able to benefit from these interventions as well as participate in the emerging system.

Mamata Swain, (2008) The paper attempts to examine the need for crop insurance inan agriculturally backward state like Orissa in Eastern India and towhat extent the crop insurance scheme as implemented in the statehas helped the farmers in managing risk in agricultural production.A crop insurance scheme was introduced in Orissa on pilot basisfrom Kharif 1981 to Rabi 1984-85, but it showed a high andunfavorable claim-premium ratio. The Comprehensive CropInsurance Scheme (CCIS) was launched in Orissa in 1985 and itsmajor drawback was that its coverage was very low. As it was acredit linked insurance scheme, only the farmers taking loans frominstitutional credit agencies (typically the medium and large farmers)could insure their crops. Further, it was found to be financiallyunsustainable due to high claim-premium ratio. To overcome theabove problems, the improved National Agriculture InsuranceScheme (NAIS) was implemented in Orissa since 1999. This schemewas extended to non-loanee farmers, as a result of which area andnumber of farmers under the scheme increased enormously. Theclaim-premium ration was also found to be favorable in mostseasons. However, it was also suggested in this scheme that alongwith crop insurance other risk reducing measures like incomegenerating activities in non-farm sector and food for workprogramme should be undertaken to lower income variability. In afrequently disaster affected state like Orissa, along with the publicsector, private sector participation in agricultural insurance needsto be encouraged by providing subsidy, guarantee and reinsurancefacility. Credible long-term statistical information should be madeavailable for formulation of policies. Vulnerability maps of differentregions should be prepared which will help in setting the price ofrisk (premium). Education and training to farmers on the benefitsof crop insurance and different insurance products should be imparted.

OBJECTIVES OF THE PAPER

1. To analyze the farmers perception, awareness and adoptability of Crop insurance in Kuram Pally village of Kanagal Mandal.

2. To study the socio economic conditions and income distribution of farmers in the selected area.

METHODOLOGY AND DATA

The study utilized the primary data on awareness, adoptability of crop insurance. In order to elicit the information on chosen variables the interview method was used, 100 farmers were interviewed form Kuram Pally village of Kanagal Mandal where farmers are growing highly volatile commercial crops like cotton, chilly, maize, and rice from cereals. The sampled farmers were from the categories of marginal to large farmers who cultivating all important crops in one or two seasons under various agro- ecological situations, and under various sources of irrigation like tank irrigation, ground water irrigation and rainfed farming. Data were collected during March- April, 2014. The following methods employed.

The Probit Model:-

The probit model and simple averages were used to study awareness about crop insurance.The dependent variable was

awareness level being the major tool of risk mitigation or minimization, which was defined as Y=1 if farmers were about crop insurance, and 0, otherwise. The Probit model was specified as per below equation.

$$Y = a0 + \beta1\ EDLF + \beta2\ FEXP + \beta3\ FSP + \beta4\ EXTNF + \beta5\ NEWSR + \beta6\ GADVT + Ui$$

Where,

a0, β1,β2,β3,β4,β5,β6 are parameters

Y = Awareness about crop insurance (1 for aware, 0 otherwise)

EDLF = Education level of farmer

FEXP = Farming experience of farmer (years)

FSP = Farmer social participation (1 for participation, 0 otherwise)

EXTNF= Extension agency contact of farmer (1 for yes, 0 otherwise)

NEWSR= Habit of Newspaper reading of farmers (1 for yes, 0 otherwise)

GADVT= Government advertisement on crop insurance (1 for yes, 0 otherwise)

U = Omitted term.

RESULTS AND DISCUSSION

Data were analyzed using tabular analysis, ranking technique and functional analysis.

Socio- economic Characteristics of Sample farmers:-

Among the 100 sample farmers, more than 65 percent were in the age group of above 35 years. A large number of respondents (35%) were at the age of more than 50 years. Regarding education, it was found that 67 per cent were illiterate, 27 per cent had studied up to primary level and 6 percent were had attended higher secondary level. Thus, only aged and less educated farmers were involved in the farming activity in the selected study area. Out of the 100 farmers near about 54 percent of farmers belongs to small and medium farmers whose size of land is 1-5 acres and survey reveals that 90 percent of the families had less than six members. The joint family system was not existed and study also explains that 40 percent of families had earning member from other than agriculture. Where these families and families which are having membership in SHGs, Ideal Farmers, Farmer co-operative societies, and other banks were have more awareness on agriculture risk mitigation tactics and on crop insurance.

Crop Diversification- A Tool of Risk Minimization:-

Since 80 percent of the farmers does not aware and 83 percent of the farmers have not taken the crop insurance to mitigate the risk involved in agriculture in the selected area. About the risk minimization, 73 percent of farmers responded that they could manage their farm risk with their own resources. Regarding mechanism of risk management other than input reduction, they were used crop diversification as a tool. Other notable point in the study is in order to manage the risk in agriculture near 1.5 percent of the people were not cultivating any crops in their land.

Table 1: Distribution of annual income among sample farmers

Income categories (Rs)	Number	Percentage
Below 25,000	11	11.00
25,001-50,000	15	15.00
50,001-75,000	16	16.00
75,001-1,00,000	26	26.00
1,00,001-1,50,000	22	22.00
Above 1,50,000	10	10.00

Table 1, is the evident of the distribution of average annual agricultural income among the respondents showed that 26 percent of the respondents were in the lower income category (Rs 50,000 or less). About 42 percent of farmers were in the income category of Rs 1 lack or less. Major part of the farmers belong to medium income category. The result revealed that the proportion of lowest income group (below Rs 25,000) was equal to the proportion of very high income group (more than 1.5 lack). This depicts that level of income asymmetry in the rural area or village. The income distribution was more skewed among farmers and it was not effected much on risk mitigation tactics in agriculture in the selected area.

Table 2: Awareness about Crop Insurance and other agriculture risk mitigating measures implemented by government

Farm- category (ha)	Number of farmers	Awareness		Insurance	
		Aware	Not aware	Insured	Not insured
1.01-2	26 (26.00)	02 (7.70)	24 (92.31)	01 (3.84)	25 (96.15)
2.01-4	44 (44.00)	10 (22.72)	34 (77.27)	08 (18.18)	36 (81.81)
4.01-6	16 (16.00)	04 (25.00)	12 (75.00)	04 (20.00)	12 (75.00)
Above 6	14 (14.00)	04 (28.57)	10 (71.42)	04 (28.57)	10 (71.42)
Total	100 (100.00)	20 (20.00)	80 (80.00)	17 (17.00)	83 (83.00)

The awareness among the farmers about crop insurance and risk management measures implemented by the government was poor among the different crops cultivated farmers in the study area. Table 2 reveals that 80 percent of the farmers do not have an awareness on crop insurance scheme and 83 percent were not taken or purchased any crop insurance policy. Where in large farmers have much awareness on crop insurance and had taken crop insurance i.e. 28.57 percent out of the 14 percent of the farmers. Small farmers have very poor awareness i.e. 7.70 and only 3.84 percent of farmers were purchased crop insurance policy. Medium farmers (25%) were some extent in better position in awareness of crop insurance and other risk mitigation measures in agriculture.Out of the 100 farmers 17 farmers chosen crop insurance as a risk measure and 83 were not taken.

Sources of Information on Agriculture Risk mitigation Strategies and Crop Insurance:-

Farmers acquire information from various sources including government departments (55%), neighbours and fellow

farmers (26%), agriculture universities and research institutes (11%), NGOs (6%) and remaining is the portion of websites, newspapers, and televisions, etc. play an important role in disseminating information about various insurance products or schemes implemented by the public sector and the private insurance companies.

Table 3: Perception of farmers about risk reduction

Perception of farmer	Number of farmers	Percentage
Providing Crop/livestock insurance	20	20.00
Providing relief fund at disaster times	39	39.00
Providing technology, input, credit, etc.	04	4.00
A and B	17	17.00
B and C	09	9.00
A and C	05	5.00
All of the three (A, B, and C)	03	3.00
No idea	03	3.00

The above table exposes that the perception of farmers on risk reduction in agriculture. The perception about crop/livestock insurance war reported by 20 percent of the farmers. When 20 percent of the farmers aware the risk mitigating measures being implemented by the government, only half of the target group were aware the crop insurance schemes/products. Where majority farmers perception of risk reduction was providing relief fund at disaster time i.e. 39 percent. Nearly 3 percent of farmers does not have any perception about the risk reduction. Surprisingly the perception of farmers on provision of technology, input and credit as a risk reduction tool stood at 4 percent.

CONCLUSIONS

It has found that the crop insurance scheme is not popular among the farmers of Kuram Pally village of Kanagal Mandal in Telangana State. Present study revealed that 80 percent of respondents does not have awareness on crop insurance and 83 percent of farmers have not taken any crop insurance product. However, to enhance its adoption, determinants of dissemination strategies are required to be examined because the government role is limited in advertising the risk mitigating tactics in agriculture. Easy availability of credit is indispensable for encouraging promotion and adoption of insurance products. Most of the short time credit is disbursed to the small farmers by cooperative banks and medium term loans by commercial banks. This indicates that institutional credit delivery is already in domicile. It is reported that the crop loss in the study area was mainly because of droughts and power distribution to the farmers. Twenty percent of the farmers were aware about crop insurance and other risk mitigating measures, including the institutional initiatives being implemented by government and 17 percent of the farmers were purchase crop insurance products to mitigate the crop loss and crop risk. Better opportunities fornon-farm employment and scope for crop diversification have made the farmers more confident in managing the risk with their own resources. The diversification potentially internalizes the risk involved in agriculture production.

Hence social participation and education mainly effect the awareness of farmers on crop insurance and other risk mitigation measures in agriculture. The study

by using Probit model has revealed that encouraging social participation of farmers will increase the awareness of farmers on crop insurance schemes. Education level also emerged as a critical factor for enhancing awareness about innovative products in crop insurance. Obviously the income from non-farm sources and number of persons employed in other sectors will encourage the farmers to go for crop insurance. Farmers will invest in the insurance when the income emerges from other than agriculture.

Finally it has been found that the factors such as gross cropped area, education level of the farmer, social participation of the farmer, income from other than agriculture sources, number of workers in the farm family, satisfaction with premium rates, easy credit sources and affordability of insurance premium amount influence significantly. The study clearly brought the urgency of developing more innovative products, having minimum human intervention, and also encourage the private sector to offer the crop insurance to the farmers. There is a need for appropriate stakeholders interface and capability building initiatives, avoiding the lag between insurance claims, liberalizing or simplifying the methodology of crop loss assessment and eliminate the complexities involved in crop insurance. These can help full to the farmers to adopt the crop insurance scheme and with this they can avoid the crop loss and risk in agriculture.

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