**SHORT NON-REFEREED PAPER**

# ASSESSING THE SUGARCANE FARMERS' AWARENESS AND WILLINGNESS TO PAY FOR INSURANCE IN KWAZULU-NATAL SMALL-SCALE FARMING DISTRICTS

PHIWE J[1], THANDOKWAKHE S[1] AND SIFISO M[1]

*[1]South African Farmers Development Association, P.O. Box 1769, Mount Edgecombe Country Club, Durban, 4301*
*pjiba@sa-fda.org.za*

## Abstract

Compared to other economic sectors, agriculture has the important role of providing food and employment for the growing population of the world. As an agricultural industry, uncertainty of crop yield is one of the most basic risks small scale growers face. Majority of these farmers are unable to withstand such risks due to insufficient resources. The main objective of this study is to assess the awareness of insurance of small-scale sugarcane growers and to determine their willingness to pay for insurance in the KwaZulu-Natal Province.

The study adopted a cross-sectional design, by incorporating data collected from small-scale growers in the sugarcane growing districts of KwaZulu Natal. The respondents were selected by using a probability sampling procedure, which is the random selection of sugarcane farmers' households for a survey questionnaire by means of face-to-face interviews. The data from the 68 respondents were analysed using descriptive statistics, which included the frequencies of the socio-economic characteristics of households in the study areas, to determine their awareness and willingness to pay for insurance. Only Black Africans participated in the study, with an equal representation of male and female participants. The study revealed that 72% of the small-scale sugarcane growers interviewed were not aware of agricultural insurance, although most of them were willing to pay sugarcane insurance. A large proportion of those who were willing to pay for insurance had previously experienced losses, due to natural disasters. Therefore, it is recommended that the government should use existing extension officers to educate the farmers and to promote the importance and benefits of insurance products.

*Key words*: Sugarcane, willingness to pay, insurance, risk.

## Introduction

Sugarcane is known as a unique agricultural commodity that is produced in tropical and sub-tropical regions world-wide. According to Zulu *et al.* (2019), more than 20 million hectares are planted to sugarcane in more than 90 countries, with an estimated global annual production of 1.69 million tons of sugarcane. The South African Sugar industry has been reported as being an industry that has significant potential for socio-economic development in rural areas, by creating jobs and providing an income to rural households. However, this unique commodity is subjected to various risks, including natural disasters, such as floods and fires, amongst others (South African Sugar Association, 2019). Climate change is currently one of the dominant production risks (Mbonane, 2018). Mdletshe (2014) added that smallholder farmers, particularly sugarcane farmers, are often situated in areas with uncertain and variable climate conditions, where there are high production risks. Evidence of crop losses from flooding was recently observed in the sugarcane farming areas linked to the St Lucia wetland system.

To fight against the loss of thousands of hectares planted to sugarcane, there is a need to introduce crop insurance cover options for farmers who are likely to be vulnerable to the risk of natural disasters and climate change. Therefore, this raises the question of how to make small-scale growers aware of, and adopt, industrial crop insurance, so that they can be prepared for any kind of challenging situation, whether it be a natural or human-induced disaster, that may occur during the production process.

## Methods and Materials

*Research design and sampling procedure*

This paper presents the findings of an investigation into six municipalities in the KwaZulu-Natal Province. Quantitative research methods were used for this study. Due to the limited time available, data were collected at a specific point in time, and the study therefore adopted a cross-sectional design. The areas were purposely selected from a total of five sugarcane-producing regions that represented a high risk of natural and human-induced disasters, such as fire and heavy rain. Respondents were then selected by using a probability sampling procedure, which involves the random selection of sugarcane farmers' households for a survey questionnaire that was administered by means of face-to-face interviews.

*Data collection and analysis*

Quantitative data were collected from respondents in the selected sugarcane-growing regions by means of a questionnaire. The questionnaire covered only quantitative research questions. In addition, the quantitative method focuses on numerical data, which are useful in the statistical methods of data analysis. Hughes (2006) noted that the quantitative information validates the description of a research phenomenon. Furthermore, quantitative data included the age, level of income and family size of the respondents.

The data were sorted, coded, and summarised on Microsoft Excel and exported to Stata Version 15, where frequencies, counts and percentages were presented in the form of tables and charts. Both a descriptive and an inferential analysis were used to analyse the data. The descriptive statistics focused on social demographic background information, which included continuous numeric and dummy variables, such as age and gender.

## Results and Discussion

This study presents the descriptive statistics, sample frequencies, percentages, and awareness of all the sampled households. To address the objective of the study, a descriptive statistical analysis was used to give the details on their socio-economic background, their awareness of agricultural crop insurance and the factors that determine their willingness to pay for crop (sugarcane) insurance.

Table 1. Socio-economic characteristics of the study group

| Sugarcane small-scale growers (n=68) | | |
|---|---|---|
| **Variables** | **Frequency** | **Total percentage** |
| **Growing Region: KZN** | | |
| King Cetshwayo | 12 | 17,65 |
| Jozini | 23 | 33,82 |
| Ugu | 13 | 19,12 |
| South Coast | 20 | 29,41 |
| **Marital status** | | |
| Single | 31 | 45,59 |
| Married | 32 | 47,06 |
| Widowed | 5 | 7,35 |
| **Population group** | | |
| Black African | 68 | 100 |
| **Educational level** | | |
| No schooling | 2 | 2,94 |
| Primary school | 16 | 23,53 |
| High school | 34 | 50 |
| ABET | 3 | 4,41 |
| Certificate | 6 | 8,82 |
| Diploma | 4 | 5,88 |
| Bachelor's degree | 2 | 2,94 |
| Honours | 1 | 1,47 |
| **Age** | | |
| 30-45 | 17 | 25.0 |
| 46-55 | 24 | 35.3 |
| 56-65 | 19 | 27.9 |
| 66-75 | 6 | 8.8 |
| 76-85 | 2 | 2.9 |
| **Gender** | | |
| Female | 34 | 50 |
| Male | 34 | 50 |
| **Extension officer access** | | |
| Yes | 41 | 39,71 |
| No | 27 | 60,29 |
| **Household size** | | |
| 1-5 | 16 | 23,5 |
| 6-10 | 38 | 55,9 |
| 11-15 | 11 | 16,2 |
| 16-20 | 3 | 4,4 |

Marital status is a variable that shows the relationship status of each small-scale grower. The results revealed that the people living in most households were married (47%), followed closely by those whose relationship status was single (46%) and 7% of households were comprised of widowed individuals (see Table 1 above). In addition, only Black Africans were participants in the study, as indicated by a 100% Black African population group. This is likely to be the demographic amongst many of the small-scale growers in the targeted regions.

Gender is a variable that determines whether the main member of the household is male or female. According to the FAO (2016), females in rural areas are more likely to participate in subsistence crop farming, compared to males. However, in this study, the results showed there was equal participation of both males and females.

Education was recorded according to the highest qualification that a participating individual had obtained. It is an important tool for farmers because it determines their ability to adjust to innovative solutions and to obtain access to information and technological developments. The results revealed that most of these small-scale growers had attended high school (50%) and 23.5% had a post-matric qualification. Most of the information in farming and training manuals is presented in English; therefore, for the farmers to access this information, they need the benefit of education and a good knowledge of the English language, as it is taught at most high schools in South Africa.

The age variable was presented as the actual age of each small-scale grower. It is an important variable that determines the commitment and ability of the household to manage and continue with its agricultural practices. Sometimes, age can be linked to increased experience, and thus, older farmers might be more likely to mitigate against and manage risks than young farmers, having experienced them before or having had to put processes in place to limit any damage.

The household size variable refers to the total number of people who resided in each household. The household size has an impact on the amount of produce required to support the family, because the larger the household size, the higher the production level required. The results showed that many households consisted of between 6 to 10 persons. Larger households might thus also have greater access to labour from within the family to assist with agricultural activities, which may, in turn, lead to increased or improved production. This statistic was not analysed in this study, as the yield figures were not captured. Larger households will be more susceptible to hardship because of crop failure, since more people are dependent on the success of the sugarcane crop to provide an income.

The extension officer variable focuses on whether the small-scale sugarcane growers have access to extension officers and services or not. Most of the small-scale growers indicated that their knowledge, information, and resources were provided by extension officers, on specific topics, like poor pre-planting machines and unskilled labour.

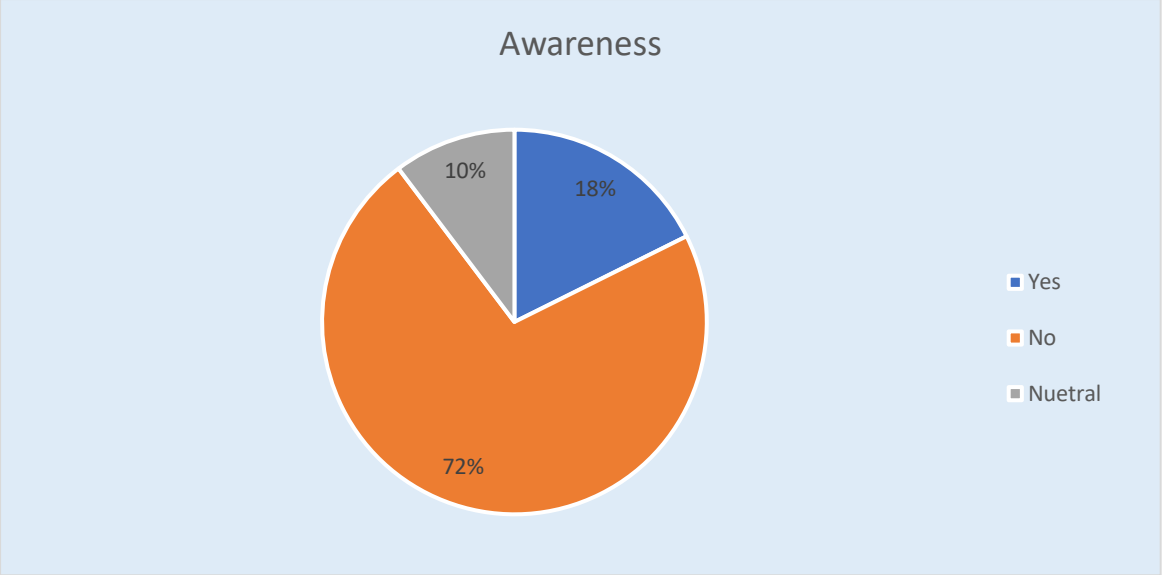


Figure 1. Awareness of sugarcane insurance amongst respondents

Figure 1 above revealed that 72% of small-scale growers were not aware of agricultural crop insurance, particularly sugarcane insurance, whilst 18% indicated that they were aware of agricultural insurance. Mbonane (2018) revealed that the low level of awareness and understanding of the expected benefits of crop insurance might be the reason why farmers refuse it, or have not investigated, or adopted, it.

Table 2. Relationship between the willingness to pay for sugarcane insurance and natural disasters

| Natural disaster | Willingness | | |
|---|---|---|---|
| | Yes | No | Total |
| **Yes** | 25 | 16 | 41 |
| **No** | 16 | 11 | 27 |
| | | | |
| **Total** | 41 | 27 | 68 |

According to Table 2, most small-scale growers in the sample were willing to pay for sugarcane insurance, and a high number of them had experienced natural disasters. This is obvious, as the more the small-holder farmers experience natural disasters, such as fires and floods, the more they are willing to participate in agricultural insurance.

## Conclusion

In conclusion, it was noted that the crop insurance scheme is not popular among the small-scale growers in most parts of KwaZulu Natal Province. Many of these farmers are not even aware of such insurance. However, to enhance its adoption, the determinants of a dissemination strategy still need to be examined. Easy availability to extension officers is

essential for encouraging the promotion and adoption of insurance products by small-scale sugarcane growers. Therefore, it is recommended that the government should use the existing extension officers to educate farmers about the importance and benefits of insurance products.

## References

Food and Agricultural Organisation (2016). Available online: http://faostat3.fao.org/home/E

Hughes C (2006). Quantitative and qualitative approaches to social research. *University of Warwick. Available online: https://www.scribd.com/document/135552364/Quantitative-and-Qualitative-Approaches*

Mbonane ND (2018). An analysis of farmers' preferences for crop insurance: a case of maize farmers in Swaziland. University of Pretoria MSc (Agric) Dissertation. Available online: https://repository.up.ac.za/handle/2263/67801

Mdletshe STC (2014). Assessment of the performance of smallholder irrigated sugarcane farming in Maphumulo municipality of KwaZulu-Natal Province. University of Fort Hare MSc (Agric) Dissertation. Available online: http://libdspace.ufh.ac.za/handle/20.500.11837/401

South African Sugar Association (2019). An overview of the South African Sugar Industry

Zulu NS, Sibanda M and Tlali BS (2019). Factors affecting sugarcane production by small-scale growers in the Ndwedwe Local Municipality, South Africa. *Agriculture* 9(8): 170.