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Opportunities for agriculture insurance in Mozambique



- In brief:**
- Weather-related risks such as drought, flood, and hail can cause irreversible damage to households and affect food security. They are complemented by a large number of additional constraints, such as limited technical knowledge, lack of processing capacity, high exposure to pests and diseases, limited access to finance and markets, and high risk of price volatility.
 - This study provides a general overview of the agricultural sector in Mozambique to identify key policy challenges along with the potential of policy interventions related to agricultural insurance. To do so, the researchers undertook a review of the current state of the agricultural sector in Mozambique with particular focus on agricultural insurance.
 - There is currently no major product available in the market providing coverage for weather-related events. In the absence of it, farmers depend on informal insurance. Furthermore, there are potentially large benefits from the introduction of an agricultural insurance product as weather-related risks for agricultural production are spread throughout the country, and mitigation capacity is very limited.
 - The findings suggest the introduction of a new insurance product presents several constraints: liquidity constraints are an important determinant for purchase; identifying ways to address the lack of trust is crucial; and low levels of insurance awareness and financial literacy demands for intensive sensitisation sessions among farmers.

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Overview of the research

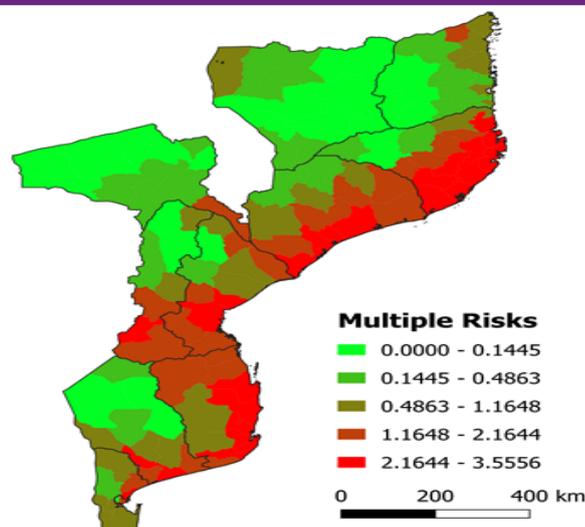
Mozambique is primarily an agricultural economy with 81% of its population engaged in agriculture, which accounts for 32% of its GDP. “There are now 400 extreme weather events every year, four times as many as in 1970” (The Economist, 2017). The direct costs of these extreme events in the form of lost lives, assets, and habitat are obvious. For farmers in agricultural-dependent developing countries such as Mozambique, these shocks lead to a loss of financial resources and productive assets with knock-on effects on investments and returns from their farms, trapping them into poverty. The ensuing financial uncertainty has deep repercussions on both households' welfare and investments in productive activities. Such adverse shocks also force these individuals to divert resources from other priorities like nutrition, children's education, and healthcare, and lead to persistent damages to their lives.

The primary objective of this study is to provide a general overview of the agricultural sector in Mozambique to identify key policy challenges facing the sector along with the potential of policy interventions related to agricultural insurance. To reach this goal, we undertook a review of the current state of the agricultural sector in Mozambique with particular focus on agricultural insurance. Firstly, we collected data from a myriad of sources, including high-resolution satellite data, to identify the key agricultural risks Mozambique faces and understand its geographic segregation. Secondly, findings from the general literature on public policies for agricultural insurance in developing countries is analysed and linked to the Mozambican context. Thirdly, an analysis of stakeholder experience through direct interviews and a focus group discussion provided unique insight on the experience and potential for agricultural insurance in Mozambique.

Policy motivation

The need for risk-mitigation instruments such as agricultural insurance under such situations cannot be overemphasised as they can provide a much-needed safety net to farmers vulnerable to climate shocks. However, currently there are very few insurance products or other risk mitigating instruments available to farmers. This lack of risk management instruments may contribute to the fact that only a fraction of Mozambique's arable land is currently used. This is pertinent to the challenge of building effective growth policies. Specifically, identifying key challenges faced by the agricultural sector and possible solutions that might lead to better risk-management practices, particularly for small and marginal farmers, is central to increase farmers productivity and socio-economic outcomes.

Figure 1: Risk of multiple adverse events



Mozambican farmers indeed face a wide variety of weather-related risks, such as floods, droughts, and hail storms. *Figure 1* shows the geographical distribution of the global risk induced by multiple hazards: extreme winds, flood and landslide induced by precipitations. The most direct consequence of adverse climatic events is the destruction of production and a substantial loss of income. This reduces farmers' quality of life and potentially leads to food insecurity. Weather-related risks are complemented by a large number of additional risks, such as limited technical know-how, lack of processing capacity, high exposure to pests and diseases, lack of access to finance and to markets, and high risk of price volatility.

Table 1: Main constraints for Mozambican farmers

Main climatic threats	Drought, flood, hail storms, plagues
Protection	Limited understanding of risk management Limited or no method of protection
Impact of adverse weather	Significant losses in income and food security compromised Need for diversification of production and sources of income Demand of support from family members and friends

Climatic risks for agricultural production are present and spread throughout the country, and mitigation capacity is very limited by the high degree of poverty in a large share of Mozambique. However, there is currently no major product available in the market providing coverage for weather-related events. In the absence of a formal agricultural insurance, farmers depend on informal insurance, which limits their possibility to access credit, which also has limited availability. Therefore, there are potentially large benefits from the introduction of an agricultural insurance product.

In this situation, it is not straightforward to introduce an insurance product to the market as several constraints need to be taken into account. First, liquidity constraints are an important reason for the generally low take-up of insurance in developing countries. Second, identifying ways to address the lack of trust is crucial for increasing the take-up of insurance products in a setting with little or no experience with the insurance market. Third, low levels of insurance awareness and literacy and a difficulty to understand and use insurance policies properly should be addressed through intensive sensitisation sessions among farmers.

Table 2: Constraints for agricultural insurance

Knowledge of crop insurance	Limited knowledge about the operation of insurance Limited application of risk management
Effect of insurance on decisions	Incentive to diversify their sources of income Food security and consumption smoothing
Desired characteristics	Multi-risk coverage Coverage of the whole productive process Payments linked to crop-specific growing season
Interest in training	Willingness to participate exists. Interests: financial education; risk management; agricultural insurance.

Policy recommendations

- **There are potentially large benefits from the introduction of an agricultural insurance product.** Climatic risks for agricultural production are present, but mitigation capacity is very limited. There is currently no major product available in the market, which requires increasing investments to support insurance companies interested in the introduction of such product and build their capacity.
- **The design of new agricultural products should consider the lessons from the existing literature.**
 - First, **liquidity constraints** are a particularly salient reason behind the low take-up of insurance, thus subsidising insurance premiums for small farmers, as a start, should be considered. Nevertheless, the introduction of a product requires careful assessment of the capacity of farmers to purchase the product, and conclusions should not be taken from piloting of fully-subsidised products.
 - Identifying ways to address the **lack of trust** is crucial for increasing the take up of insurance products. Since trust is expected to be low, it is important that, in case of loss, the pay-out should not take too long to reach the producers.
 - Non-price frictions such as low levels of insurance awareness and literacy, and difficulty to understand and use insurance policies properly, should be addressed through intensive sensitisation sessions among farmers. There is a strong **need for financial education**, as well as training programs on agricultural risks and resilience. This would likely be the main obstacle for crop insurance to become a priority in agricultural production strategies. Training should cover various topics, such as agricultural technology and risk management. There is demand among farmers to participate in these meetings, if these would enable them to gain a better understanding of agricultural risks and strategies to deal with them.
- **Dispersion of farmers in large distances and lack of infrastructure among insurance companies impose two features for future insurance products.**
 - Innovative solutions to reduce insurers' operation costs and provide an affordable premium to small-holder farmers should be sought. Weather index-based insurance provides a superior solution as compared to standard insurance products based on damage.
 - Insurance products should be introduced within the value chain, as suppliers have extensive reach to farmers, and have already earned their trust (see for instance the case of seed suppliers).
- **Since the range of adverse climatic events is sizable and the variety of crops is large, crop insurance should cover a broader range of risks in order to become an effective and preferred alternative for producers.** Producers also consider that insurance can become an attractive option if it can protect most of the costs of production, or at least the most significant ones. An insurance that can respond in a comprehensive way to the needs of producers will certainly become a priority for farmers who can afford the purchase of the insurance product. Premiums should be designed in a flexible manner to allow farmers to pay in periods with higher income flows.
- **Conditional on risk of adverse climatic events and the relative importance of agriculture, the areas of Mozambique with a potentially higher impact of climate events are located in Nampula, Zambezia and the coastal part of Gaza.** At the same time, economic

development is very limited in these areas, suggesting lower mitigation capacity, and therefore larger benefits for insurance. However, this also implies lower capacity to purchase insurance and thus, higher costs for insurers.

- **The Mozambican setting not only provides the opportunity for the introduction of innovative products, but also provides a unique opportunity to evaluate the benefits of these products in absence of an alternative insurance product.** The introduction of new products should be complemented with an evaluation regarding take-up and benefits for farmers that become insured against adverse climatic events. In addition, the introduction of new products linked to an evaluation design allows testing for different versions of the same product or for the introduction of the product in combination with an alternative product and/or service. Understanding impact in the context of Mozambique is not only useful for the development of the agricultural sector in the country, but also for the region.