



# CHURCH-LED STEWARDSHIP AND VALUE CREATION: ASSESSING CHRIST-CENTERED APPROACHES TO HOUSEHOLD LIVELIHOOD RESILIENCE IN MACHAKOS COUNTY, KENYA



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## ABSTRACT

Food and livelihood insecurity are ongoing global concerns that continue to increase due to changing climate conditions and unreliable market conditions. In Machakos County, one of Kenya's semi-arid regions, households frequently face recurring droughts, crop failures, livestock deaths, and seasonal food shortages. Churches and faith-based organizations have implemented programs to support livelihoods, but the benefits and impact on household resilience remain unknown. This study examines whether Christ-Centered Approaches (CCA) foster household resilience, with a particular focus on Christian Stewardship and Faith-Driven Value Creation (FDVC). The study employs a descriptive mixed-methods design, involving 384 households and key informants, including program coordinators and local actors. Descriptive statistics and multivariate regression analyses served as the tools for quantitative data analysis. A thematic analysis was employed to capture the mechanisms and constraints in the qualitative data. Regression analysis revealed that stewardship and FDVC were statistically significant and positively predictive of livelihood outcomes among households ( $\beta = 0.12, p < 0.001$ ;  $\beta = 0.11, p < 0.001$ ), with a conditional  $R^2$  ranging from 26% to 29%. The findings indicate that households participating in CCAs have improved planning, safer resource utilization, greater income diversification, and enhanced cooperation. Participation in these strategies is associated with measurable improvements in household livelihood indicators and accounts for approximately one-quarter of the conditional variance in the fitted models.

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## INTRODUCTION

Climate change is altering livelihoods worldwide, but in an uneven manner. Africa is under considerable pressure, as land degradation, fragile markets, and climate extremes exacerbate these pressures (Lambert & Deyganto, 2024). In Kenya, there is a high level of exposure as households lose their traditional ways of earning income, experience a decrease in the diversity of livelihoods, and face the challenges of low resilience. In Machakos County, these factors contribute to cumulative poverty, cyclical hunger, and repeated temporary responses that are unsustainable (Stockport et al., 2024). Religious organizations have become essential players in resilience programming by promoting savings groups, skills training, stewardship messaging, and value-based farming (Mash & Abumoghli, 2023; Wambugu et al., 2022). The scientific question remains unanswered: Do Christ-Centered Approaches (CCAs) lead to measurable and sustainable improvements in household welfare, or do they merely reinforce existing social capital and informal safety nets? Evidence from fragile states, including South Sudan, the Central African Republic, and Somalia, demonstrates that faith networks are relied upon during financial crises; however, there remains ambiguity about the extent of lasting improvements (Ensor, 2022). Ethiopia has had a positive experience with religious engagement in the context of environmental recovery during the Green Legacy Initiative; however, improvements in ecological restoration are still dependent on utilizing a variety of institutional and

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technical inputs (Lambert & Deyganto, 2024; Muluki et al., 2022). Given these mixed experiences, there is an increased urgency for the systematic testing of CCAs in household welfare in Kenya.

Machakos County epitomizes this urgency. While contributing 3.4% of the GVA and gross product within Kenya, 35.6% of the country's population is considered poor, 63.5% of households experience severe food insecurity, and only 18.7% of households are food secure (Kyalo et al., 2023). Seasonal hunger is observed in all households from August to December, with the highest rates of hunger typically happening during October (Mose & Mukami, 2020). Vulnerability is compounded by dependence on rain-fed agricultural production, limited market access, and weakened infrastructure. Donor inputs typically yield a short-term response, but without sustained and enhanced local equity and stewardship, there is often no lasting impact on resilience (Borter & Malik, 2023). Consequently, it is an essential practical and scientific question whether the CCAs are addressing or reproducing these issues.

This study utilizes a mixed-methods design that integrates household-level survey data and qualitative interviews, measuring outcomes associated with welfare and CCAs at the household level. The aim was to evaluate whether CCAs achieved welfare and resilience gains that extend beyond existing informal social safety-net systems. The paper is organized as follows: the next section situates the study within the current theoretical debates on climate vulnerability and faith-based interventions; the methods section outlines study design and analysis; the results section presents findings; the discussion section interprets implications of findings related to relevant policy implications and theory; and the final section presents conclusions and recommendations.

## LITERATURE REVIEW

### Introduction

This section synthesizes theoretical and empirical literature on Christian stewardship and Faith-Driven Value Creation (FDVC) as they apply to household livelihood resilience. It focuses on mechanisms and observed effects in similar contexts to Machakos County, concerning program design, inclusion, and measurement concerns. The aim is to evaluate what is already known, where the evidence is weak or conflicting, and identify the empirical gaps that remain.

### Theoretical Framework

This study draws upon three interlinked theoretical traditions, including Empowerment Theory, Entrepreneurial/Value Creation Theory (EVC), and the Sustainable Livelihoods Framework (SLF), to examine how Christian stewardship and Faith-Driven Value Creation (FDVC) influence the resilience of household livelihoods in Machakos County. Each of these frameworks offers a distinct yet complementary perspective. Empowerment Theory emphasizes household agency and participation, EVC outlines how entrepreneurial action drives value creation and preservation, and SLF situates these practices within broader systemic and institutional contexts (Kumar et al., 2023; Mbunda, 2024). Their combination provides a robust conceptual framework to analyze how religious practice interacts with poverty, climatic uncertainty, and limited market access to impact resilience outcomes.

Empowerment Theory posits that families are active agents in enhancing their welfare through the control of resources, decision-making, and collective agency. Regarding Christian stewardship, empowerment is framed as a responsibility, involving prudent management of resources and participation in activities that contribute to community resilience in sectors such as health, education, and natural capital (Zimmerman, 2023). The theory has great practicality to demonstrate how agency and collective action construct adaptive capacity. However, it is universally known to be finite. One of its limitations is conceptual vagueness: empowerment is often invoked as a normative rather than an explicitly defined concept with measurable axes, making it difficult to quantify or compare results across settings (Kamin et al., 2022). Another finiteness is that it ignores structural barriers and power disparities. In any case, most families may be empowered but remain shackled to institutional systems, market exclusions, or systemic discrimination. This phenomenon has been referred to as "illusory empowerment" because the perceived agency masks underlying structural constraints (Eissler et al., 2022; Maschi et al., 2022). These criticisms suggest that empowerment is not enough to fully explain how families sustain resilience against recurring shocks, reaffirming the need to utilize other approaches.

Entrepreneurial/Value Creation Theory (EVC) bridges some of these conceptual gaps by outlining how agency is transformed into results through the identification of opportunities, innovation, and the recombination of means (Lan et al., 2022). The significance of this study lies in demonstrating that entrepreneurship is not limited to profit maximization, but can also involve creating social and moral value. This vision is particularly pertinent through Faith-Driven Value Creation (FDVC), which emphasizes entrepreneurial behavior guided by religious values. With Christian stewardship, FDVC prioritizes responsibility, community, and the dual bottom line of balancing community welfare and profit. Empirical data from sub-Saharan Africa indicate that religious entrepreneurial styles often combine ethical and social objectives with profitability, particularly through church-driven microfinance schemes, farm-based business ventures, and vocational training programs (Mathuva et al., 2025; Munir et al., 2023; Kyalo et al., 2023). EVC provides the theoretical frameworks for investigating how families generate and sustain value in this study, and FDVC outlines the mechanisms by which religious values shape these entrepreneurial practices. However, there are limits. Entrepreneurial benefits tend to accrue to families with increased access to capital and networks, which creates problems of inequality. Furthermore, entrepreneurship exposes households to debt risk and market volatility, which can undermine rather than contribute to their resilience (Munir et al., 2023).

DFID has developed the Sustainable Livelihoods Framework (SLF), which Chambers and Conway implemented. SLF contributes to these perspectives by offering a systems-level view. It argues that local resilience is a product of the interaction among five forms of capital—human, social, natural, physical, and financial—in a context of vulnerability shaped by shocks, trends, and seasonality (Cui et al., 2025; Zheng et al., 2023). SLF also highlights the role of institutions,

policies, and cultural norms in mediating the outcomes. Its holistic and people-oriented focus makes it particularly effective in situating both entrepreneurial action and empowerment within the broader context of climate stress and poverty. Nonetheless, the framework also possesses some limitations. Scholars contend that SLF tends to overlook non-material factors, such as moral obligations, religion, and societal conventions, which are critical in shaping household strategies (Opiyo et al., 2024; Saja et al., 2021; Natarajan et al., 2022). These blind spots make it less applicable where religiously based practices are crucial to determining livelihood options. Morse (2024) examines critically how the Sustainable Livelihoods Framework overlooks religious and moral norms and recommends methodological solutions, such as institutional mapping and qualitative modules. The paper argues that religion affects risk tastes, trust, and collective action in ways that asset indices fail to capture. For the Machakos case, Morse attests to the use of faith-specific indicators and institutional controls in SLF-based models and endorses our decision to triangulate SLF with empowerment and EVC analyses, thereby incorporating structural, institutional, and value-oriented dimensions of resilience.

Together, these three methods yield a multi-dimensional analytic approach. Empowerment Theory emphasizes agency and participation but requires complementary perspectives to overcome its conceptual and structural limitations. EVC describes how families create and sustain value, while FDVC grounds these processes in religious and ethical commitments. SLF provides the systems view, positioning household strategy within broader ecological, institutional, and market contexts. Their alignment allows this research to record resilience both materially, e.g., income diversification, savings, and skill acquisition, and non-materially, e.g., social cohesion, moral behavior, and decision-making capacity. This comprehensive structure strengthens the ability to consider how Christian stewardship and FDVC affect adaptive capacity and household resilience in Machakos County.

### **Review of Empirical Studies**

Household livelihood resilience is founded on material resources and behavioral strategies. Christian stewardship and Family Development Volunteer Cooperatives influence resource management, decision-making, and social bonding in households. Evidence suggests that these strategies enhance productivity, income diversification, and social network strengthening; however, gaps remain in understanding the causal pathways, inclusiveness, and sustainability. This review examines how stewardship and FDVC promote resilience, highlighting achievements and methodological limitations.

### **Christian Stewardship and Household Livelihood Resilience**

Christian stewardship positions resource management as a moral obligation, shaping livelihood choices. Popescu et al. (2021) report that sustainable action enhances productivity in cases where households possess financial capital and technical knowledge. Stewardship can enable proper soil management, rainwater collection, and responsible business practices, which can cushion households against shocks. Adoption hinges on external support; without funds and ongoing mentorship, stewardship is symbolic but not transformative.

Spirituality is a resilient but underexplored driver. Campbell and Bauer (2021) argue that the Christian religion provides individuals with coping mechanisms, meaning-making frameworks, and social support, particularly during times of crisis. The study identifies actionable steps such as collaborating with spiritual leaders and leveraging congregational resources, which may inform how stewardship is interpreted into household resilience. However, its exclusive focus on U.S. literature, author bias, and scoping review strategy preclude assessment of household-level livelihood outcomes. To Machakos, these implications suggest that the motivations underlying religion can influence resource management; however, empirical verification at the household level is necessary to determine actual adaptive capacity, risk coping, and livelihood sustainability.

Adoption of Conservation Agriculture Practices is a key mechanism bridging stewardship and resilience. Ngaiwi et al. (2023) illustrate that gender, age, family size, access to extension services, application of modern farm technology, livestock ownership, and soil fertility affect the Adoption of Conservation Agriculture Practices and intensity. This demonstrates the importance of household stewardship through land management and resource allocation in enhancing adaptive capacity. However, the research is cross-sectional, does not account for faith-based motivations, and does not measure household-level outcomes, such as income stability, food security, or risk-coping capacity. For this present study, this means incorporating ethical or faith-based stewardship principles alongside measurable livelihood outcomes.

Resource limitation and unawareness also influence the uptake of conservation agriculture. Lee and Gambiza (2022) developed a Conservation Agriculture Suitability Framework by synthesizing 66 documents and identified physical, human, informational, and financial resources as essential determinants. While providing information on enabling conditions and hindrances at the system level, secondary qualitative data do not permit studying the household-level impacts or causal mechanisms in resource-resilience link management. Additionally, the model overlooks stewardship values influenced by religion, culture, or ethics, which can lead to the adoption, persistence, and resilience of these values. This indicates the need for primary household-level data to be collected in Machakos, which will connect stewardship to observable resilience status.

Systemic strategies to agricultural resilience are likely to render enabling conditions more explicit but fail to capture household outcomes. For example, a meta-analysis of 66 studies formulates physical, human, informational, and financial resources as the magic bullet of conservation agriculture, yet reliance on secondary data limits exploration of how households actually cope with resources in reality (Lee & Gambiza, 2022). Furthermore, these models often overlook the importance of stewardship values, ethics, religion, and culture, which significantly influence the adoption, continuity, and resilience of these practices. This highlights the importance of collecting primary household-level data in Machakos that bridges stewardship with quantifiable resilience.

Direct measurement of resilience also comes with methodological challenges. One quantitative study employed ANOVA and entropy analyses to identify buffer capacity and self-organization as primary constraints to household resilience (Hu & Dong, 2023). While helpful in identifying systemic bottlenecks, the method does not address how decisions or adaptive actions emerge, nor is it conducive to expressing legacy or religion-based motivators. For the Machakos study, this implies an imperative for balancing moral undertakings with quantifiable measures of adaptive capacity.

Evidence in faith-dense contexts brings this home. Githongo et al. (2021) report productivity gains due to soil and organic management practices, but base their analysis on the idea that adoption is technically only, such that enhanced outputs translate to resilience. They do not explore motivations for adoption, such as moral obligation or social convention. In Machakos, where households are likely to continue practices initiated during periods of resource scarcity, it is essential to examine the ethical and cultural drivers of continuity rather than the economic implications. This difference highlights the importance of incorporating moral and religion-based dimensions into the measurement of household resilience.

Religious groups have developed their own mechanisms to deliver stewardship models. Mwaura and Nzengya (2022) cite savings groups and training sessions within church communities as a means of establishing social and financial capital. These interventions clearly support households when they are ongoing, but evidence on sustained resilience once church support terminates is limited. The question is whether such programs foster long-term internal commitments to stewardship or whether advantages are derived from external facilitation. This is a question that requires distinguishing between short-term livelihood enhancements and the longer-term development of resilience out of faith and moral responsibility.

Symbolic stewardship risks pose more complexity. Pham et al. (2021) suggest that material deprivation combined with ethical communication is likely to result in symbolic compliance rather than adaptive resilience. This trend can perpetuate disparities, notably when poor households are excluded from accessing credit or skills training. Although the study suggests economic incentives stimulate adoption, its economic focus neglects moral imperatives such as equity, justice, and social responsibility. These constraints are particularly significant in Machakos County, where Christian values have a profound influence on household decision-making and coping strategies. In this situation, an economics-focused approach cannot fully explain livelihood choices. Stewardship-based resilience is evaluated in light of structural impediments, such as dependence on rain-fed agriculture and market barriers, as well as recurring cycles of hunger. It also incorporates stewardship as a culturally embedded driver of sustainable livelihoods, prioritizing long-term benefits over short-term material gain.

Theological reflection offers additional normative direction. Mathu (2025), writing from a desk review of Genesis 1–2, notes that dominion is a form of stewardship that involves responsibly balancing cultivation and conservation. This reading presents a model of resource management practices that encompasses the conservation of soil, the stewardship of water, and the equitable sharing of resources among communities. However, this analysis assumes theological consensus and empirically does not check to what degree such maxims get translated into household realities. Without complementary resources, training, and institutional support, stewardship may remain aspirational or symbolic, but not truly transformative in nature. This argues for the need to bridge theological ideals with practical interventions in contexts such as Machakos.

Financial collectives also illustrate the interplay between religion, resilience, and equity. Bjorvatn and Tungodden (2023) evaluate Village Savings and Loans Associations (VSLAs) for people with disabilities in Uganda and determine gains in economic and social empowerment. Nonetheless, gains were unequal, with men gaining higher than women, and the limited study scope limits generalizability to broader rural or religious contexts. For church-based stewardship programs in Machakos, these findings suggest the need for gender-aware designs and institutional backing to support household-level livelihood resilience.

Together, the literature suggests the potential of Christian stewardship to enhance household resilience, while also highlighting significant limitations. These include reliance on cross-sectional or secondary data, omission of household-level measurement, and insufficient emphasis on faith-based motivation, contextual biases, and persistent equity issues. In the case of Machakos, this study bridges the gaps through empirical linkages between stewardship values and tangible, fair, and sustainable livelihoods, considering the structural and socio-cultural constraints that define religion-based community resilience.

### **Faith-Driven Value Creation and Household Livelihood Resilience**

Group marketing and buyer links are often promoted to stabilize smallholder incomes and reduce post-harvest losses, thereby increasing household resilience. Riungu et al. (2022) establish that the practices improve revenues and reduce shock vulnerability. The research, nevertheless, does not examine whether the improvement has faith-based commitments to sustain it or whether it occurs simply due to market coordination, leaving judgment for the long-term sustainability of benefits. It also overlooks families outside these networks, which raises concerns about inclusivity. Although cooperative arrangements can promote trust and cooperation, it is uncertain whether situating ethical or religious-based motivations will strengthen the persistence, range, and fairness of livelihood gains, which is an essential area for FDVC-centered research in Machakos.

Livelihood resilience at the household level not only relies on resource availability but also on how values influence the utilization and governance of available resources. Korneeva et al. (2024) demonstrate that social value creation through community-based entrepreneurship enhances resource conservation, promotes sustainable agricultural and food practices, and supports biodiversity, ultimately benefiting the interests of marginalized households. They suggest that the inclusion of ethical and collective-oriented principles can enhance adaptive capacity and livelihood benefits. However, the study is not what concerns a driver of faith, as it relies solely on secondary qualitative data and does not quantify resilience outcomes at the household level, which limits its generalizability in understanding faith-driven mechanisms. For our present study, this



highlights the need for empirical investigation into how precisely faith-driven value creation contributes to household livelihood resilience and bridges the gap between moral or ethical commitment and tangible social adaptive outcomes.

Market-oriented approaches that focus on price, infrastructure, and technical efficiency illustrate the shortcomings of technical measures in isolation. Park and Gachukia (2020) illustrate that such approaches are likely to collapse in the face of climate or price shock, highlighting the weakness of resilience built without an ethical or cooperative foundation. This highlights the central challenge for FDVC: household resilience is likely to be low unless trust, accountability, and stewardship are consciously integrated into practice. These results confirm the need to explore how theologically informed principles supplement market strategies towards livelihood stabilization, rather than relying on technical fixes as the primary intervention.

The other point is diversification, which is often promoted as a risk-spreading device that adds financial strength. Angsten Clark et al. (2025) illustrate that diversified income streams can strengthen household resilience. However, their evidence does not explore whether diversification occurs through stewardship and social responsibility or opportunism. This matters because FDVC suggests that value-motivated diversification may have more enduring outcomes, linking ethical responsibility to concrete household resilience. Failing to explore values-based motivations, studies may mistakenly attribute resilience gains to economic indicators and overlook the role of moral and social motivators.

Technical intervention alone has also been shown to be limited in duration. Ensor (2022) notes that resilience gained in semi-arid regions often dissipates once external assistance is withdrawn. While infrastructure improved transient situations, households could not sustain these advances without internalized societal structures in place. FDVC considers that religious cooperation can provide the social cement to enable durability and accountability. Ensor's findings do not test these moral mechanisms, though, leaving a central question unanswered: how do values-driven practices ground livelihoods in the long term?

Church-led programs provide more specific evidence of FDVC's practical application. Mwaura and Nzengeya (2022) document the implementation of saving groups, capacity development, and value-added programs within church networks that support both social and financial capital building. Practices follow stewardship values, fostering trust, cooperation, and accountability. Outcomes are measured only at the level of participation, and not at the household level, in terms of resilience indicators such as adaptive capacity, income stability, or risk-coping capacity. The initial short-term emphasis is also a source of concern regarding whether these gains persist after church facilitation is discontinued, highlighting the need to investigate sustained effects at the household level.

Inclusivity is also a central concern for resilience interventions based on religiosity. Mwangi et al. (2020) note that church schemes tend to entrench insider hierarchies, and non-adherents are often denied access to benefits. In Machakos, exclusion could atomize community resilience, where participating households are resilient while outsiders become more susceptible. FDVC research thus needs to venture beyond the effectiveness of religiosity-based interventions to analyze the equity of their distribution, ensuring broader household-level impacts.

Religion-activated processes also function through psychological mechanisms. McIntyre et al. (2023) demonstrate that religiosity enhances self-efficacy and interdependent self-construal, which in turn lead individuals to hold socially oriented entrepreneurial intentions. While this is evidence of motivational processes, the research examines intentions, not outcomes, and draws on Ghanaian student data, making the research less applicable to rural Kenyan households. Furthermore, structural factors such as access to markets, finance, and institutions are not considered, leaving the link between religiously inspired intent and resilient livelihoods untested.

Evidence from conservation agriculture demonstrates the potential for FDVC to enhance cooperation, accountability, and knowledge exchange, leading to increased productivity and reduced vulnerability. Kyalo et al. (2023) substantiate these dynamics by demonstrating how church-embedded values contribute to collective outcomes that legitimize farm performance. Critical Trajectories. Their use of a robust cross-sectional survey and open approach adds credibility, though the study remains limited to group-level measures, such as income, and provides only. The lack of household measures of resilience constrains the explanatory potential, and the findings also suggest that FDVC will need to be complemented by structural support from institutional government if resilience is to be sustained at scale.

This failing is replicated across other research on agricultural innovation, which equates the adoption of technology with resilience without measuring household-level impacts. Irrigation adoption studies highlight this deficiency: while education, farm size, off-farm income, credit, and extension all have substantial effects on adoption and intensity, their relationship to resilience remains unmeasured. Muluki et al. (2022) also provide valuable evidence on policy-relevant determinants of irrigation use, but one that prioritizes formal institutional determinants over downplaying the mediating influence of faith-based networks mobilizing credit, coordinating cooperative labor, and diffusing information. In doing so, the model is weakened in explaining resilience, particularly where faith-driven social capital is central to household coping and recovery. Additionally, confusing adoption with resilience and making this inference from cross-sectional data limits the study's ability to capture long-term adaptive capacity.

Collectively, these studies identify common trends and areas for improvement. Principle-based values explicitly foster cooperation, trustworthiness, and motivation, and show firmer household resilience as a potential. Nevertheless, existing literature primarily focuses on group-level results or involvement, rather than direct measures of household-level adaptive capacity, income stability, or risk management. Sustainability, equity, and conjunction with other institutional interventions are also not adequately covered. These limitations necessitate the present study, which examines the extent to which FDVC translates into tangible household livelihood impacts in Machakos by bridging ethical motivations with quantifiable indicators of resilience. In doing so, the research contributes context-specific evidence needed to inform policies and programs that aim to construct resilient livelihoods.

### Conceptual Framework

This study was informed by a conceptual framework that outlines the link between Christian Stewardship Strategies and Faith-Driven Value Creation (FDVC) and household livelihood resilience in Machakos County (Figure 1). Christian Stewardship was measured by households being intentional about diverse resource use, conforming to ethical financial norms, and making plans for the future in accordance with Christian teachings. FDVC was measured by engaging in faith-based skills training, adhering to avowed Christian business ethics, and leveraging market networks supported by churches. Households that employed strategies informed by these faith-based frameworks had better livelihood resilience, savings, and income stability. Policy (government interventions) and extension/training services mediated these relationships, increased benefits to a segment of the households, and had variable effects on others' resilience.

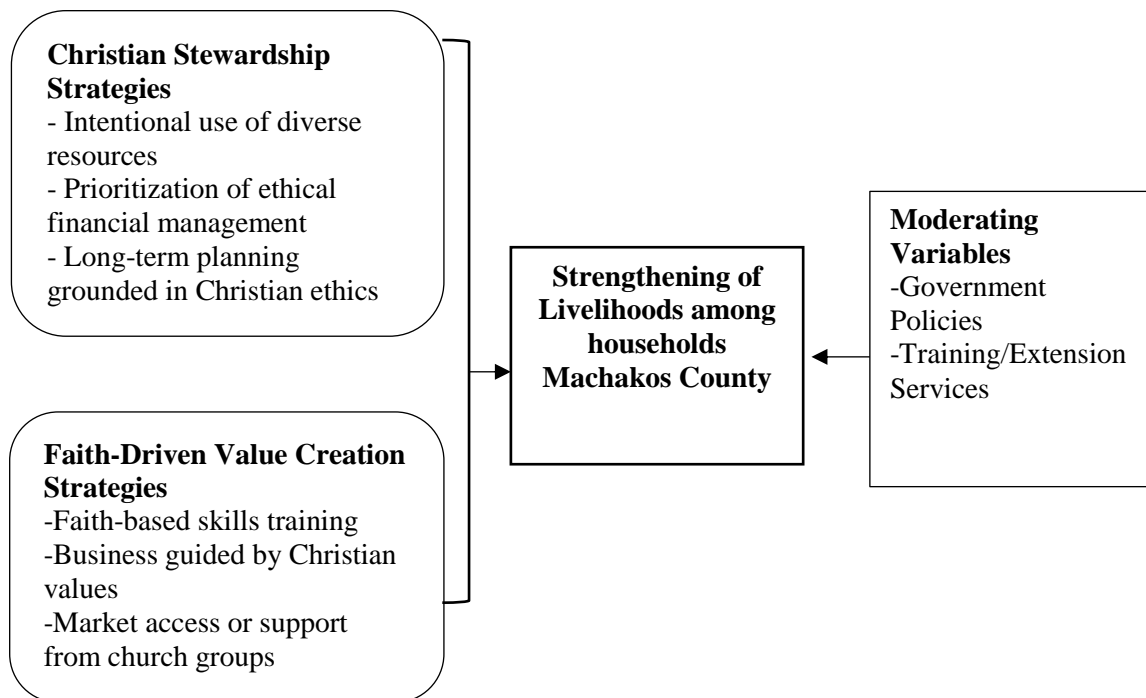


Figure 1. Conceptual Framework

This framework was guided by Empowerment Theory, which addresses the capacity of households to manage resources and make moral choices, and Entrepreneurial Value Creation Theory, which describes how skills, networks, and moral practices generate material gains, informed the framework. The present study corroborates the argument that faith-based activities can have measurable effects on livelihoods, even though cross-sectional data hinder causal interpretation, and there may have been unmeasured household effects, such as past income or informal networks, that could have mediated the influences. Conclusively, the study demonstrates that stewardship and faith-generated value creation initiated within the church are paramount pathways to household resilience, provided there are enabling policies and relevant capacity development interventions.

### Research Gaps, Purpose, and Hypotheses

Although the interest in Christian stewardship and Faith-Driven Value Creation (FDVC) is on the rise in household livelihoods, significant gaps still exist. Existing studies have depicted positive effects, including income diversification, reduced post-harvest losses, and increased participation in community economic activities. However, much of the literature focuses on material outcomes and technical interventions with minimal consideration of the pathways through which ethical and faith-based practices influence household resilience. Evidence on the causal pathway by which stewardship practices or FDVC are transformed into sustainable income, savings, and enhanced adaptive capacity is scarce. Most studies rely on small or convenience samples, brief observation, or self-reported outcomes, which can yield bias and limited generalizability. Additionally, there is a lack of investigation into inclusion, particularly regarding how non-adherents or marginalized households engage with faith-based interventions, as well as how structural factors such as market access, local institutions, and training programs influence the effectiveness of these practices. Collectively, these lacunae necessitate a study that rigorously links moral and faith-based practices to the measurable resilience of household livelihoods.

This study bridges these lacunae by examining how FDVC and Christian stewardship practices contribute to household livelihood resilience in Machakos County, Kenya. Resilience of the household in this instance encompasses both material outcomes, such as income stability and savings, and intangible outcomes, for example, social cohesion, agency, and adaptive capacity. The model positions ethical and faith-based practices as processes that have the potential to strengthen both the material and social foundations of household adaptation, coping, and long-term sustainability.

The purpose of this study is to evaluate the extent to which Christ-Centered Approaches, through stewardship and FDVC, enhance household livelihood resilience, taking into account structural constraints and the pathways through which faith-driven practices operate.

**H1:** Christian stewardship practices positively influence household livelihood resilience in Machakos County.

**H2:** Faith-driven value creation strategies have a positive influence on household livelihood resilience in Machakos County.

**H3:** The combination of Christian stewardship and FDVC practices has a more substantial effect on household livelihood resilience than either strategy alone.

## MATERIALS AND METHODS

A descriptive research study design guided this study, thereby enabling the exploration of livelihood outcomes when variables were not manipulated, consistent with the principles espoused for social research (Hirose & Creswell, 2022). The population of interest consisted of all the 388,284 households in Machakos County, spread over eight sub-counties. A sample size of 384 households was determined and proportionally allocated across all sub-counties in Machakos. A multi-stage sampling approach was employed: the county was first stratified by sub-county, and probability proportional to size was then used to select enumeration areas. Systematic random sampling was subsequently used to identify households. CCA engagement was construed empirically using structured screening questions to ensure valid classification of households based on actual exposure rather than assumptions. Twenty-four informants, selected deliberately to include clerics, program officers, and extension agents, were also interviewed to provide expert opinions and contextual validation (Pahwa et al., 2023). Out of a total of 384 households sampled, 380 agreed to participate, resulting in a response rate of 99.0%, which exceeds the 70% total deemed acceptable for a survey study (Holtom et al., 2022). The high response rate added quality and generalizability to the results.

Data collection was conducted through a mixed-methods protocol that incorporated both quantitative and qualitative modalities. Semi-structured questionnaires were created with five sections to collect demographic data and assess the influence of CCA practice using Likert scale items and open-ended items. Key informant interviews were conducted to gain a deeper understanding of programming, community influences, and motivations informed by faith. The instruments were pre-tested in Kitui County with 38 households, which represented 10% of the sample size determined, to clarify the instruments and bolster internal consistency. Reliabilities calculated by Cronbach's alpha yielded coefficients ranging from 0.781 to 0.846 across all scales, supporting the 0.70 threshold as a benchmark of acceptable internal consistency (Metsämuuronen, 2023) and confirming that the measures were suitable for inferential analyses.

The research adhered to ethical principles throughout the study. The research was authorized by the National Commission for Science, Technology, and Innovation (NACOSTI) and cleared by St. Paul's University. Informed consent was obtained from all participants after they were clearly informed about the aims of the research, the method that would be used, the potential risks, and the possible benefits of the study. The household information was de-identified, and all study documents were secured. Report findings were received in aggregate, ensuring that individual households could not be identified, thereby maintaining confidentiality. Participation was voluntary, and participants had the right to withdraw from the study process at any time without penalty. These protections enabled us to adhere to the ethical principles of respect, beneficence, and justice, ensuring that the study complied with both national and institutional research ethics standards. Quantitative data were analyzed using descriptive statistics, cross-tabulations, and inferential statistical techniques, including regression and ANOVA, while qualitative data were analyzed through thematic analysis. This integrated approach was consistent with the conventions of triangulation principles (Meydan & Akkaş, 2024; Schlunegger et al., 2024), ensuring both the empirical robustness of the results gleaned from the data and their relevance for practice in faith-based development approaches in Kenya.

## RESULTS AND DISCUSSIONS

The section presents the research findings, their interpretations, and the discussion. It introduces the response rate, then presents the research objectives' findings: (i) the role of Christian Stewardship Strategies as a determinant of livelihoods strengthening of households of Machakos County, and (ii) the implications of Faith-Driven Value Creation Strategies for household livelihood resilience. The results of both quantitative and qualitative analyses are synthesized to gain a holistic understanding of the findings, providing interpretations that link to existing literature and theory.

### Response Rate and Respondent Demographics

Of the 384 surveys administered, 380 were returned completed, for an overall completion rate of 98.9%. Thus, only four surveys were not returned, accounting for 1.1 percent. The high completion rate supports the reliability and generalizability of the results to households in Machakos County. Demographics of the respondents are shown in Table 1.

Table 1. Key Demographic Characteristics of Respondents (N = 380)

Variable	Category	Count	Percent
Education level	Primary	120	31.6
	Secondary	150	39.5
	Certificate	30	7.9
	Diploma	40	10.5
	Degree	30	7.9
	Masters+	10	2.6
Household size	1–3 members	60	15.8
	4–6 members	220	57.9
	7–10 members	80	21.1
	>10 members	20	5.3
Years in main income activity	<1 year	30	7.9

1–10 years	180	47.4
11–20 years	100	26.3
21–30 years	50	13.2
>30 years	20	5.3

Education was biased toward secondary education (39.5%), with fewer respondents holding diplomas (10.5%), certificates (7.9%), degrees (7.9%), or postgraduate degrees (2.6%). Household size was also predominantly medium (4–6 members, 57.9%), with smaller household sizes (1–3 members, 15.8%) and larger household sizes (7–10 members, 21.1%; >10 members, 5.3%) also being accounted for. Job experience was weighted toward participants with 1 to 10 years' experience engaged in their primary income activity (47.4%), and fewer participants had 11–20 years' experience (26.3%) or 21–30 years' experience (13.2%).

These variables were analytically important as they served as control variables in the regression and ANOVA analyses. Education captures the human capital of respondents; household size represents labor supply, and years in income activity represent economic experience. This is noteworthy because these variables all impacted how households practiced Christian stewardship and the application of Faith-Driven Value Creation (FDVC) strategies. As the sample was a broad representation of households in Machakos, the educator democracy (with relatively few highly educated respondents), and the number of huge households (despite the overall household composition being heterogeneous), limits the generalizability of some analyses. Overall, the demographic characteristics provide a strong basis for analyzing how faith influences approaches to livelihood outcomes, and the effects observed, while also accounting for important socioeconomic characteristics, add value.

### Christian Stewardship and Household Livelihoods

The analysis examined the relationship between Christian stewardship strategies and household livelihoods among a sample of 380 respondents in Machakos County. Key demographics (education level, household size, and years in main income activity) were measured and used as control variables. The analysis followed a sequential process of descriptive statistics, cross tabulation, and multivariate methods (correlation, ANOVA, and regression). Underlying assumptions for all multivariate analyses were assessed. Normality, linearity, and homoscedasticity were examined for the regression model; correlations were explored for multicollinearity; and the assumptions of independent observations and equal variance for the ANOVA were also examined. The summary of the analysis is reported in Table 2.

Households showed engagement in stewardship practices at moderate to high levels, reporting an average Stewardship Index of 4.2 (SD = 1.3) on a scale of 0 to 6 and an average Livelihood Index of 3.48 (SD = 0.78) on a scale of 1 to 5. Cross tabulation of low (0–2), medium (3–4), and high (5–6) stewardship levels and livelihood outcomes suggests that households exhibiting higher stewardship score were most likely to report stronger livelihoods (50% of households had a high livelihood scores), in comparison only 8% of low stewardship households reported high scores for livelihood. Medium stewardship households had intermediate outcomes (19% of households had high livelihood), suggesting a graded relationship across stewardship practices and livelihood strength.

Multivariate analysis confirmed these trends further. The Pearson correlation suggested a moderate positive relationship between stewardship and livelihoods ( $r = 0.38$ ,  $p < 0.001$ ). Stewardship was also positively correlated with education ( $r = 0.12$ ,  $p = 0.02$ ), and livelihoods correlated moderately with education ( $r = 0.30$ ,  $p < 0.001$ ). ANOVA indicated that there were significant differences in mean livelihoods across levels of stewardship ( $F(2, 377) = 48.2$ ,  $p < 0.001$ ), with higher levels of stewardship corresponding to higher mean livelihood scores (Low = 2.90; Medium = 3.40; High = 3.90). The regression analysis, controlling for education, household size, and years in the primary income activity, showed stewardship to be a significant positive predictor of livelihoods ( $\beta = 0.12$ ,  $SE = 0.02$ ,  $p < 0.001$ ). Education ( $\beta = 0.08$ ,  $p < 0.001$ ) and years in the income activity ( $\beta = 0.01$ ,  $p = 0.001$ ) were also significant positive predictors of livelihoods, while household size had a slight negative influence ( $\beta = -0.03$ ,  $p = 0.01$ ). The model explained 29% of the variance in livelihoods ( $R^2 = 0.29$ ), indicating that stewardship is a significant factor, but not the sole determinant of livelihood outcomes.

Table 2. Christian Stewardship and Household Livelihoods (N = 380)

Analysis	Measure / Category	N / Mean	SD / %	Statistical Result
Descriptive	Stewardship Index (0–6)	4.2	1.3	–
	Livelihood Index (1–5)	3.48	0.78	–
Cross-Tabulation	Stewardship: Low (0–2)	60	8% (in HL)	–
	Stewardship: Medium (3–4)	160	19% (in HL)	–
	Stewardship: High (5–6)	160	50% (in HL)	–
Correlation	Stewardship — Livelihood	–	–	$r = 0.38$ , $p < 0.001$
	Stewardship — Education	–	–	$r = 0.12$ , $p = 0.02$
	Livelihood — Education	–	–	$r = 0.30$ , $p < 0.001$
ANOVA	Livelihood by Stewardship	Low = 2.90, Medium = 3.40, High = 3.90	–	$F(2, 377) = 48.2$ , $p < 0.001$
Regression	Intercept	–	–	2.10, SE = 0.18, $p < 0.001$
	Stewardship Index	–	–	$\beta = 0.12$ , SE = 0.02, $p < 0.001$
	Education	–	–	$\beta = 0.08$ , SE = 0.02, $p < 0.001$



Household size	–	–	$\beta = -0.03$ , SE = 0.01, $p = 0.01$
Years in income activity	–	–	$\beta = 0.01$ , SE = 0.003, $p = 0.001$
<b>Model fit</b>	–	–	$R^2 = 0.29$

Qualitative analysis revealed the role of faith-informed practices in household management and livelihood strategies. Respondents discussed planning, diversification, and sharing as significant economic practices. One said, *"I always try to plan for tough times ahead; our church told me to save some of every income stream"* (Respondent 002, field data), indicating an orderly decision to manage resources in a way that was consistent with Christian values. Another exemplified diversification; *"We diversify our farm and small trade because a pastor once told us that God takes account of our good management of resources"* (KII, 205, field data). This suggests that respondents incorporated practices rooted in faith-based beliefs directly into their income-generating strategies. Respondents also emphasized the importance of sharing and mutual support: *"Even if we have very little, I share with my neighbors and church group; it helps support our social fabric"* (KII, 112, field data). Taken together, these narratives indicated that in managing resources and making decisions under uncertainty, stewardship practices encouraged households to practice planning, manage resources ethically, diversify income, and promote states of connectedness and community, which was congruent with the findings from the quantitative analysis.

A comparison with prior research reveals similar findings to those from regional and global evidence. Popescu et al. (2021) found that stewardship-based management increased household productivity when the household had access to management resources. In the context of semi-arid Machakos, Mwaura and Nzungya (2022) documented that ethical management practices, savings, and collaborative knowledge sharing promote improved livelihoods in these contexts. In a different study, Pham et al. (2021) also observed that when ethics were used in place of financial or technical support, the results were limited to material change in relation to material well-being, which points to a limitation of faith-based strategies. This supports the suggestion that stewardship is an important factor, but stewardship alone is insufficient; continued access to the necessary inputs and market access, augmented with continued technical support, is essential for sustainability and ongoing improvement.

All in all, Christian stewardship generally enhances household livelihoods, especially when it is combined with education and experience in livelihood and income-generating activities. Households that exercise high stewardship demonstrate better livelihood outcomes because they have the resources to plan, diversify, and share resources. However, the results also highlight some key constraints, including: (i) the cross-sectional study design limits the ability to draw causal conclusions and (ii) faith-based stewardship may not necessarily address structural barriers (e.g., access to markets, climate volatility, limited financial resources). Evidence from the interviews supports the idea that stewardship reflects motivation and ethical decisions; however, material gains require complementary technical assistance and/or financial support. Policymakers and development practitioners should consider faith-informed stewardship initiatives in conjunction with market support and input from stakeholders to optimize household resilience and sustainable livelihood outcomes.

### Faith-Driven Value Creation and Household Livelihoods

The study also examined the relationship between strategies for creating Faith-Driven Value Creation (FDVC) and household livelihoods among 380 respondents in Machakos County. More specifically, the study aimed to investigate whether church-led income training, commitment to Christian business values, and membership in faith-based networks led to improved livelihood outcomes. We controlled for key demographic variables (education, household size, and years in income activity) in our multivariate analyses, which we summarize in Table 3.

The FDVC Index, which measured faith and church-based training, commitment to Christian business principles, and support from church networks, yielded a mean score of 3.55 (SD = 0.82; range, 1-5). The Livelihood Index, which measures income, savings, and diversification, had a mean score of 3.50 (SD = 0.77; range, 1-5). Participation rates indicated that 60.5% of the households responded affirmatively when asked whether they had participated in a church- or faith-led training. One hundred ten households reported already operating businesses based on Christian principles, while 80 stated that they intended to start businesses along the same lines of thought. Ninety members claimed that their church network supported them in marketing or sales "often", whereas 140 answered "sometimes", and 150 "rarely/never". Households were classified into FDVC levels: low (1-2), medium (3-4), and high (5). When cross-tabulated with Livelihood outcomes, 5% of low FDVC households had very high livelihood scores (4 and above), 22% of medium FDVC (below 4), and 48% of high FDVC. Although this may suggest a relationship between faith-driven practices and livelihood outcomes, it does not imply causality.

Table 3. Faith-Driven Value Creation and Household Livelihoods (N = 380)

Analysis	Measure / Category	N / Mean	SD / %	Statistical Result
<b>Descriptive</b>	FDVC Index (mean Q27, 1–5)	3.55	0.82	–
	Livelihood Index (1–5)	3.5	0.77	–
<b>Participation</b>	Participated in church/faith training	Yes = 230	60.50%	–
	Run or plan a Christian-aligned business.	Run = 110, Plan = 80, No = 190		–
	Church support for marketing/sales	Often = 90, Sometimes = 140, Rarely/Never = 150		–
<b>Cross-Tabulation</b>	FDVC: Low (1–2)	70	5% in high livelihood	–

	FDVC: Medium (3–4)	180	22% in high livelihood	–
	FDVC: High (5)	130	48% in high livelihood	–
<b>Correlation</b>	FDVC — Livelihood	–	–	$r = 0.35, p < 0.001$
	FDVC — Education	–	–	$r = 0.10, p = 0.04$
	Livelihood — Education	–	–	$r = 0.28, p < 0.001$
<b>ANOVA</b>	Livelihood by FDVC	Low = 3.05, Medium = 3.48, High = 3.88	–	$F(2, 377) = 42.7, p < 0.001$
<b>Regression</b>	Intercept	–	–	2.20, SE = 0.17, $p < 0.001$
	FDVC Index	–	–	$\beta = 0.11, SE = 0.02, p < 0.001$
	Education	–	–	$\beta = 0.07, SE = 0.02, p < 0.001$
	Household size	–	–	$\beta = -0.02, SE = 0.01, p = 0.02$
	Years in income activity	–	–	$\beta = 0.01, SE = 0.003, p = 0.002$
	<b>Model fit</b>	–	–	$R^2 = 0.26$

Shared relationships between FDVC and household livelihoods were identified using multivariate analysis, considering relevant demographic variables, including level of education, size, and income, as well as the activity subjects worked in for a decade or more. Pearson's correlation analysis revealed a moderate, positive, and significant relationship between livestock and FDVC ( $r = 0.35, p < 0.001$ ), indicating that as the value of FDVC increased, so did livestock values. However, FDVC also reportedly had a weaker, but still significant, putative association with education ( $r = 0.10, p = 0.04$ ), and livelihoods themselves had a stronger association with education ( $r = 0.28, p < 0.001$ ). ANOVA results also supported these outcomes, indicating that mean livelihood scores tended to increase as levels of FDVC increased: households with low FDVC scored 3.05 on average, those with medium-FDVC scored 3.48, and high-FDVC households scored 3.88 on average,  $F(2, 377) = 42.7, p < 0.001$ . These means indicate statistically significant discrepancies in livelihood outcomes in accordance with the levels of faith-driven engagement.

After accounting for household size, years of income activity, and education, regression analysis showed that FDVC remained a significant predictor of livelihoods ( $\beta = 0.11, SE = 0.02, p < 0.001$ ). While there was a slight adverse effect for household size ( $\beta = -0.02, p = 0.02$ ), education ( $\beta = 0.07, p < 0.001$ ) and years in income activity ( $\beta = 0.01, p = 0.002$ ) were both significant positive predictors. The conclusion is that while FDVC makes a positive contribution to household livelihoods, it is likely that other omitted variables impact household economic resilience. The model accounts for around 26% of the variance in household livelihoods ( $R^2 = 0.26$ ). The findings suggest that households that participate more fully in faith-driven economic practices, through training, adherence to moral business principles, and church networks, tend to report better livelihoods overall. Even after accounting for household size, education, and other factors, this relationship seems robust—qualitative data obtained during the survey support this finding.

One participant said: “*I am using the skills from our church. This has improved my small business; not only do I earn more, but I can save for the future*” (Respondent 027, field data). Likewise, a key informant also described the network effect: “*Church groups promote selling and finding buyers for members, reasonable faith values promote honest exchanges, and there is a higher level of trust in each other*” (KII 118, field data).

These findings align with the empirical literature on Faith-Driven Value Creation Strategies (FDVCS), as value creation activities engage ethical commitments through value chain activities such as processing, grading, packaging, collective marketing, and linkages to buyers. Across many studies, we find evidence that post-harvest losses and market accessibility improve livelihoods (Riungu et al., 2022). However, many of these studies primarily highlight technical and market conditions while ignoring the moral or faith logic governing the terms of cooperation, trust, and trade (Mwangi et al., 2020). In Kenya, discussions around policy focus on competitiveness and scale (Kyalo et al., 2023) and rarely reference community-level, faith-aligned mechanisms to facilitate inclusive value-added opportunities in semi-arid smallholder contexts, such as Machakos.

EVC Theory provides a framework for understanding such outcomes. It holds the assumptions that in measurable economic situations, individuals identify opportunities, introduce innovation under surrounding constraints, and capture economic market value. In this study, households engaged in collective marketing, small-scale processing, and livelihood diversification are indications of behavior motivated by spiritual beliefs, resulting in measurable economic benefit.

Overall, even though FDVC is associated with stronger household livelihoods measurably, there were limitations. The cross-sectional study design complicates our ability to infer causation, as households with stronger livelihoods may be better able to engage in FDVC behaviors. Even with an ethical commitment, resource constraints, market availability, and gaps in infrastructure likely limit the efficacy of faith-driven practices. Income growth cannot be guaranteed with ethical commitment, particularly when there is inadequate technical support, finance, or networks. However, incorporating Christian principles into income-generating activities facilitates price or place-based planning, collaborative action, and ethically driven behavior, suggesting partial pathways to stronger livelihoods. Programs intended to scale up FDVC must work to mitigate structural barriers and continuously support these families, while ensuring that duplication does not occur and that families with fewer resources are not left behind.

## CONCLUSIONS

This study focused on Christian stewardship and Faith-Driven Value Creation (FDVC) in relation to their contribution to household livelihood resilience in Machakos County. Quantitative evidence suggested weak to modest but reliable relationships between these faith-oriented practices and household outcomes, indicating that these practices contribute to resilience, albeit not as the decisive factor underlying it. It is a testament, therefore, to the fact that moral and spiritual commitments provide at least one avenue for empowering household strategies but must be considered in the midst of broader livelihood systems. The qualitative findings highlighted how these influences impacted household performance, particularly by instilling greater financial discipline, cultivating planning habits, and fostering reciprocal ties to promote collaboration. However, many of these benefited were contingent on other external enablers, such as functioning markets, access to inputs, and credit facilities. This implies that CCAs can only operate in the presence of economic and institutional contexts that support them.

The study's contribution is the development and validation of FDVC as an independently testable and measurable construct, tested alongside stewardship using a mixed-methods design. Theoretically, this would provide expansion to the existing empowerment and value-creation frameworks by adding a faith-based moral dimension to household livelihood strategies. Practically speaking, evidence suggests that churches and similar organizations lend resilience when moral guidance is combined with physical resources, such as access to finance, skills training, and market linkages.

There are a few limitations to be noted. The study employs descriptive designs, which reveal associations but do not imply causation or the presence of underlying causes. It also relies on self-report measures, which can be subject to bias. Lastly, examination of county-level associations limits any long-run generalizability. Future research should incorporate long-lasting or quasi-experimental designs to provide more direct avenues for testing marital pathways and mediators of context (such as gender, level of poverty, or institutional level of support) that may alter the effectiveness of faith-based livelihood interventions.

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## REFERENCES

- Angsten Clark, A., Davies, S., Owen, R., & Williams, K. (2025). Beyond individual responsibility – towards a relational understanding of financial resilience through participatory research and design. *Journal of Social Policy*, 54(4), 1225–1242. <https://doi.org/10.1017/S0047279423000685>
- Bjorvatn, K., & Tungodden, B. (2023). We Can Manage: Experimental Evidence from Savings Groups in Uganda. *Journal of African Economies*, 32(5), 523–546. <https://doi.org/10.1093/jae/ejac027>
- Borther, D. K., & Malik, N. (2023). Aid Effectiveness and Perspectives and Practices of Donors. In: *African Experience in the Application of the Development Aid Effectiveness Principles. African Histories and Modernities*. Palgrave Macmillan, Singapore. [https://doi.org/10.1007/978-981-19-8368-9\\_5](https://doi.org/10.1007/978-981-19-8368-9_5)
- Campbell, C., & Bauer, S. (2021). Christian Faith and Resilience: Implications for Social Work Practice. *Social Work & Christianity*, 48(1), 28–51. <https://doi.org/10.3403/SWC.V48I1.212>
- Cui, H., Wang, Y., Wang, W., & Liu, C. (2025). Rural households' livelihood transitions in China: processes, drivers and outcomes. *China Agricultural Economic Review*, 17(1), 171–190. <https://doi.org/10.1108/CAER-11-2023-0346>
- Eissler, S., Heckert, J., Myers, E., Seymour, G., Sinharoy, S., & Yount, K. (2022). Measuring Women's empowerment: Gender and time-use Agency in Benin, Malawi and Nigeria. *Development and Change*, 53(5), 1010–1034. <https://doi.org/10.1111/dech.12725>
- Ensor, M. O. (2022). Climate disasters, mass violence, and human mobility in South Sudan: through a gender lens. *Genocide Studies and Prevention. An International Journal*, 16(1), 60–75. <https://doi.org/10.5038/1911-9933.16.1.1844>
- Githongo, M. W., Kiboi, M. N., Ngetich, F. K., Musafiri, C. M., Muriuki, A., & Fliessbach, A. (2021). The effect of minimum tillage and animal manure on maize yields and soil organic carbon in sub-Saharan Africa: A meta-analysis. *Environmental Challenges*, 5, 100340. <https://doi.org/10.1016/j.envc.2021.100340>
- Hirose, M., & Creswell, J. W. (2022). Applying core quality criteria of mixed methods research to an empirical study. *Journal of Mixed Methods Research*, 17(1), 12–28. <https://doi.org/10.1177/15586898221086346>
- Holtom, B., Baruch, Y., Aguinis, H., & A Ballinger, G. (2022). Survey response rates: Trends and a validity assessment framework. *Human Relations*, 75(8), 1560–1584. <https://doi.org/10.1177/00187267211070769>
- Hu, C., & Dong, J. (2023). Measuring livelihood resilience of farmers and diagnosing obstacle factors under the impact of COVID-19 in Jiangsu Province, China. *Frontiers in Sustainable Food Systems*, 7, 1250564. <https://doi.org/10.3389/fsufs.2023.1250564>

- Kamin, T., Kubacki, K., & Atanasova, S. (2022). Empowerment in social marketing: systematic review and critical reflection. *Journal of Marketing Management*, 38(11–12), 1104–1136. <https://doi.org/10.1080/0267257X.2022.2078864>
- Korneeva, E., Alekseeva, N., & Cheremukhina, O. (2024). Promoting resource conservation, agri-food, and biodiversity through social value creation and community-based entrepreneurship. In *BIO Web of Conferences* (Vol. 141, p. 04036). EDP Sciences. <https://doi.org/10.1051/bioconf/202414104036>
- Kumar, S., Sengupta, K., & Gogoi, B. J. (2023). Interventions for sustainable livelihoods: a review of evidence and knowledge gaps. *International Journal of Social Economics*, 50(4), 556–574. <https://doi.org/10.1108/IJSE-06-2022-0402>
- Kyalo, J. M., Sakwa, M. M., & Ndegwah, D. J. (2023). Socioeconomic Characteristics on Livelihood Outcomes of Conservation Agriculture Farmers in Makueni and Machakos Counties. *International Journal of Academic Research in Business and Social Sciences*, 13(5), 970 – 988. <http://dx.doi.org/10.6007/IJARBS/v13-i5/17099>
- Lambert, E., & Deyganto, K. O. (2024). The impact of Green Legacy on climate change in Ethiopia. *Green and Low-Carbon Economy*, 2(2), 97–105. <https://doi.org/10.47852/bonviewGLCE32021372>
- Lan, J., Song, B. Q., Li, Q. M., & Liu, Z. (2022). Farmers' livelihood strategies and sensitivity to climate change: Evidence from southwest China. *Indoor Built Environment*, 10, 97065. <https://doi.org/10.1177/1420326X221097065>
- Lee, M., & Gambiza, J. (2022). The adoption of conservation agriculture by smallholder farmers in southern Africa: A scoping review of barriers and enablers. *Journal of Rural Studies*, 92, 214–225. <https://doi.org/10.1016/j.jrurstud.2022.03.031>
- Maschi, T., Turner, S. G., Dewan, S. E., Kaye, A., & Hintenach, A. M. (2022). Feminist and empowerment theory and practice: a powerful alliance. In *Rethinking feminist theories for social work practice* (pp. 37–57). Cham: Springer International Publishing. [https://doi.org/10.1007/978-3-030-94241-0\\_3](https://doi.org/10.1007/978-3-030-94241-0_3)
- Mash, R., & Abumoghli, I. (2023). From grassroots to the UN, The role of faith in climate action. *Journal of Climate Action, Research, and Policy*, 1, 2350002. <https://doi.org/10.1142/S2972312423500029>
- Mathu, L. K. (2025). Creation Care in Genesis 1-2: A Theological Framework for Sustainable Development. *African Multidisciplinary Journal of Research*, 1(1), 251–267. <https://doi.org/10.71064/spu.amjr.1.1.2025.343>
- Mathuva, D., Ndunge, A., & Njiraini, N. (2025). Addressing the funding paradox in faith-based social enterprises: Lessons from religious orders in Africa. *Journal of the International Council for Small Business*, 1–16. <https://doi.org/10.1080/26437015.2025.2555878>
- Mbunda, K. A. (2024). Saving and Credit Cooperatives Services and Socioeconomic Empowerment of Women in Temeke Municipality, Tanzania. *East African Journal of Interdisciplinary Studies*, 7(1), 53-63. <https://doi.org/10.37284/eajis.7.1.1887>
- McIntyre, N., Quaye, E. S., Anning-Dorson, T., Lanivich, S., & Adomako, S. (2023). Investigating the impact of religiosity on entrepreneurial intentions. *Journal of Business Research*, 156, 113528. <https://doi.org/10.1016/j.jbusres.2022.113528>
- Metsämuuronen, J. (2023). Seeking the Real Reliability: Why the Traditional Estimators of Reliability Usually Fail in Achievement Testing and Why the Deflation-Corrected Coefficients Could Be Better Options, *Practical Assessment, Research, and Evaluation* 28(1): 10. doi: <https://doi.org/10.7275/pare.1264>
- Meydan, C. H., & Akkaş, H. (2024). The role of triangulation in qualitative research: Converging perspectives. In *Principles of conducting qualitative research in multicultural settings* (pp. 98-129). IGI Global. <https://doi.org/10.4018/979-8-3693-3306-8.ch006>
- Morse, S. (2024). Giving and Receiving: Faith and the Sustainability of Institutions Providing Microfinance Services for Development. *Sustainability*, 16(5), 1923. <https://doi.org/10.3390/su16051923>
- Mose, O. R., & Mukami, K. L. (2020). Social predictors of food insecurity: The case of Yatta Constituency, Machakos County, Kenya. *Current Research Journal of Social Sciences and Humanities*, 3(1). <http://dx.doi.org/10.12944/CRJSSH.3.1.08>
- Muluki, K. M., Rasugu, M. H., Njeri, M. J., & Nyarindo, I. H. (2022). Factors influencing adoption of irrigation technologies among smallholder farmers in Machakos County, Kenya. *Journal of Agricultural Extension*, 26(3), 44–59. <https://doi.org/10.4314/jae.v26i3.5>
- Munir, T., Saronno, T. B., Hutabarat, J. K. K., & Sutrisno, S. (2023). Faith-Based Social Entrepreneurial Orientation: Abraham is an Entrepreneur Model in Society through Faith and Business. *RERUM: Journal of Biblical Practice*, 2(2), 109-123. <https://doi.org/10.55076/rerum.v2i2.150>
- Mwangi, V., Owuor, S., Kiteme, B., Giger, M., Jacobi, J., & Kirui, O. (2020). Linking Household Food Security and Food Value Chains in North West Mt. Kenya. *Sustainability*, 12(12), 4999. <https://doi.org/10.3390/su12124999>
- Mwaura, P. K., & Nzengya, D. M. (2022). Examining the role of the church in socioeconomic development of the rural poor in the Sub-Saharan region: Insights from previous research and future research directions. *African Multidisciplinary Journal of Research*, 1(1), 147–158. <https://doi.org/10.71064/spu.amjr.1.1.122>
- Natarajan, N., Newsham, A., Rigg, J., & Suhardiman, D. (2022). A sustainable livelihoods framework for the 21st century. *World Development*, 155, 105898. <https://doi.org/10.1016/j.worlddev.2022.105898>
- Ngaiwi, M. E., Molua, E. L., Sonwa, D. J., Meliko, M. O., Bomdzele, E. J., Ayuk, J. E., ... & Latala, M. M. (2023). Do farmers' socioeconomic status determine the adoption of conservation agriculture? An empirical evidence from Eastern and Southern Regions of Cameroon. *Scientific African*, 19, e01498. <https://doi.org/10.1016/j.sciaf.2022.e01498>



- Opiyo, S. B., Opinde, G., & Letema, S. (2024). A perspective of sustainable livelihood framework in analysis of sustainability of rural community livelihoods: evidence from Migori River watershed in Kenya. *International Journal of River Basin Management*, 22(4), 627–643. <https://doi.org/10.1080/15715124.2023.2216019>
- Pahwa, M., Cavanagh, A., & Vanstone, M. (2023). Key informants in applied qualitative health research. *Qualitative Health Research*, 33(14), 1251–1261. <https://doi.org/10.1177/10497323231198796>
- Park, E., & Gachukia, M. K. (2020). The role of the local innovation system for inclusive upgrading in the global value chain: The case of Kenya GAP in the Kenyan horticultural sector. *The European Journal of Development Research*, 1–26. <https://doi.org/10.1057/s41287-020-00285-w>
- Pham, D. C., Doan, T. N., Nguyen, X. T., & Kim, T. (2021). The impact of sustainability practices on financial performance: Empirical evidence from Sweden. *Cogent Business & Management*, 8(1), 1912526. <https://doi.org/10.1080/23311975.2021.1912526>
- Popescu, I. S., Hitaj, C., & Benetto, E. (2021). Measuring the sustainability of investment funds: A critical review of methods and frameworks in sustainable finance. *Journal of Cleaner Production*, 314, 128016. <https://doi.org/10.1016/j.jclepro.2021.128016>
- Riungu, P. M., Nyaga, J. M., Githaiga, M. N., & Kairo, J. G. (2022). Value chain and sustainability of mangrove wood harvesting in Lamu, Kenya. *Trees, Forests and People*, 9, 100322. <https://doi.org/10.1016/j.tfp.2022.100322>
- Saja, A. A., Teo, M., Goonetilleke, A., & Ziyath, A. M. (2021). A critical review of social resilience properties and pathways in disaster management. *International Journal of Disaster Risk Science*, 12(6), 790-804. <https://doi.org/10.1007/s13753-021-00378-y>
- Schlunegger, M. C., Zumstein-Shaha, M., & Palm, R. (2024). Methodological and data-analysis triangulation in case studies: A scoping review. *Western Journal of Nursing Research*, 46(8), 611-622. <https://doi.org/10.1177/01939459241263011>
- Stockport, B., Yang, P., Kimani, J., Leonard, A., & Hirmer, S. (2024). Climate change adaptation, social resilience, and perceived values data from Turkana, Machakos and Narok counties, Kenya. *Data in Brief*, 57, 110978. <https://doi.org/10.1016/j.dib.2024.110978>
- Wambugu, P. M., Nkongwe, D. K., & Micheni, S. (2022). Biblical and theological basis for church involvement in community development in Kenya. *Journal of Pastoral and Practical Theology*, 1(1), 9–24. <https://doi.org/10.51317/jppt.v1i1.203>
- Zheng, Y., Jacobsen, J. B., Thorsen, B. J., & Liu, Z. (2023). How do rural households prefer to adapt livelihoods to economic effects of climate and policy changes? *The Singapore Econ. Rev.* 68, 265–284. <https://doi.org/10.1142/S0217590819500061>
- Zimmerman, A. (2023). Food riots arising from food crises in Latin America: Reflections on the 21st century agrarian context. *Working Paper Series, No. 23-212*, London School of Economics and Political Science (LSE), Department of International Development. <https://hdl.handle.net/10419/28426>

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