

Uptake of Crop Insurance in Kenya in the Face of Climate Change

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SUMMARY

Risk and uncertainty are integral components of agricultural production in Kenya since majority of farmers depend on rain-fed farming systems. This implies that weather conditions will have direct influence on agriculture productivity and overall performance. Mitigation of these risks is, therefore, becoming a priority in reducing income loss and enhancing smallholders' well-being. With growing concerns about impact of climate change, crop insurance – though not a new concept – has gained recognition and support from public and private institutions as an important risk management tool. This paper presents crop insurance experience with Kenyan farmers with a view of contributing to the body of knowledge on ways of making crop insurance work for smallholder producers. Results suggest that awareness and training on crop insurance, density of automated weather stations and ownership of savings account are integral factors in enhancing its uptake.

BACKGROUND

Agriculture is still the largest economic sector in Kenya whose contribution to the overall economic performance cannot be over-emphasized. Agriculture and allied sectors account for about 26 percent and 65 percent of Kenya Gross Domestic Product (GDP) and total exports, respectively (Omiti, 2013). At the same time, the sector accounts for about 60 percent of employment in the informal sector, thus underscoring the important role of agriculture as a pathway to economic development in Kenya.

In spite of agriculture being an important source of income growth and investment opportunities, inherent risks have been an integral part of the sector. Since agriculture in Kenya is mainly rain-fed, climatic patterns are a strong determinant of the performance of the sector and, in turn, the overall economic performance in Kenya. Major production risks stem from vagaries of weather, which are compounded by disease and pest outbreaks, and their impact is usually severe where agriculture is predominantly rain-fed.

Research shows that the frequency and severity of crop failure and livestock mortality have increased over the years. Smallholder farmers are increasingly faced with risk factors such as droughts, floods, diseases, pests, hailstorms, fire and theft, which impact negatively on agricultural productivity and their welfare. Increased climate variability can have a detrimental effect on the economy by lowering investment demand in agriculture, which in turn results into reduced agricultural productivity, increased food insecurity and decreased resilience of households that depend on rain-fed agriculture.

Agricultural sector in Kenya has often been short of suitable insurance instruments to transfer risks hence farm households have always resorted to informal risk minimization and coping strategies that are unsuitable to cushion them against severe/catastrophic shocks. This has often led them to adopt "risky" income smoothing solutions that can deplete family assets to an extent that a household gets entangled into a poverty trap (Mahul & Stutley, 2010).

The recent innovations in the insurance market have led into development of pro-poor weather index insurance to promote affordable insurance service delivery among the smallholders.

Insurance innovation is regarded as a smart approach of building resilience against adverse impacts from climate variability and change among the vulnerable rural households while accelerating pro-poor rural development. However, uptake and penetration of crop insurance in Kenya is unclear. Using data from a sample of 400 maize-producing households in Central Kenya, this study sought to assess the uptake of crop insurance among smallholders in Kenya.

Data and Methods

The study used cross-sectional data on 400 households in Embu and Laikipia counties collected through interviews at household level using structured questionnaires in October 2014. The reference period of survey was the short and main cropping seasons for 2013 and 2014, respectively. The two Counties were purposively selected for the study since they were the only identifiable areas with a significant number of farmers who had taken up crop insurance. Descriptive analysis focused on patterns and trends of both coping mechanisms and insurance uptake, while econometric analysis examined the factors that influence likelihood and intensity of crop insurance uptake.

Key Findings

Risk management and coping strategies: The main sources of risk among maize producers are drought, pests and disease, and excessive rainfall. The resulting losses suffered by maize producing households from drought, pests and diseases have been on the rise although drought-related losses are relatively higher than those from other risks. The most commonly used adaptation measures against drought were: irrigation, agro-chemicals (for pests and diseases), changing crop varieties and crop types, crop diversification, early planting as well as use of water and soil conservation techniques. In the event of catastrophic shocks, households relied mainly on own savings, sale of livestock and aid from friends and relatives.

Characteristics of crop insurance products

The insurance products studied were basically the weather-index crop covers that insured smallholders against weather related perils – mainly drought. Maize was the predominant enterprise in the insurance scheme although farmers were interested in insuring other enterprises like high value vegetables but such product was non-existent in the study area. The insurance premium was embedded in the cost of inputs such that they (premiums) were paid for at the time of purchasing inputs from the selected seed and fertilizer brands at any authorized agro-dealers.

While the insurance companies relied on agro-dealers to distribute insurance products, farmers on the other hand preferred a pro-poor distribution networks such as informal producer groups or farmer organizations to ease access. In addition, there was limited consultation with farmers regarding the relevance of maize insurance compared to other enterprises practiced by the households in the area.

The insurance suffered from basis-risk challenges given that there was a significant number of households who suffered losses but did not receive payout and vice-versa – an indication of weak correlation between weather indicators and the local agricultural performance.

Awareness of crop insurance:

Generally there is a relatively high level of awareness of crop insurance in the region of study. Among the three insurance products studied (Kilimo salama, Kilimo salama plus and Ngao ya mkulima), Kilimo Salama was the most renowned crop insurance product followed by Kilimo salama plus and Ngao ya Mkulima each recording participation rates of 97, 25 and 12 percent, respectively among target households. Preference for insurance information channels differed between the insured and non-insured households. Insurance service providers and input dealers were the important sources of information among the target households, while radio and neighbors/relatives were the key information sources among the control households.

For those who bought maize insurance, the most common perils of interest were drought and excessive rainfall accounting for about 75 and 23 percent of the total insurance cover taken, respectively. Only 2% of farmers considered pest and disease as the main threat while taking up the insurance cover.

Insurance uptake trends:

The number of households buying insurance per year increased sharply from 1.3-3.5% in 2009 to about 34% in 2012 but dipped to a low of 4-7% in 2014. When asked reasons for dropping out of the insurance scheme, 23% of the farmers cited failure to be compensated despite suffering losses (basis risk) as the main reason, while an almost equal proportion discontinued purchase of insurance because their expectations were not met (which could imply little payout compared to the actual losses suffered) or because the program ended in their area. Other emerging limitations in the insurance programme were: restriction on type of crops and seed varieties that a farmer could insure; limited access due to narrow geographical coverage by crop insurance vendor; and lack of mechanism for farmers to provide feedback on available insurance products. Low uptake was further exacerbated by complexity of insurance concept among smallholders.

Moreover, 45% of the un-insured attributed their non-participation in the insurance scheme to lack of understanding on how crop insurance works, another 20% alluded that crop insurance service was not readily available in their locality, whereas 14% felt that the crop insurance premiums were high

and so beyond their purchasing ability. Only 17% of the un-insured reported that they did not require crop insurance in their farm activities.

Training was pivotal in influencing crop insurance uptake since most (92%) of the households that had received training purchased crop insurance. However, about 45% of the households accessed insurance without receiving prior training, an indication of learning among the farmers through peer to peer interaction as well as access of insurance information from the media, and particularly radio.

Determinants of insurance uptake: Results show that factors which significantly influence smallholder maize farmers to use insurance include training on crop insurance, density of weather stations, proximity to market, ownership of savings account, and proportion of land allocated to maize production and frequency of drought incidences. Importance of training may be attributed to the fact that it reduces complexity of the insurance concept through provision of relevant knowledge and skills that aid in making informed crop production decisions.

On the other hand, intensity of insurance (measured by amount of premiums paid) is influenced by the education level of the head, number of drought incidents, proportion of land allocated to maize production activities and the household experience with insurance.

EMERGING LESSONS

Even though majority of the farmers are aware of crop insurance

and its benefits, only a few understand how it works, thereby inhibiting their ability to make decisions with regard to its uptake. This implies that awareness on insurance is not sufficient to promote crop insurance uptake. Instead, rigorous training is required in order to provide adequate information to enable farmers understand insurance clearly and so demystify the concept. This is critical since insurance provides farmers with the opportunity to use a critical mitigation measure against the ever increasing risk due to climate variability

To improve uptake of insurance, it is important to involve farmers in the design of the products. This will ensure that insurance products target crops that farmers consider valuable enough to warrant an insurance cover. In addition, an efficient and simple feedback mechanism that allows for feedback from farmers needs to be put in place in order to enable further refinement of insurance products to reflect farmers' needs, tastes and preferences.

In the design of insurance products, it is important to include approaches capable of lowering basis risk - such as use of multiple triggers and increasing density of weather stations to enhance correlation between insured risk and the relevant weather phenomena.

Uptake can also be enhanced by developing products for high-value crops rather than subsistence crop like maize.

References

Carter, M. R., Galarza, F., & Boucher, S. (2007). Underwriting area-based yield insurance to crowd-in credit supply and demand. *Savings and Development*, 335-362.

Kerer, J. (2013). Background Paper on the Situation of Agricultural Insurance in Kenya with Reference to International Best Practices. GIZ/MoA (ACCI), Nairobi.

Mahul, O. & Stutley, C.J. (2010). Government Support to Agricultural Insurance. The World Bank, Washington D.C.

Omiti, J.M. (2013). Kenya Economic Report 2013: Creating an Enabling Environment for Stimulating Investment for Competitive and Sustainable Counties. Kenya Institute for Public Policy Research and Analysis (KIPPRA), Nairobi, Kenya.

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