

A Study on Farmers Knowledge about Crop Insurance Schemes in Northern Karnataka

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Authors' contributions

This work was carried out in collaboration among all authors. Author SKJ conducted the study, collected, analyzed and interpreted the data under the guidance of author KVN. Author SVH supervise the work and helps to author SKJ to interpret and analyzed the data. All authors read and approved the final manuscript.

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ABSTRACT

Agriculture production and farm income in India are frequently affected by natural disasters such as droughts, floods, cyclones, storms, landslides and earthquakes. In recent times, mechanisms like contract farming and future trading have been established which are expected to provide some insurance against price fluctuations directly or indirectly. But, agricultural insurance is considered as an important mechanism to address the risk of output and income effectively which is resulting from various natural and manmade events. The study was conducted in Karnataka State during the year 2017-18 by using "Ex-post- facto" research design. Belgavi, Dharwad, Haveri and Vijayapura districts were selected purposely based on more number of insured farmers. Further, two taluks from each district and from each taluk three villages (i.e. total 24 villages) were randomly selected. Sample size for the study was 240. Purposive sampling procedure was used. Descriptive statistics and multiple linear regression model were applied to analyze the data. The findings of the study revealed that, 44.17 per cent of the insured farmers belonged to low knowledge level followed by medium (37.92%) and high (17.91%) level with respect to Crop

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Insurance Schemes. The variable 'credit availed' had positive and significant relationship at one per cent level of probability. The co-efficient of determination (R^2) was 0.427 which indicated that 42.70 per cent of the variation in the knowledge level of insured farmers was together explained by all the independent variables. Thus, concerned officers should conduct awareness programmes from time to time by using different extension teaching methods like trainings, workshops, distribution of pamphlets, road shows, advertisement through television, newspaper, radio, mobile SMS etc to enhance the knowledge level of farmers.

Keywords: Knowledge; crop insurance scheme and credit availed.

1. INTRODUCTION

Agriculture production and farm income in India are frequently affected by natural disasters such as droughts, floods, cyclones, storms, landslides and earthquakes. Susceptibility of agriculture to these disasters is compounded by the outbreak of epidemics and man-made disasters such as fire, sale of spurious seeds, fertilizers and pesticides, price fluctuations etc. All these events severely affect farmers through loss in production and farm income, and they are beyond the control of the farmers. With the growing commercialization of agriculture, the magnitude of loss due to unfavourable eventualities is increasing. The presence of ups and downs in dryland agricultural production over the years bears ample testimony to the continuing instability in agriculture. Instability in the agricultural sector cannot be completely eliminated, but its adverse effects can be minimized through various measures.

The question is how to protect farmers by minimizing such losses. For a section of farming community, the minimum support prices for certain crops provide a measure of income stability. In recent times, mechanisms like contract farming and future's trading have been established which are expected to provide some insurance against price fluctuations directly or indirectly. But, agricultural insurance is considered as an important mechanism to effectively address the risk to output and income resulting from various natural and manmade events. Agricultural insurance is one financial tool available for farmers to mitigate the impact of unpreventable risks in agriculture. However, risk and insurance needs vary across agro-climatic zones as well as socio-economic parameters of individuals and farmers. Agricultural insurance is also considered as a desirable alternative to government provision of ex-post disaster assistance.

Agricultural insurance is one method by which farmers can stabilize farm income and

investment and guard against disastrous effect of losses due to natural hazards or low market prices. Crop insurance not only stabilizes the farm income but also helps the farmers to initiate production activity after a bad agricultural year. It cushions the shock of crop losses by providing farmers with a minimum amount of protection. It spreads the crop losses over space and time and helps farmers make more investments in agriculture.

In India insurance in agriculture, historically, has roots in a study during 1947-48 recommending homogenous area approach, crop insurance bill in 1965 and expert committee headed by Dharam Narian report denying crop insurance scheme in 1971. Later, Dandekar in 1976 advocated crop insurance and pilot crop insurance scheme (PCIS) was implemented in 1979 with the involvement of General Insurance Corporation (GIC) which covered 13 states and 6.27 Lakhs of farmers till 1984-85. During 1985 comprehensive crop insurance scheme (CCIS) was implemented and replaced by National Agricultural Insurance Scheme (NAIS) in 1999 to include non-loanee farmers which continued till 2015-16. Based on the national and international experience, lot of research has taken place across the world in developing sustainable insurance products. Over a period, many modifications were tried and a weather index based insurance scheme WBCIS was introduced in 2007, especially for the horticultural crops. In 2010-11, a modified NAIS was implemented with an aim to replace NAIS.

To remove the inherent flaws, new scheme namely Pradhan Mantri Fasal Bima Yojna (PMFBY) has been launched during Kharif 2016 which let farmers pay a very low premium to insure their crops. Farmers have to pay a premium of only 2.00 per cent of the sum insured for Kharif crops, 1.50 per cent for Rabi crops and 5.00 per cent for horticulture and cash crops. The difference between the premium paid by the farmers and the premium fixed by the insurance companies will be subsidized and there will be

no cap on the maximum subsidy paid by the Government. The subsidy has to be borne equally by central and the respective state Government. The coverage includes losses due to non-preventable risks (Natural Fire and Lightning, Storm, Hailstorm, Cyclone, Typhoon, Tempest, Hurricane, Tornado. Risks due to Flood, Inundation and Landslide, Drought, Dry spells, pests/ Diseases), having intent to sow/plant and incurred expenditure for the purpose, and are prevented from sowing/planting crop due to adverse weather conditions, post-harvest losses (up to a maximum period of 14 days from harvesting) and certain localized problems [1].

In the present study, Knowledge referred to the quantum of accurate information known to the insured farmers about Crop Insurance Schemes. The main focus of this investigation was to assess the knowledge level of farmers about Crop Insurance Schemes and to find out the relationship with socio-economic characteristics of farmers.

2. METHODOLOGY

The study was conducted in Karnataka state during the year 2017-18 by using “Ex-post- facto” research design. Belgavi, Dharwad, Haveri and Vijayapura districts were selected purposely based on more number of insured farmers. Further, two taluks from each district and three villages from each taluk (i.e. total 24 villages) were selected. From each selected villages ten farmers who had at least three years of crop insurance experience were selected as respondents. Purposive sampling procedure was used for selection of the farmers because only insured farmers had knowledge about the crop insurance schemes. Sixty farmers were selected from each district making the sum of 240. “A teacher made test” as suggested by Anastasi [2] was developed to measure the knowledge about Crop Insurance Scheme. By consulting the previous studies, discussion with experts and our own research experience, 25 questions for Crop Insurance Scheme were framed. The responses were given a score of one for correct answer and zero to wrong answer. The summation of scores of the correct answer for a particular respondent indicates his knowledge about Crop Insurance Schemes. The data collection tool was structured interview schedule and it was pre-tested in non-sample area for its practicability and relevancy. The data collected from respondents were tabulated and

analyzed using appropriate statistical tools such as frequency, percentage mean, standard deviation correlation and regression. M.S. Excel and SPSS software were used to analysis the data. The respondents in the knowledge level were grouped using frequency and percentage. Based on the scores obtained, knowledge level of the respondents were categorized as low, medium and high by using mean and standard deviation.

Correlation Co-efficient (r): This tool was used to find out the significant relationship, if any between scores of the independent variables and the scores of the dependent variable of the sample respondents. By using the following formula:

$$r = \frac{\Sigma XY - (\Sigma X)(\Sigma Y) / n}{\sqrt{(\Sigma X^2 - (\Sigma X)^2 / n)(\Sigma Y^2 - (\Sigma Y)^2 / n)}}$$

where,

- r = Co-efficient of correlation between x and y
- ΣX = Sum of scores of variable X
- ΣY = Sum of scores of variable Y
- ΣXY = Sum of product of X and Y variables
- ΣX² = Sum of the squares of X variable
- ΣY² = Sum of the squares of Y variable
- n = Size of the sample

2.1 Multiple Regression Analysis

Multiple Linear Regression (MLR) analysis is generally considered as an efficient and powerful hypothesis testing and inference making technique. Since correlation analysis only gives the nature of relationship, Multiple Linear Regression analysis was used to know the influence of independent variables to the knowledge level of farmers about Crop Insurance Schemes.

The computed ‘b’ values (regression coefficients) were tested with ‘t’ test for its significance.

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_kX_k + u_i$$

where,

- Y = Knowledge level of farmers
- b1 = Regression coefficient
- a=Constant
- X1 = Age

- X2=Education
- X3 = Land Holding
- X4=Framing experience
- X5 = Annual income
- X6=Training recieved
- X7 = Extension contact
- X8=Scientific orientation
- X9 = Mass media exposure
- X10=Scientific orientation
- X11=Organisational participation
- X12=Credit availed
- X11=Extent of climate variation
- X12=Cropping pattern

Coefficient of determination (R^2) was calculated by

$$R^2 = \text{Regression sum of squares (RSS)} / \text{Total sum of squares (TSS)}$$

Coefficient of determination (R^2) revealed percentage of variation in the dependent variable explained jointly by the independent variables. R^2 is unit less and expressed in percentage.

3. RESULTS AND DISCUSSION

3.1 Overall Knowledge Level of Insured Farmers towards Crop Insurance Scheme

Overall knowledge level of insured farmers about Crop Insurance Scheme as depicted in Table 1 revealed that, 44.17 per cent of the insured farmers belonged to low knowledge level followed by medium (37.92%) and high (17.91%) level of knowledge. The probable reason might be that, lack of detailed information, less publicity of Crop Insurance Scheme and lower education level of farmers. Further, majority of the farmers had lower level of knowledge on crop insurance benefits such as; premium rates, premium subsidy, coverage of crops, compulsory nature, closing dates, registration could be changed, information on sum insured, insurance benefit for preventable risks, delay sowing, localized calamities, loss of standing crops, post harvest losses, Samrakshane portal of Govt. of Karnataka and Crop Cutting Experiments.

The previous studies indicated that, farmers had medium level of knowledge about Crop Insurance Schemes followed by low and high level. The findings are in conformity with the findings of Surve, et al. [3], Riyath and Geretharan (2014), Mohapatra, et al. [4], Jambuvant [5] and Kumar, et al. [6].

Table 1. Overall farmers knowledge on crop insurance schemes n=240

Sl. No.	Category	Frequency	Percentage
1	Low (<14.30)	106	44.17
2	Medium (14.31 to 17.87)	91	37.92
3	High (>17.87)	43	17.91
Mean = 16.08			
SD = 4.20			

3.2 Statement Wise Knowledge Level of Farmers about Crop Insurance Scheme

The results presented in Table 2 revealed that, majority of the insured farmers had higher knowledge with respect to the individual statements; *'Farmers get the insurance claim through direct account payment'* (100%) followed by *'Farmers can do the insurance for only state notified crops'* (95.00%), *'Insurance can be obtained from all banks such as commercial banks, Regional Rural Banks Primary Agricultural Credit Society etc'*. (71.25%), *'Claim of crop insurance can be made during the situations like drought, flood and localized calamities'* (70.41%) and *'Information about crop cutting experiments'* (67.92%), *'31st July is closing time for registering kharif season crops with respect to last year/season'*(65.70%), *'31st December is closing time for registering for rabi season crops with respect to last year/season'* (65.42%) and *'Crop Cutting Experiments are conducted at gram panchayat/ hobli level with respect to both major crops and minor crops'* (64.58%).

The probable reasons for the above results might be that, as the agriculture is gambling with nature which has led to erratic rainfall, scanty rainfall, heavy rains in one area and no rains in other areas. These factors are leading to less production, food scarcity, suicidal tendency among the farmers. By considering these factors, the Govt. of India has recently introduced the crop insurance scheme Pradhan Mantri Fasal Bima Yojana (PMFBY) with alterations in the previous schemes by increasing coverage of farmers including crops, sum insured and reduced premium rate for the benefit of the farming community. The Govt. has also made compulsion to all the concerned developmental departments, banks, insurance agencies to make wide publicity about the benefits of crop insurance scheme among the farming community.

Table 2. Statement wise farmers knowledge on Crop Insurance Schemes n=240

Sl. No.	Knowledge Statements	Right answer	
		f	%
1.	Farmers owning land, tenants and share croppers all are eligible for crop insurance	27	11.25
2.	Insurance can be obtained from Commercial banks, Regional Rural banks and Primary Agricultural Credit Society	171	71.25
3.	Premium rate prescribed for notified food and oil seed crops for Kharif season crops is 2 %	81	33.75
4.	Premium rate prescribed for notified food and oil seed crops for Rabi season crops is 1.5 %	65	27.08
5.	Premium rate prescribed for Commercial / annual horticultural crops is 5%	68	28.33
6.	Crop Insurance Scheme is compulsory for loanee farmers	115	47.92
7.	31st July is the closing date of registration for Crop Insurance Scheme during Kharif season	162	67.50
8.	31st December is the closing date of registration for Crop Insurance Scheme during Rabi season	157	65.42
9.	Insured crop can be changed after registration	18	7.50
10.	Extent of Sum Insured remains same for loanee and non-loanee farmers	62	25.83
11.	Twenty five per cent claim can be made out of the Sum Insured amount in case of prevented sowing, localized calamity, loss of standing crop and post harvest losses.	42	17.50
12.	Share of subsidy Premium by the State and Central Govt under Crop Insurance Scheme is 50:50	114	47.50
13.	Ongoing crop insurance schemes are Pradhan Mantri Fasal Bima Yojana and Weather Based Crop Insurance Scheme	71	29.58
14.	Claim of crop insurance can be made during the situations like drought, flood and localized calamities	169	70.41
15.	Claim of crop insurance can not be made during the situations like preventable risks, fire hazard and damage caused by wild animals	46	19.16
16.	Extent of Sum Insured amount for rainfed and irrigated crops will be different	48	20.00
17.	Farmers can do the insurance for only state notified crops	228	95.00
18.	“Samrakshane” portal is related to crop insurance scheme	56	23.33
19.	Farmers can check their insurance claim status through “Samrakshane” Portal by feeding details of Mobile Number, Aadhar Number, Panni Number	34	14.16
20.	In “Samrakshane” Portal Farmers can get the information regarding notified crops, claim and insurance unit	11	4.58
21.	Crop Cutting Experiments are related to crop insurance scheme	163	67.92
22.	Crop Cutting Experiments are conducted in the presence of insurance agent, bank officials and line department officials	62	25.83
23.	Crop Cutting Experiments are conducted at Gram Panchayat/ Hobli level with respect to both major crops, minor crops	155	64.58
24.	The coverage of insurance claim for Post harvest risk up to 14 days	14	5.83
25.	Farmers get the insurance claim through direct account payment	240	100.0

f = Frequency % = Percentage

The other reasons might be, farmers discuss with their neighbor farmers and relatives regarding claim status and also regularly check their passbook status, this is how get to know about claim settlement. Because of their own experience from several years and interaction with bank officials they knew that, the crop insurance is availed for only state notified crops, crop insurance availability in all three types of banks and closing dates. Majority of the farmers had knowledge that claim of crop insurance could be made during situations like drought, flood and localized calamities. Since, farmers have basic knowledge that crop insurance is claimed in unexpected conditions/ natural calamities and the scheme is meant for the same. However, the farmers had received the claim in above mentioned situations before as well.

In most of the farmers' field and neighbors' field the insurance had already conducted the crop cutting experiments on both major and minor crops. During that time farmers realized the usefulness of crop cutting experiments. More than half of the respondents did not know that crop insurance scheme is compulsory for loanee farmers. Because, while getting the crop loan, the bank officers did not inform farmers that the premium rate would be deducted from their bank account directly. Nearly half of the farmers did not have the knowledge regarding share of subsidy premium by the State and Central Government under the Crop Insurance Scheme as some of the farmers thought that this scheme is provided only by the central government. Whereas, some other famers thought that the scheme is provided by the state government.

Slightly more than one fourth of farmers had knowledge on prescribed premium rates for both kharif and rabi crops and Crop Cutting Experiments is only be conducted in presence of the insurance agent, bank officials and line department officials (25.83%). Some of the farmers were aware of each crop premium rate for a acre/ hectare but they did not know the exact percentage premium rate for food, oil seed crops, commercial and annual horticultural crops. Practically in field level only insurance officers conducted the crop cutting experiments but bank and line department officials did not participate, which resulted in farmers' lower knowledge on the officials who are involved in crop cutting experiment.

"Samrakshane" Portal for Crop Insurance Scheme is developed by Karnataka State

Government which was known by 23.33 per cent, whereas, 21.67 per cent of them had knowledge on loanee and non-loanee farmers get the same amount of sum insured and one fifth of the farmers had knowledge about extent of sum insured amount for rainfed and irrigated crops is different, the reason might be that lack of detailed information, lower education level and less awareness about Crop Insurance schemes.

Further, claim of the crop insurance cannot be made during the situations like preventable risks, fire hazard and damage caused by wild animals was known by 19.16 per cent. Due to lack of detailed information on Crop Insurance Schemes, farmers believed that they would get claim in above mentioned situations also. Farmers did not know that the claim is not given for preventable risks. Only seventeen per cent farmers had knowledge that, 25.00 per cent claim can be made out of the sum insured amount during damages caused by above mentioned situations. Because from many years they have received claim only during prevented sowing, localized calamity, loss of standing crop and post harvest losses.

Most of the farmers had notion that farmers only those who own land can avail the crop insurance scheme, another reason is that bank officers were also not allowing other farmers to avail the crop insurance. While discussing, farmers expressed that if they had allowed tenant farmers for availing crop insurance in their name, over a period of time any changes made in the laws might lead the tenant farmers to own their lands. Hence, in fear of losing their lands, farmers only let the tenant farmers for cultivation and did not allow to avail the crop insurance in their name.

Also a meager per cent of farmers had knowledge about the already registered crops for crop insurance can be changed (7.50%), the coverage of insurance claim for post-harvest risk is up to 14 days (5.83%) and Samrakshane" portal provides the information regarding notified crops, claims and insurance unit (4.58%). Due to lack of detailed information on the crop insurance scheme more than ninety percent of the farmers were unaware about changing the crop after they had insured. Even though few farmers were aware of this facility, due to the tedious procedure to get insurance for another crop they did not show interest as well. The farmers expressed that they did not know at all about restricted period for claim during post harvest risks. But they had only heard that the post

harvest risk claims could be availed. Only negligible number of farmers knew that the information regarding notified crops, claim and insurance unit can be got by using Samrakshane portal. This might be due to the lack of detailed information, publicity on the crop insurance scheme and lower education level of farmers.

From the previous studies, it can be inferred that majority of the farmers had knowledge on farmers could get the insurance only for state notified crops, Insurance could be obtained from all banks such as Commercial Banks, Regional Rural Banks, Primary Agricultural Credit Society, etc'. Claim of crop insurance could be made during the situations like drought, flood and localized calamities, Information about crop cutting experiments'. The farmers also knew about closing dates for registering both kharif and rabi crops. The findings are in line with the research findings of Surve, et al. [3], Mohapatra, et al. [4], Jambuvant [5] and Kumar, et al. [6].

3.3 Relationship between Independent Variables with Knowledge Level of Crop Insured Farmers

The results presented in Table 3 revealed that, the variable 'credit availed' had positive and significant relationship at one per cent level of probability. The possible reason might be that, farmers with higher financial capability increased their ability to meet their transaction costs associated with the various innovative

technologies that they would like to take. Naturally, farmers while borrowing credit from financial institutions, would like to have more knowledge about Crop Insurance Scheme. The findings are in conformity with the findings of Nagabhushana [7], Kharumnuid [8], Kumar, et al. [9] and Krantikumari [10].

Whereas, with regard to knowledge level of insured farmers the following variables such as education, land holding, annual income, extension contact and mass media exposure exhibited positive significant relationship at five per cent level of probability. The possible reasons are higher the formal education, higher will be the knowledge level of farmers. Generally farmers having larger size of land holding will have more income and higher socio-economic status. They are in the habit of exploring every possible sources to have more knowledge so as to get more income. The farmers who frequently contacted the extension personnel of developmental departments might have exposed to various kinds of information and gained more knowledge on Crop Insurance Scheme. Mass media exposure enhances the ability of farmers to get more information about Crop Insurance Scheme and in-turn widens the mental horizon of the farmers to accept and adopt the Crop Insurance Scheme. Annual income provides accessibility for farmers to acquire more formal education and more exposure to new things. The results are in line with findings of David, et al. [11], Singh, et al. [12] and Gwandu, et al. [13].

Table 3. Correlation coefficients of independent variables with farmers knowledge on crop insurance schemes

SI. No.	Independent variable	Correlation coefficients (r) Knowledge level
1.	Age	0.046
2.	Education	0.198*
3.	Land Holding	0.218*
4.	Farming Experience	0.092
5.	Annual Income	0.207*
6.	Training Recieved	0.022
7.	Extension Contact	0.246*
8.	Scientific Orientation	0.120
9.	Mass Media Exposure	0.233*
10.	Risk Orientation	0.119
11.	Organisational Participation	0.138
12.	Credit availed	0.308**
13.	Extent of climate variation	0.084
14.	Cropping pattern	0.020

***. Correlation is significant at the 0.01 level (2-tailed)*

**. Correlation is significant at the 0.05 level (2-tailed)*

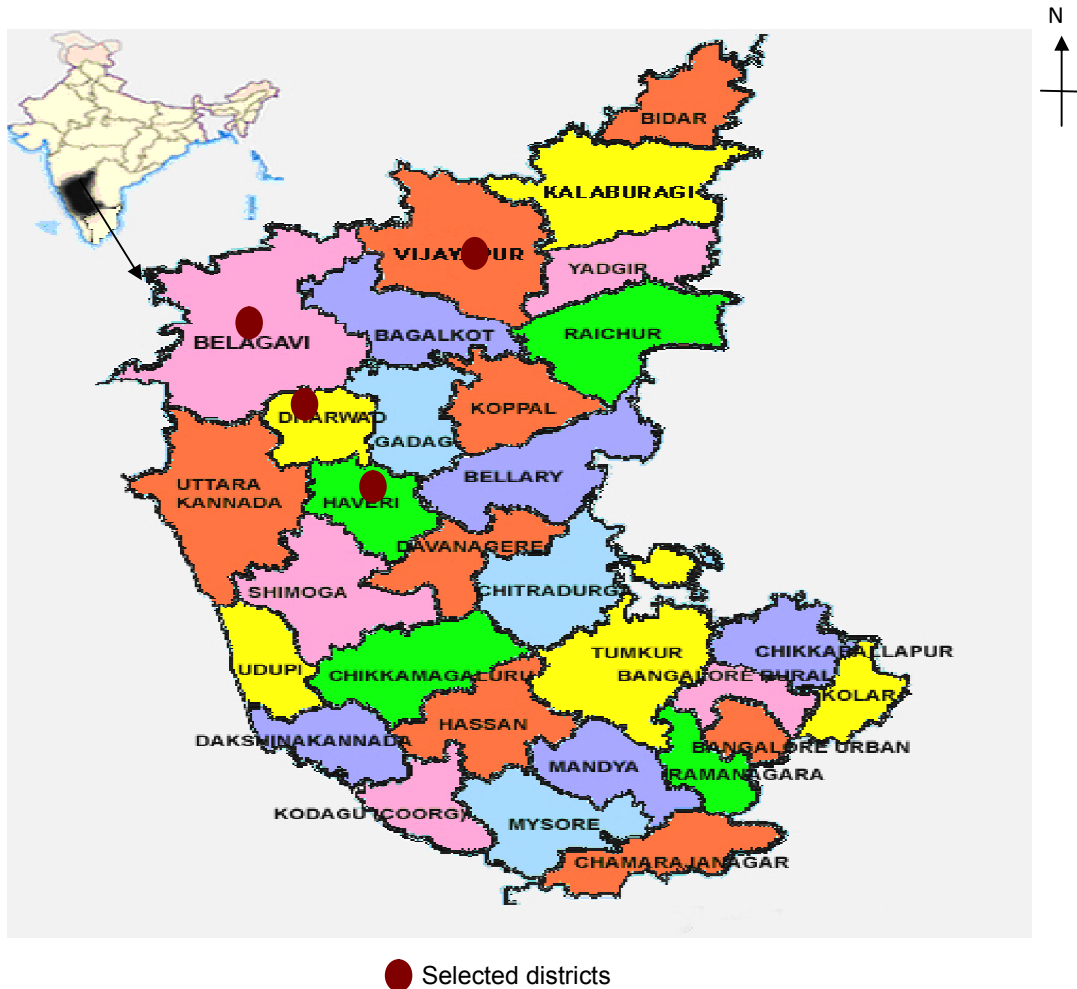


Fig. 1. Map showing study area

Table 4. Multiple regression analysis of the independent variables with dependent variable farmers knowledge level

Sl. No.	Independent variable	Regression coefficients (b)	S.E.	't' value
1.	Age	0.02	0.03	0.73
2.	Education	0.39	0.12	2.87 [*]
3.	Land Holding	0.01	0.03	2.18 [*]
4.	Farming Experience	0.07	0.08	0.83
5.	Annual Income	0.00	0.00	2.78 ^{**}
6.	Training Orientation	0.36	0.30	1.18
7.	Extension Contact	0.05	0.10	0.53
8.	Scientific Orientation	0.08	0.12	0.67
9.	Mass media	0.30	0.17	1.78
10.	Risk Orientation	0.05	0.11	0.44
11.	Organisational Participation	0.28	0.11	1.46 ^{**}
12.	Credit availed	0.05	0.19	3.12 ^{**}
13.	Extent of climate variation	0.06	0.45	1.12
14.	Cropping pattern	0.18	0.15	0.87

Coefficient of determination (R^2) = 0.427, ^{*} :significant at 0.05 level

F value = 1.57^{*}, ^{**}:significant at 0.01 level

3.4 Multiple Regression Analysis of Independent Variables with Respect to Knowledge Level of Insured Farmers

The data presented in Table 4 revealed that, the independent variables together exerted significant influence on the dependent variable, knowledge level of insured farmers. This is evidenced by co-efficient of determination (R^2) indicated 42.70 per cent of variation in knowledge level. The remaining 57.30 per cent of the variation might have attributed to the error term and some of the variables which are not considered in the study. The dependent variable, knowledge level of insured farmers was measured by the combined effect of all the independent variables. The results also pointed out that, four independent variables namely, education, land holding, annual income and credit availed contributed significant influence on knowledge level of insured farmers. It could be implied from the significant regression coefficient values of these variables that, one unit increase in annual income caused increase in the knowledge level of insured farmers by 2.78 units. Land holding caused increase by 2.18 units, education caused increase by 2.87 units and credit availed caused increase by 3.12 units in knowledge level. Hence, all these variables proved as good predictors of knowledge level of insured farmers.

4. CONCLUSION

In the present study farmers knowledge was found to be low. The variable 'credit availed' had positive and significant relationship at one per cent level of probability. Whereas, variable such as education, land holding, annual income, extension contact and mass media exposure exhibited positive significant relationship at five per cent level of probability with knowledge level of insured farmers. The co-efficient of determination (R^2) was 0.427 which revealed that 42.70 per cent of the variation in the knowledge level of insured farmers was together explained by all the independent variables. The variables such as, education, land holding, annual income and credit availed contributed significantly towards knowledge level of insured farmers.

5. RECOMMENDATIONS

Thus, concerned officers, policy makers, administrators and the agencies involved in crop insurance scheme should take the following

points into consideration about knowledge level of farmers for improving the implementation of crop insurance scheme and devote their attention with regard to the recommendations from the present study as listed below:

- Awareness programmes should be conducted from time to time on crop insurance schemes by using different extension teaching methods like trainings, workshops, distribution of pamphlets, road shows, advertisement through television, newspaper, radio, mobile SMS etc.
- Insured farmers should be informed before deducting the premium by the concerned officials by providing policy document in local language.
- Loss assessment procedure should be made flexible and hassle free.
- The sum insured under crop insurance scheme should not be less than scale of finance or cost of cultivation.
- Non-loanee farmers should also be encouraged by simplifying the online registration process and making the 'Samrakshane Portal' farmer friendly.
- Farmers should be well informed on or before conducting the Crop Cutting Experiment. While doing the Crop Cutting Experiments all the concerned officials should be involved.
- Crop loss assessment should be made at Panchayat level by covering all crops instead of conducting at Hobli level.
- The insurance company should have permanent office at hobli / taluk level for effective planning, monitoring and handling of grievances with respect to claim settlement.
- Claim should be dispersed every year before starting of the next season.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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