IJEBE INTERNATIONAL JOURNAL OF ECONOMICS, BUSINESS AND ENTREPRENEURSHIP

Vol.8, No.1, 2025

EXPLORING THE IMPACT OF AGRIBUSINESS DEVELOPMENT ON RURAL LIVELIHOODS IN BAMENDA II MUNICIPALITY, CAMEROON

Akwo Kelvin Ndofor 1, Efeutlancha Forji Angelus 2*
1,2*Department of Economics, Faculty of Economics and Management Sciences, The University of Bamenda
1Email: andofor@outlook.com
*2*Corresponding Author Email:* angelusforji@gmail.com

ABSTRACT

The sustainable rural livelihoods approach is one of the new analytical approaches in the arena of agribusiness development and is considered much in recent years to achieve rural livelihoods and poverty reduction. This study aimed to explore the impact of agribusiness development on rural livelihoods in Bamenda II Municipality, Cameroon. The study utilized a descriptive research design. The study used a survey method for data collection. Data was collected from individual farmers in Bamenda II municipality. The self-administered questionnaire method was used to collect data from the participants. Simple random sampling methods were used, and the sample size of 99 participants was determined using Cochran Fomulae. Descriptive statistics were used for data analysis using SPSS version 21. The findings revealed that there is a positive and statistically significant relationship between agricultural production and rural livelihoods. A one-unit increase in agricultural production is associated with a 0.765-unit increase in rural livelihoods, while a one-unit increase in market access is associated with a 0.517-unit increase in rural livelihoods. The positive relationship between market access and rural livelihoods is statistically significant at the 1% level. However, the relationship between employment creation and rural livelihoods is positive but statistically insignificant. A one-unit increase in employment creation is associated with a 0.038-unit increase in rural livelihoods, but the relationship is not statistically significant at the 10% level. To conclude, these findings have important implications for policymakers and development practitioners working to enhance the well-being of rural communities. Investing in agricultural productivity, as well as improving market access and infrastructure, can be effective strategies for promoting sustainable rural livelihoods and reducing poverty.

Keywords: Agribusiness development, Rural livelihoods, Bamenda II Subdivision.

INTRODUCTION

The nexus between agribusiness development and rural livelihoods has garnered significant interest from scholars and policymakers alike due to its potential for transforming rural economies and improving the well-being of rural communities (Patel et al., 2015). Agriculture and rural life are always inseparable. Furthermore, agriculture plays a central role in rural community, accounting for 26% of gross domestic product (GDP) and 50% of employment in every small society (Boughton et al., 2021). Rural livelihoods, on the other hand, encompass the diverse set of activities, assets, and strategies that rural households engage in to secure their well-being and sustain their livelihoods (Abebe, 2014). Agriculture often forms the backbone of rural livelihoods, and the development of agribusiness can have profound implications for rural communities. It has the potential to generate employment opportunities, increase incomes, improve market access, foster innovation, and enhances the overall socio-economic conditions of rural areas (Ahmadzai et al., 2021).

Agricultural development in term of agricultural productivity, access to market and employment creation are the primary roots that greatly influence rural livelihoods in most local community (Sekaran et al., 2021), these three primary roots agricultural productivity, access to markets, and employment creation interact and reinforce each other to shape rural livelihoods. Improving agricultural productivity leads to surplus production, which, when combined with access to markets, enables farmers to sell their products at favorable prices (Sekaran et al., 2021), the resulting increased income and profitability create a positive cycle, encouraging further investment in agricultural productivity and diversification. Thwala (2017) employment creation in the agricultural sector and related industries not only provides income but also promotes skills development and human capital accumulation, contributing to long-term sustainable livelihoods.

Enhancing agricultural productivity plays a crucial role in improving rural livelihoods. By adopting modern farming techniques, utilizing improved seeds and fertilizers, implementing efficient irrigation systems, and incorporating sustainable agricultural practices, farmers can increase crop yields and overall agricultural output (Andrianarison et al., 2022). Higher productivity directly translates into increased incomes for farmers, allowing them to improve their standard of living, invest in education and healthcare, and meet other essential needs. Moreover, improved agricultural productivity contributes to food security, both at the household level and within the broader community, reducing the vulnerability of rural populations to hunger and malnutrition (Andrianarison et al., 2022).

Access to reliable and competitive markets is vital for rural communities to benefit from their agricultural produce, effective market linkages enable farmers to sell their products at fair prices, leading to increased profitability and income generation (Rufaidah et al., 2023). Infrastructure development, such as roads, transportation networks, and storage facilities, is essential to facilitate the smooth flow of agricultural commodities from rural areas to markets (Nugroho, 2021). According to Nandi and Nedumaran (2022), the establishment of market information systems and the provision of market intelligence empower farmers to make informed decisions regarding crop selection, pricing, and timing of sales. Access to markets not only enhances the economic well-being of rural communities but also stimulates entrepreneurship, fosters innovation, and encourages value addition through processing and packaging activities (Nandi & Nedumaran, 2022).

Agricultural development has the potential to generate significant employment opportunities in rural areas (Osabohien et al., 2019), beyond the direct employment in farm activities, such as cultivating, harvesting, and animal husbandry, there are indirect employment opportunities in agro-processing, marketing, distribution, and other related sectors (Osabohien et al., 2019). The growth of agribusiness enterprises can create jobs along the entire agricultural value chain, contributing to rural economic diversification and reducing unemployment rates. Increased employment opportunities provide rural populations with a stable income source, alleviate poverty, and contribute to local economic development by stimulating consumption and fostering entrepreneurship within the community (Chengappa et al., 2007).

In Cameroon, land is a major resource for rural women, who are largely dependent on agriculture as a major source of livelihood. The rise in large scale land acquisition by local investors has made land scarcer, affecting the livelihoods of women and the rural population. Because the poor and women are less likely to own land independently, they are more vulnerable, become landless with limited livelihood options, and bear the disproportionate costs of land deals. This can lead to increased poverty and food insecurity among these marginalized groups. Efforts to secure land rights for women and the rural population are crucial in order to ensure their economic empowerment and overall well-being (Abonge, 2022).

According to Abonge. (2022), the place of women's subsistence agricultural production also calls to mind the significance of women's access, use and control over production resources particularly land, for agricultural production. This has met with increased efforts to enhance small holder (women) farmer's access to and control over land. The efforts to increase subsistence agricultural productivity however fall short of meeting the growing needs and demands of agricultural producers in general and rural and female subsistence producers in particular. Despite the predominant role of women in food crop production, they have limited access to and control over land. They lack ownership and inheritance rights though they can acquire use rights to cultivable land through male relatives. This limitation of increasing women's access to and control over land is exacerbated by land grabbing that has been observed in parts of Sub-Saharan Africa including Cameroon.

The implications of this paper are grounded in the observation that resource scarcity is a significant constraint faced by most rural communities in Cameroon. This scarcity is largely due to the low socio-economic status of these areas, compounded by various challenges that farmers encounter, including insufficient support from the government and private sector, inadequate infrastructure, water shortages, drought, lack of access to information and advisory services, and limited market access. In Bamenda, these challenges are particularly acute, with farming households struggling with poor physical infrastructure such as inadequate roads, lack of transportation from farms to markets, insufficient marketing skills and information, substandard market facilities, high transaction costs, limited land availability for expanding production, lack of agricultural tools, poor production and farm management skills, and low levels of education, which hinder the ability to interpret market information for effective production planning and marketing.

While it is the responsibility of agricultural extension personnel to address these issues, institutional challenges related to governance, capacity building, and the technical and professional development of agricultural services continue to impede the socio-economic improvement of rural communities. Addressing these multifaceted and interrelated challenges is essential for achieving the desired improvements in rural livelihoods. This study seeks to explore the relationship between agribusiness development and rural livelihoods in Bamenda II Municipality, with the aim of providing evidence-based insights to inform policies that promote sustainable agricultural development and equitable enhancement of rural livelihoods in the region.

Specific Research Questions

i. What is the nature of the relationship between agricultural production and rural livelihoods in Bamenda II Municipality?
ii. What is the nature of the relationship between market access and rural livelihoods in Bamenda II Municipality?
iii. What is the nature of the relationship between employment creation and rural livelihoods in Bamenda II Municipality?

Specific Research Objectives

i. To investigate the nature of the relationship between agricultural production and rural livelihoods in Bamenda II Municipality.
ii. To assess the nature of the relationship between market access and rural livelihoods in Bamenda II Municipality.
iii. To examine the nature of the relationship between employment creation and rural livelihoods in Bamenda II s Municipality.

Research Hypotheses

$H0_1$: There is no significant relationship between agricultural production and rural livelihoods in Bamenda II Municipality

$H0_2$: There is no significant relationship between market access and rural livelihoods in Bamenda II Municipality

$H0_3$: There is no significant relationship between employment creation and rural livelihoods in Bamenda II Municipality.

LITERATURE REVIEW

According to Addison *et al*. (2024) investigated the drivers of agricultural digitalization (AD) as well as its effects on the livelihoods of smallholder farmers in rural Ghana. Data from a cross-sectional survey of 525 rural farmers across northern, middle, and southern Ghana was employed. Using the probit and tobit estimators to analyze the drivers and intensity of adoption of digital technologies in agriculture, the results show that while female farmers trail male farmers in the intensity of applying digital technologies, higher educational attainment, better perception of digitalization, group/cooperative membership, number of economically active household members, and access to reliable electricity, internet, and mobile money services significantly promote the use of digital technologies in agricultural activities. Using the inverse probability weighting and regression adjustment estimator to mitigate endogeneity

concerns, the results also show that AD is significantly associated with perceived improvements in livelihood assets, and ultimately livelihood outcomes of smallholder farmers in rural Ghana. These findings highlight the importance of investing in rural digital infrastructure, by policymakers, the private sector, and other stakeholders, to expand access to and the uptake of digital technologies in agriculture to bolster rural development in Ghana.

Qwabe et al. (2022), examined farmer's experiences with extension practitioners and the impact of a lack of extension services on the development of impoverished rural communities. The researchers adopted a qualitative design wherein six focus group discussions were held to gather data from the farmers. Data were analyzed using ATLAS.ti22, a computer-assisted qualitative data analysis software (CAQDAS). Four themes of extension services that have a direct linkage to livelihood development, namely, the impact on rural livelihoods, production challenges, marketability, and economic impact, and the invisibility of extension services, were the central point of discussion. The findings revealed that, the agriculture production extension significantly influence rural livelihoods.

Getnet & Anullo, (2012), agricultural cooperatives are important rural organizations supporting livelihood development and poverty reduction. In recognition of such roles of cooperatives, Ethiopia showed a renewed interest in recent years in promoting cooperative sector development. However, there is lack of a wider and systematic analysis to produce sufficient empirical evidence on the livelihood development and poverty reduction impacts of cooperatives in the country. Using a matching technique on rural household income, saving, agricultural input expenditure and asset accumulation as indicator variables, this paper evaluates the livelihood impact of agricultural cooperatives in Sidama zone, Ethiopia. The finding shows that cooperatives improved the livelihoods of service user farmers through impacting better income, more savings and reduced input costs. In view of such evidence, further promotion, deepening and supporting of agricultural cooperatives is recommended.

Chimbaza, (2020), determine market access, identify goods and services accessed in markets, explore factors affecting market access, and determine the contribution of marketing of goods and services to households 'livelihood security in the study area. The study population was all households living in the district. A sample size of 180 households was selected. Chi-square was used to find which factors were more associated with access to the market than other factors. It was found that availability of market information on prices of goods and services was the factor most associated with market access in the study area. The results from Chi-square test analysis indicated that there was significant association between information on prices of goods and services and access to the market places (χ 2 = 42.123; $p < 0.0001$). The findings on the contributions of market access to household livelihood security was tested using multiple linear regression; the findings were that the coefficient of determination, R2 was 0.344 which implies that the independent variables were able to explain about 34% of variation in the dependent variable; the other variation was due to natural errors in the model and other variables not entered in the model. Although markets are the engine of all production activities, very few market places exist. This hinders trading activities in the study area. So, there is a need to make initiatives to increase access to the market.

Boudet et al. (2020), research on how urbanization affects rural agriculture has typically focused on loss of farmland due to urban expansion. However, more distal pathways that could link urbanization to rural agriculture, including enhanced connectivity through rural-urban migration and market access, remain poorly understood. Here, we assess whether greater rural-urban connectivity is associated with changes in agricultural land management across the Global South. Such associations are complex, and thus difficult to measure at this scale. We therefore take a two-step approach to investigate these relationships. First, using a multivariate clustering approach, we define a series of rural-urban connectivity typologies from existing spatial data on land use, demographics, rural market access, and rural population change (as a proxy for outmigration). examine the variation in key agricultural outcome variables (mean cereal crop yields, % of attainable yields met, and cropping frequency) within the typologies, which shows that greater overall connectivity (market access and population change) is associated with higher cereal yields, yield attainment, and cropping frequency. Second, building on these clustering results, we develop hypotheses about the relationship between rural-urban connectivity and agricultural land use intensity. use propensity score matching to test these hypotheses by comparing locations with similar sociodemographic and land use characteristics. When controlling for gross domestic product (GDP) per capita, agricultural land, and population density, rural locations with relatively high market access, negative population change, and greater built-up area have significantly higher mean nitrogen application rates, irrigated areas, and cereal yields across the Global South. Results vary by region, but greater rural-urban connectivity and urban extents are generally associated with higher overall agricultural inputs and yields, particularly in Asia. However, we find little support for a relationship between connectivity and either % attainable yields met or field size. Our findings stress the need to better understand the mechanisms that link urbanization.

METHODS

Area of the Study

The city of Bamenda is made up of Bamenda I, II, and III municipalities. Bamenda II is a sub-divisional council in the North West Region of Cameroon. It was created by a presidential decree in 2007 and has an estimated population of 62,000 inhabitants. Bamenda II is the heart of the Northwest region in terms of businesses and the gateway to other parts of the region. Bamenda II Council area is delineated by the Bamenda II Sub-division, one of the seven administrative units (Sub-divisions) of Mezam Division in the North West Region of Cameroon. It lies between latitudes 5°52'52" and 6°4'03" north of the equator and longitudes 10°2'02" and 10°10'10" east of the Greenwich meridian. This council area is bordered by six councils, Bafut to the North, Bamenda III and Bamenda I Councils to the East, Santa Council to the South and then Bali and Mbengwi Councils to the West. The surface area of Bamenda II Council is estimated at 1,482 km^2 with a projected population of 261,285 persons in 2019, the population density is approximately 176.3 persons/km^2. The urban area is densely populated and the density decreases towards the urban periphery and rural areas. The high density is associated with the concentration of administrative, health and educational and socio-economic institutions. Bamenda City is a melting point that has attracted many business agents from other parts of the world most notably Nigeria, Gabon, Congo China, Equatorial Guinea and Chad and elsewhere. Being the administrative and economic headquarters of the Northwest Region

of Cameroon, many are bound to carry out business transactions mostly on a small or medium scale (Fombe-Lawrence & Acha-Mildred, 2020).

Research Design

The study makes use of a survey research design; survey research design is a quantitative research method that involves collecting data from a sample of individuals through the use of questionnaires. It allows researchers to gather information on the attitudes, opinions, and behaviours of a specific population. This design is particularly useful when studying large populations or when seeking to generalize findings to a larger population. Additionally, survey research design provides researchers with the ability to analyse statistical data and draw conclusions based on the collected responses.

Study Population

The target population for this study consisted of smallholder farmers residing in Bamenda II subdivision, with households serving as the unit of analysis. The study focused on smallholder farmers, selecting participants from this group. By examining their experiences and perspectives, this research aimed to gain insights into the effects of agribusiness development on rural livelihoods in Bamenda II Municipality (Ingram & Schneider, 1991).

Sample Size

The sample size was selected based on the unknown populations of Cochran (1954), When the size of the population is unknown, the sample size can be calculated based on Cochran's formula, and may be considered especially appropriate in situations with large unknown populations (Cochran, 1954). The size was determined using the Cochran's formula below;

Sampling Size $n_0 = \frac{z^2 pq}{e^2}$ ..... (1)

Where,

Z is the abscissa of the normal curve that cuts off the tails (gotten from Z table

e is the desired level of precision

P is the estimated proportion of an attribute that is present in the population and q is 1 – p

With

z = 1.96 (at type1 error of 5%)

p = 7%, e = 5%, and q = 1- p

$$\text{Sample Size} = \frac{(1.96)\,(1.96) \times (0.07) \times (1-0.07)}{(0.05)\,(0.05)}$$

$$= 99 \text{ Participants}$$

Sampling Technique

The research employed a simple random sampling technique to select participants who possessed specific characteristics and experiences relevant to the study's objectives (Rai & Thapa, 2015). Participants were randomly chosen from among smallholder farmers engaged in agriculture within the Bamenda II subdivision. This method ensured that the sample captured a diverse array of perspectives and experiences related to agribusiness development and its impact on rural livelihoods in Bamenda II Municipality.

Data Source

The study makes use of both primary and secondary sources of information. Primary sources of information refer to firsthand accounts or original data that is directly related to the topic being studied. This includes standard structural questionnaires, surveys, and observations conducted by the researchers themselves. On the other hand, secondary sources of information involve analyzing and interpreting existing primary sources or data collected by others. These include books, articles, reports, or scholarly papers that provide an analysis or synthesis of primary sources. By utilising both primary and secondary sources of information, researchers gather a comprehensive understanding the subject under study.

Data Collection instruments

The primary method of data collection involved administering questionnaires to key informants. The researchers utilized structured, self-administered questionnaires designed to cover all variables pertinent to the study. A questionnaire, as defined by Saunders and Kulchitsky (2021), is a research tool that consists of a series of questions focused on specific issues under investigation, which respondents complete on a self-administered basis.

Data Collection Procedure

The questionnaires were administered to selected smallholder farmers. To facilitate data processing and analysis, a five-point Likert scale was employed. These questionnaires were specifically designed to gather quantitative data, focusing on items related to the impact of agribusiness development on rural livelihoods in Bamenda. The questionnaire included closed-ended questions, such as Likert scale items and rating scales, to effectively capture quantitative data (Andrade et al., 2023).

Estimations Technique

Model Specification

In the context of the current study on agribusiness development on rural livelihoods in Bamenda II Municipality in the Northwest Region of Cameroon, the model specification depended on the specific research questions and the type of analysis to conduct. This study is articulated around a single model as shown in equations below.

Rural Livelihood = $\beta_0 + \beta_1$ (agribusiness development) + ε……..equation1

Where β_0 represents the intercept, β_1 represents the coefficient for agribusiness development and ε represents the error term. The regression analysis aimed to estimate the effect of agribusiness development on Rural Livelihood in Bamenda II Municipality in the Northwest Region of Cameroon.

$Y = \beta_0 + \beta_1 AP_1 + \beta_2 MA_2 + \beta_3 EC_3 + \varepsilon$……equation 2

Where: Y stands for Rural livelihoods; AP stands for Agricultural Productions; MA stands for Market Access; EC stands for Employment Creation. The β_0 is a constant term and β_1 to β_3 are estimated parameters in the model and ε_t is an error term. The a priori expectation; $\beta_0 > 0$, $\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 > 0$ the regression analyses coefficients from the
regression showed the effect (positive or negative) of the independent variables on the dependent variable.

Data analysis

The study used the ordinary least square technique (OLS) to estimate the coefficients (β) and explore the significance of the relationship between agribusiness development and the rural livelihoods in Bamenda II Municipality in the Northwest Region of Cameroon. This analysis involved controlling for relevant demographic and contextual factors that may influence the livelihoods in Bamenda II in the Northwest Region of Cameroon, such as the farmer's age and farm size.

Validation of Instrument

In a qualitative study, the instrument of data collection is the researcher himself (Brink, 1993). Validity and reliability present the key aspects of all research. Many researchers use terms such as; credibility, trustworthiness, truth, value, applicability, and consistency interchangeably with validity and reliability when referring to criteria for evaluating the scientific merit of qualitative research (Brink, 1993).

Reliability of Instrument

The last and foremost test is the ability of a case study to demonstrate that the operations of a study (data collection, procedures) can be repeated yielding the same results. Reliability assesses the consistency of the results of the study over time (Hayashi *et al.,*

2019). To ensure the reliability of the questionnaire, a pre-test was conducted on a much smaller sample to ensure that the items on the instruments were within the reach of the respondents.

Ethical Consideration

The ethical issues that were properly handled in this study concerned aspects such as informed consent, confidentiality, and voluntary participation. Such issues were adequately addressed, in order to increase the chances of getting honest responses from respondents and consequently more reliable data. Ethical considerations pervaded each phase of data collection in this study. Concerning the construction of the instruments for data collection, the researchers ensured that the questions asked, the language used, the length of the questionnaire and the duration of the interview were appropriate and acceptable to the respondents. Each questionnaire distributed was accompanied by a cover letter which informed the respondents about the purpose of the study, thereby allowing them to decide whether or not to participate. Respondent's confidentiality was guaranteed as they were not expected to write their names on the questionnaire.

Results

Table 1: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.920[a]	.847	.842	1.10170
a. Predictors: (Constant), agricultural Production, Employment creation, Market access				

The results presented in Table 9 suggest a strong positive relationship between the independent variables (agricultural production, employment creation, and market access) and the dependent variable (rural livelihoods). The R-squared value of 0.847 indicates that the model explains 84.7% of the variance in rural livelihoods. The adjusted R-squared of 0.842 further confirms the model's high explanatory power, with minimal impact from the addition of predictors. The low standard error of the estimate (1.10170) suggests that the model provides accurate predictions of rural livelihoods based on the three independent variables.

Table 2: Anova Analysis

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	636.108	3	212.036	174.696	.000[b]
	Residual	115.306	95	1.214		
	Total	751.414	98			
a. Dependent Variable: Rural Livelihoods						
b. Predictors: (Constant), agricultural Production, Employment creation, Market access						

The ANOVA results presented in Table 10 indicate that the overall regression model is statistically significant. The F-statistic of 174.696 with a p-value of 0.000 suggests that the model, which includes the independent variables of agricultural production, employment creation, and market access, is a good fit for predicting the dependent

variable of rural livelihoods. This means that the combined effect of these three independent variables has a significant influence on rural livelihoods in the study area.

Table 3: Regression Coefficients

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.022	.498		2.051	.043
	Agricultural Production	.765	.117	.338	6.546	.000
	Market access	.517	.039	.673	13.128	.000
	Employment creation	.038	.040	.039	.955	.342
a. Dependent Variable: Rural Livelihoods						

The finding indicates a positive and statistically significant relationship between agricultural production and rural livelihoods. The unstandardized coefficient (B) of 0.765 suggests that a one-unit increase in agricultural production is associated with a 0.765-unit increase in rural livelihoods, holding other variables constant. The t-statistic of 6.546 with a p-value of 0.000 ($p < 0.01$) allows us to reject the null hypothesis and conclude that the positive relationship between agricultural production and rural livelihoods is statistically significant at the 1% level.

The finding indicates a positive and statistically significant relationship between market access and rural livelihoods. The unstandardized coefficient (B) of 0.517 suggests that a one-unit increase in market access is associated with a 0.517-unit increase in rural livelihoods, holding other variables constant. The t-statistic of 13.128 with a p-value of 0.000 ($p < 0.01$) allows us to reject the null hypothesis and conclude that the positive relationship between market access and rural livelihoods is statistically significant at the 1% level.

The finding shows a positive but statistically insignificant relationship between employment creation and rural livelihoods. The unstandardized coefficient (B) of 0.038 suggests that a one-unit increase in employment creation is associated with a 0.038-unit increase in rural livelihoods, holding other variables constant. However, the t-statistic of 0.955 with a p-value of 0.342 ($p > 0.10$) indicates that this relationship is not statistically significant at the 10% level. Therefore, we fail to reject the null hypothesis and conclude that employment creation does not have a significant impact on rural livelihoods.

Discussion of Findings

The findings of this study reveal a positive and statistically significant relationship between agricultural production and rural livelihoods. The unstandardized coefficient (B) of 0.765 indicates that a one-unit increase in agricultural production corresponds to a 0.765-unit improvement in rural livelihoods, assuming other variables remain constant. This result is consistent with the findings of Badiane et al. (2021), who identified increased agricultural productivity as a key driver of rural livelihoods and poverty reduction in sub-Saharan Africa.

Similarly, the study shows a positive and statistically significant relationship between market access and rural livelihoods. The unstandardized coefficient (B) of 0.517 suggests that a one-unit increase in market access leads to a 0.517-unit increase in rural livelihoods, holding other factors constant. This outcome aligns with the research of Jaleta et al. (2019), who examined the impact of market access on household income and food security in Ethiopia. Their study demonstrated that improved market access, facilitated by better infrastructure and connectivity, significantly enhances rural livelihoods and reduces poverty.

On the other hand, the findings indicate a positive but statistically insignificant relationship between employment creation and rural livelihoods. The unstandardized coefficient (B) of 0.038 suggests that a one-unit increase in employment creation results in only a 0.038-unit increase in rural livelihoods, holding other variables constant. This result contrasts with the study by Haggblade et al. (2017), which found that non-farm employment opportunities are crucial for improving rural livelihoods and reducing poverty in developing countries.

Conclusion and Policy Implications

In conclusion, this study identified a positive and statistically significant relationship between agricultural production and rural livelihoods, suggesting that investments in agricultural development could significantly enhance the well-being of rural communities. These findings emphasize the importance of supporting sustainable farming practices to improve rural livelihoods.

The study also found a statistically significant relationship between market access and rural livelihoods at the 1% level. Enhancing market access not only increases income opportunities for rural residents but also plays a crucial role in poverty alleviation. This highlights the need for policies and interventions that prioritize improving market access for rural farmers.

However, the relationship between employment creation and rural livelihoods, while positive, was found to be statistically insignificant. This indicates that while creating employment opportunities in rural areas is beneficial, it may not have a substantial impact on overall livelihood improvement. Policymakers should therefore adopt a holistic approach that incorporates both market access and employment creation initiatives to effectively enhance rural livelihoods.

The findings of this study have significant implications for policymakers and development practitioners focused on improving the well-being of rural communities. Investing in agricultural productivity, along with enhancing market access and infrastructure, emerges as an effective strategy for promoting sustainable rural livelihoods and reducing poverty. The study recommends that governments and development organizations prioritize investments in improving agricultural productivity through the provision of better seeds, fertilizers, and farming techniques. Additionally, policymakers should focus on improving transportation infrastructure, reducing market barriers, and facilitating market linkages to enable rural communities to better access markets, sell their agricultural products, and explore alternative employment strategies.

While the study did not find a significant impact of employment creation on rural livelihoods, further research is needed to explore the role of non-farm employment and income diversification in supporting rural development.

REFERENCES

Abebe, Z. T. (2014). The potentials of local institutions for sustainable rural livelihoods: the case of farming households in Dawuro Zone, Ethiopia. *Public Policy and Administration Review*, *2*(2), 95-129.

Abonge, C. V. (2022). Taking Stock of Local Land Rush and Their Development Benefits for Women Farmers and Rural Livelihoods in Cameroon. In *Food Security Challenges and Approaches*. IntechOpen.

Addison, M., Bonuedi, I., Arhin, A. A., Wadei, B., Owusu-Addo, E., Antoh, E. F., & Mensah-Odum, N. (2024). Exploring the impact of agricultural digitalization on smallholder farmers' livelihoods in Ghana. *Heliyon*, *10*(6).

Ahmadzai, H., Tutundjian, S., & Elouafi, I. (2021). Policies for sustainable agriculture and livelihood in marginal lands: a review. *Sustainability*, *13*(16), 8692.

Andrade, G. R. G., Cacau, L. T., De Carli, E., Lotufo, P. A., Bensenor, I. M., & Marchioni, D. M. (2023). Feasibility of Using the Brazilian Version of the GloboDiet Software to Collect Dietary Intake Data. *Dietetics*, *2*(1), 45-54.

Andrianarison, F., Kamdem, C. B., & Che Kameni, B. (2022). Factors enhancing agricultural productivity under innovation technology: Insights from Cameroon. *African Journal of Science, Technology, Innovation and Development*, *14*(5), 1173-1183.

Badiane, O., Diao, X., & Jayne, T. (2021). Africa's unfolding agricultural transformation. *Agric. Dev. New Perspect. Chang. World*, *2021*, 153-192.

Boudet, F., MacDonald, G. K., Robinson, B. E., & Samberg, L. H. (2020). Rural-urban connectivity and agricultural land management across the Global South. *Global Environmental Change*, *60*, 101982.

Boughton, D., Goeb, J., Lambrecht, I., Headey, D., Takeshima, H., Mahrt, K., ... & Diao, X. (2021). Impacts of COVID-19 on agricultural production and food systems in late transforming Southeast Asia: The case of Myanmar. *Agricultural Systems*, *188*, 103026.

Chengappa, P. G., Kareemulla, K., Rao, C. R., & Dixit, S. (2007). Growth of Horticulture Sector in Andhra Pradesh: An Aggregate and District Level Analysis. *Agricultural Economics Research Review*, *20*, 577.

CHIMBAZA, M. C. (2020). *MARKET ACCESS PATTERNS AMONG PERI-URBAN HOUSEHOLDS IN AREA 23 IN LILONGWE CITY* (Doctoral dissertation, University of Livingstonia).

Cochran, W. G. (1954). The combination of estimates from different experiments. *Biometrics*, *10*(1), 101-129.

Defo, B. K. (1997). Effects of socioeconomic disadvantage and women's status on women's health in Cameroon. *Social Science & Medicine*, *44*(7), 1023-1042.

Fombe Lawrence, F., & Acha Mildred, E. (2020). Land use dynamics and variations in sprawl across municipalities in the Bamenda urban-scape from 1996-2018. *Journal of Sustainable Development*, *13*(4).

Getnet, K., & Anullo, T. (2012). Agricultural cooperatives and rural livelihoods: Evidence from Ethiopia. *Annals of public and cooperative Economics*, *83*(2), 181-198.

Haggblade, S., Me-Nsope, N. M., & Staatz, J. M. (2017). Food security implications of staple food substitution in Sahelian West Africa. *Food Policy*, *71*, 27-38.

Hayashi, P., Abib, G., & Hoppen, N. (2019). Validity in qualitative research: A processual approach. *The qualitative report*, *24*(1), 98-112.

Ingram, H., & Schneider, A. (1991). The choice of target populations. *Administration & Society*, *23*(3), 333-356.

Jaleta, M., Baudron, F., Krivokapic-Skoko, B., & Erenstein, O. (2019). Agricultural mechanization and reduced tillage: antagonism or synergy?. *International Journal of Agricultural Sustainability*, *17*(3), 219-230.

Nandi, R., & Nedumaran, S. (2022). Rural Market Food Diversity and Farm Production Diversity: Do They Complement or Substitute Each Other in Contributing to a Farm Household's Dietary Diversity?. *Frontiers in Sustainable Food Systems*, *6*, 843697.

Osabohien, R., Matthew, O., Gershon, O., Ogunbiyi, T., & Nwosu, E. (2019). Agriculture development, employment generation and poverty reduction in West Africa. *The Open Agriculture Journal*, *13*(1).

Qwabe, Q. N., Swanepoel, J. W., Zwane, E. M., & van Niekerk, J. A. (2022). Nexus between the invisibility of agricultural extension services and rural livelihoods development: Assertions from rural farming communities. *South African Journal of Agricultural Extension*, *50*(2), 26-41.

Rufaidah, F., Karyani, T., Wulandari, E., & Setiawan, I. (2023). A review of the implementation of financial technology (Fintech) in the Indonesian Agricultural Sector: Issues, access, and challenges. *International Journal of Financial Studies*, *11*(3), 108.

Saunders, C., & Kulchitsky, J. (2021). Enhancing self-administered questionnaire response quality using code of conduct reminders. *International Journal of Market Research*, *63*(6), 715-737.

Sekaran, U., Lai, L., Ussiri, D. A., Kumar, S., & Clay, S. (2021). Role of integrated crop-livestock systems in improving agriculture production and addressing food security–A review. *Journal of Agriculture and Food Research*, *5*, 100190.

Thwala, W. M. (2017). *Agriculture Vocational Education Programme and the Promotion of Job Creation Skills in the Free State Technical Vocational Education and Training College* (Doctoral dissertation, University of Fort Hare).