

Blaming the Institutional Dynamics Space for Indifferences to Livelihoods Insurance against Drought in Semi-Arid Areas of Kenya

Moses Mwangi and Solomon Mathuva

South Eastern Kenya University

ABSTRACT

Article Info

Received:

14 April 2026

Accepted:

26 May 2026

Available Online:

10 June 2026

Premium paid in the name of floods and droughts to insurance outfits can provide compensation for consequences of excessive rainfall or lack of it and act to reduce vulnerability and facilitate recovery. As such, livelihoods insurance against the two weather challenges in the semi-arid regions offers a form of risk management for protection from uncertain loss by transferring risk from the policy holder to an insurance outfit. However, there exists a chronic lack of insurance coverage among the smallholder farmers in the area recognized by economists and agricultural experts as an institutional failure rather than a lack of desire by the farmers themselves. The aspect reflects a critical gap in providing accessible financial safety nets for vulnerable livelihoods. This study was set to identify the institutional drawbacks in enticing the people in the dry regions to insure their livelihoods. A case study of the Kyatune-Ikanga Ward of Kitui County, Kenya was taken and structured questionnaires administered to 50 households in the month of March 2026. According to respondents, the failure of institutions to bridge the livelihoods insurance gaps effectively stems from several deeply entrenched structural issues that include high transaction costs versus low premiums (28%), market and institutional constraints (24%), and inaccessible product designs (20%). Others are information asymmetry and moral hazard (10%), lack of a unified policy (10%), and product complexity (8%). The study recommends inclusion of livelihoods insurance education to farmer capacity building packages and participatorily developing insurance packages that are location and livelihood specific.

Keywords: Constraints, Policy, Participatory, Vulnerability, Recovery.

1.0 Introduction

Amidst the diverse uncertainties proliferated by weather risks and climate change negative consequences, market-based insurance products are frequently proposed as solutions to be achieved through actuarial transformation of uncertainty into quantifiable risk in relation to

livelihoods (Aguiton, 2020; Bernards, 2020). Therefore, increasingly, both development and social safety net programs have turned to insurance to provide coverage for specific perils. But uncertainties can never be reduced to singular risks, as they intersect, overlap, and are embedded in, and magnified by social and political relations (Scoones and Stirling, 2020). This makes the

implementation and negotiation of insurance programs perennially fraught processes (Johnson, 2020). In the semi-arid lands of Kenya, programs offering index-based insurance for pastoralists have for instance become common over the past decade. Because the organization of pastoralist production systems on unenclosed, unirrigated rangelands appears so particularly exposed to weather variability, and especially drought, the drylands have become prime targets for experimentation with insurance interventions using weather indices.

Against the backdrop of increasingly frequent extreme weather events and heightened market price volatility, investigating the relationship between livelihoods insurance and farmers' resilience is crucial for ensuring rural socioeconomic stability. In Kenya, livelihoods insurance market is underdeveloped and given the fact that agriculture is the backbone of the country's economy, this is a missing market opportunity which is a form of market failure. An indicator of how much the insurance sector as a whole contributes to the national economy is the insurance penetration rate. It is the ratio of total insurance premiums underwritten in a given year to the GDP of a country. Kenya's insurance penetration rate is currently at 2.43% compared to 2.71% in 2017 (AKI, 2018). This is low in comparison to the global insurance penetration rate of 6.09% (Statista, 2019). 6.4 million households in Kenya participate in agriculture, with 5.6 million households growing crops. This sector is a source of income for a significant number of Kenyans who are potential micro-insurance clients for agriculture as the dominant occupation. It is evident that this industry has potential but there are constraints on both the demand and supply sides of the market. The agriculture sector in Kenya is the largest contributor to the GDP. The Economic Survey 2019 showed that agriculture contributed 34.2% to the GDP in 2018, with crop cultivation taking the lion's share at 27.8% of GDP. Despite several shocks as the post-election violence of 2007/08, economic shocks, climate change and the invasion by desert locusts in 2020, which may cause an estimated financial loss between Ksh. 4.3 and Ksh. 5.8 billion for maize and *miraa* (Khat) crops farmers, (Institute of Economic Affairs Kenya, 2020), the industry has been the most dominant sector of the Kenyan economy.

Kenya's reliance on smallholder, rain-fed agriculture and its high poverty rates render the country particularly vulnerable to climate risks. Only 2% of Kenyans depend on insurance to mitigate these risks (CBK, 2019). In

2016, the main reason proffered for the low insurance cover was the lack of understanding of insurance products. However, in 2019, the top reason was the inability to pay insurance premiums mainly due to low disposable incomes among the population and predatory pricing which also manifests in the form of price undercutting among competing firms and their agents.

Insurers charge low premiums to make their policy packages more attractive. Insurers claim that this often results in the inability to make payouts once the policyholders make their claims. The common belief is that insurance companies are stealing from the people. In the circumstances, a competitive market becomes difficult to form.

19.3% of Kenyans choose an insurance policy on recommendation by a friend, family member or colleague (CBK, 2019). Supported by the fact that more than half (50.1%) of Kenyans depend on their social networks to deal with shocks, networks such as Saccos and Community Self-help Groups could be the key to expanded access to crop insurance in Kenya. These mechanisms for managing risks may be informal, but are really the competition for crop insurance in the country.

25.7% of Kenyans choose an insurance policy because it has the lowest cost of premiums, echoing the need for affordable premiums for an increased nationwide coverage; the supply-side problem. Insurance companies would argue that cheaper premiums, in the wake of undercutting, wouldn't be profitable for them and this illustrates perfectly why crop insurance remains underdeveloped in Kenya (Institute of Economic Affairs, 2020).

In 2016 the Kenya Agricultural Insurance and Risk Management Program was introduced to address shocks such as drought through an "area yield" approach: Farming areas are divided up into insurance units – if average production in one of the units falls below a threshold, all insured farmers in the unit receive a payout. The program started in Bungoma, Embu, and Nakuru counties, with a plan to reach 33 counties by 2020. It is offering a 50 percent insurance subsidy for smallholder farmers (0.25 acres to 20 acres) growing maize and wheat, one of the first large-scale schemes in Africa. 450,000 farmers have benefited from this cover so far but once the subsidy limit is reached, the window will be closed leaving others behind; creating the need for the private sector to step it up a notch.

Reports show that insurers consider crop insurance too risky due to the unpredictable weather patterns and other variables which result in the pricing being too high to match the risky nature of this line of business (AKI, 2018). Index based insurance is now being used as an alternative to traditional indemnity-based agriculture insurance which is associated with adverse selection and high costs of loss assessment (AKI, 2018). Rather than basing payouts on actual losses measured in the field (indemnity based insurance), index based insurance bases payouts on the value of an index which is a variable, such as rainfall, temperature or regional yield- that is highly correlated with losses and that cannot be influenced by either the insurer nor the insured.

Some stakeholders have developed the Kilimo Salama product that insures inputs such as seeds, fertilizers and chemicals and not the harvest. It combines the high resolution imaging to detect potential weather problems of satellite imaging, data collection from rainfall monitoring stations and real time photographs taken by farmers to determine the payout credibility of the farmers. The premiums are based on a predefined formula of rainfall requirements for crops with payments being made to the farmers via automatic payout (Ernest & Young, 2016). This is a step in the right direction with the largest share of Kenyans (36.3%) in rural areas preferring mobile money transfers as a channel for paying insurance premiums in contrast to cash payment, cheque and account transfer (CBK, 2019). The geographical dispersion of agriculture production makes the operational and administrative costs of delivering crop insurance high in comparison with other types of insurance. Mobile money transfers help in overcoming high transaction costs for agricultural insurance.

Current researches on livelihoods insurances exhibits two unresolved issues. First, the existing literature predominantly focuses on farmers' economic recovery and stability post-risk events, emphasizing ex-post management. Few studies adopt a livelihood perspective that simultaneously addresses economic concerns and farmers' capacity to maintain and adjust livelihood strategies, spanning ex-post compensation to ex-ante prevention and long-term development. Second, the mechanisms underlying the livelihood resilience generation remain inadequately examined, while pathways and measures for enhancing farmers' livelihood resilience require further refinement. A critical part of this are the institutional drawbacks in meeting the rural farmers' expectations so that they can embrace

livelihoods insurances, particularly in the drought prone areas. Insurance service providers may raise transaction and administrative costs because of moral hazard and adverse selection caused by information asymmetry (Skees & Reed, 1980). Systemic agricultural risks prevent effective spatial risk dispersion, prompting private insurers to impose coverage restrictions under solvency constraints (Miranda, & Glauber, 1997), resulting in market failure. Government intervention thus becomes essential to resolve this dilemma (Coble & Barnett, 2013). Fiscal subsidies reduce operational costs for insurers, ensuring the effective operation of agricultural insurance mechanisms to some extent.

2.0 Conceptual Thinking

Livelihood resilience refers to the ability of livelihood groups to maintain individual balance or enhance it through intrinsic attributes under external pressures and shocks (Sina, 2019). It not only emphasizes passive adaptive capacity but also active resistance capacity (Yi, 2021), serving as an important dimension and effective tool for analyzing how individuals cope with uncertainties and sustainable livelihood characteristics. The term 'resilience' traces its origins to the Latin word "resilio." It was first introduced into academic research by ecologist Holling (Holling, 1973) to describe the ability of ecosystems to maintain core functions and achieve self-repair after experiencing disturbances.

As the scope of research expanded, development economists Chambers *et al.*, (1992) first proposed the concept of livelihood resilience, defining it as the foundational survival capacity demonstrated by residents when facing environmental pressures, representing the most basic form of productivity. Among the three dimensions of livelihood resilience, buffer capacity refers to the ability of farmers to utilize existing resources to mitigate risks and maintain livelihood stability when facing external shocks; self-organization capacity refers to the ability of farmers to spontaneously organize themselves when responding to risk shocks, leveraging social networks and institutional advantages to collectively mitigate risks (Liu *et al.*, 2020), learning capacity refers to farmers' ability to acquire knowledge and skills, as well as their ability to convert knowledge into livelihood activities (Speranza, *et al.*, 2020).

Theoretical analysis of livelihoods insurance on farmers' livelihood resilience reveal that as a key risk management instrument, livelihoods insurance enhances

farmers' livelihood resilience across multiple dimensions. According to risk-sharing theory (Arrow, 1963), it transfers individual risks via the law of large numbers, mitigating natural and market risks (Cai, 2016), thereby establishing foundations for enhanced resilience. First, at the risk response level, insurance compensation and credit support rapidly replenish production funds during shocks (Janzen *et al.*, 2021; Noritomo & Takahashi, 2020), preventing asset liquidation-induced poverty cycles and stabilizing household economies (Hungerford & O'Donoghue, 2016). Agricultural insurance further bolsters financial capital through direct and indirect income effects (Gao *et al.*, 2021). Per Prospect Theory [Kahneman & Tversky 1979], it reduces risk aversion by stabilizing expected income, not only promoting agricultural labor allocation (Chai *et al.*, 2025) but also improving mental health [Rana *et al.*, 2024], thus optimizing human capital. Additionally, farmers can release precautionary savings for productive investment (Farrin & Miranda, 2015), enhancing efficiency and material capital accumulation. Second, at the social connectivity level, agricultural insurance mechanisms partially substitute informal risk-sharing channels such as kinship borrowing, alleviating social network burdens and preventing social capital depletion (Mazur, 2023). Concurrently, policyholder experience-sharing fosters learning networks (Martine *et al.*, 2020), broadening social connections while strengthening internal bonds. Third, at the cognitive and development level, stable expected income significantly boosts educational investment (Wen *et al.*, 2023). Insurance promotion generates knowledge spillovers where participants access weather alerts, market intelligence (Narayanan & Tomar, 2023), risk management training, and informational support (Stoeffler, 2024), heightening risk awareness and management capabilities (Alam *et al.*, 2020). Insurer-provided technical training further improves comprehension and adaptability (Genius *et al.*, 2014). Based on this, it is found that livelihoods insurance has a significant positive impact on farmers' livelihood resilience.

3.0 Research Methodology

3.1 Study Area

This study focused on agropastoralists livelihoods insurance, utilizing field survey data from 50 people comprising of small-scale farmers from across three sub-locations of Kyatune, Vote and Ndatani of Kitui County

in Kenya. The area experiences a hot, semi-arid climate, and significant environmental and agricultural challenges due to this climate. Annual rainfall is highly unreliable, averaging only 400 to 600 mm across two brief rainy seasons. It remains hot year-round, with average daily temperatures frequently ranging from 24°C to 38°C, resulting in high evaporation rates. Due to depressed lands, locals predominantly rely on drought-tolerant crops like green grams, sorghum, and cotton. Residents often have to trek long distances to find clean water from seasonal rivers, natural pans, or earth dams. Because of these harsh conditions, non-governmental and local government agencies have prioritized climate-smart agriculture and ecosystem restoration initiatives to protect livelihoods in the area.

3.2 Data Collection and Analysis Methods

Data collection was carried out through use of a structured questionnaire administered on 50 respondents through google forms. Descriptive statistics were used to analyses the accrues data.

3.3 Ethical Considerations

Permission was sought from the local administration to carry out the research. Respondents were informed about the purpose of the study in efforts to obtain consent. The people were informed that the data would only be used solely for academic purposes and stored securely to prevent unauthorized access.

4.0 Results and Discussion

4.1 Intuitional Gaps

The study established that livelihoods insurance is characterized by various institutional barriers, rigid structures and mindsets, along with shifting priorities and insufficient resources which often result in fragmented drought responses, disjointed coordination, and siloed operations across multiple layers. Agreeably, livelihoods insurance for the agropastoralists in the semi-arid regions does not only stabilize farmers' well-being but also de-risks the livelihoods sustenance. The insurance promotes economic development by creating a safer environment for investment and innovation for an area with a large number of small scale farmers. A strong performing and local sensitive insurance sector allows for the efficient management of risk.

Reliance on traditional commercial insurers to protect informal livelihoods presents significant structural flaws. These include severe information asymmetries, an over-reliance on profit-driven sales models, and regulatory frameworks poorly designed for low-income or unpredictable economies. These institutional weaknesses undermine the viability of commercial insurance for vulnerable livelihoods in several key areas. Table 1 lists some of the institutional structural issues identified in the study to contribute to the low uptake of livelihoods insurances.

The existing insurance structure design was identified by 20% of the respondents to make the product inaccessible to people. Traditional indemnity-based insurance relies on loss adjusters visiting individual farms to verify damages, which is highly impractical and prohibitively expensive in remote rural areas. While innovations like index-based agricultural insurance which uses satellite data and rainfall metrics to trigger automatic payouts have been piloted by entities like the World Bank, scaling these products to the poorest farmers remains slow.

Lack of product tailoring make insurers to often not prioritize high-value, profitable corporate clients, leaving low-income and agricultural livelihoods with inadequate coverage options.

Market and institutional constraints are found by 24% respondents to be manifested in high transaction costs and covariant risks. Indications are given that since droughts and floods weather disasters affect entire communities simultaneously, local insurance companies face massive financial exposure. Without robust public-private partnerships or government reinsurance backings, insurers simply cannot afford to shoulder the risk. When coverage is poorly designed or claims processes are bogged down by bureaucracy, payouts are delayed or insufficient which results in trust deficits. This destroys trust in livelihoods insurance, leaving farmers understandably reluctant to spend their resources on premiums.

10% of the farmers indicate to often remain uninsured because of the lack of a unified policy on livelihoods insurance. The government and other stakeholders fail to integrate insurance into a broader, sustainable agricultural policy. Rather than providing reliable, subsidized risk-transfer mechanisms, institutions often default to reactive, ad-hoc disaster relief. Because

farmers know the government will eventually step in with emergency food aid during a severe drought or flood, they are denied the incentive or opportunity to engage with formal risk insurance. When these safety nets fail to function proactively, farmers are trapped in a cycle of poverty and high vulnerability. They are continually forced to deplete their savings, sell productive assets, or pull children out of school to survive. Fixing this requires a fundamental shift in how institutional safety nets are evaluated to ensure they actually build long-term resilience rather than just offering meager "disaster compensation.

Premium affordability concerns are brought forth through considerations of high transaction costs against low premiums where 28% of the respondents confirmed to it. For low-income earners, basic survival needs take priority over intangible insurance products, making conventional premiums unaffordable.

The cost of underwriting, marketing, and processing claims is disproportionately high for small-scale policies, reducing the profit margins for insurers which make the servicing costs high. High transaction costs exists that are characterized by verifying of individual losses such as in assessing an individual farm or small business which is prohibitively expensive for insurers, resulting in high premiums.

8% of the study participants point to misalignment of products and mistrust due to product complexity. Mainstream insurance products are heavily regulated, complex legal contracts that are poorly understood by the average consumer. Coupled to this are historical distrusting that result from delays in settling claims and poor agent integrity that have created a credibility crisis, driving consumers to rely on alternative community-based support systems such as the SACCOs rather than insurers to bypass the institutional weaknesses.

The alternative mechanisms are meant some regions have begun relying on community-based micro-insurance, index-based weather insurance, and government-backed social health schemes designed with flexible, low-cost distribution platforms. Governments and organizations are also pivoting to alternative models such as the index insurance programs by the Kenya Livestock Insurance Program or the Kenya Agricultural Insurance Program that utilize satellite data and localized weather triggers to evaluate risk. These bypass individual loss assessments, lower administrative costs, and yield transparent payouts.

Table.1 Institutional Gaps in Livelihoods Insurance

Issue		[N=50]
1.	Inaccessible product designs	10
2.	Market and Institutional constraints	12
3.	Lack of a unified policy	5
4.	High transaction costs vs. low premiums	14
5.	Product complexity	4
6.	Information asymmetry & moral Hazard	5

Table.2 Reasons for Livelihoods Insurance Disapproval

Reason		[N=50]
1.	Opaque and Lengthy Claims Processes	9
2.	Complex Policies and Jargon	8
3.	Rigid Fine Print and Exclusions	2
4.	Perception as a sunk cost	4
5.	Profit-driven business models	7
6.	Regulatory concerns and insolvency	6
7.	Cumbersome claims processes	4
8.	Lack of Trust in the Industry	10

A critical institutional weakness of using standard insurance providers for livelihoods insurance is that traditional insurers struggle to monitor daily risks and individual behaviors in informal or rural economies which results in information asymmetry and moral hazard. The resultant effect is of loss of the real circumstances and potential insurance prescriptions by people that can inform the institutional challenges like high administrative costs, low consumer trust, and the complex verification procedures that often make formal insurance inaccessible or unsustainable for low-income and informal-sector workers. 10% of the respondents agreed this to be a challenge.

4.2 Why People Avoid Livelihoods Insurance

Among the agropastoralists, livelihoods insurance remains unpopular largely due to systemic institutional flaws. Key barriers include complex jargon, drawn-out claims denials, and opaque pricing (Table 2). Furthermore, trust is eroded by perceived profit-driven motives, rigid fine print exclusions, and past industry scandals. Consumers often view premiums as wasted money if no emergencies occur. The systemic reasons people avoid or distrust insurance are indicated to include opaque and lengthy claims processes at 18% where companies frequently delaying payouts or require

exhaustive documentation, leading consumers to feel they are fighting to get back what they are owed. 16% accuse the insurance companies of having complex Policies and using jargons in their communication process. Contracts are reported to be often written in convoluted language, making it difficult for the average policyholder to understand exactly what is covered and what is excluded. Insurance policies are often dense and full of legal terminology. The lack of transparency causes confusion regarding what is actually covered, making clients feel misled when claims are denied. Additionally, many claimants find their emergencies are denied due to obscure loopholes or preexisting conditions contained in rigid fine prints that are exclusive 4 % of the respondents indicate that because insurance is an intangible product, paying regular premiums without making a claim leads consumers to view the expense as a pure loss. Perception on the insurance as a sunk cost exist as it is a product people pay for but hope never to use. Clients particularly in regions where disposable income is low often view regular premiums as wasted money, 14 % accuse the insurance providers to operate on profit-driven business models. Institutional incentives often prioritize shareholder profits over policyholder care, fostering a general public perception of predatory practices. Customers often feel that insurers prioritize corporate revenue and shareholder returns over their

actual welfare. Poor customer service, unexpected rate hikes, and the occasional insolvency of insurance lead to a general lack of trust in the insurance industry as indicated by 16% of people in the study. Regulatory concerns and insolvency are cited by 12 % of the respondents to be a discouragement issue towards livelihoods insurance.

8% of the study participants lay accusations of the insurance companies having cumbersome claims processes. Many institutions are indicated to employ drawn-out verification procedures or delay payouts, leading to customer frustration and the widespread perception that companies make it intentionally difficult to receive payouts. 14% of the respondents opine that farmers often feel that insurers prioritize corporate revenue and shareholder returns over their actual welfare. Lack of trust in the insurance is stated by 20% of the people to emanate from poor customer service, unexpected rate hikes, and the occasional insolvency of insurance firms which damage public trust and deter new policyholders.

4.3 Encounter between insurance and uncertainty

The complex moral economic dynamics influence how the agropastoralists in the semi-arid region have encountered and engaged with formal insurance, leading to more limited and uneven purchase than product designers expect. Although early studies in Kenya estimated substantial willingness to pay for insurance, with surveys and field experiments suggesting 36 percent of pastoralist households would pay a commercial price and insure 71 percent of their herds ([Chantarat et al., 2009](#)), actual results were far different. When the product was marketed in Marsabit County, the most successful sales season saw only three and a half percent of the county's total households purchase coverage ([Johnson et al., 2019](#)). Most insured only a handful of animals, and sales declined quickly in later seasons, with few renewals. The author equally found that in spite of aspirations to offer an accessible pro-poor product, long-term sales data from Ethiopia suggested that it is primarily richer male pastoralists who renew their contracts. On the whole, pastoralists encounter formal insurance in ways quite unlike those supposed by program designers and implementers thanks to the radically different ontological and epistemological frameworks through which they understand uncertainty. In contrast to methodologically individualist assumptions

about property in animals and purchase choices, pastoralists' decisions about insurance purchase and use of payouts are influenced by matrices of affinity, collective expectations, social ties, and obligations. And rather than seeing risks as singular perils associated with particular events, they often adopt a more expansive, cumulative framework in which plural uncertainties become most significant when they are overlapping. An epistemology of individualization, calculation, and marketization cannot account for these multiple, interacting uncertainties or quantify them as risk, yet they are central features of daily life, as well as the underpinnings of broader religious and cosmological understandings of fortune and one's place in the world. These broader contours provide crucial context for understanding how pastoralists consider whether or not to purchase formal insurance contracts. The same scenario exists among the agropastoralists. The covariate shocks of economic theory are not neatly separable from the idiosyncratic risks farmers face as they manage their herds and crops. While a drought is defined in climatological terms as a significant shortfall of precipitation, and in IBLI index terms as a lack of vegetation, agropastoralists experience the climate event only in relation to other factors that impact forage availability, grazing, crops and livelihoods management. Decisions to purchase insurance for livelihoods to counter drought effects are complex outcomes of capacity, affinity, expectations, and trust, mediated by one's access to other coping strategies. Some simply lacked the necessary cash at the time premium payments were due. Some women were indicated to be unable to access cash typically held by husbands. Cultural, religious, and ethnic values were therefore deeply significant.

8% of respondents cited incidences where drought events did not trigger payouts, stoking discontent with the product, resulting in backlashes of people not wanting to renew insurance contracts. [Johnson \(2021\)](#) obtained similar experiences among the Borana in Ethiopia. Insurance providers attempt to counter such doubt, working with local institutions and influential individuals and organizations to link insurance sales with sources of authority and garner trust.

Crucially, decisions to buy insurance are not purely individual, but rather the unpredictable results of collective processes and wider social relations. Purchasing insurance is often an intensely social, deliberative, and uncertain process in which individual

adoptions may actually represent experiments by wider social networks. Participants in the local pilot livestock insurance indicated to have entered into insurance contracts as an experimental social endeavor.

4.4 Perceived Livelihoods Insurance Benefits

28% of the people indicate to perceive the livelihoods insurance to serve as effective mechanisms for resilience improvement, buffer capacity 12%, improve self-organization capacity 16%, enrich learning capacity 16%, raise credit accessibility 20%, facilitate embracement of livelihoods technology adoption, and production incentives 8%. Heterogeneity analysis reveals greater marginal effects among poverty-alleviated households and large-scale farmers, who derive more substantial benefits from insurance dividends compared with general and small-scale households. For poverty-alleviated households, high-subsidy policies lower participation barriers, enabling low-cost risk protection (Dercon *et al.*, 2008). Greater reliance on agricultural income also allows insurance to buffer risk shocks more effectively, reducing income volatility and enhancing resilience. Livelihoods insurance demonstrates greater marginal utility on livelihood resilience for poverty-alleviated households and large-scale farmers. Households of different scales face distinct risks and coping capacities.

Large-scale operations possess greater resources (e.g., capital and technology), enhancing disaster resilience where insurance serves supplementary purposes. Conversely, small-scale households rely more critically on insurance, as single risk events may cause irreparable livelihood damage. Differential impacts of price fluctuations and disasters also yield varied insurance roles. Households above the mean cultivation area (≥ 10 acres) were classified as large-scale and those below (< 10 acres) as small-scale. For large-scale farmers, heightened marginal utility presumably originates a lot from higher input costs, extended initial investment cycles, and elevated risk exposure. Insurance covers larger losses while their stronger risk management initiative, including better utilization of insurers' risk information and prompt implementation of scientific risk measures, reduces moral hazard (Greatrex *et al.*, 2015), consequently calling for the governments to develop differentiated insurance policies.

Analysis on the insurance's impact on farmers' livelihood resilience show a statistically significant

positive effect (0.01, $p < 0.01$) which is consistent with qualitative findings in Pratiwi *et al.*, (2018).

The multidimensional resilience framework empirically establishes the effect size as 0.01-unit insurance effect at 1% significance. This stems from insurance enhancing buffer capacity through indemnities and credit access, strengthening self-organization via cooperation and information sharing, and boosting learning capacity by reducing risk aversion and facilitating knowledge transfer, collectively improving resilience. This shows that optimizing livelihoods insurance policies is essential to maximize their protective function. Furthermore, livelihoods insurance enhances resilience primarily through credit accessibility, agricultural technology adoption, and production incentives. Credit accessibility functions as a mechanism by improving farmers' credit ratings and enabling loan collateralization via bank-insurance partnerships, thus mitigating credit constraints (Wu & Li 2023). Reduced credit constraints bolster risk-coping capacity for livelihood maintenance and production recovery (Wanzala *et al.*, 2024). Livelihoods technology adoption operates through insurance's risk reduction and financing facilitation, lowering barriers to new technologies and increasing adoption willingness (Madaki *et al.*, 2023). Technological application enhances productivity and income (BIRTHAL *et al.*, 2022), strengthening resilience. Production initiatives arise as insurance stabilizes income expectations, reduces risk aversion, and facilitates productive investments and technology adoption (Farrin & Miranda, 2015). Enhanced initiatives improve resource utilization efficiency, drive human capital investment, and foster livelihood improvements (Joffre *et al.*, 2017). The finding suggest that the government should strengthen the integration of agricultural insurance with credit policies and technology extension to maximize synergies.

Poverty-stricken households exhibit weaker economic foundations, resource acquisition capacity, and risk resistance compared with ordinary households. Livelihoods insurance may affect them differently because of greater reliance on agricultural income, potentially amplifying insurance's buffer effect on their livelihood resilience. However, premium affordability constraints may lower enrollment rates among poverty-alleviated households, potentially diminishing actual policy impacts. Interaction term analysis reveals a significantly positive coefficient (5% level) for the poverty alleviation insurance interaction, indicating

greater marginal utility of insurance on livelihood resilience in poverty-alleviated households.

4.5 Adoption of Livelihoods Insurance

Livelihoods insurance's risk mitigation function reduces farmers' risk apprehension, thereby stabilizing income volatility (Barratt *et al.*, 2025). This enhances livelihoods engagement security, a crucial psychological foundation for heightened production initiative. Insurance coverage reduces precautionary savings through risk protection (Joyce & Singh, 2025), releasing disposable capital for productive investment and strengthening production incentives (Farrin and Miranda, 2015).

When farmers exhibit high production enthusiasm, they optimize existing resources to improve utilization efficiency and productive investments, thereby increasing income (Dahlin & Rusinamhodzi, 2019) and enhancing buffer capacity. Concurrently, motivated farmers invest in human capital through agricultural training and skill acquisition (Adepoju & Akinyomi, 2022), enhancing household labor capabilities. Heightened production initiatives not only generate short-term income gains but, more significantly, achieve livelihood improvements in efficiency gains, enhanced risk-coping capacity, and long-term development (Joffre *et al.*, 2017), thereby bolstering livelihood resilience. Based on this analysis, we propose the following research hypothesis

Farmers were found to frequently hesitate to adopt new livelihoods technologies because of uncertainties, capital requirements, and limited risk management capacity. However, when insurance provides risk protection, farmers become more willing to adopt new, potentially higher yielding yet riskier agricultural technologies as production risks are partially covered. Similar findings are reported in Madaki *et al.*, (2023). Furthermore, insurance institutions are reputed to facilitate credit access for policyholders, alleviating financial constraints on technology adoption and enhancing implementation capacity (Wu & Li, 2023). Additionally, the risk protection mechanism improves farmers' income expectations, incentivizing them to invest in new technologies for greater long-term returns and strengthening adoption motivation (Carter *et al.*, 2016). Advanced livelihood technologies typically boost production efficiency and reduce costs, thereby increasing farm profits (Birthal *et al.*, 2022) and enhancing livelihood stability. The adoption process

necessitates enhanced knowledge and skills through learning, strengthening future risk-coping abilities, and providing crucial safeguards for livelihood development.

The livelihoods insurance enhances credit access through innovative bank–insurance linkages that serve as collateral, reducing traditional collateral requirements and alleviating rural credit rationing (Wu & 2023). Furthermore, insured farmers demonstrate stronger risk resilience, deemed more risk-aware and responsible, enhancing their creditworthiness (Ma *et al.*, 2024)). Insurance coverage may also prompt lenders to lower interest rates. Such credit access enables farmers to borrow against income shocks, maintaining basic needs and production recovery (Ma *et al.*, 2024), thereby reducing livelihood disruption risks and strengthening buffer capacity. Credit access further supports production investments and technical training (Wanzala, 2024), enhancing learning capabilities. Nonetheless, farmers face difficulties obtaining loans from financial institutions because of low solvency (Balana & Oyeyemi, 2022).

4.6 Impact of Insurance towards Livelihood Resilience

As a key risk management instrument, livelihoods insurance enhances farmers' livelihood resilience across multiple dimensions. According to the risk-sharing theory (Arrow, 1963), it transfers individual risks via the law of large numbers, mitigating natural and market risks (Cai, 2016), thereby establishing foundations for enhanced resilience. First, at the risk response level, insurance compensation and credit support rapidly replenish production funds during shocks (Noritomo & Takahashi, 2020), preventing asset liquidation-induced poverty cycles and stabilizing household economies. Agricultural insurance further bolsters financial capital through direct and indirect income effects (Gao *et al.*, 2024). The Prospect Theory (Kahneman & Tversky, 1979) indicates that it reduces risk aversion by stabilizing expected income, not only promoting agricultural labor allocation but also improving mental health, thus optimizing human capital. Additionally, farmers can release precautionary savings for productive investment (Farrin & Miranda 2025), enhancing efficiency and material capital accumulation. Second, at the social connectivity level, livelihoods insurance mechanisms partially substitute informal risk-sharing channels such as kinship borrowing, alleviating social network burdens and preventing social capital depletion (Mazur, 2023).

Table.3 Failing Social Livelihoods Insurance

Genesis of Failure		[N=50]
1.	Shift from extended to nuclear families	36
2.	Land Tenure Changes	42
3.	Urban Migration	28
4.	Shift to Cash Economies	44
5.	Shift Toward Formal Insurance	16
6.	Failing social safety nets	29

Concurrently, policyholder experience-sharing fosters learning networks (Martine, *et al.*, 2020), broadening social connections while strengthening internal bonds.

The Kamba community has traditionally relied on social arrangements to recover from calamities and sustain themselves. This is however reckoned to be failing. Table 3 shows the decline of traditional mutual aid as driven by transition from subsistence farming to a cash economy (88%), land tenure changes (84%) and, shift from extended to nuclear families (72%), and urbanization (56%). Others are failing social safety nets (15%), and shift toward formal insurance (8%). These pressures are forcing individual, household, family, neighborhood, community, and age-mate institutions to rely less on communal networks and linkages to increasingly adopt individualized, formal financial strategies.

Traditional communal land-sharing is being replaced by private, fenced land ownership, consequently breaking the spatial interconnectedness of the *musyi* (homestead) and the mutual grazing or labor systems. Younger individuals frequently relocate to towns for employment, leaving rural older persons to fend for themselves.

This physically severs the safety net of the extended family. Instead of traditional reciprocal livestock exchanges *kũumya* (contributions), individuals now require liquid cash to handle modern shocks, altering the cultural conceptualization of saving and lending. To blend Kamba communal values with modern financial needs, many locals are transitioning from traditional support systems to registering formal self-help groups and cooperative savings.

Traditional saving practices, such as *kũmbanya* (putting together have proved their capacity to be leveraged to help the breaking social system bridge the gap into formal financial security.

5.0 Conclusion and Recommendations

The study concludes that an effective and efficient livelihood insurance market reduces the loss of income from failures and ensures that farmer savings can be channeled towards productive activities. Consequently, it proposes optimizing and expanding livelihoods insurance policies. Strengthening policy synergies is of utmost necessity and should see establishment of an insurance-anchored synergy system integrating credit support and livelihoods technology extension to amplify incentives for production initiative and learning capacity. Policymakers should therefore develop multi-tiered, diversified, region-specific, and differentiated livelihoods insurance products, and streamline claim settlement mechanisms to reduce processing time and improve efficiency. Insurance schemes should maintain and refine premium subsidies with higher rates for lifted-out-of-poverty and small-scale farmers to lower participation costs. Concurrently, the livelihoods insurance system should enhance farmers' awareness and engagement through social media, training programs, and village assemblies. For sustainability, there is need to implement robust monitoring mechanisms. The governments should track real-time metrics particularly relating to participation rates, claim settlement duration, and farmers' satisfaction, while providing regular feedback to ensure effective risk protection. Crucially, to mitigate moral hazard and subsidy over-reliance, it is important to establish risk management standards clarifying farmers' post-enrollment responsibilities, ensuring policy sustainability and effectiveness. Improvement on livelihoods insurance coverage can benefit from incorporating modern technology such as mobile money transfers and making premium payments more affordable by shortening the interval of payments to weekly or daily schedules. The government can contribute towards correcting the missing market problem by revitalizing and strengthening an extension services that promotes sustainable livelihoods insurance, and the meteorological

department with more precise and popularized weather forecasts which would help in pricing insurance policies.

Conflict of Interest

The authors declare no competing interests.

References

- Adepoju, O.; Esan, O.; Akinyomi, O. (2022) Food security in Nigeria: Enhancing workers' productivity in precision agriculture. *Journal of Digital Food Energy Water Systems*, 3, 13-27.
- Aguiton, S.A. (2020) A market infrastructure for environmental intangibles: The materiality and challenges of index insurance for agriculture in Senegal, *Journal of Cultural Economy* 14(5): 580–595.
- Alam, A.S.A.F.; Begum, H.; Masud, M.M.; Al-Amin, A.Q.; Leal Filho, W. (2020) Agriculture insurance for disaster risk reduction: A case study of Malaysia. *International Journal of Disaster Risk Reduction*, 47, 101626.
- Arrow, K.J. (1963) Uncertainty and the welfare economics of medical care, *American Economic Reviews*, 53, 941–973.
- Association of Kenya Insurers (2018) AKI Insurance Industry Annual Report 2018. Nairobi:
- Balana, B.B.; Oyeyemi, M.A. (2022) Agricultural credit constraints in smallholder farming in developing countries: Evidence from Nigeria, *World Development Sustainability*, 1, 100012.
- Barratt, J.; Kath, J.; Mushtaq, S.; Collins, B.; Chenu, K.; Christopher, J.; An-Vo, D.A. (2025) Strategic use of index-based frost insurance to reduce financial risk and improve income stability for wheat producers in Australia, *Agricultural Systems*, 226, 104306.
- Bernards N (2020) 'Latent' surplus populations and colonial histories of drought, groundnuts, and finance in Senegal, *Geoforum* 126: 441–450.
- Birthal, P.S.; Hazrana, J.; Negi, D.S.; Mishra, A.K. (2022) Assessing benefits of crop insurance vis-a-vis irrigation in Indian agriculture. *Food Policy*, 112, 102348.
- Cai, J. (2016) Agricultural insurance and its role in risk management for smallholder farmers. *China Agricultural Economic Review*, 8, 423–440.
- Carter, M.R.; Cheng, L.; Sarris, A. (2016) Where and how index insurance can boost the adoption of improved agricultural technologies, *Journal of Development Economics*, 118, 59–71.
- Central Bank of Kenya (2019) FinAccess Household Survey 2019, Nairobi.
- Chai, Z.H.; Ren, J.; Li, S.N. (2025) Effects of Agricultural Insurance on the Labor Allocation of Farmers, *J. Agrotech. Econ.*, 5, 88–106.
- Chambers, R.; Conway, G. (1992) Sustainable rural livelihoods: Practical concepts for the 21st century. In *IDS Discussion Paper*; Institute of Development Studies: Brighton, UK; Volume 296.
- Chantararat, S., Mude A.G. and Barrett, C.B. (2009) Willingness to Pay for Index Based Livestock Insurance: Results from a Field Experiment in Northern Kenya, Working Paper, Ithaca: Cornell University.
- Coble, K.H.; Barnett, B.J. (2013) Why Do We Subsidize Crop Insurance? *American Journal of Development Economics*, 95, 498–504.
- D'Alessandro, S. (2015) Agriculture Global Practice Note, Word Bank Group
- Dahlin, A.S.; Rusinamhodzi, L. (2019) Yield and labor relations of sustainable intensification options for smallholder farmers in sub-Saharan Africa: A meta-analysis, *Agronomy for Sustainable Development*, 39, 32.
- Dercon, S.; Bold, T.; Calvo, C. (2008) Insurance for the poor? In *Social Protection for the Poor and Poorest: Concepts, Policies and Politics*; Palgrave Macmillan: London, UK.; pp. 47–63.
- Ernest & Young (2016) Insurance Opportunities Sub-Saharan Africa. Nairobi: Ernest & Young.
- Farrin, K.; Miranda, M.J. (2015) A heterogeneous agent model of credit-linked index insurance and farm technology adoption, *Journal of Development Economics*, 116, 199–211.
- Farrin, K.; Miranda, M.J. (2015) A heterogeneous agent model of credit-linked index insurance and farm technology adoption, *Journal of Development Economics*, 116, 199–211.
- Gao, Y.; Shu, Y.; Cao, H.; Zhou, S.; Shi, S. (2021) Fiscal policy dilemma in resolving agricultural risks: Evidence from China's agricultural insurance subsidy pilot, *International Journal of Environmental Research and Public Health*, 18, 7577.
- Genius, M.; Koundouri, P.; Nauges, C.; Tzouvelekas, V. (2014) Information transmission in irrigation technology adoption and diffusion: Social learning, extension services, and spatial effects. *American Journal of Agricultural Economics*, 96, 328–344.
- Greatrex, H.; Hansen, J.; Garvin, S.; Diro, R.; Blakeley, S.; Le Guen, M.; Rao, K.; Osgood, D. (2015) *Scaling*

- up Index Insurance for Smallholder Farmers: Recent Evidence and Insights*; CCAFS Report; CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS): Copenhagen, Denmark.
- Holling, C.S. (1973) Resilience and stability of ecological systems, *Annual Review of Ecology and Systematics*, 4, 1-23.
- Hungerford, A.; O'Donoghue, E. (2016) Federal crop insurance options for upland cotton farmers and their revenue effects. *United States Department of Agriculture Economic Research Services*, 3, 110–135.
- Institute of Economic Affairs Kenya. (2020) Institute of Economic Affairs, Kenya.
- Janzen, S.A.; Carter, M.R.; Ikegami, M. (2021) Can insurance alter poverty dynamics and reduce the cost of social protection in developing countries? *J. Risk Insurance*, 88, 293–324.
- Joffre, O.M.; Castine, S.A.; Phillips, M.J. (2017) Senaratna Sellamuttu, S.; Chandrabalan, D.; Cohen, P. Increasing productivity and improving livelihoods in aquatic agricultural systems: A review of interventions. *Food Security*, 9, 39–60.
- Joffre, O.M.; Castine, S.A.; Phillips, M.J.; (2017) Senaratna Sellamuttu, S.; Chandrabalan, D.; Cohen, P. Increasing productivity and improving livelihoods in aquatic agricultural systems: A review of interventions, *Food Secur.*, 9, 39–60.
- Johnson L (2021) Paying ex gratia: Parametric insurance after calculative devices fail. *Geoforum* 125: 120–131.
- Johnson L, Wandera B, Jensen N, *et al.*, (2019) Competing expectations in an index-based livestock insurance project, *Journal of Development Studies* 55(6): 1221–1239.
- Johnson, L (2020) Sharing risks or proliferating uncertainties? Insurance, disaster and development. In: Scoones, I and Stirling, A (eds) *The Politics of Uncertainty*, London: Routledge, pp.45–57.
- Joyce, M.; Singh, A. (2025) Income uncertainty, precautionary wealth, and social insurance, *European Economic Review*, 175, 105003.
- Kahneman, D.; Tversky, A. (1979) Prospect theory: An analysis of decision under risk. *Econometrica*, 47, 263–292.
- Liu, W.; Li, J.; Ren, L.J.; Xu, J.; Li, C.; Li, S.Z. (2020) Exploring livelihood resilience and its impact on livelihood strategy in rural China, *Soc. Indic. Res.*, 150, 977–998.
- Ma, Q.; Zhou, Y.; Wang, J. (2024) The impact of climate change on credit risk of rural financial institutions: A threshold effect based on agricultural insurance, *The North American Journal of Economic Finance*, 71, 102086.
- Madaki, M.Y.; Kaechele, H.; Bavorova, M. (2023) Agricultural insurance as a climate risk adaptation strategy in developing countries: A case of Nigeria. *Climate Policy*, 23, 747–762.
- Martine, V.; Hafsa, J.; Kerri, B. (2020) Risk preferences and poverty traps in the uptake of credit and insurance amongst small-scale farmers in South Africa. *Journal of Economic Behavior Organization*, 180, 826–836.
- Mazur, K. (2023) Sharing risk to avoid tragedy: Informal insurance and irrigation in village economies, *Journal of Development Economics*, 161, 10303.
- Miranda, M.J.; Glauber, J.W. (1997) Systemic Risk, Reinsurance, and the Failure of Crop Insurance Markets. *American Journal of Agricultural Economics*, 79, 206–215.
- Narayanan, A.; Tomar, S. (2023) Farm support and market distortion: Evidence from India. *American Journal of Agricultural Economics*, 105, 966–993.
- Noritomo, Y.; Takahashi, K. (2020) Can insurance payouts prevent a poverty trap? Evidence from randomised experiments in northern Kenya. *Journal of Development Studies*, 56, 1079–1096.
- Obi, L. (2020) Daily Nation, 2020, January 1, Nation Media Group.
- Pettinger, T. (2015) *Missing Markets*, Economics: Helping to Simplify Economics,
- Pratiwi, N.; Karuniasa, M.; Suroso, D. (2018) Self-organization and crop insurance to enhance livelihood resilience: A case of rice farmers in Cirebon Regency, Indonesia. *ASEAN J. Community Engagement*, 2, 1.
- Rana, R.H.; Adeyinka, A.A.; Mushtaq, S.; Barratt, J.; Alam, K. (2024) The impact of agricultural insurance on farmers' mental health: What we can learn from the literature. *Environment Development and Sustainability*, 1–18.
- Scoones, I and Stirling, A (2020) *The Politics of Uncertainty: Challenges of Transformation*, New York: Routledge.
- Sina, S. (2019) A conceptual framework for measuring livelihood resilience: Relocation experience from Aceh, Indonesia, *World Development*, 117, 253–265.
- Skees, J.R.; Reed, M.R. (1986) Making for Farm-level Crop Insurance: Implications for Adverse

- Selection. *American Journal of Agricultural Economics*, 68, 653–659.
- Speranza, C.I.; Wiesmann, U.; Rist, S. (2014) An indicator framework for assessing livelihood resilience in the context of social-ecological dynamics. *Glob. Environ. Change*, 28, 109–119.
- Statista (2019) *Life and non-life insurance penetration in selected countries and territories worldwide in 2024*, Statista.
- Stoeffler, Q.; Carter, M.; Guirking, C.; Gelade, W. (2022) The spillover impact of index insurance on agricultural investment by cotton farmers in Burkina Faso. *World Bank Economic Review*, 36, 114–140.
- Wanzala, R.W.; Marwa, N.; Lwanga, E.N. (2024) Impact of agricultural credit on coffee productivity in Kenya. *World Development Sustainability*, 5, 100166.
- Wen, S.; Xiao, Q.; Li, J.; Li, J. (2023) The impact of agricultural insurance on urban–rural income gap: Empirical evidence from China, *Agriculture*, 13, 1950.
- Wu, H.; Li, J. (2023) Risk preference, interlinked credit and insurance contract and agricultural innovative technology adoption. *Journal of Innovation and Knowledge*, 8, 100282.
- Wu, H.; Li, J. (2023) Risk preference, interlinked credit and insurance contract and agricultural innovative technology adoption, *Journal of Innovation and Knowledge*, 8, 100282.
- Yi, F.M. (2021) Digital Skills, Livelihood Resilience and Sustainable Poverty Reduction in Rural Areas, *Journal of South China Agriculture University*, 20, 1–13.

How to cite this article:

Mwangi, M. and Mathuva, S. (2026). Blaming the Institutional Dynamics Space for Indifferences to Livelihoods Insurance against Drought in Semi-Arid Areas of Kenya. *Int.J.Curr.Microbiol.App.Sci*. Special Issue-12: 14-26.
doi: <https://doi.org/10.20546/ijcmas.2026.sp12.002>