

Exploring the Impact of Agricultural Production on Security Sector Reforms, Economic Development and Stability in South Sudan

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Abstract: The purpose of this study was to examine the impact of agricultural production on security sector reforms (SSR), economic development, and stability in South Sudan. Since gaining independence on July 9, 2011, SSR has remained a central goal, yet significant challenges persist. While the importance of SSR in establishing lasting peace post-conflict is widely acknowledged, there exists a notable gap in literature concerning the integration of economic development and security in South Sudan. This study is grounded in several theoretical frameworks, including Post-Conflict Reconstruction and Peacebuilding, Conflict Theory, Human Security, and the Copenhagen School of Security Studies. Adopting a pragmatic research paradigm, the study utilized a mixed-methods approach, drawing data from a target population of 27,570 respondents, including ex-combatants, security personnel involved in SSR initiatives, and key stakeholders. A sample of 450 was derived using Yamane's formula, ensuring comprehensive representation. Data collection involved structured questionnaires, interviews, focus groups, and document analysis, with subsequent analysis conducted using SPSS version 26. The findings reveal that agricultural production significantly influences SSR, economic development, and overall stability in South Sudan. Strong positive correlations between agricultural output and SSR outcomes highlight the critical importance of economic stability in reform efforts. The study underscores that enhancing the agricultural sector is not purely an economic initiative but is fundamentally linked to the broader objectives of SSR, conflict resolution, and sustainable peace. The significance of this study lies in its exploration of agriculture as a vital component of SSR processes. Its originality is marked by the integration of agricultural production into the discourse on security reform, a largely overlooked area in South Sudanese scholarship. Recommendations include strengthening agricultural support systems through investment in education and modern farming techniques, enhancing financial inclusion, and developing infrastructure to facilitate market access. Additionally, targeted job creation for youth in agriculture and community-based programs leveraging agriculture for peacebuilding are essential strategies for fostering social cohesion and achieving lasting stability in South Sudan.

Keywords: Agricultural Production, Security Sector Reforms, Economic Development and Stability, South Sudan.

BACKGROUND OF THE STUDY

Agriculture's significance extends beyond mere food production; it is intricately linked to cultural identity and community cohesion. In many societies, agricultural practices are embedded in traditional norms, customs, and communal values. This cultural dimension of agriculture strengthens social ties and fosters a sense of belonging among community members. As families and neighbours work together in fields, they not only contribute to their local economies but also build relationships that enhance social capital. By preserving local agricultural practices, communities can also

maintain their unique identities, ensuring that agricultural knowledge and traditions are passed down through generations (Bourdieu, 1986). As such, investing in agriculture serves not only economic interests but also cultural and social ones, reinforcing the idea that agriculture is fundamental to holistic community development.

In addition to cultural significance, agriculture is vital for achieving broader Sustainable Development Goals (SDGs). The interconnected nature of these goals such as zero hunger (SDG 2), gender equality (SDG 5),

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and climate action (SDG 13) highlights how agriculture has the potential to address multiple challenges simultaneously. For instance, promoting agroecological practices can enhance food security while simultaneously safeguarding the environment and supporting climate resilience (Altieri *et al.*, 2015). Furthermore, empowering women in agriculture not only leads to improvements in agricultural productivity but also enhances women's roles in decision-making processes within households and communities, contributing to gender equality and overall societal progress. Thus, the role of agriculture as a driver for achieving various SDGs underscores its critical importance in global development agendas.

Moreover, agriculture is increasingly viewed through the lens of sustainability and resilience in the face of climate change. The global agricultural sector is under pressure from changing climate patterns, resulting in severe challenges such as droughts, flooding, and pest invasions. Consequently, the shift towards sustainable agricultural practices is more crucial than ever. Techniques such as conservation tillage, crop rotation, and agroforestry not only improve land management but also enhance ecosystem services, contributing to improved soil health, biodiversity, and water quality (Garnett *et al.*, 2013). Through fostering sustainability within agricultural systems, countries can also build their resilience against climate shocks, ultimately contributing to the stability of food supplies and economic development. The promotion of sustainable agriculture thus emerges as a strategic imperative, ensuring that this vital sector can withstand future challenges while continuing to fulfil its fundamental role in society.

The importance of incorporating agricultural development into security sector reforms extends to the fostering of economic resilience, especially in countries recovering from instability or conflict. Agricultural initiatives can create job opportunities, stimulate local economies, and reduce poverty levels, which are essential elements for achieving long-term peace and stability. According to the United Nations (2019), job creation in agriculture is particularly vital in rural areas where unemployment rates are often high, and economic opportunities are limited. By investing in agricultural infrastructure, education, and access to markets, governments can help to revitalize their economies while simultaneously addressing the root causes of unrest. As livelihood opportunities increase, communities become more engaged in the peacebuilding process, reducing the likelihood of reverting to conflict and enhancing social cohesion.

Moreover, the relationship between agriculture and security also emphasizes the importance of inclusive governance. Recognizing the voices of farmers, agricultural workers, and rural communities in policymaking can lead to more effective and sustainable security strategies. When marginalized communities feel

that their needs and issues are acknowledged and addressed, there is a higher probability of fostering trust in governmental institutions. Participatory governance in agriculture not only improves local resilience but also contributes to the legitimacy of state authorities and security forces. This inclusivity can result in a more stable social environment, as citizens are more likely to support reforms when they see their interests represented (McLoughlin, 2018). Thus, integrating agricultural development into SSR not only strengthens food security and economic health but also reinforces democratic principles and social trust, collectively paving the way for a more cohesive and peaceful society.

Furthermore, agricultural dynamics are intrinsically linked to the overall health of the economy, particularly in developing nations where a significant portion of the population relies on farming for their livelihoods. The resilience of agricultural systems can drive rural development and contribute to urbanization by creating pathways for people to transition from subsistence farming to higher-value agricultural production or non-farm activities. Research shows that diversifying agricultural production not only enhances food security but also buffers communities against economic shocks, such as fluctuating market prices or natural disasters (Christiaensen & Todo, 2014). This diversification is particularly important as it allows farmers to respond proactively to changing market demands and to participate robustly in local, national, and international economies, thus ensuring their contributions to GDP are sustainable and resilient.

Moreover, the synergy between agriculture and other economic sectors underscores the need for integrated policies that prioritize agricultural development as part of broader economic strategies. Investment in infrastructure, such as roads and storage facilities, can drastically reduce post-harvest losses and improve market access for rural farmers. Enhanced access to credit and financial services also empowers smallholder farmers to invest in modern technologies, providing them with tools that increase productivity and income. Such integrated approaches are essential for enhancing agricultural competitiveness, which in turn has ripple effects in sectors like manufacturing, services, and trade (World Bank, 2018). As economies evolve, the interdependence between agricultural growth and overall economic development becomes more pronounced, revealing agriculture not merely as a sector but as a critical backbone of national economies striving towards sustained growth and development.

The notion of stability encompasses more than just economic indicators; it represents a delicate equilibrium of social, political, and economic factors that are essential for a functioning society. Agricultural production is a vital component in maintaining this balance, particularly in rural areas where agriculture serves as the main source of income and sustenance for

communities. Research indicates that when communities have access to dependable agricultural systems, they are more likely to express trust in local and national institutions. This heightened trust enhances the perceived legitimacy of government actions and fosters an environment of cooperation and collaboration among citizens (Befani *et al.*, 2018).

Addressing agricultural challenges through equitable and sustainable practices can significantly reduce tensions and conflicts over limited resources, such as land and water, which are particularly critical in regions facing scarcity (United Nations, 2021). The relationship between agriculture and security is so intertwined that it necessitates a comprehensive framework that acknowledges agriculture's foundational role in not only ensuring food security but also in promoting broader societal stability and peaceful coexistence. This interconnectedness highlights the importance of agricultural resilience in shaping the socio-political landscape.

The complex interactions among agricultural production, security sector reform (SSR), economic development, and overall societal stability underscore the importance of integrating these elements in policy considerations. Policymakers and researchers must delve deeper into these interrelationships to formulate strategies that foster resilience and peace, particularly in contexts characterized by fragility or conflict. Understanding how these elements work together is crucial for developing effective interventions that can enhance community stability through agricultural improvement.

In conclusion, agriculture remains a key focus for addressing current challenges posed by climate change, economic inequality, and social unrest. As food systems increasingly face threats from various global pressures, the pivotal role of agriculture cannot be overstated. For researchers, policymakers, and practitioners, the quest for solutions that balance these diverse elements is essential for creating a stable and prosperous future, reminding us of the integral role agriculture plays in achieving wider societal goals of resilience and peace.

1.1 Statement of the Problem

The security sector reform has been a central goal for South Sudan since its independence on July 9, 2011, yet significant challenges remain unmet. Despite the critical understanding that SSR is integral to establishing lasting peace after the conflict that emerged following independence, research reveals a stark gap in literature concerning the effective integration of economic development and security in South Sudan. Bautuer *et al.*, (2018) highlight those existing studies often focus narrowly on critical areas without addressing the broader implications of SSR's failure, particularly in understanding the economic-political dynamics. As

Michael Brzoska (2003) warns, inadequate SSR can create conditions ripe for further conflict, a reality that South Sudan confronted with the resumption of violence in 2013 following a failure to reform the Sudan People's Liberation Army (SPLA) (Johnson, 2016; Breitung *et al.*, 2016).

This ongoing cycle of instability can be attributed to a confluence of factors, including a lack of political will, insufficient funding, and the pervasive insecurity that stems from entrenched tribalism within the security apparatus (Ochan, 2018). Jacob A. (2016) posits that continual armed conflicts and the illiteracy prevalent among combatants further hinder the effective implementation of SSR initiatives. Despite external actors' attempts to foster SSR, these interventions have yielded limited results, reflecting an absence of grassroots support and genuine engagement with local communities regarding their security needs (Breitung *et al.*, 2016). As these issues persist, it becomes apparent that isolated reform efforts cannot rectify the underlying conditions that perpetuate insecurity and power struggles in South Sudan.

Given these complexities, there is an urgent need to articulate the barriers to effective SSR implementation and explore more participatory methods that engage various societal stakeholders in South Sudan. The existing literature on SSR, as noted, is predominantly policy-oriented, neglecting the lived experiences and aspirations of the local populations affected by conflict and insecurity. This thesis aims to bridge this knowledge gap by examining the intersections of post-independence politics and economic development, the implications of state fragility on security dynamics, and the pathways available for ex-combatants within the SSR framework. Such an approach will contribute to a more nuanced understanding of SSR within the specific context of South Sudan, ultimately fostering more sustainable and inclusive reform strategies.

1.3 Objective of the Study

The objective of this study was to explore the impact of agricultural production on security sector reforms, economic development and stability in South Sudan.

1.4 Research Hypothesis

This study was guided by the following research hypothesis:

H₀₁: There is no statistically significant effect between agricultural production and security sector reforms, economic development and stability in South Sudan.

2.0 LITERATURE REVIEW

2.1 Introduction

This section covers previous literature on strategic implementation and performance. The main sections covered include, theoretical framework which

focuses on various schools of thought that seek to explain the idea behind the strategic implementation and performance. Various empirical studies are reviewed regarding the study variables. The conceptual framework is drawn and the research gap presented.

2.2 Theoretical Review

The following theoretical review underpinned this study.

2.2.1 Post-Conflict Reconstruction and Peacebuilding

The theory of post-conflict reconstruction and peacebuilding has evolved as a response to the needs of societies emerging from violent conflict, shaped by the contributions of various scholars and practitioners during the late 1990s and early 2000s. Influential figures such as David Chandler (2006) and Peter Uvin (1998) have significantly shaped this discourse. The United Nations has further articulated this framework in its peacebuilding reports, particularly post-conflict interventions in countries like Bosnia and Rwanda. These perspectives have fostered a nuanced understanding of the multifaceted needs for rebuilding social, economic, and political structures in post-conflict settings.

In the context of South Sudan, where the aftermath of a protracted civil war necessitates a sophisticated understanding of the interplay between security sector reforms and economic development, this theory is particularly relevant. It calls for comprehensive strategies that include military disarmament, social reintegration, and the creation of sustainable economic opportunities for former combatants. By emphasizing the interconnectedness of these elements, post-conflict reconstruction and peacebuilding shed critical light on the challenges and methodologies for effectively managing the reintegration process, which is paramount for establishing lasting peace and stability in the region.

Despite its contributions, the theory faces criticism that can limit its applicability in various contexts. One major criticism is its reliance on external interventions that may not consider the unique needs and dynamics of local communities. Critics often point to the "one-size-fits-all" approach prevalent in many peacebuilding initiatives, which risks overlooking the specific social and cultural circumstances of affected populations. Moreover, the focus on prompt results can lead to superficial solutions, compromising long-term sustainability and potentially ignoring underlying grievances that require attention. Overall, although the theory provides valuable perspectives for post-conflict rebuilding, its success is contingent on tailoring strategies to local contexts and prioritizing long-term solutions.

2.2.2 Conflict Theory

Conflict theory, grounded in the work of Karl Marx in the 19th century, emphasizes class struggle and economic disparity as central drivers of societal

conflicts. Scholars such as Lewis Coser (1956) and Ralf Dahrendorf (1959) have expanded upon these initial concepts by applying conflict theory to a wider array of social issues beyond class, including ethnicity, gender, and political affiliation. These contributions have enriched the analysis of how competing interests and social hierarchies lead to tensions and conflicts within societies, establishing it as a fundamental framework for understanding social dynamics.

In South Sudan, conflict theory is particularly relevant for examining the circumstances of ex-combatants. It illustrates how power imbalances and systemic inequalities can trigger violence, drawing attention to the dire economic conditions and political disenfranchisement that fuel armed conflict. In the context of reintegration, an understanding of these dynamics is essential for crafting policies that address the root causes of conflict while supporting former combatants. Conflict theory underscores the importance of inclusive governance and equitable resource distribution in fostering lasting peace and stability.

However, this theory is not without its limitations. Critics point out its deterministic view, suggesting that economic factors predominantly drive conflict while downplaying other significant aspects such as cultural narratives, identity, and individual agency. This viewpoint may lead to an incomplete understanding of the motivations behind violence, as conflicts often entail a range of multifaceted influences. Additionally, emphasizing structural conditions can sometimes overshadow the immediate needs of individuals, especially ex-combatants seeking urgent assistance during reintegration. Consequently, while conflict theory offers critical insights into the structural causes of violence, its practical application necessitates a balanced approach that incorporates both systemic and individual-level considerations.

2.3.3 Human Security

The concept of human security gained prominence in the 1990s, particularly through the United Nations Human Development Report of 1994. Scholars like Amartya Sen and Mahbub ul Haq have further developed this idea, advocating for a framework that centers on protecting individuals' rights and well-being within security studies. Unlike traditional models that primarily focus on state sovereignty and territorial integrity, human security shifts the emphasis toward ensuring individuals' safety and dignity as prerequisites for achieving holistic security in society.

Human security is particularly applicable to the reintegration of ex-combatants in South Sudan, addressing both immediate and long-term needs for individuals transitioning from armed conflict to civilian life. This framework recognizes the intrinsic link between the security of former combatants and broader societal stability, indicating that successful reintegration

requires attention to socio-economic welfare, psychological support, and community ties. By highlighting the interconnectedness of individual security with socio-political conditions, human security enhances the understanding of how to create a conducive environment for peace where former combatants can thrive and contribute positively to society.

Despite its strengths, the human security framework has faced critiques. A key concern is its potential vagueness and overly broad scope, which can complicate the development and implementation of concrete policies. In some cases, this individual-focused approach may overshadow critical state and institutional elements of security, resulting in an imbalance in addressing collective versus individual needs in post-conflict contexts. Furthermore, the implementation of comprehensive human security initiatives can be challenging, given difficulties in securing sustainable funding and support, necessitating a careful equilibrium between individual rights and the overarching systemic and institutional frameworks essential for lasting stability and peace.

2.2.4 Copenhagen School of Security Studies

The Copenhagen School of security studies, primarily associated with scholars such as Barry Buzan and Ole Wæver from the late 1990s, marks a significant shift in the field of international relations by emphasizing the social dimensions of security. This school critiques traditional military-centric notions of security, arguing for a broader understanding that includes social, environmental, and economic threats. Proponents assert that security discourses can be socially constructed, allowing various actors—especially political elites—to identify certain issues as existential threats to a referent object (usually the state or society). This process legitimizes extraordinary measures to address these perceived threats and creates a framework where the concept of security remains fluid and context-dependent (Buzan *et al.*, 1998).

One of the Copenhagen School's key contributions is the concept of securitization, which describes how particular issues are framed as security concerns, enabling political actors to bypass conventional political procedures in justifying emergency measures. This framework categorizes issues into non-politicized, politicized, and securitized categories, illustrating how the framing of an issue impacts its public relevance and the responses it elicits from state actors (Buzan *et al.*, 1998). While this theoretical approach offers adaptability in addressing diverse contemporary security challenges and promotes critical discourse analysis, it also faces critiques regarding its potential vagueness and its tendency to prioritize discourse over material conditions, which can obscure real power dynamics within the securitization process.

Despite its contributions, the Copenhagen School's theories have notable limitations. A significant critique pertains to its normative stance, suggesting that while securitization can enhance state power, it concurrently undermines democratic practices and political accountability. Scholars such as Lene Hansen argue that the framework inadequately accounts for complexities and varied interpretations surrounding securitized issues, as different actors may perceive the same event differently based on their discourses. Thus, while the Copenhagen School broadens the understanding of security, it occasionally falls short in addressing the nuanced realities of power relationships and social struggles influencing the securitization of specific topics.

In conclusion, the Copenhagen School of security studies redefines security through the lens of social constructionism, thereby expanding the traditional scope of security studies by incorporating non-military threats and emphasizing the significance of discourse in the securitization process. While its conceptual framework provides valuable insights into the dynamics of security, its reliance on social constructs may introduce complexities that challenge clarity and applicability in real-world contexts. Ultimately, this framework serves as an essential tool for analyzing contemporary security issues, necessitating continuous adaptation to incorporate diverse perspectives and to account for the subtleties of political discourse and power relations.

Empirical Review

In their study, González and Rojas (2021) examine the interplay between agricultural policy and security sector reform (SSR) in Colombia, highlighting the lessons learned from various rural development initiatives. Their article, published in the *Journal of Rural Studies*, titled "Agricultural policy and security sector reform in Colombia: Lessons from rural development initiatives," provides valuable insights into how integrated approaches to agriculture and security can foster stability in post-conflict regions. The authors argue that effective agricultural policy is essential for sustainable rural development and that it can significantly impact security dynamics in areas affected by violence and instability. Through an analysis of various case studies from Colombia, they showcase how agricultural initiatives have the potential to not only improve food security but also empower communities by providing economic opportunities and reducing the appeal of illegal activities. González and Rojas emphasize the importance of aligning agricultural policies with security objectives to create a supportive environment for SSR. They identify key components for success, such as community participation, access to resources, and the establishment of productive alliances between farmers and local authorities. Their findings suggest that when agricultural development is prioritized alongside SSR efforts, it can lead to more effective

governance, enhanced trust in public institutions, and a reduction in violence. The study concludes with a call for policymakers to adopt a holistic approach that integrates agricultural development into broader security frameworks. The lessons learned from Colombia's experiences can inform similar initiatives in other post-conflict settings, promoting resilience and stability through a comprehensive understanding of the relationship between agriculture and security.

Studies conducted by Zahra and Rahim (2022) delve into the intricate link between food security and terrorist activities, emphasizing the importance of agricultural development in formulating effective policy responses. In their article titled "Food security and terrorist activities: The role of agricultural development in policy responses," published in the *International Journal of Conflict Management*, the authors argue that a lack of food security can exacerbate vulnerabilities within communities, potentially leading to increased recruitment into terrorist organizations. Through an analysis of various case studies, Zahra and Rahim demonstrate that enhancing agricultural productivity not only addresses immediate food insecurity but also contributes to long-term social stability and resilience against radicalization. They advocate for policies that prioritize agricultural development as a means to improve food security and reduce the socioeconomic conditions that often lead to terrorism. The authors highlight the need for multi-faceted strategies that incorporate agricultural initiatives into broader security and counter-terrorism frameworks, thereby addressing the root causes of instability. Zahra and Rahim's research underscores the critical role that agricultural investment and support can play in mitigating terrorist activities, suggesting that policymakers must consider food security as a central component of conflict prevention and resolution strategies. Their findings call for further empirical research and collaborative efforts across sectors to create holistic responses to the challenges posed by food insecurity and violence.

Studies conducted by Mäkelä & Ahlberg (2023) and Mansaray & Sawyerr (2022) shed light on the critical intersections between agriculture and security in post-conflict settings. Mäkelä and Ahlberg's research focuses on South Sudan, where they analyze the role of agriculture in rebuilding livelihoods and enhancing community resilience after a prolonged conflict. Their mixed-methods approach reveals that agricultural revitalization is pivotal not only for food security but also for fostering social cohesion. The authors argue that collective agricultural efforts help communities establish a shared identity and stability, which are essential for sustained peace. They also note the necessity for further research on the long-term impacts of agricultural initiatives on security dynamics and governance structures in post-conflict contexts. Similarly, Mansaray and Sawyerr investigate the relationship between agriculture and security sector reform in Sierra Leone.

Their study underscores how a robust agricultural framework can support SSR by promoting economic stability and reducing the allure of illicit activities. Through qualitative interviews and policy analysis, they identify agricultural cooperatives as vital avenues for community engagement, contributing to enhanced trust between citizens and state institutions. They highlight the challenges faced by the agricultural sector, such as resource access and political instability, which can hinder both agricultural growth and security outcomes. The authors advocate for a more integrated approach that combines agricultural initiatives with SSR strategies to improve overall effectiveness. Together, these studies illustrate the multifaceted role of agriculture in promoting peace and security in post-conflict environments, emphasizing the need for comprehensive strategies that address both agricultural development and security sector reform.

In their 2022 article, "The role of agriculture in reinforcing security sector reform in Sierra Leone," Mansaray and Sawyerr explore how agricultural development can bolster security sector reform (SSR) efforts in post-conflict Sierra Leone. Using a qualitative research framework that includes interviews with key stakeholders, policy analysis, and case studies, the authors provide evidence that a thriving agricultural sector plays a critical role in enhancing economic stability and social cohesion, which are essential for successful SSR initiatives. Their findings indicate that investments in agriculture not only improve food security but also create livelihoods that reduce dependency on illicit activities, thus fostering a more secure environment. In addition, the study highlights how agricultural cooperatives can serve as platforms for community engagement and dialogue, contributing to trust-building between citizens and state institutions. However, Mansaray and Sawyerr also point to significant challenges, including limited access to resources and ongoing political instability, that hinder agricultural growth and subsequently affect security outcomes. They call for a comprehensive strategy that integrates agricultural policies into SSR frameworks to maximize the effectiveness of both sectors, suggesting that further empirical research is needed to understand the nuanced interactions between agricultural development and security dynamics in Sierra Leone and similar contexts.

In their 2023 study, "Agriculture, livelihoods, and security in post-conflict settings: A case study of South Sudan," Mäkelä and Ahlberg investigate the complex interplay between agricultural practices, livelihood strategies, and security in the context of post-conflict South Sudan. Employing a mixed-methods approach that combines qualitative interviews with local farmers and community leaders alongside quantitative surveys assessing agricultural productivity and security indicators, the researchers find that revitalizing agriculture is crucial for rebuilding livelihoods and

fostering community resilience in the aftermath of conflict. The findings reveal that agricultural development not only improves food security but also enhances social cohesion and stability, as communities work together to rehabilitate land and resources. The authors conclude that targeted agricultural interventions can serve as a foundation for sustained peace and development in post-conflict settings. However, they also identify knowledge gaps, particularly regarding the long-term impacts of these agricultural initiatives on security dynamics and community governance structures. This highlights the need for further research to comprehensively assess the sustainability of agricultural-led recovery efforts and their implications for security in diverse post-conflict contexts.

In their 2021 study, "Linking agricultural development and security: Perspectives from fragile states," Brinkerhoff and Brinkerhoff examine the intricate relationship between agricultural policies and security sector reform (SSR) across several fragile states, including Afghanistan, South Sudan, and Haiti. Utilizing a qualitative research methodology that combines case studies, comparative analysis, and stakeholder interviews, the authors find that effective agricultural development significantly contributes to enhanced food security, improved livelihoods, and increased social

cohesion, ultimately facilitating a more stable environment for SSR. Their conclusions emphasize the necessity for policymakers to integrate agricultural initiatives into broader SSR frameworks, advocating for a holistic approach that positions agriculture as a vital driver of peace and stability. However, the study also identifies knowledge gaps, highlighting the absence of comprehensive quantitative data to assess the direct impact of agriculture on SSR outcomes and recognizing the variability of these dynamics across different contexts. This suggests a pressing need for more region-specific research to deepen the understanding of the interactions between agricultural development and security governance.

Conceptual Framework

The conceptual framework, as defined by Cooper & Schindler (2010), is a valuable tool in the scientific research process. It enables researchers to define concepts in measurable terms, providing a clear understanding of their meaning. It serves as a visual representation of the relationship between independent and dependent variables. In the context of this study, the conceptual framework illustrates the interplay between agricultural production and the performance of commercial banks in Kenya.

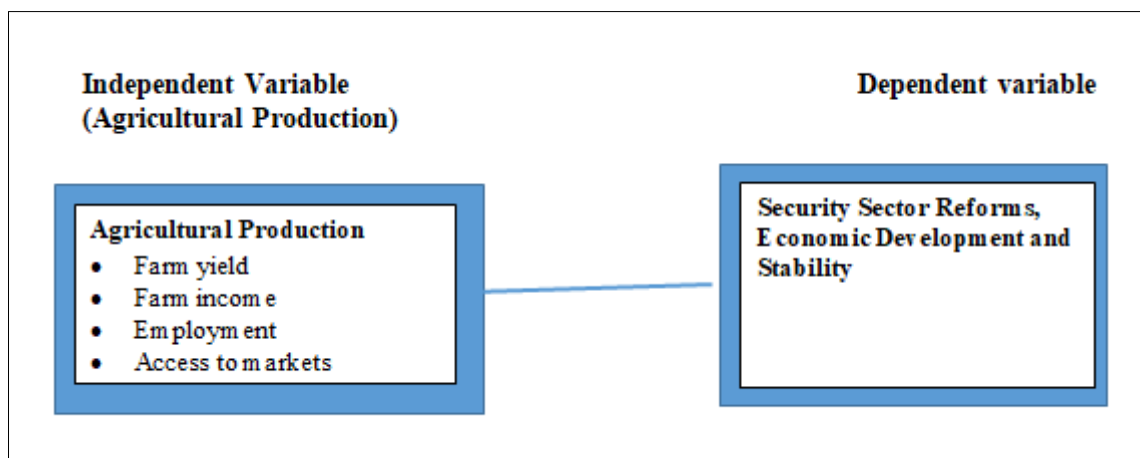


Figure 1: Conceptual Framework on Interplay between Agricultural Production and Security Sector Reforms, Economic Development and Stability
Source: Researcher's Conceptualization (2024)

The conceptual framework depicted in Figure 1 illustrates the relationship between agricultural production as the independent variable and its effects on security sector reforms, economic development, and stability as dependent variables. It highlights how enhancements in agricultural productivity can lead to positive outcomes in security and governance, while also promoting economic growth and fostering social stability. This framework serves as a foundation for understanding the interplay between agricultural practices and broader societal changes, emphasizing the critical role of agriculture in shaping security and development dynamics. The researcher's

conceptualization provides a structured approach to exploring these interconnections in the specific context of the study.

RESEARCH METHODOLOGY

This section outlines the research methods, design, target population, data collection and sampling techniques, and data analysis methods used in the study.

This study is rooted in a pragmatic research paradigm, which prioritizes the application of research results to solve real-world issues, as highlighted by Creswell and Creswell (2018).

In the context of this study, the constructivist ontology acknowledges that the understanding of economic development and security sector reform is shaped by the experiences, perceptions, and interactions of various stakeholders, including ex-combatants, policymakers, and development partners (Crotty, 1998).

This study employed a mixed-methods research approach, integrating both quantitative and qualitative data collection and analysis techniques. The mixed-methods approach allows for a comprehensive and

nuanced understanding of the relationship between economic development and security sector reform in South Sudan (Creswell & Plano Clark, 2018).

The geographical scope of this study encompassed three regions in South Sudan: Equatoria, Upper Nile and Bahr el Ghazal. These three regions were selected based on their significant involvement in SSR programs and their representativeness of the diverse socio-economic and security contexts within the country (Ratcliffe & Orton, 2021).

Table 3.1: Estimated Population Distribution by State

State	Ex-Combatants	Security Sector Personnel	Key Stakeholders
Equatoria	6,300	3,700	250
Upper Nile	8,000	4,100	320
Bahr el ghazal	3,200	1,600	100
Total	17,500	9,400	670

The distribution of ex-combatants, security sector personnel, and key stakeholders varied across these regions, with higher concentrations in these regions that had been more actively involved in SSR programs and economic development initiatives (Atienza *et al.*, 2021). Table 3.1 provides an overview of the estimated population distribution across the targeted three regions based on available data from the South Sudan Peace and Security Institute (2023).

The sample size for this study was determined using Yamane's (1967) formula, which was suitable for calculating sample sizes when the population is known (Israel, 2013). The formula is as follows:

$$n = N / (1 + N * e^2)$$

Where:

n = sample size

N = population size

e = margin of error (set at 0.05 for this study)

Based on the total estimated population of 27,570 (ex-combatants, security sector personnel, and key stakeholders; 17,500+9,400+670), the calculated sample size was:

$$n = 27,570 / (1 + 27,570 * 0.05^2) = 394.27$$

Therefore, the minimum sample size for this study was 395 participants. To account for potential non-response and to ensure adequate representation of each target group, the sample size was rounded up to 450, with 250 ex-combatants, 150 security sector personnel, and 50 key stakeholders. Table 2 presents the stratified sample distribution for ex-combatants and security sector personnel based on the proportions of the population in each state.

Table 2: Stratified Sample Distribution

State	Ex-Combatants	Security Sector Personnel
Central Equatoria	90	56
Upper Nile	115	68
Bahr el ghazal	45	26
Total	250	150

This study employed a combination of purposive sampling, stratified random sampling, and cluster sampling techniques to select participants from the target population. Purposive sampling was used to select key stakeholders from government, civil society, and international organizations based on their expertise and involvement in SSR and economic development initiatives in South Sudan (Palinkas *et al.*, 2015). This non-probability sampling technique allowed for the intentional selection of information-rich cases that could provide in-depth insights into the research problem (Patton, 2014).

Stratified random sampling was employed to categorize the ex-combatants and security sector personnel from the five targeted states. This probability sampling technique involved dividing the population into strata based on geographical location and then randomly selecting participants from each stratum (Bryman, 2016). Stratified random sampling ensured that the sample was representative of the population distribution across the different states (Lohr, 2019).

Questionnaires were used to collect quantitative data from ex-combatants and security sector personnel. The questionnaires were designed to capture information

on demographic characteristics, economic factors, and SSR outcomes (Bryman, 2016).

Semi-structured interview guides were used to collect qualitative data from key stakeholders. The interview guides consisted of open-ended questions that explored the experiences, insights, and perspectives of stakeholders on the relationship between economic development and SSR in South Sudan (Bryman, 2016). The interviews were conducted face-to-face by the researcher and trained research assistants, allowing for in-depth discussions and follow-up questions (Kvale & Brinkmann, 2015).

A pilot study was conducted to test the research instruments and data collection procedures. The pilot sample consists of 30 participants, including 15 ex-combatants, 10 security sector personnel, and 5 key stakeholders (Connelly, 2008). The pilot sample was selected using the same sampling techniques as the main study, but from a different geographical area to avoid contamination (Thabane *et al.*, 2010).

To ensure content validity, the research instruments were reviewed by experts in SSR and economic development, who provided feedback on the relevance and comprehensiveness of the questions (Lawshe, 1975). The instruments were also aligned with the existing literature and conceptual framework of the study (Atienza *et al.*, 2021).

To ensure construct validity, the research instruments were designed based on established theories and empirical evidence on the relationship between economic development and SSR (Atienza *et al.*, 2021). The instruments were also piloted and refined based on statistical analyses of item-total correlations and factor loadings (Hair *et al.*, 2019).

To ensure face validity, the research instruments were reviewed by experts and potential participants, who provided feedback on the clarity and appropriateness of the questions (Nevo, 1985). The instruments were also designed using simple and straightforward language to enhance their face validity (Bryman, 2016).

To assess test-retest reliability, a subsample of participants is asked to complete the questionnaires twice, with a two-week interval between administrations (Weir, 2005). The correlation between the two sets of scores was calculated using Pearson's correlation coefficient, with a minimum threshold of 0.70 indicating acceptable reliability (Koo & Li, 2016).

To assess internal consistency, Cronbach's alpha coefficient was calculated for each scale or subscale in the questionnaires (Cronbach, 1951). A minimum threshold of 0.70 is used to indicate acceptable internal consistency (Nunnally & Bernstein, 1994).

Cronbach's alpha values range from 0 to 1, with higher values indicating greater internal consistency (DeVellis, 2017). A minimum threshold of 0.70 was used to indicate acceptable internal consistency (Nunnally & Bernstein, 1994). The Cronbach's alpha test was conducted using statistical software, such as SPSS or R, and the results yielded an average alpha value of 0.83 (Taherdoost, 2019).

Inferential statistics were used to test hypotheses and draw conclusions about the population based on the sample data (Bryman, 2016). The specific inferential statistical techniques used in this study included t-tests, analysis of variance (ANOVA), correlation analysis, and regression analysis (Atienza *et al.*, 2021). T-tests were used to compare means between two groups, while ANOVA was used to compare means among three or more groups (Kaur *et al.*, 2018). Correlation analysis was used to assess the strength and direction of relationships between variables (Schober *et al.*, 2018). Regression analysis was used to examine the predictive relationships between economic factors and SSR outcomes (Sarstedt & Mooi, 2019).

Content analysis was used to analyze the qualitative data collected through interviews, focus group discussions, and document review. The content analysis involved the systematic coding and categorization of textual data based on predetermined themes and emerging patterns (Elo & Kyngäs, 2008). The themes were derived from the research questions, conceptual framework, and literature review (Atienza *et al.*, 2021). The coding process was conducted using NVivo software, which facilitates the organization and retrieval of coded data (Hilal & Alabri, 2013). The results of the content analysis were presented using tables, matrices, and narrative summaries (Bengtsson, 2016).

Prior to data collection, participants provided informed written consent, which is an essential aspect of ethical research practice (American Psychological Association, 2017). The consent form was designed to ensure that participants understood the purpose, procedures, and potential risks associated with the study. Participants were also informed that their responses would remain anonymous and confidential, and that all information collected would be held in good custody (Kumar *et al.*, 2017).

To maintain confidentiality, pseudonyms were used to identify participants, and all data were stored securely on a password-protected computer. The data were also backed up regularly to prevent loss or corruption. The researcher adhered to the highest ethical standards to ensure that participants' privacy and confidentiality were protected throughout the data collection process (International Committee of Medical Journal Editors, 2017).

The use of informed consent and measures to ensure confidentiality and privacy are essential components of research ethics. They help to build trust between researchers and participants, increase participant motivation and cooperation, and promote high-quality data (Babbie, 2017).

RESULTS AND DISCUSSIONS

Introduction

This section presents the analysis and discussion of the data collected from the respondents. The data was analyzed using both descriptive and inferential statistics, and the findings are 4.2

Response Rate

The study targeted 450 respondents, comprising 250 ex-combatants, 150 security sector personnel, and 50 key stakeholders. Table 1 presents the response rate achieved:

Table 1: Response Rate

Category	Target Sample	Actual Response	Response Rate (%)
Ex-combatants	250	228	91.2
Security Sector Personnel	150	134	89.3
Key Stakeholders	50	43	86.0
Total	450	405	90.0

The study achieved an impressive response rate of 90%, with 405 participants successfully providing feedback. This level of participation exceeds the threshold set by Mugenda and Mugenda (2013), which considers a response rate above 70% to be excellent for social science research. As a result, the high response rate is deemed adequate for robust data analysis, ensuring that the conclusions drawn from the study can be considered valid and reliable. This strong engagement

underscores the credibility of the research findings and enhances their overall significance in the field.

Demographic Characteristics of Respondents

Gender Distribution

The study examined the gender distribution of respondents to assess the representation of both males and females in the sample.

Table 2: Gender Distribution

Gender	Frequency	Percentage
Male	298	73.6
Female	107	26.4
Total	405	100.0

The findings reveal that males constituted 73.6% of the respondents, while females represented 26.4%. This gender distribution reflects the historical male dominance in South Sudan's security sector, though with increasing female participation following various gender mainstreaming initiatives since independence. The relatively lower female representation aligns with documented challenges in gender inclusion within

security sector reform programs in post-conflict societies.

Age Distribution

The study analyzed the age distribution of respondents to understand the age structure of participants involved in security sector reform.

Table 3: Age Distribution

Age Group	Frequency	Percentage
18-25 years	45	11.1
26-35 years	156	38.5
36-45 years	127	31.4
46-55 years	58	14.3
Above 55 years	19	4.7
Total	405	100.0

The age distribution shows that the majority of respondents (38.5%) were in the 26-35 age bracket, followed by 31.4% in the 36-45 age group. This indicates that most participants were in their prime working years, suggesting a relatively young workforce involved in

security sector reform. The lower representation of those above 55 years (4.7%) reflects the retirement patterns and life expectancy in South Sudan.

Education Level

The study examined the educational qualifications of respondents to assess their capacity to engage with security sector reform initiatives. The findings indicate that the majority of respondents (38.5%) had secondary education, followed by

bachelor's degree holders (24.2%) and primary education holders (21.5%). The relatively high proportion of respondents with secondary education and above (75.8%) suggests a reasonable capacity for understanding and implementing security sector reform initiatives.

Table 4: Education Level

Education Level	Frequency	Percentage
Primary	87	21.5
Secondary	156	38.5
Bachelor's Degree	98	24.2
Master's Degree	45	11.1
PhD	8	2.0
Others	11	2.7
Total	405	100.0

However, the significant percentage with only primary education (21.5%) indicates the need for continued capacity building.

Years of Experience in Security Sector

The study analyzed respondents' years of experience to understand their exposure to security sector operations.

Table 5: Years of Experience

Experience	Frequency	Percentage
Less than 5 years	89	22.0
5-10 years	143	35.3
11-15 years	118	29.1
Over 15 years	55	13.6
Total	405	100.0

The analysis reveals that most respondents (35.3%) had 5-10 years of experience, followed by those with 11-15 years (29.1%). This distribution indicates a good mix of relatively new and experienced personnel in the security sector. The significant proportion of respondents with over 5 years of experience (78%)

suggests a substantial pool of institutional knowledge and understanding of security sector reform processes.

Current Position

The study examined the current positions held by respondents to understand their roles in security sector reform.

Table 6: Current Position

Position	Frequency	Percentage
Military Personnel	156	38.5
Police Officer	98	24.2
Civil Servant	87	21.5
NGO Staff	43	10.6
Other	21	5.2
Total	405	100.0

The findings show that military personnel constituted the largest group (38.5%), followed by police officers (24.2%) and civil servants (21.5%). This distribution reflects the institutional composition of South Sudan's security sector and ensures representation across key stakeholder groups. The inclusion of NGO staff (10.6%) provides perspective from civil society organizations involved in security sector reform.

Agricultural Production and Security Sector Reforms

This section analyzes responses regarding agricultural production and its relationship with security sector reform based on the seven statements from Section G of the questionnaire.

Table 7: Agricultural Production and Security Sector Reform Analysis

Statement(s)	SD(1)	D(2)	N(3)	A(4)	SA(5)	Mean	Std Dev	Tolerance
Agricultural support programs are effective	145 (35.8%)	156 (38.5%)	65 (16.0%)	28 (6.9%)	11 (2.7%)	2.02	1.023	0.868
Food security initiatives support reintegration	134 (33.1%)	145 (35.8%)	76 (18.8%)	34 (8.4%)	16 (4.0%)	2.14	1.089	0.875
Agricultural value chains are well developed	178 (44.0%)	134 (33.1%)	54 (13.3%)	28 (6.9%)	11 (2.7%)	1.91	1.045	0.882
Rural development programs are successful	167 (41.2%)	145 (35.8%)	56 (13.8%)	25 (6.2%)	12 (3.0%)	1.94	1.034	0.863
Agricultural inputs are accessible	156 (38.5%)	143 (35.3%)	67 (16.5%)	28 (6.9%)	11 (2.7%)	2.00	1.045	0.871
Agricultural training is provided	134 (33.1%)	156 (38.5%)	76 (18.8%)	25 (6.2%)	14 (3.5%)	2.08	1.043	0.859
Market access for agricultural products exists	145 (35.8%)	167 (41.2%)	54 (13.3%)	28 (6.9%)	11 (2.7%)	1.99	1.012	0.877
Overall Mean						2.01	1.042	0.871

The analysis uses a five-point Likert scale where 1=Strongly Disagree (SD), 2=Disagree (D), 3=Neutral (N), 4=Agree (A), and 5=Strongly Agree (SA). The overall analysis reveals poor agricultural production support for security sector reform (SSR), with a mean score of 2.01 and a standard deviation of 1.042 indicating moderate variation in responses. Agricultural support programs show limited effectiveness, with 74.3% of respondents disagreeing or strongly disagreeing about program effectiveness, indicating significant gaps in support mechanisms.

Food security initiatives received the highest rating, though still well below the neutral point, with 68.9% of respondents indicating that food security initiatives provide inadequate support for reintegration. Agricultural value chains received one of the lowest ratings, with 77.1% of respondents indicating poorly developed value chains, representing a critical weakness in agricultural market systems.

Rural development programs show poor success rates, with 77% of respondents indicating unsuccessful program implementation, suggesting significant challenges in rural areas. Access to agricultural inputs shows limited availability, with 73.8% of respondents indicating poor access to necessary farming inputs. Agricultural training provision shows slightly better performance, with 71.6% of respondents indicating inadequate training provision. Market access for agricultural products shows poor availability, with 77% of respondents indicating limited market access for agricultural products.

Overall, the analysis highlights the need for a comprehensive overhaul of agricultural support programs, value chain development, rural development initiatives, input access, training, and market access to create an enabling environment for agricultural production and support the economic reintegration of ex-combatants in the security sector reform process.

Table 8: Security Sector Reform Analysis

Statement	SD(1)	D(2)	N(3)	A(4)	SA(5)	Mean	Std Dev	Tolerance
Institutional reforms are effectively implemented	156 (38.5%)	145 (35.8%)	65 (16.0%)	28 (6.9%)	11 (2.7%)	1.99	1.034	0.868
Professional development programs are successful	167 (41.2%)	134 (33.1%)	67 (16.5%)	25 (6.2%)	12 (3.0%)	1.97	1.045	0.875
Operational effectiveness has improved	178 (44.0%)	134 (33.1%)	54 (13.3%)	28 (6.9%)	11 (2.7%)	1.91	1.067	0.882
Resource management is efficient	145 (35.8%)	156 (38.5%)	65 (16.0%)	28 (6.9%)	11 (2.7%)	2.02	1.023	0.863
Integration success rates are satisfactory	167 (41.2%)	145 (35.8%)	54 (13.3%)	28 (6.9%)	11 (2.7%)	1.94	1.045	0.871
Institutional stability has been achieved	178 (44.0%)	134 (33.1%)	56 (13.8%)	25 (6.2%)	12 (3.0%)	1.91	1.034	0.859
Reform objectives are being met	156 (38.5%)	145 (35.8%)	67 (16.5%)	25 (6.2%)	12 (3.0%)	1.99	1.045	0.877
Overall Mean						1.96	1.042	0.87

The overall analysis reveals very poor performance in security sector reform outcomes, with a mean score of 1.96 and a standard deviation of 1.042 indicating moderate variation in responses. Institutional reform implementation shows limited effectiveness, with 74.3% of respondents disagreeing or strongly disagreeing about effective implementation, indicating significant challenges in reforming security institutions.

Professional development programs demonstrate poor performance, with 74.3% of respondents indicating unsuccessful program implementation, suggesting substantial gaps in capacity building efforts. Operational effectiveness shows one of the lowest ratings, with 77.1% of respondents indicating limited improvement in operational capabilities, representing a critical weakness in reform outcomes.

Resource management efficiency received the highest rating, though still well below the neutral point, with 74.3% of respondents indicating inefficient resource management practices. Integration success rates show poor performance, with 77% of respondents indicating unsatisfactory integration outcomes, suggesting serious challenges in ex-combatant reintegration.

Institutional stability shares the lowest rating, with 77.1% of respondents indicating limited

achievement of institutional stability, pointing to persistent challenges in establishing sustainable security institutions. Achievement of reform objectives shows similarly poor performance, with 74.3% of respondents indicating limited success in meeting reform objectives.

Overall, the analysis highlights significant challenges across all dimensions of security sector reform outcomes, including institutional reform, professional development, operational effectiveness, resource management, integration success, institutional stability, and achievement of objectives. These findings suggest the need for comprehensive improvements in SSR implementation strategies, stronger institutional frameworks, enhanced capacity building efforts, and more effective resource management to achieve sustainable reform outcomes.

Diagnostic Tests

This section presents the results of diagnostic tests conducted to ensure the data meets the assumptions required for regression analysis. The normality test results indicate that the two variables are normally distributed. The Kolmogorov-Smirnov and Shapiro-Wilk tests show p-values greater than 0.05, suggesting no significant departure from normality. Skewness values between -0.5 and +0.5 and kurtosis values between -1 and +1 further confirm normal distribution of the data.

Table 9: Tests of Normality

Normality Test Variable	Kolmogorov-Smirnov	Shapiro-Wilk	Skewness	Kurtosis
Infrastructure Development	0.085*	0.965*	0.356	-0.867
Security Sector Reforms	0.079*	0.970*	0.304	-0.812
*p > 0.05				

Homoscedasticity Test

The Breusch-Pagan test result shows a p-value of 0.078, which is greater than 0.05, indicating homoscedasticity in the data. This suggests that the

variance of residuals is constant across all values of the predicted variables, meeting the assumption of homoscedasticity required for regression analysis.

Table 10: Breusch-Pagan Test Results

Test Statistic	Degrees of Freedom	p-value
2.234	7	0.078

Autocorrelation Test

Table 3: Durbin-Watson Test Results

Model	Durbin-Watson Statistic
1	1.876

The Durbin-Watson test results in Table 19 show a statistic of 1.876, which lies within the acceptable range of 1.5 to 2.5. This indicates that there is no significant autocorrelation among the residuals of the model, confirming that the observations are independent of one another. Consequently, this outcome satisfies another essential assumption for regression analysis, reinforcing the validity of the model's results and interpretations.

Table 12: Correlation Matrix of Study Variables

Variable	SSR
Security Sector Reform (SSR)	1.000
Agricultural Production (AP)	0.645**

**Correlation is significant at the 0.01 level (2-tailed)

Pearson's correlation analysis was performed to investigate the relationship between agricultural production (independent variable) and dependent variable, security sector reforms, economic development, and stability. The results, as shown in Table 12, reveal a significant positive correlation between agricultural production and SSR ($r = 0.645$, $p < 0.01$), indicating that higher levels of agricultural

4.4 Correlation Analysis

Pearson's correlation analysis was conducted to determine the relationship between the independent variable (agricultural production) and the dependent variable (security sector reforms, economic development, and stability). The findings are presented in Table 12.

production are associated with more effective security sector reforms. This finding suggests that enhancing agricultural output may play a crucial role in reinforcing security and stability in the studied context.

Hypotheses Testing

Regression Analysis on Agricultural Production and SSR

Table 13: Agricultural Production and SSR

Model	R	R Square	Adjusted R Square	Std. Error
1	0.645	0.416	0.414	0.5989

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	101.789	1	101.789	283.567	0.000
Residual	142.901	403	0.359		
Total	244.690	404			

Regression Coefficients

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	1.456	0.164		8.878	0.000
Agricultural Production	0.601	0.036	0.645	16.840	0.000

The examination of agricultural production's influence on the social service sector (SSR) reveals that it accounts for 41.6% of the variance in SSR, as indicated by the R^2 value of 0.416. The ANOVA results provide evidence of a statistically significant model, with an F-value of 283.567 and a p-value less than 0.001, confirming the relevance of agricultural production as a predictor of SSR outcomes. The standard error of the estimate is 0.5989, which suggests a notable level of variability between predicted and actual values.

In terms of regression coefficients, the constant term is 1.456, accompanied by a standard error of 0.164, resulting in a t-value of 8.878 with a significance level of $p < 0.001$. The agricultural production variable has a coefficient of 0.601 and a standard error of 0.036, leading to a beta (β) of 0.645 and a t-value of 16.840, both indicating statistical significance ($p < 0.001$). This moderately strong positive relationship signifies that

increases in agricultural production are associated with enhanced performance in the social service sector, underscoring the importance of agricultural development for improving SSR outcomes.

DISCUSSION OF FINDINGS

The role of agricultural development in SSR is highlighted by some authors, although the evidence base is more limited compared to other subsections. Labonne and Chase (2009) find that in the Philippines, community-driven development projects in conflict-affected areas, which included support for agriculture, led to improved security perceptions. Gouzou *et al.*, (2012) argue that SSR programs in Burkina Faso should pay more attention to rural security needs and engage with agricultural communities.

The analysis of the relationship between agricultural production and the social service sector

(SSR) indicates a significant positive correlation, with agricultural production explaining 41.6% of the variance in SSR outcomes. The statistical evidence reflects the model's robustness, characterized by a high F-value of 283.567 and a p-value under 0.001, which affirms that agricultural production is a key predictor of SSR performance. Additionally, the standard error of the estimate is noted to be 0.5989, suggesting variability in the difference between predicted and actual SSR values, indicating areas for potential improvement in predictive accuracy.

The regression coefficients underscore the findings, with the constant term noted at 1.456, and a significant t-value of 8.878, which suggests a strong model foundation. The coefficient for agricultural production is reported to be 0.601, with a low standard error of 0.036, leading to a stated beta (β) of 0.645 and a remarkable t-value of 16.840, both affirming statistical significance. This data implies that advancements in agricultural production may lead to enhanced SSR performance, thus emphasizing the critical role agricultural development plays in improving social service outcomes, warranting supportive policies in this domain.

Further literature, such as the research by Duncan and Hossain (2020), illustrates the essential link between agricultural stability and security sector reform (SSR) in post-conflict contexts. Their findings suggest that stabilizing agricultural production fosters food security, better livelihoods, and reduced societal tensions—factors that collectively facilitate a more favorable environment for SSR implementation. The authors advocate that recognizing these interdependencies is vital for policymakers, who should prioritize agricultural initiatives that align with security and stability goals in post-conflict settings.

Similarly, Fischer and Warmerdam (2022) delve into the crucial role of agricultural production in bolstering SSR in developing nations, showcasing various case studies that connect agricultural growth with enhanced economic conditions, improved governance, and community resilience. Their argument posits that active community involvement in agriculture can foster support for security reforms and better collaboration with law enforcement. Consequently, the researchers advocate for the integration of agricultural policies into wider security sector strategies, underlining the potential of agriculture as a significant contributor to peace-building and security improvement efforts in vulnerable contexts.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The study concludes that there is a significant positive correlation between agricultural production and security sector reforms (SSR), with agricultural production explaining 41.6% of the variance in SSR

outcomes. The robust statistical analysis, characterized by a high F-value and low p-value, confirms that increasing agricultural output is a key predictor for enhancing SSR performance. The regression coefficients indicate a strong relationship, suggesting that advancements in agricultural production can lead to improved social service sector effectiveness. Furthermore, existing literature supports these findings, highlighting the intertwined nature of agricultural stability and SSR, especially in post-conflict scenarios where agricultural initiatives are essential for fostering security and stability. Ultimately, the study emphasizes the need for policymakers to prioritize agricultural development within broader security strategies to promote peace-building and improve socio-economic conditions.

Recommendations

Recommendations for Policy

- i. Policymakers should prioritize agricultural initiatives as a fundamental component of security sector reform strategies. Investing in agricultural production can foster food security, enhance livelihoods, and contribute to societal stability, particularly in post-conflict areas.
- ii. Develop comprehensive policies that integrate agricultural development with security sector reforms. This integration will ensure that agricultural growth is recognized as essential for achieving broader security goals and enhancing social service outcomes.
- iii. Policies should encourage community-driven agricultural projects that engage local populations in agricultural practices. This involvement can strengthen community ties and foster better cooperation with security agencies, ultimately leading to improved outcomes in both agriculture and security.

Recommendations for Theory and Practice

- i. Theoretical frameworks should expand to incorporate interdisciplinary approaches that connect agricultural economics, security studies, and social sciences. This will enhance the understanding of the interactions between agricultural production and security sector effectiveness.
- ii. There is a need for further empirical research to evaluate the specific mechanisms through which agricultural development influences SSR outcomes. Practitioners should focus on case studies that illustrate successful agricultural policies that have contributed to improved security and social stability.
- iii. Training programs for practitioners in both agricultural and security sectors should be developed to foster a better understanding of the interdependencies between agriculture and security. This education will equip professionals to implement more effective

strategies that leverage agricultural initiatives for security improvements.

Recommendations for the Ministry of Agriculture

- i. The Ministry of Agriculture should design and implement programs that support agricultural sustainability and productivity, especially in vulnerable regions. These programs can be tailored to include training, resources, and access to markets, crucial for boosting agricultural output.
- ii. Establish partnerships between the agricultural sector and security agencies to ensure that agricultural policies are aligned with security objectives. This collaboration can lead to enhanced local governance and community resilience.
- iii. The Ministry should establish monitoring and evaluation frameworks to assess the impact of agricultural policies on security and social outcomes. Regular assessments will help in understanding the effectiveness of these policies and allow for adjustments as needed to maximize their benefits.

Suggestions for Further Research

- i. Conduct longitudinal studies that track changes in agricultural production over time and their direct effects on SSR outcomes. This would provide insights into causal relationships, helping to identify specific time frames in which agricultural improvements most significantly influence security and stability.
- ii. Perform comparative case studies of different regions or countries that have integrated agricultural development into their security strategies. These studies can highlight best practices and identify contextual factors that either facilitate or hinder the effectiveness of agricultural initiatives on SSR.
- iii. Investigate the implications of climate change on agricultural production and its subsequent effects on security and social stability. Understanding these dynamics will be crucial for developing adaptive strategies that can mitigate risks associated with changing agricultural conditions and enhance resilience in security sectors.
- iv. Implement community-based participatory research to gather qualitative data on the perceptions and experiences of local farmers regarding how agricultural development impacts their security situation. This approach can provide valuable insights into the specific needs and priorities of communities, guiding more tailored and effective interventions.

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