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RESEARCH ARTICLE

Farmers' Awareness and Approach to Agricultural Insurance as a Risk Mitigation Strategy

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ABSTRACT

This study aims to explore the development of agriculture insurance from farmers' perspective in a developing country such as Albania and to identify the reasons why farmers choose to be insured or not. Moreover, the paper aims to evaluate the willingness of farmers to choose agricultural insurance as the best method to reduce agricultural risks based on the offer of the insurance market in the agricultural sector. For this purpose, the study employs primary data gathered from 452 questionnaires distributed in four regions with the highest agriculture contribution and the highest number of farmers in Albania (Tirana, Dibër, Korçë and Fier). The results indicate that Albanian farmers, despite being aware of the various risks involved in agricultural production, opt not to purchase insurance policies and instead choose to self-insure. Analysis shows that this choice is influenced by factors such as lack of information, price, and trust in insurance providers. Moreover, the study points out that farmers are willing to pay a low premium that does not match the price set by insurance companies for this service.

Keywords: Agricultural insurance, Farmers' awareness, Premium, Risk mitigation.

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1. Introduction

Generally, agriculture plays a vital role in developing countries because it is the pillar of food security for an ever-growing population and impacts poverty reduction. However, natural phenomena or unpredictable market conditions create systematic risks in this sensitive sector. When these risks occur, they cause numerous consequences in agricultural production, material resources, or manpower. Therefore, agriculture is often considered one of the most risky sectors of the economy (Jankelova *et al*., 2017; Komarek *et al*., 2020). Knowing and analyzing farmers' perceptions of these risks is essential for developing effective risk management strategies that lead to creating a more sustainable agriculture sector.

Agricultural development is one of the most powerful tools to end extreme poverty, foster shared prosperity, and feed the projected 9.7 billion people by 2050 (The World Bank, 2022). The global food price crises of 2008 and 2010 underscore the growing challenge of meeting rapidly growing food demand in the face of increasingly scarce land and water resources. Climate change, urban pollution, waste of water, land, and biodiversity are positively correlated with the agricultural sector. According to (The World Bank, 2022), an additional $2 trillion in private financing is needed to create sustainable agricultural value chains. Such a value is almost unaffordable, especially for the economies of developing countries. The agricultural market in these countries is challenging, investments are insufficient, and the land is fractionated among small owners. These factors are decisive in the development of the agricultural insurance market.

There are several forms of risk protection, such as risk assumption, the creation of protection mechanisms, and risk transfer. Literature always relies on transferring risk toward insurance. Risk transfer from the insured to the insurer is considered the best way of mitigating the risk in agriculture (Popović *et al*., 2017). Agricultural insurance serves as a safety net, helping farmers recover from losses, ensuring production continuity, and preserving livelihoods. In this context, the role of agricultural insurance emerges as a critical mechanism for mitigating risks and fostering resilience within farming communities.

This paper aims to deepen the interaction between farmers' awareness on agricultural insurance and its adoption. The identification of farmers' behavior in relation to agricultural risk affects their decision-making regarding insurance. Knowing and understanding the external and

internal conditions of farmers helps in identifying problems and choosing different risk management techniques. Furthermore, this study will explore the practices of countries in the Western Balkans region to highlight differences in the treatment of agricultural insurance.

In Albania, the agricultural insurance market is almost non-existent. For this reason, the focus of this paper is to contribute to help the development of the agricultural market by understanding the reasons why farmers are not insured and their willingness to pay in the future as a premium. The essential element of insurance is risk. If the farmers do not perceive the risk as it exists, it makes no sense to talk about insurance. For this reason, it is essential that in this work, the perceptions of the farmers included in the study and their attitude toward insurance decision-making are analyzed.

Through a comprehensive analysis of farmers' agricultural insurance awareness and approach, this paper aims to contribute to the support of farmers, mitigating the consequences of risks through the development of agricultural insurance. The results achieved will help to issue valuable recommendations to interested parties such as farmers, policymakers, and insurance providers that aim to improve risk management strategies and support the long-term sustainability of the agricultural sector.

2. Literature Review

The agricultural activity of the farmer is exposed to a variety of risks of different natures. One of the many definitions of risk is: Risk is a measure of the probability and severity of consequences (Haimes, 2009). So, risks in agriculture can be of low severity and high frequency or high severity but low frequency (Holzmann & Jørgensen, 2001). Classified agricultural risks as natural disaster risk, geological risk, sanitary risk, inflation risk, operational risk, political risk, health risk, and property risk. Farmers' perception and management of these risks critically determine their livelihoods and the sustainability of their agricultural practices. In the analysis of the systematic review of the literature made by (Duong *et al*., 2019), it turned out that they perceive risks related to the weather (55%), biosecurity threats (48%), and human risk (35%) as risky. Farmers' perceptions of risk are shaped by a complex interaction of factors, including their personal experiences, socioeconomic status, access to information, and cultural context. These perceptions, in turn, influence their decision-making processes, ranging from crop selection to the adoption of new technologies. As such, how farmers perceive and respond to risks can have important implications for agricultural productivity, environmental sustainability, and economic stability.

Despite the importance of risk perception in agriculture, there is considerable variability in how different farmers perceive and prioritize risks. These risks directly affect the farmer's production, reducing income and the number of employees (Wenner, 2005). Therefore, the farmer should focus on choosing the best practices to manage these risks. The study by Ullah *et al*. (2015) showed that farmers value floods, heavy rains, and diseases as the most current risk. This study asserted that farmers are generally risk averse and factors such as age and education of the head of the household, monthly income outside the family farm, land ownership status, and farmers' access to informal sources of credit determine farmers' attitude towards risk. The same result is supported by the study of (Iqbal *et al*., 2016), adding the high prices of inputs as a main risk perceived by farmers and the factor "access to market information" as a determinant of the farmer's attitude towards risk. Meraner and Finger (2017) have evaluated other factors, such as the continuity of the farm, the size of the farm, and the percentage of land for rent, as important in the farmer's behavior toward risk.

In the range of risks that a farmer encounters, he should make the correct choice in managing them effectively. Risk-averse farmers prefer to pursue on-farm risk management strategies rather than off-farm strategies (Meraner & Finger, 2017). This conclusion further elaborated on Winsen *et al*. (2014)'s study, according to which risk-accepting farmers are more inclined to implement ex-ante risk management strategies, while risk-averse farmers are less inclined to implement these strategies and choose to reduce the consequences of risks when they occur as a form of risk management. Also, risk-averse farmers are more likely to use more pesticides (Pan *et al*., 2020). In the choice of the risk management strategy, one of the reasons that affects is the severity of the damage. According to Sandmark *et al*. (2013) when farmers are exposed to risks with high density but low intensity, they tend to bear the risks themselves, so they do not buy insurance. When farmers are affected by risks that are less present but with higher severity, they buy insurance with affordable premiums. Meanwhile, when farmers face catastrophic phenomena experiencing enormous losses, they want to be insured, but the premiums are unaffordable.

Many authors have determined the factors that influence the behavior of farmers toward agricultural insurance. Nshakira-Rukundo *et al*. (2021) have identified six factors: the quality of insurance, the design of the insurance policy, the farmer's income level, the farmer's education and information, socio-cultural factors, and the government's involvement in stabilizing the market. Tsikirayi *et al*. (2017) mention in their paper that the distance of the farmer from the offices of the insurance companies reduces information and access to this service. Makaudze and Miranda (2010) discovered in their work that another important factor is the fact that the farmer has experienced a loss before being insured. Farmers who experienced losses were more inclined to obtain insurance compared to those who hadn't encountered any damage. Giné *et al*. (2008) argued that farmers equally evaluate the decision between insurance or the purchase of new technology because of their perception of the distribution of insurance benefits. Casaburi and Willis (2018) reached an interesting finding that the determinant that affects the decision to buy insurance from farmers is the time and method of payment of the insurance premium. According to this study, if insurance companies would offer the sale of products during the harvest period or the possibility of payment in installments, more would be bought by farmers due to the high liquidity in that period. According to the findings of this study, if insurance companies provided the option to purchase

insurance products during the harvest period or offered installment payment plans, more farmers would likely purchase insurance due to the ample liquidity available during that time.

The importance of agricultural insurance as a key instrument of risk management in agriculture has been repeatedly underlined by the literature and experts in the field (Popović *et al*., 2017). Consequently, insurance stands as a critical mechanism to mitigate total losses, allowing additional coverage of certain costs, regardless of the type of insurance used (Petrović *et al*., 2020). Although insurance does not reduce the likelihood of the insured event occurring, it effectively eliminates financial losses if such an event occurs (Meuwissen, 2000). The primary function of agricultural insurance is to safeguard the entire production process, with particular emphasis on crop and livestock protection (Petrović *et al*., 2020). While agricultural insurance has long been recognized as a risk management tool for farmers in both developing and developed economies, policy approaches to supporting these risk management tools vary across countries.

In the field of agricultural insurance, the convergence of market dynamics often presents challenges, necessitating government intervention as a common tool. In their study, Mahul and Stutley (2010) found that among the 21 nations examined, approximately two-thirds demonstrated support for government assistance to strengthen agricultural insurance markets. The forms of subsidy can be different: premium subsidy, operating subsidy, or subsidized reinsurance (Wenner & Arias, 2003). Hazell and Varangis (2019) have argued that subsidies serve as a mechanism for correcting deficiencies in the insurance market, aiming to achieve social and political goals beyond risk management.

Literature shows several factors that influence the decision of farmers not to be insured. These factors are low education, lack of reliability in insurance companies, lack of information about insurance policies, low income, frequency of risks, state intervention, etc., (Jain, 2004; Smith & Glauber, 2012; Sarris, 2009). Referring to Albania, even though agriculture is one of the most important sectors, there is a lack of empirical studies on why agricultural insurance is underdeveloped. The presence of risks is mainly assessed by the farmers themselves, who have chosen different forms of risk management but not that of insurance. In Zhllima *et al*. (2023)'s study, farmers identified lengthening drought durations, rising temperatures, above-average flood occurrences, pre-seasonal rainfall, and frost as the main risks in recent years.

The agricultural insurance market in Albania is nearly non-existent. The total gross written premiums for the year 2023 amounted to 7103 thousand Lek (Financial Supervisory Authority, 2023). According to Myslimi *et al*. (2022a), the primary impediment to the development of the agricultural insurance market in Albania is the lack of demand, driven by the unaffordable prices for farmers. The premium level for this insurance varies from 0.15% to 6.0% of the insured amount, depending on the object and the types of risks to be insured (SIGAL, 2023). Consequently, farmers adopt alternative strategies to manage risk, including extending credit, selling assets, utilizing personal food reserves, seeking support from relatives, and engaging in off-farm employment (Myslimi *et al*., 2022b).

3. Materials and Methodology

The aim of this study is to explore the development of agriculture insurance in a developing country such as Albania and to identify the reasons why farmers choose to be insured or not. In this context, the study objective is to match the farmer awareness on agriculture insurance with the payment/willingness to pay for purchasing an insurance policy. To achieve this objective, the study is based on primary data gathered through a questionnaire with farmers.

The study was conducted in several steps:

- First, a thorough analysis of the theoretical and methodological frameworks was done based on official reports, laws and regulations, research articles, etc.
- Second, the questionnaire was drafted and piloted by some farmers. Comments and recommendations were reflected in the final version of it.
- Third, the questionnaire was distributed physically and online to reach a higher number of responses.
- Fourth, questionnaire results were processed, and the analysis and interpretation of results was done.

The determination of the sample is an important aspect of research based on primary data. Our sample included farmers from regions with the highest development in the agricultural sector: Tirana, Fieri, Korca, and Dibra. These counties also have the highest number of farmers who have applied for grants, which means that they are potentially insured/interested in being insured.

There is no official database on the farmers that have agricultural insurance in Albania. Therefore, it was difficult to differentiate the population of the study into two groups of farmers and the sample, consequently consisting a limitation of the study. Therefore, the sample size is based on the total number of farmers. The number of farmers registered in the four selected districts is 44,607 farmers (INSTAT, 2024). Based on the size of the population, to get reliable results at a 95% confidence level and with a 5% margin of error, the questionnaire sample size should be 381. Referring to our study, in total, 452 questionnaires were correctly filled, so the sample is representative.

The analysis is mainly descriptive and comparative. Considering this is among the first studies in this field in Albania, it provides valuable insights and can be further extended in the future, including in-depth statistical analysis. In the following section, we give the results of the study.

4. Results and Discussion

According to the General Directorate of Taxes definition, a Farmer is an individual who is a resident where he owns or uses agricultural land, develops activities for the production of agricultural products, plants, or animals, is self-employed on his land, and is registered as a Farmer in the Directorate Regional Tax (DPT) (DPT, n.d.). The target of this study is farmers who operate in the districts with the highest level of development in agriculture and the highest number of farmers in the country (Tirana, Fieri, Korca dhe Dibra).

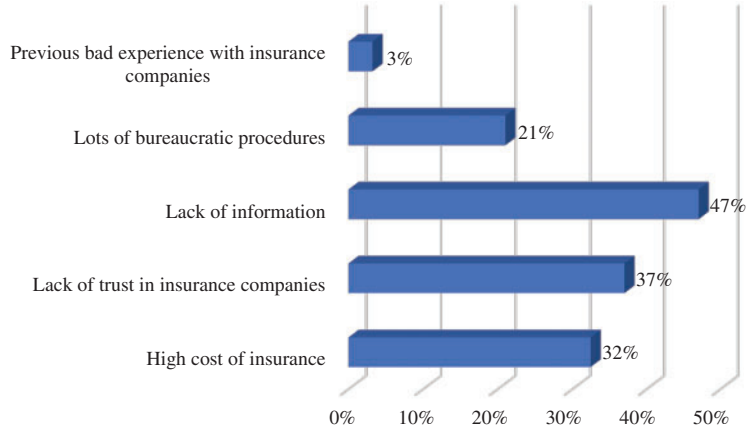

Fig. 1. Reasons you are not insured. Source: Authors calculations.

The questionnaire responses distribution represented the proportionality of farmers distribution among the four regions. The majority of questionnaires were completed in Fier (49%), which is the region with the highest farmers' concentration. The first part of the questionnaire contained general demographic questions. Regarding the experience of the farmers, most of them have over 10 years of practicing the profession of farmer (72%). Consequently, the dominant age of the sample is over 40 years old (74%). The results of the questionnaire show that the profession of farmer is dominated by men (86%), who have learned the profession mainly from family members (62%) and relatives (13%).

Currently, agricultural insurance is still an underdeveloped financial instrument in our market. Only 3% of the sample own an agricultural insurance policy. The answers of the farmers (Fig. 1) show that the lack of insurance derives mainly from the lack of information about this financial product (47%), the lack of trust in insurance companies (37%), and the high cost that farmers have to bear to be insured (32%). These results are explained by the fact that the agricultural sector is considered the sector with the highest risk for insurance companies due to the direct impact of climatic conditions. For this reason, insurance companies' interest in offering and promoting this product is low (it is only offered by 2 companies), and the required premium is high.

Although in practice agricultural insurance increases the crediting chances of farmers due to the reduction of the financial risk of commercial banks, as well as it is a condition for government financing, farmers are still not sufficiently informed and aware of its importance. The questionnaire data (Fig. 2) shows that only one-third of farmers would buy insurance policies, while the rest either prefer to take the risk of losses in the event of damages (one-third) or spend to create their own defense mechanisms (one-third).

Most of the member countries of the European Union provide support for the insurance of farmers. This support is mainly based on the EU Risk Management Toolkit or on national insurance subsidy schemes. In most of cases, the subsidy ranges from 50% to 65% of the insurance premium. Referring to our country, there is no such support, which would be a very good incentive for farmers to be insured.

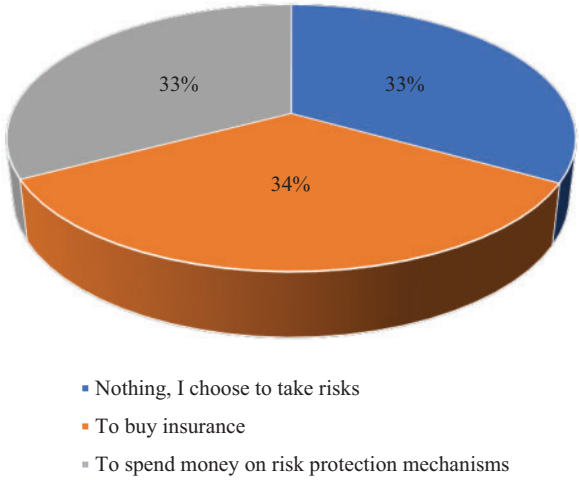

Fig. 2. The alternatives you would choose to protect yourself from risks. Source: Authors' calculations.

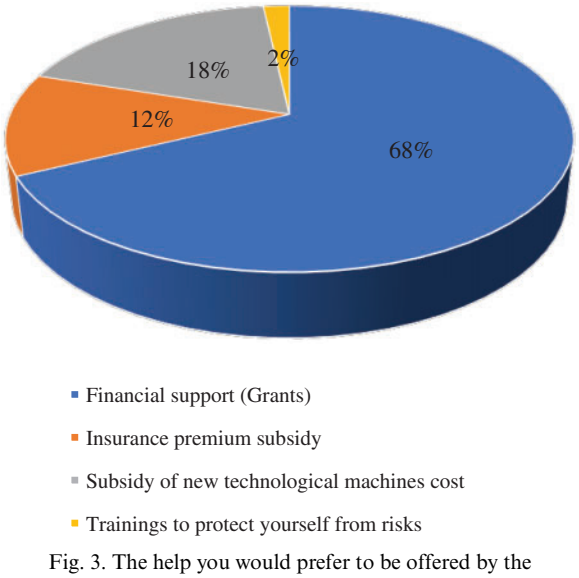

Fig. 3. The help you would prefer to be offered by the government to protect yourself from risks. Source: Authors' calculations.

However, based on our study (Fig. 3), most farmers (68%) would prefer the government to offer them direct financial support for their investments/operations (grants) rather than subsidies for insurance premiums (12%).

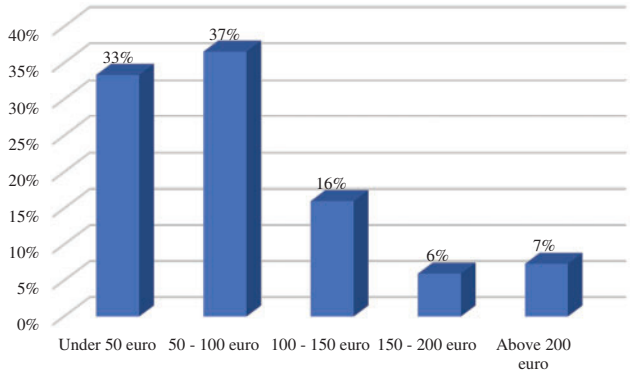

Fig. 4. Price you would be willing to pay to insure your agricultural output. Source: Authors calculations.

Even though the agriculture sector is one of the most important sectors in our country, it seems that the profit margin of businesses in this sector is low. This is why almost 70% of farmers (Fig. 4) can afford an insurance premium of less than 100 euros, which is very low compared to the premium required by the insurance companies to cover this type of risk. This result explains once again the reason why Albanian farmers are not insured and emphasizes the need for government intervention to protect farmers from possible losses.

5. Conclusions

Agriculture sector is associated with many risks that directly affect the farmer's production, reducing income and the number of employees (Wenner, 2005). Considering the high importance of the sector, especially in developing countries, it is crucial to assess the approaches for risk mitigation. The study aimed to shed light in the agriculture insurance in Albania from a farmers' point of view. Based on official data from the insurance market, the agricultural insurance market is not developed. Therefore, it is very important to understand the reasons why farmers choose not to be insured and what are the mechanisms they use to be protected from damage. For this purpose, the study employed primary data gathered from 452 questionnaires distributed in four regions with the highest agriculture contribution and the highest number of farmers in Albania. As expected, 97% of farmers were not insured and the main reason was considered the lack of information on the agriculture insurance product. This means that there is a low level of awareness of farmers on such a financial product and a more effective marketing strategy from insurance companies is needed. Other factors which cause non-insurance are a lack of trust in insurance companies and the high cost that farmers should bear to be insured. These findings are in line with previous studies of (Jain, 2004; Smith & Glauber, 2012; Sarris, 2009).

The perspective of the sector does not seem very optimistic because only one-third of the farmers would choose to buy an insurance policy as an alternative to protect the agriculture output from risks, and based on their financial conditions, the majority of the sample would be able to pay a premium not higher than 100 euro. This is an indication that the situation in the agriculture insurance market will not be improved soon without any financial support from the government. Therefore, it is necessary for the government to intervene to raise awareness together with insurance companies, as well as to offer financial support in subsidizing a part of the premium, as an effective practice used in many other countries. There are also other types of financial assistance that can be applied, such as operating subsidies or subsidized reinsurance (Wenner & Arias, 2003). Despite the types of mechanisms that the government chooses to support insurance in agriculture, they are needed to address the shortcomings in the insurance market and to achieve a broader social and economic impact.

The triple collaboration between farmers–insurance companies–government is an urgent step to boost the development of both the agriculture and the insurance sector. In this context, from a research point of view, future studies can be focused on developing a comprehensive framework that includes primary and secondary data from the three parties.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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