

# Challenges Faced In Underwriting Agricultural Insurance in Kenya

Dr. Tari Justus

Faculty of Commerce, Egerton University, Nakuru, Kenya

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**Abstract:** Underwriting agricultural insurance in Kenya is characterized by several challenges and the numbers of underwritten contracts keep dwindling. The challenges are mainly in the areas of underwriting of crops, livestock and aquaculture. The purpose of this study, was to assess the challenges faced in underwriting agricultural insurance in Kenya. A descriptive survey design was adopted with a target population of twenty five general insurance companies transacting agricultural insurance in Kenya, and a census was conducted since the population was small. Questionnaires were designed and administered to the heads of underwriting in charge of agricultural insurance in the twenty five non-life insurance companies, and the data was analysed through descriptive statistics using SPSS (version 20). The findings of this study established that underwriting agricultural insurance in Kenya is experiencing many challenges, including a lack of agricultural risk infrastructure, a lack of farming knowledge and understanding of risks, and a lack of insurance culture. Moreover, it is evident from the study that the major agricultural risk challenges are drought, pests, and diseases. There is need to enhance training regularly and focus on the need to take up insurance besides the awareness programmes to farmers on risks which are associated with agricultural activities. More training should also be offered to farmers about insurance products and how they can be accessed. The education can extend to cover the players in the insurance industry about underwriting crop, livestock and aquaculture risks.

**Keywords:** Underwriting, Agricultural insurance, Crop insurance, Livestock insurance, Aquaculture insurance.

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## I. INTRODUCTION

Insurance is a form of risk transfer mechanism where one exchanges uncertainty for certainty. It is the equitable transfer of loss from one entity to another in exchange for a premium or a guaranteed and quantifiable small loss to prevent a large and possibly devastating loss (World Bank, 2009). Agricultural insurance is a special line of property insurance applied to agricultural firms. In recognition of the specialized nature of this type of insurance, insurance companies operating in the market either dedicate agribusiness units or outsource the underwriting to insurance-specialized agencies. Agricultural insurance is not limited to crop insurance, it also applies to livestock, aquaculture, bloodstock, forestry, and greenhouses (Oyuke, 2011).

Agricultural insurance is one method by which farmers can stabilize farm income and investment and guard against disastrous effect of losses due to natural hazards or low market prices. Crop insurance not only stabilizes the farm income but also helps the farmers to initiate production activity after a bad agricultural year (Ngahu, 2009). It not only cushions the shock of crop losses by providing farmers with a minimum amount of protection but also spreads the crop losses over space and time and helps farmers make more investments in agriculture. Agricultural insurance is seen as one of the best strategies to address farm risks and encourage farmers to embrace modern production practices with greater potential for better and quality yields (Makatiani, 2009). Unfortunately, agricultural insurance in Kenya has not grown effectively even though the need to protect Kenyan farmers from agricultural variability has been a continuing concern of agriculture policy. The industry, therefore, has a huge potential for growth and the challenge is to help the public appreciate the need

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for agriculture insurance and trust insurance companies enough to take up agricultural insurance policies (Ndung'u, 2010).

Underwriters assess and classify the degree of risk represented or proposed by the farmer or insured for every type of agricultural risk and make a decision whether to accept or decline the risk. Prudence is required, in that if an underwriter accepts too many questionable risks without the requisite premium adjustments, the insurer or underwriter may pay more in claims than it can afford. On the other hand, if it is too conservative and fails to accept enough appropriate risks at appropriate premium rates, the insurer will not grow and remain competitive (Turana, 2010). Given the farmers' low incomes, small sizes of holdings aimed at subsistence production. Large-scale ignorance and poverty and the adverse view of other people's experiences with activities of insurance companies in other sectors, peasant farmers are generally reluctant to patronize the insurance market, let alone willingly forgo a small payment in the form of premiums in exchange for their farm risks (Olubiyo et al, 2009).

Given the importance of the sector to the economy, its dismal performance, especially on productivity, has remained of much policy concern. The low-level performance of the sector is manifested in low levels of employment and incomes, regional inequalities, and food insecurity. Local factors that constrain agricultural production include over-reliance on rain-fed agriculture, erratic droughts and floods, notwithstanding high production costs and lack of credit facilities (Lewis, 2006). Key policy goals needed to improve agricultural production include increased resource allocations, exploiting irrigation potential, commercializing agriculture, reviewing comprehensively the legal and policy framework for agriculture and improving governance in key agriculture institutions, especially co-operatives and farmer organizations. The development of arid and semi-arid areas (ASALs) remains a major challenge. Land sub-division and lack of a comprehensive land use policy is also a challenge for rural development. Special attention is needed to address problems of pastoral land tenure relations with agro-based farmers as it has implications for sustained agricultural development (Ndung'u, 2010).

According to IRA (2015), the insurance industry has posted a stable business volume over the last decade. At the end of 2015, the amount of insurance premium underwritten stood at Ksh. 174.06 billion, which was a 10.4 percent increase compared to the reported premium of 2014. General insurance business performed better than other insurance businesses as it contributed 63.8 percent of the total premium, which was about two thirds of the total premium in 2015. The industry assets also improved during this period to Ksh. 478.75 billion, a significant increase of 11.2 percent as compared to Ksh.430.54 billion posted at the end of 2014 (IRA, 2015). However, despite these improvements, investment income decreased during the year 2015, thus limiting insurers from gaining from the much-required income supplements. The significant drop can be attributed to the slowdown in the Kenya financial markets, more so, in the stock markets where insurers have put significant investments. The IRA (2015) report further states that in 2015, there was a significant drop in the numbers of policies underwritten, dropping to a margin low of 107,591 new policies from the previous 152,133 policies underwritten during the year 2014. However, Kenya remains East Africa's largest insurance market with an insurance penetration of 3.4% and ranks amongst the top five insurance markets in Africa by penetration after South Africa, Mauritius, Namibia, and Morocco. This outlook is due to sustained growth in insurance uptake owing to improved governance and stability, favourable demographics, improving business environments, rising middle class and urbanization and growing ties to emerging economies. Despite the positive outlook and growing opportunities for industry expansion, the risks faced by industry players remain high to moderate which is generally comparable to other growth markets such as Tunisia, Nigeria and Ghana.

Kenya's insurance industry is experiencing underwriting margins drop with players seeking growth through mergers and acquisitions. The industry's turnover grew by 9.8% in 2015 compared to 17.3% on average (Keith, Dismukes & Glauber, 2015). Kenya being the market leader in the East Africa region, the realization of regional integration agenda provides opportunities for further growth among Kenyan insurers and even entry of international brands into the market (Gift, 2009). The problem of drop in margins is largely attributed to a lack of new products, limited effective and efficient distribution channels, underwriting products and pricing.

There were 51 insurance companies in Kenya by the end of 2015 with 25 writing non-life insurance. Agriculture production and farm income in Kenya is frequently affected by natural disasters such as droughts, floods, hailstorms, excessive rainfall, frost, lightening and landslides. Susceptibility of agriculture to these disasters is compounded by the

outbreak of epidemics and man-made disasters such as fire, sale of spurious seeds, fertilizers and pesticides, and price crashes among others. Keith, Dismukes & Glauber (2015) reported that these events severely affect farmers through loss in production and farm income and are beyond the control of the farmers. With the commercialization of agriculture, the extent of loss due to unfavourable eventualities is increasing. Mechanisms like contract farming and futures trading have been established which are expected to provide some hedging against price fluctuations directly or indirectly but agricultural insurance is considered an important mechanism to effectively address the risk to output and income resulting from various natural and man-made events. Despite technological and economic advancements, the condition of farmers continues to be unstable due to natural calamities and price fluctuations. In some extreme cases, these unfavourable events become one of the factors leading to farmer's challenges (Raju and Chand, 2007).

Several studies have been carried out on agricultural insurance in Kenya. Kiragu (2014) conducted a study on challenges facing insurance companies in building competitive advantage in Kenya and ascertained that government regulation is a key challenge that influences the competitiveness of the insurance industry. Raju and Ramesh (2007) did a study on the progress and problems in agricultural insurance in India. World Bank (2007) did a study on promoting access to agricultural insurance for small-scale farmer but the study did not particularly deal with the Kenyan case. Gift, (2009) brought out the main agriculture insurance options but did not really address the challenges faced in underwriting agricultural insurance in Kenya. Ndung'u (2010) did a study on challenges facing performance of agriculture insurance in Kenya but mainly focused entirely on agriculture insurance in general hence not addressing the particular challenges faced in underwriting agricultural insurance in Kenya. It is against this backdrop that this study investigated the challenges faced by agricultural insurance underwriters in Kenya. The general objective was to investigate the challenges faced in underwriting agricultural insurance in Kenya, with the specific objectives being; to ascertain the challenges faced in underwriting crop insurance, to determine the challenges faced in underwriting livestock insurance and assess the challenges faced in underwriting aquaculture insurance in Kenya.

## II. LITERATURE REVIEW

The study was guided by two theories, moral hazard theory and cultural theory of risk. The Moral Hazard theory postulates that in an economic sense, moral hazard is a situation where one party's behaviour is likely to change to the detriment of another once a transaction has been effected (Dewan, 2012). For example, a person with insurance against a livestock theft may be less cautious about tying their animals because the negative consequences of animal theft are now (partially) the responsibility of the insurer, which is the insurance company that has received a premium. A party makes a decision about how much risk to take, while another party bears the costs in the event of loss or damage, and the party insulated from risk behaves differently from how it would if it were fully exposed to the risk. Moral hazard theory has a direct relationship with a contract theory that states that moral hazards take place due to the prevailing situations in which some hidden actions occur (Gift and Livata, 2009). It is against the backdrop of the hidden actions that the insurer takes a precaution against a risk. An insurance premium is levied as a cost to cushion against the impending risk.

Cultural Theory of Risk, is a systematic body of knowledge conjoined with a conceptual framework and empirical studies to examine societal conflict over looming risk (Douglas, 1992). Whereas other theories of risk tend to dwell much on cognitive and economic influences, Cultural theory of risk reaffirms that organizational structures endow people with perceptions, which reinforce the existing structures in competition against the existing ones. The theory provides an alternative to other theories of risk perception. It is grounded in the rational choice theory that treats risk perceptions as manifesting a person's implicit weighing of benefits and costs (Levi and Faur, 2010). The knowledge and understanding of risk is a key determinant to the extent at which individuals perceive risk and sign up contracts for insurance services.

According to Mahul and Stutley (2010), a lack of agricultural risk infrastructure is one of the major challenges faced in underwriting crop insurance in Kenya. A crucial supply-side impediment to the provision of agricultural insurance in developing countries is the lack of infrastructure support (Mahul & Stutley, 2010). Ndung'u (2010) studied the challenges facing the performance of agriculture insurance in Kenya by focusing on insurance companies dealing in insurance businesses. Data were gathered from the underwriting managers of the companies with questionnaires and analysed by a descriptive cross sectional design and co-relational research because the data gathered were purely qualitative. The key findings from the study showed that agriculture risks are systemic in nature and therefore affect a large number of farmers in the same geographical area, therefore posing a major challenge to local insurance companies since such risks can

seriously affect the financial solvency of a company. The current research will use a descriptive survey design and incorporate specific variables of agricultural risk infrastructure component. Even though the study conducted by Ndung'u (2010), it focused mainly on the qualitative aspects and thereby ignoring the quantitative attributes.

According to Osero (2009), agricultural insurance is highly data intensive. Individual grower yield-based crop insurance and indemnity products require individual farm-level yield data, which are costly to collect even in developed countries. Index-based insurance is also data intensive. However, the data are collected for policy not insurance purposes; for this reason, they do not usually include the cause of loss, which is important information for insurers. Weather-based crop insurance also relies intensively on weather data and is dependent on the density of the weather station network and the quality and accuracy of the data collected. Poor quality of data can also be an important impediment to the development of agricultural insurance. The data collection process should be transparent, subject to a strict protocol, and handled by a disinterested third party. Rainfall data have been collected for decades using manual rainfall gauges, which expose the data to erroneous reporting. Crop-yield surveys are not always conducted as they should be, usually because of lack of financial and human resources in statistical departments.

Keith et. al (2015) reported that lack of historical data can prevent the proper modelling of the underlying risk, particularly the tail of the distribution, leading to the incorrect pricing of agricultural insurance products. Agricultural risk assessment is complex, particularly regarding the impact of extreme natural events on crop and livestock losses. Catastrophe risk simulation techniques are powerful tools for assessing risk exposure at both the micro and macro levels. Such tools were initially developed to assess the catastrophic losses on the portfolio of property insurers. These tools are complex and costly to develop, making them unaffordable for most individual insurers, particularly in developing countries. The World Bank assisted the government of India in developing a probabilistic drought risk assessment model to assess the effects of different drought mitigation strategies and climate change scenarios. The model could also be used by agricultural insurers to assess the exposure of their insurance portfolio to drought (World Bank, 2007). Kenya government can develop these models as public goods, providing domestic agricultural insurers with quantitative tools with which to better assess their agricultural risk exposure and design actuarially sound agricultural insurance products. Insurance companies in developing countries usually have a limited experience in agricultural insurance. The complexity of this line of business requires highly specialized skills. Start-up costs can be too high for private insurance companies to afford. In addition, innovations in insurance products developed by a leading company can be easily copied, making any return on such investments highly uncertain (Swiss Re, 2009). Governments, with the assistance of the donor community, could provide technical assistance, possibly combined with some form of subsidies on start-up costs, to help insurers develop innovative and cost-effective agricultural insurance products. A government has a role to play in offering public goods such as agricultural and weather databases and crop risk models.

Kiragu (2014) conducted a study on challenges facing insurance companies in building competitive advantage in Kenya, and identified the underwriting of livestock insurance to be marred by poor insurance culture. The researcher adopted a descriptive research design and targeted 44 insurance companies headquartered in Nairobi, Kenya. The study respondents were the top management specifically the general managers and marketing directors because of the role they play in making sure the company builds its competitive advantage. The researcher gathered both primary and secondary data and generated qualitative and quantitative data. Descriptive statistics data analysis method was used. The findings of the study revealed that government regulation is the most significant factor. According to AKI (2010), a common reason for the low demand for agricultural insurance in developing countries is the limited understanding of its benefits. Insurance is often perceived as a non-viable investment because premiums are collected every year but indemnities are paid much less frequently. Many rural households in developing nations are not financially literate, and insurance is an unfamiliar concept to many potential policyholders (Bolo & Ruguru, 2011). As a result, the few insurance products that are currently available in low and middle income markets are not well understood by potential buyers. Policy exclusions and coverage limitations are often a source of confusion. Potential buyers, including educated ones, sometimes prefer to retain risk than trust a third party like an insurance company. In partnership with insurance companies and other policyholders involved in agricultural risk management programs, the government can play a central role in promoting education campaigns and training for farmers on the role of agricultural insurance. Such activities would raise financial literacy among individuals living in the rural areas.

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According to Haiss and Sümegi (2008), underwriting aquaculture insurance in Kenya faces the challenge of low-risk awareness and expensive premium levies. European Commission (2008), reported that farmers tend to be keenly aware of their production risks. In contrast, they tend to underestimate the likelihood or severity of catastrophic events. The U.S. Congress reported that insured producers tend to purchase too much insurance for relatively common events and too little insurance for low-probability events that are beyond their financial capacity. The tendency to under estimate catastrophic events may make farmers and herders unwilling to purchase agricultural insurance, specifically against extreme losses (Mwangi, 2010). The government, in close collaboration with the insurance industry, could develop risk awareness campaigns to sensitize farmers and herders about their exposure to catastrophic events. More synergy needs to be directed to smallholder farmers in the rural areas because they constitute the majority group. The inability to pay insurance premium and market imperfection contributes to the lack of demand for insurance and can be an equity rationale for public intervention (World Bank, 2007). In most developing countries, low incomes inhibit the development of insurance markets (Mbogo, 2010). Incomes for the vast majority of the population are absorbed by basic necessities, such as food and housing. Where insurance is available, health insurance and life assurance are usually given higher priority over agricultural insurance. A recent analysis indicates that there is very limited provision of insurance in the world's poorest countries, although there is some reason to believe that micro-insurance penetration will increase in the future, specifically for life and health insurance (Gift Livata, 2009). In many cases, rural households involved in agricultural activities fail to generate enough profits to cover the costs of agricultural insurance. The government may want to provide premium subsidies as part of a social safety net program, targeting, for example, smallholder and marginalised farmers. These subsidies could be tailored to provide farmers with financial incentives to engage in agricultural risk reduction activities.

**III. RESEARCH METHODOLOGY**

The study applied descriptive survey research design. The target population was 25 non-life insurance companies underwriting agricultural insurance (IRA, 2010). Since the population was small, a census of all the companies was carried out. Primary data was collected from insurance underwriters dealing in underwriting agricultural insurance by using questionnaires. The questionnaires were administered through drop and pick to the respondents. Quantitative and qualitative techniques were applied in this study. Quantitative analysis comprised the use of numeric measures. Qualitative analysis involved explanation of information obtained from the questionnaires. The study used descriptive statistics to analyze the data using SPSS on a five-point likert scale. Descriptive statistics such as mean and standard deviation tables were used. The numerical findings were expressed in terms of percentages, particularly the closed-ended questions which followed the likert scale. Moreover, the findings were presented using tables for ease of presentation and interpretation.

**IV. DATA ANALYSIS**

The study used questionnaires to gather responses, which were dropped at the respective insurance companies and later picked up for analysis. The respondents were heads of underwriting and in their absence their deputies. The results indicated that 47 percent wrote crop insurance, 38 percent livestock and 15 percent wrote aquaculture. Therefore, the majority of underwriters wrote crop insurance, followed by livestock and a least transacted was aquaculture. This is consistent with literature reviewed which indicates that there were less aquaculture farmers compared to crop farmers. The research sought to establish the agricultural risk challenges which influence agricultural underwriting. Most of the respondents cited that the major risk challenge was pest and diseases (35 percent), followed by drought (20 percent), theft (12 percent), fire (8 percent), hail (7 percent) and lightening, thunder, frost and other miscellaneous perils all accounting for 12 percent. The majority of respondents reported that pests and diseases were major challenges, followed by drought and theft. This was consistent with the literature reviewed which reported that diseases and pests were big challenges to crop and livestock insurance.

The study sought to establish the challenges underwriters face in underwriting crop insurance in Kenya. On a scale of 5, with 5 being strongly agree and 1 being strongly disagree, table 4.1 below presents the results on ranking of challenges in crop insurance.

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**Table 4.1: Challenges of Underwriting Crop Insurance**

Challenge	N	Mean
Lack of crop risk infrastructure	18	3
Lack of adequate details from the farmers	18	3
Underwriters lack of knowledge in agriculture	18	4
Non-affordability of premium by farmers	18	3
Outbreak of diseases	18	5
Weather changes	18	4

Outbreak of diseases reported a mean of 5, weather changes 4, underwriters' lack of knowledge in agriculture but non-affordability of premium, lack of details from farmers and lack of crop risk infrastructure had a mean of 3. Therefore the majority of respondents agreed that disease outbreak, weather changes and underwriters' lack of knowledge in agriculture were major challenges in crop insurance. The findings are consistent with literature that climate change and outbreak of diseases are major challenges in agricultural productivity and consequently losses.

The second objective of the study was to establish the challenges faced when underwriting livestock insurance in Kenya. Table 4.2 below presents the results of the challenges faced in livestock underwriting.

**Table 4.2: Challenges of Underwriting Livestock Insurance**

Challenge	N	Mean
Lack of livestock risk infrastructure	18	3
Lack of adequate details from the farmers	18	3
Underwriters lack of knowledge in agriculture	18	3
Non-affordability of premium by farmers	18	3
Outbreak of diseases	18	4
Weather changes	18	5

The findings indicate that weather changes with a mean of 5, outbreak of diseases 4 were major challenges in livestock insurance. But lack of livestock risk infrastructure, lack of details from the farmer, underwriters' lack of knowledge in agriculture and non-affordability of premium by farmers had means of 3. The majority of respondents agreed that weather changes and outbreak of diseases were major challenges. This is consistent with literature reviewed which indicated that weather changes and outbreak due to climate change are major challenges in livestock insurance.

The third objective was to find out the challenges faced in underwriting aquaculture insurance in Kenya. Majority of the respondents agreed that there were few aquaculture farmers with knowledge and understanding of agricultural risks. Very few companies reported to be providing cover for aquaculture, manifest by the few farmers involved in aquaculture. The main challenge in aquaculture was limited knowledge by underwriters in this area. The results confirm the conclusion made by Haiss and Sümegi (2008) that underwriting aquaculture insurance in Kenya faces the challenge of low-risk awareness. However, it tends to differ with Haiss and Sümegi's (2008) assertion that aquaculture underwriting faces the challenge of expensive premium since most of the respondents disagreed that expensive costs of undertaking aquaculture insurance limit the underwriting of new aquaculture businesses in Kenya.

## V. CONCLUSION

Summing up, underwriting agricultural insurance in Kenya has been experiencing many challenges, including weather changes, outbreak of diseases and pests as well as underwriters lack of understanding of the different fields of agriculture. For crop insurance, weather changes and outbreak of diseases is a big challenge, due to climatic changes, this lends credit for efforts in the direction of index based crop insurance as opposed to indemnity based insurance. This will simplify underwriting so that compensation is only when a particular index is attained. There is also need to employ agricultural specialists in underwriting agricultural insurance. For livestock insurance, the weather change and pests and diseases are the major challenges. This also means index based livestock insurance should replace indemnity based insurance. It also simplifies underwriting and claims. Just like for crop insurance, there is need to employ agricultural specialists in underwriting of insurance companies. Lastly, for aquaculture, employment of specialists in insurance companies as well as awareness programmes to educate the public on its need should be mounted.

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