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A study on profile characteristics of pomegranate insured and non-insured farmers of restricted weather based crop insurance scheme

Battu Preethi and GK Sasane

Abstract
Agriculture is a dynamic combination of physical, socio-institutional, and techno-economic variables, its nature is always changing with the primary goal of boosting food grain production. Despite technological and economic developments, farmers' livelihoods remain precarious due to natural disasters and market swings. The study was conducted in the year 2021, expost-facto research design was used for the study. 75 insured farmers under Restructured Weather Based Crop Insurance Scheme (RWBCIS) and 75 non – insured Pomegranate farmers are selected from Solapur district from three tehsils, from each tehsil three villages are selected a total of 150 farmers are selected. Majority of the Pomegranate insured farmers were of middle age (50.67%). Similarly in case of Pomegranate non-insured farmers majority of the farmers were of middle aged (41.33%). Majority of the insured farmers are having higher education or secondary education compared to the non -insured farmers. More than three fourth of the insured farmers were doing Agriculture for living (84.00%), non-insured farmers 72% of the farmers are having agriculture as occupation. More than half of the Pomegranate insured farmers are small farmers (62.67%), non-insured farmers majority of the farmers are small (61.34%). Also majority of the insured and non-insured farmers were having fair cropping pattern. Majority of the farmers (insured and non-insured) were having medium sources of information, extension contacts, scientific orientation, economic motivation and risk orientation

Keywords: RWBCIS, crop insurance, pomegranate farmers

Introduction
Agriculture is the main source of livelihood of farmers in Maharashtra. Maharashtra's economy is predominately agrarian. Both food crops and cash crops are grown in the state. The state has huge area under Fruit cultivation of which mango, banana, grape, and pomegranate and orange are the main ones. Pomegranate is such fruit crops which is having very high value, but in last few years, due to climate change and adverse weather incidences there is yield loss and farmers are indebted. Hence, farmers to mitigate the risk, opt for RWBCIS scheme which gives them insurance based on the crop losses due to adverse weather incidences where proper crop cutting experiments are not present. RWBCIS pursuits to mitigate the difficulty of the beneficiary farmers against financial loss as a consequence of predicted crop loss due to unforeseen climate situations regarding rainfall, temperature, wind, humidity etc. RWBCIS uses climate parameters as "proxy" for crop yields in compensating the cultivators for deemed crop losses. Pay-out systems i.e. Term Sheets are advanced to the extent of losses deemed to have been suffered maintaining the weather triggers as according to requirement of the crop and evaluating it with actual weather records for the precise duration. The complete crop lifestyles cycle is split into one-of-a-kind stages i.e. intervals maintaining in view the crop phenology and as a result the sum insured is allotted to each duration primarily based totally on susceptibility of crop to the insured peril all through a particular phase. For the present study Pomegranate fruit crop is taken into consideration to study the profile characteristics of insured and non-insured farmers of Restructured Weather Based Crop Insurance Scheme.

Methodology
The expost-facto research design was used for the study. For studying the profile characteristics of Pomegranate insured and non-insured farmers we have selected Pomegranate in fruit crop. The sampling frame consists of Pomegranate farmers belonging to Solapur district.

Solapur district is selected purposively as there were more number of beneficiaries of Pomegranate in Solapur. 75 beneficiary farmers and 75 non-beneficiary Pomegranate farmers are selected from Solapur district from three tehsils, from each tehsil three villages are selected, a total of 150 farmers are selected. The interview schedule was drafted so as to collect the information in line with the objectives of the study. The interview schedule developed was pre-tested for its accuracy, simplicity and practicability with a group of thirty beneficiaries of scheme. Data is acquired by personal interview. The data is tabulated and analyzed using appropriate statistical tools.

Results and Discussions

Age

From Table 1 it is evident that majority of the Pomegranate beneficiary farmers were of middle age (50.67%) followed by young farmers (24%) and old farmers (25.33%). Similarly in case of Pomegranate non-beneficiary farmers majority of the farmers were of middle aged (41.33%), followed by young and old farmers i.e. 32% and 26.67% respectively. It can be inferred that the respondents were of middle aged in both the categories. The farmers in middle age are more enthusiastic than old age and experienced than young group of farmers. They are taking their own decisions and are hardworking and experienced in Pomegranate cultivation.

Table 1: Distribution of respondents according to their age

Sr. No	Categories	Beneficiary (n=75)		Non Beneficiary (n=75)	
		F	%	F	%
1.	Young (Up to 35 years)	18	24.00	24	32.00
2.	Middle (36 to 55 years)	38	50.67	31	41.33
3.	Old (above 55 years)	19	25.33	20	26.67
Total		75	100	75	100

The present findings are in line with Dhande and Jambavanth (2017) [3], Sindhu *et al.* 2017 [12], Ghanghas 2018 [4].

Education

Table 2: Distribution of respondents according to their education

Sr. No.	Categories	Beneficiary (n=75)		Non-Benf. (n=75)	
		F	%	F	%
1.	Illiterate	6	8.00	7	9.33
2.	Pre-Primary (Std. I to IV)	3	4.00	2	2.67
3.	Primary (Std. V to VII)	5	6.66	5	6.67
4.	Secondary (Std. VIII to X)	20	26.67	27	36.00
5.	Higher Secondary (Std. XI to XII	24	32.00	19	25.33
6.	Degree or higher education	17	22.67	15	20.00
Total		75	100	75	100

The table 2 indicates that majority of the beneficiary respondents were having higher education (32%), secondary education (26.67%), Degree or higher education (22.67%) illiterate (8%), primary (6.67%) and pre-primary (4%). In case of Non-beneficiary Pomegranate farmers majority of the farmers were having secondary education (36.00%), followed by higher secondary (25.33%), degree or higher education (20.00%), illiterate (9.33%) primary (6.67%), and pre-Primary (2.67%). Majority of the beneficiary farmers and non-beneficiary farmers are having education up to secondary and higher secondary, both the categories are homogeneous in their education level.
The findings are in agreement with the findings of Sundar *et al.* (2015) [13], Paulraj *et al.* (2020) [8].

Occupation

Table 3: Distribution of respondents according to their occupation

Sr. No	Categories	Beneficiary (n=75)		Non Beneficiary (n=75)	
		F	%	F	%
1.	Agriculture	63	84.00	54	72.00
2.	Agriculture+ Service	5	6.67	9	12.00
3.	Agriculture + Business	7	9.33	12	16.00
Total		75	100	75	100

From table 3 it is evident that majority of the beneficiary farmers were doing Agriculture for living (84%), 9.33 percent of farmers were having business along with Agriculture and 6.67 percent of the farmers were doing service along with agriculture. Similarly in Non-beneficiary farmers 72 percent of the farmers are having agriculture as occupation followed by Agriculture along with Business (16%) and Agriculture along with service (12%). The beneficiary and non-beneficiary farmers were performing the same type of occupation i.e. Majorly agriculture. As India is an agrarian nation and agriculture is backbone of Indian economy, we can see that majority of the farmers' primary occupation is agriculture.
The findings of the study are in line with Ghoslya (2016) [5], Ghanghas (2018) [4].

Cropping pattern

Table 4: Distribution of respondents according to their cropping pattern

Sr. No	Categories	Beneficiary (n=75)		Categories	Non-Beneficiary (n=75)	
		ƒ	%		ƒ	%
1.	Poor (0to 6)	15	20.00	Poor (Up to 5)	12	16.00
2.	Fair (7 to 13)	51	68.00	Fair (6 to 11)	45	60.00
3.	Good (14 and above)	9	12.00	Good(12 and above)	18	24.00
		75	100		75	100

From table 4 it is evident that majority of the beneficiary farmers, the cropping pattern is fair (68.00%) followed by 20.00 per cent of the farmers with poor cropping pattern and 12.00 per cent of the farmers are having good cropping pattern. In case of non-beneficiary farmers 60.00 per cent of the farmers are having fair cropping pattern, followed by good (24.00%) and poor (16.00%) cropping pattern. By seeing the results we can conclude that for both beneficiary and non-beneficiary farmers the cropping pattern is fair.

The findings of the study are in line with Meshram (2020) and Neeraj *et al.* (2022).

Annual Income

Table 5: Distribution of respondents according to their Annual Income

Sr. No.	Categories (Rs.)	Beneficiary (n=75)		Categories (Rs.)	Non Beneficiary (n=75)	
		ƒ	%		ƒ	%
1.	Low (Up to 2527922)	14	18.67	Low (Up to 298378)	5	6.66
2.	Medium (to 2527923 1169623)	52	69.33	Medium (298379 to 815209)	65	86.67
3.	High (1169624 and Above)	9	12.00	High (173635 and Above)	5	6.67
	Total	75	100		75	100
	Mean = 711208.3	SD = 458415.72		Mean = 556794	SD = 258415.72	

From table 5 it is observed that in case of beneficiary farmers 69.33 per cent of the farmers are having medium annual income followed by high (12%) and low (18.67%). Similarly in case of non-beneficiary farmers majority of the farmers are having average annual income (86.67%). We can infer that majority of the Pomegranate beneficiary and non-beneficiary farmers of RWBCIS are having medium annual income and fall under the same category. By seeing the mean we can infer that beneficiary farmers are having more annual income compared to non-beneficiary farmers. Probable reason might be that beneficiary farmers are more progressive and are performing good agricultural practices, hence annual income of beneficiary farmers is more than non-beneficiary farmers.

The findings are in line with Thirumoorthy *et al.* (2017) [15] and Ananget *et al.* (2021).

Land Holding

Table 6: Distribution of respondents according to their land holding

Sr. No.	Categories	Beneficiary (n=75)		Non Beneficiary (n=75)	
		ƒ	%	*f*	%
1.	Small farmers (Up to 2 ha.)	47	62.67	41	54.67
2.	Semi-medium farmers (2.01 to 4.00 ha	20	26.67	19	25.33
3.	Medium farmers (4.01 to 10.00 ha)	7	9.33	9	12
4.	Big farmers (Above 10.00 ha.)	0	0	6	8
Total		75	100	75	100

From the table 6 it is evident that majority of the Pomegranate insured farmers are small farmers (62.67%), 26.67 percent of the farmers are semi-medium farmers, 9.33 percent of the farmers are medium farmers and big farmers are about 4 percent. In case of non-insured farmers, majority of the farmers are small (61.34) followed by semi-medium (18.66), medium (12%) and Big farmers (8%). We can conclude that both the group framers are homogenous in their land holding. Due to fragmentation of the land most of the farmers are under the category of small farmers.

The findings are in line with Paulraj *et al.* (2020) [8], Swain *et al.* (2020) [14].

Sources of Information

Table 7: Distribution of respondents according to their sources of information

Sr. No.	Categories (Score)	Beneficiary (n=75)		Categories (Score)	Non Beneficiary (n=75)	
		F	%		F	%
1.	Low (Up to 26)	17	22.67	Low (Up to 24)	16	21.33
2.	Medium (27 to 31)	43	57.33	Medium (25 to 30)	54	72.00
3.	High (32 and Above)	15	20.00	High (31 and Above)	5	6.67
Total		75	100	Total	75	100
Mean = 28.64		SD = 2.67		Mean = 26.64	SD = 2.97	

From the table 7 it is evident that majority of beneficiary farmers are having medium sources of information (57.33%) followed by Low (22.67%) and High sources of information (20%). Similarly, in non-beneficiary farmers majority of the farmers are having medium sources of income (72.00%) followed by Low (21.33%) and high sources of income (6.67%). By considering the mean 28.64 of insured farmers and 26.64 percent of non-insured farmers we can conclude

that there is insured farmers are having more sources of information compared to non-insured farmers. Reason might be beneficiary farmers are more technologically literate and use different means of communication for getting information. The findings are in line with Uvaneswaran *et al.* (2014) [16], Jamanal *et al.* (2020).

Extension Contacts

Table 8: Distribution of respondents according to their Extension contacts

Sr. No	Categories (Score)	Beneficiary (n=75)		Categories (Score)	Non Beneficiary (n=75)	
		f	%		*f*	%
1.	Low (Up to 7)	20	26.67	Low (Up to 3)	17	22.67
2.	Medium (8 to 10)	45	60	Medium (4 to 7)	49	65.33
3.	High (11 and Above)	10	13.33	High (8 and Above)	9	12
Total		75	100	Total	75	100
Mean = 8.71		SD = 1.61		Mean = 5.26	SD = 1.85	

From the above table 8 it is evident that majority of the beneficiary farmers are having medium extension contacts (60.00%) followed by low (26.67%) and High (13.33%). In case of non-beneficiary farmers majority of the farmers are having medium extension contacts (65.33%) followed by low (26.67%) and high (12.00%). Considering the mean of the two categories, the insured farmers were having mean of 8.71, whereas, the mean score of non-insured farmers is 5.26, this implies insured farmers are having more extension contacts as compared to non-insured farmers.

Similar findings are found in the study of Jamanal *et al.* (2020).

Extent of Awareness Regarding the Scheme

It is operationally defined as awareness of respondent regarding PMFBY scheme.

Table 9: Distribution of respondents according to their extent of awareness

Sr. No	Categories (Score)	Beneficiary (n=75)		Categories (Score)	Non Beneficiary (n=75)	
		F	%		F	%
1.	Low (Up to 11)	18	24.00	Low (Up to 8)	20	26.67
2.	Medium (12 to 16)	51	68.00	Medium (9 to 13)	47	62.67
3.	High (17 and Above)	6	8.00	High (14 and Above)	8	10.66
Total		75	100	Total	75	100
Mean = 13.53		SD = 2.46		Mean = 10.29	SD = 2.72	

From the table 9 it is evident that majority of the beneficiary farmers are having medium awareness (68.00%) followed by low (24.00%) and high (8.00%). In case of non-beneficiary farmers majority of the farmers are having medium awareness (62.67%) followed by low (26.67%) and high (10.66%). From the mean score of insured farmers is 13.53 and mean score of non-insured farmers is 10.29. We can infer that the insured farmers are more aware about the scheme when compared to the non-insured farmers.

Similar findings were found in the study of Sundar *et al.* (2015) [13], Darshan (2021) [2].

From table 10 we can infer that majority of the beneficiary farmers are having medium economic motivation (68.00%) followed by low (22.67%) and high (9.33%). In case of non-beneficiary farmers maximum numbers of farmers are having medium economic motivation (56%) followed by low (28%) and high (16%). The mean score of economic motivation is 17.37 for insured farmers and for non-insured farmers mean is 15.41. We can infer that economic motivation of insured farmers is more than non-insured farmers. As high value fruit crop growers, farmers are highly economically motivated and according to the demand of the market produce their products.

Economic Motivation

Table 10: Distribution of respondents according to their economic motivation

Sr. No	Categories (Score)	Beneficiary (n=75)		Categories (Score)	Non Beneficiary (n=75)	
		Ƒ	%		Ƒ	%
1.	Low (Up to 15)	17	22.67	Low (Up to 13)	21	28.00
2.	Medium (16 to 20)	51	68.00	Medium (14 to 18)	42	56.00
3.	High (21 and Above)	7	9.33	High (19 and Above)	12	16.00
Total		75	100	Total	75	100
Mean = 17.37		SD = 2.72		Mean = 15.41	SD = 2.76	

Scientific Orientation

Table 11: Distribution of respondents according to their scientific orientation

Sr. No	Categories (Score)	Beneficiary (n=75)		Categories (Score)	Non Beneficiary (n=75)	
		Ƒ	%		Ƒ	%
1.	Low Up to 13)	16	21.33	Low (Up to 13)	22	29.33
2.	Medium (14 to 19)	46	61.33	Medium (14 to 19)	45	60
3.	High (20 and Above)	13	17.34	High (20 and Above)	8	10.67
Total		75	100	Total	75	100
Mean = 16.12		SD = 2.85		Mean = 15.65	SD = 3.04	

From the table 11 it is evident that maximum number of beneficiary farmers are having medium scientific orientation (61.33%) followed by low (21.33%) and high (17.34%). In the context of non-beneficiary farmers majority of the farmers are having medium extension contacts (60.00%), 29.33 percent of the farmers were having low extension contacts and 10.67 percent of the farmers were having low scientific orientation. The mean score of scientific orientation is 16.12 for insured farmers and for non-insured farmers mean is 16.12 and SD is 2.85 and 3.04 for insured and non-insured farmers respectively. We can infer by seeing the mean that economic motivation of insured farmers is more when compared to non-insured farmers. Beneficiary farmers adopt innovative and modern agricultural practices in their orchard and are scientifically oriented in order to get good yields

The findings are in line with the research of Rao *et al.* (2012) [10], Palanisamy (2011) [9].

Risk Orientation

Table 12: Distribution of respondents according to their Risk Orientation

Sr. No.	Categories (Score)	Beneficiary (n=75)		Categories (Score)	Non Beneficiary (n=75)	
		F	%		F	%
1.	Low (Up to 11)	16	21.33	Low (Up to 13)	23	30.67
2.	Medium (12 to 17)	47	62.67	Medium (14 to 18)	44	58.67
3.	High (18 and Above)	12	16.00	High (19 and Above)	8	10.66
Total		75	100	Total	75	100
Mean = 15.86		SD = 2.60		Mean = 13.80	SD = 3.11	

From the table 12 it is evident that in case of beneficiary farmers majority of the farmers (62.67%) followed by low (21.33%) and high Risk Orientation (16%). In the context of non- beneficiary farmers majority of the farmers have medium level of risk Orientation (58.67%) followed by low (30.67%) and high (10.66%). The mean score of is risk Orientation 15.86 for insured farmers and for non-insured farmers mean is 13.80 and SD is 2.60 and 3.11 for insured and non-insured farmers respectively. We can infer by considering the mean that risk Orientation of insured farmers is more than non-insured farmers. As farmers growing high value fruit crop, beneficiary farmers take risk in their orchard in order to avail extra margin compared to the other farmers.

The findings are in line with Jamanal *et al.* (2020).

Conclusions

Majority of the Pomegranate beneficiary farmers were of middle age (50.67%) followed by young farmers (24%) and old farmers (25.33%). Similarly in case of Pomegranate non-beneficiary farmers majority of the farmers were of middle aged (41.33%), followed by young and old farmers. Majority of the beneficiary farmers and non-beneficiary farmers are having education up to secondary and higher secondary, both the categories are homogeneous in their education level. The beneficiary and non-beneficiary farmers were performing the same type of occupation i.e. majorly agriculture. Both beneficiary and non-beneficiary farmers the cropping pattern is fair. Majority of the Pomegranate beneficiary and non-beneficiary farmers of RWBCIS are having medium annual income and fall under the same category. Majority of the Pomegranate beneficiary farmers are small farmers (62.67%), In case of non-beneficiary farmers, majority of the farmers are small (61.34). Insured farmers are having more sources of information, Extension contacts, Awareness, economic motivation, scientific orientation and risk orientation compared to non-insured farmers.

The policy makers, administrators, banks and concerned authorities of RWBCI Scheme should emphasis on the above mentioned factors to implement and follow up the scheme. Spreading awareness regarding the scheme is one of the major factor, so that farmers can opt for the insurance. In this line extension contacts should be increased, farmers should be encouraged to participate in seminars, trainings, and involve in agriculture organization participation, so that farmers can get expertise advice and reap more benefits. Small farmers who are possessing fragmented land holdings are in need of the crop insurance, hence focus on small farmers should be there for their upliftment in terms of socio-economic conditions. The agriculture universities and research stations and state agriculture departments should center their attention towards building expert advice on grape orchard and emphasis on importance of crop insurance. Transparency in the scheme should be there so that more number of the farmers will opt for the crop insurance.

Future scope of study

Susceptibility of agriculture to natural disasters, price fluctuations, outbreak of epidemics, man-made disasters severely effect farmers production and income. Even though in recent times contract farming, future trading came in to light, agriculture insurance remains as an important risk management tool to stabilize the farm income. The study can be conducted in other aspects like field crops and other horticulture crops, insured and non-insured farmers. The study was confined with only one district, hence study can be conducted in wider areas to get a overall profile characteristics of grape farmers. More variables can be included in the study like climate perception of the farmers.

Author's contribution

Battu Preethi: Collected the data, Contributed data or analysis tools, Performed the analysis, Wrote the paper

G.K Sasane: Conceived and designed the analysis

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References

1. Anang SA, Nakuja T, Sarpong A. Willingness of cocoa farmers to participate in crop insurance in the Dormaa

Municipality of the Bono region, Ghana. Journal of Development and Agricultural Economics. 2021;13(1):45-55.
2. Darshan Y, Ramakrishnan K, Pushpa J, Prabakaran K. Constraints and Suggestions Encountered by the Beneficiaries under Pradhan Mantri Fasal Bima Yojana in Tumkur District of Karnataka. Asian Journal of Agricultural Extension, Economics & Sociology. 2021;39(12):33-37.
3. Dhande, Jambavanth S. Knowledge and attitude of farmers towards crop insurance scheme. M. Sc Thesis. University of Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani, Maharastra, India; c2017.
4. Ghanghas. Awareness of Pradhan Mantri Fasal Bima Yojana among farmers of Haryana state. Journal of Pharmacognosy and Phytochemistry. 2018;7(4):1912-1914.
5. Ghoslya Ajit Kumar. Study of knowledge and constraints of mild producers in Udaipur district of Rajasthan. Thesis, Maharana Pratap University of Agriculture and Technology, Udaipur; c2016.
6. Javeed MA, Veeranna KC, Thirumalesh T, Rathod P, Gopala GT. Attitude of dairy farmers towards feeding of green fodder crops and awareness level about fodder production practices in north eastern transition zone of Karnataka, India. Ruminant Science. 2020;9(1):113-118.
7. Jamanal SK, Potdar MP. Constraints and Suggestions Expressed by the Farmers in availing crop Insurance Schemes in Northern Karnataka. Journal of Education, Society and Behavioural Science; c2019.
8. Paulraj AP, Easwaran N. Evaluation of 'Revamped' Crop Insurance Pradhan Mantri Fasal Bima Yojana (PMFBY) among Paddy Farmers in Tamil Nadu, India. Current Journal of Applied Science and Technology. 2020;39(34):69-67.
9. Palanisamy A. Impact of TN-IAMWARM project on the farm and home of precision farming beneficiaries. – An analysis. M.Sc. (Ag.) Thesis. Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu India; c2011.
10. Rao VN, Ratnakar R, Jain PK. Impact of farmer field school in KVK adopted villages on level of knowledge and extent of adoption of improved practices of paddy. Journal of Research ANGRAU. 2012;40(1):35- 41.
11. Pradhan S, Naberia S, Harikrishna YV, Jallaraph V. Socio-economic correlates of livelihood security of small farmers in Jabalpur District of Madhya Pradesh. Indian Journal of Extension Education. 2021;57(3):57-59.
12. Sindhu C, Ariff UT. A Study on farmers preference towards crop insurance. International Journal of Interdisciplinary Research in Arts and Humanities. 2017;2(2):2456-3145.
13. Sundar J, Ramakrishnan L. A study on awareness, purchase benefits and satisfaction level towards crop insurance. Pacific Business Review International. 2015;7(11):38-45.
14. Swain M, Hembram BR. Determinants of adoption of crop insurance: Evidence from Bolangir District in Odisha. Journal of Land and Rural Studies. 2020;8(2):121-137.
15. Thirumoorthy R, Geetha V. A study on awareness of farmers towards crop insurance in Erode and Namakkal district, Int. J Multidisc. Res. and Modern Ed. 2017;4(3):104-108.
16. Uvaneswaran SM, Mohanapriya T. Farmers' perception and awareness about crop insurance in Tamil Nadu – A descriptive analysis that the majority. Intercontinental Journal of Marketing Research Review. 2014;2(3):2321-2346.