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Sustaining Rural Livelihoods: Assessing The Impact of Agricultural Growth On SDG 8 (Decent Work) In Rural Areas of Adamawa State, Nigeria.

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Abstract

The study assesses the relationship between agricultural growth and the achievement of Sustainable Development Goal 8 (Decent Work) among rural households in Adamawa State, Nigeria. Employing a mixed-methods approach that integrated a quantitative survey of 355 rural households with qualitative interviews, the research sought to analyse the characteristics of decent work, assess the impact on health, and identify institutional barriers to sustainable livelihoods. The findings reveal that current agricultural growth is severely undermined by high vulnerability and structural deficits, with 74.1% of respondents reporting significant crop losses due to climate shocks and conflict. In comparison, 71.3% of farmers suffer from profound financial exclusion due to a lack of access to credit. Crucially, the analysis of Decent Work indicators confirmed that the sector primarily operates with indecent labour conditions. Agricultural labourers often receive severely inadequate daily wages (predominantly ₦500–₦1000), and a stark 69.8% lack any form of social protection, leaving them exposed to economic and health risks. Furthermore, the study confirmed significant gendered disparities in resource access. The central conclusion is that the low-input, low-yield agricultural model in Adamawa State is unsustainable and actively fails to translate growth into dignified and secure livelihoods, thus inhibiting the achievement of Decent Work. The study proposes targeted strategies, including sectoral minimum wage guidelines and de-risked agricultural credit schemes, to formalise the sector and ensure inclusive growth.

Keywords: Agricultural Growth, Decent Work (SDG 8), Rural Households, Financial Exclusion, Gender Disparities

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1.0 Introduction

Agriculture is a fundamental driver of economic transformation and employment in less developed countries (Abubakar et al., 2025). It remains the primary source of livelihood for about 2.5 billion people worldwide, many of whom live in rural areas (Food and Agriculture Organisation [FAO], 2017). Beyond providing food security, agriculture contributes significantly to job creation, income generation, and poverty reduction, especially in developing countries (Musa et al., 2025). The Sustainable Development Goals (SDGs) recognise this critical role, particularly SDG 8, which seeks to promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all (United Nations, 2015). However, despite global agricultural development, rural areas in many developing economies still face challenges such as informality, seasonal employment, and poor working conditions (Ologbonori et al., 2025). This limits the sector's capacity to deliver decent and stable jobs (International Labour Organisation [ILO], 2015).

In sub-Saharan Africa, agriculture accounts for roughly 54% of total employment and contributes significantly to gross domestic product (World Bank, 2019). However, the quality of agricultural employment remains precarious, with a high prevalence of informal, low-wage, and seasonal jobs (Magaji et al., 2023). This disconnect between farm expansion and decent work outcomes underscores the need for targeted policies and structural reforms. Empirical evidence shows that agricultural growth can foster inclusive economic development when complemented with investments in infrastructure, skills training, technology adoption, and value chain development (Christiaensen & Martin, 2018). Thus, achieving SDG 8 through agriculture requires not only increased productivity but also improved labour standards and equitable access to economic opportunities (Magaji et al., 2025).

Nigeria reflects these dynamics acutely, as agriculture remains the backbone of the economy and the largest employer of labour, accounting for about 35% of total employment (National Bureau of Statistics [NBS], 2022). However, agricultural employment in rural Nigeria is often informal and vulnerable, lacking adequate income security, social protection, and stable working conditions (FAO, 2017; ILO, 2015). In Adamawa State—located in northeastern Nigeria—rural livelihoods depend predominantly on subsistence farming, livestock rearing, and agricultural value chain activities (Gwandi et al., 2024). The state has witnessed several public and private agricultural interventions aimed at boosting production, creating jobs, and reducing poverty, yet translating this growth into decent work remains a critical development challenge.

Recent policy initiatives in Adamawa State provide a relevant context for this study. The state government invested ₦2 billion in agricultural inputs (fertilisers, seeds, and pesticides) to engage youth across all 21 local government areas in the 2025 farming season, aiming to provide income opportunities and enhance productivity (Adamawa State Government, 2025). Similarly, the deployment of 49 improved crop varieties through a partnership with the Federal University of Agriculture, Mubi, is intended to scale production and rural employment (Adamawa State Government & Federal University of Agriculture, Mubi, 2024). Empirical studies show that while these initiatives enhance output, persistent constraints such as low access to finance (Chinedu et al, 2021), inadequate infrastructure, market failures, and limited youth empowerment weaken their impact on creating sustainable, decent jobs (Awak et al., 2024; Onwuaroh et al., 2024).

Therefore, this study seeks to bridge the gap between agricultural growth and decent work outcomes by critically examining how agricultural expansion in rural areas of Adamawa State aligns with SDG 8 targets. It situates the local experience within the global discourse on sustainable development, rural employment, and inclusive economic growth (Igwe et al., 2021). Specifically, it investigates whether increased agricultural productivity leads to improved employment quality, stable incomes, and decent working conditions for rural populations. By integrating global development perspectives with local realities, the study provides evidence-based insights to inform policies that enhance rural livelihoods and foster sustainable development in Adamawa State and beyond.

2.0 Literature Review and Theoretical Framework

2.1 Conceptual Review

2.1.1 Sustaining Rural Livelihoods

Sustaining rural livelihoods refers to the ability of rural households to maintain and improve their living standards over time by effectively managing and utilising available resources, assets, and opportunities in a way that enhances resilience and reduces vulnerability to shocks (Ellis, 2000). A sustainable livelihood can cope with and recover from stresses, maintain or enhance its capabilities and assets, and provide sustainable opportunities for future generations without undermining the natural resource base (Chambers & Conway, 1992). In many developing countries, particularly in sub-Saharan Africa, sustaining livelihoods involves a combination of agricultural production, non-farm income activities, and social networks that enable households to adapt to environmental, economic, and social changes (Umar et al., 2025).

2.1.2 Agricultural Growth

Agricultural growth refers to the increase in the output and productivity of the agricultural sector over time, often driven by improved farming techniques, better access to inputs, technological innovation, and enhanced market linkages (Magaji & Yisa, 2023). It is a critical engine for economic development and rural transformation, as it not only boosts food security but also creates employment and generates income, particularly for rural populations (FAO, 2017; World Bank, 2019). Sustained agricultural growth can contribute significantly to poverty reduction and inclusive economic development when coupled with policies that promote equitable access to resources and opportunities (John et al., 2025).

2.1.3 SDG 8 (Decent Work)

Sustainable Development Goal 8 (SDG 8) aims to promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all (United Nations, 2015). "Decent work" encompasses employment opportunities that are productive and deliver a fair income, ensure security in the workplace, provide social protection, and uphold workers' rights (International Labour Organisation [ILO], 2015). Achieving SDG 8 involves not only expanding job opportunities but also improving the quality of work, ensuring equity and inclusion, and fostering economic environments that allow workers to thrive and contribute to sustainable development (Abeke et al., 2025).

2.1.4 Rural Areas

Rural areas are geographic regions located outside urban centres, typically characterised by low population density, agricultural-based economies, limited infrastructure, and restricted access to essential services such as health care, education, and formal

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employment opportunities (Tacoli, 2003). These areas are home to the majority of the world's poor (Magaji, 2008), and in many developing countries, they rely heavily on smallholder farming and natural resources for livelihood (World Bank, 2019). Enhancing development in rural areas is therefore crucial for achieving poverty reduction, food security, and inclusive economic growth.

2.2 Theoretical Framework

2.2.1 Sustainable Livelihoods Approach (SLA)

The Sustainable Livelihoods Framework (SLF) provides a useful theoretical lens for understanding how agricultural growth influences rural livelihoods and employment outcomes, making it highly relevant to this study. Developed by Chambers and Conway (1992) and later expanded by the UK Department for International Development (DFID), the SLF emphasises how people use a combination of human, natural, financial, physical, and social capital to pursue livelihood strategies that improve their well-being and resilience. The financial aspect used to be more critical for many less developed countries (Okoroafor et al, 2018). The framework also considers the role of institutions, policies, and external shocks in shaping livelihood outcomes. In the context of Adamawa State, agricultural growth can enhance these assets by creating employment opportunities, improving incomes, and strengthening food security. By linking agricultural productivity to decent work opportunities (SDG 8), the SLF helps explain how structural changes in rural economies can lead to more sustainable and inclusive development.

2.3 Empirical Review

Akintunde (2021) conducted an empirical study on rural livelihood improvement strategies among farming households in Adamawa State, focusing on how agricultural growth affects local employment opportunities. The study adopted a mixed-methods design, combining household surveys (n = 350) with key informant interviews to examine livelihood diversification patterns. The findings revealed that smallholder farmers rely on multiple income streams such as crop farming, petty trading, and seasonal labour migration to sustain their households. However, limited access to credit, weak extension services, and infrastructural deficits constrain productivity and job creation. The study critically highlights that although livelihood diversification enhances income stability, without strong institutional support and inclusive agricultural policies, such strategies remain insufficient to meet SDG 8 targets. Akintunde recommends strengthening agricultural cooperatives, improving rural infrastructure, and supporting local value chains to promote sustainable employment and livelihood security.

Abraham (2025) examined the role of agricultural productivity in driving rural employment across northern Nigeria, with a particular focus on Adamawa State. Using time-series econometric analysis covering 2000 to 2023, the study investigated the relationship between agricultural output growth and employment indicators. The results showed a statistically significant positive correlation between crop yield improvements and rural labour absorption, especially in staple crop value chains such as maize, sorghum, and rice. However, the research identified structural weaknesses such as inadequate mechanisation, market inefficiencies, and limited agro-processing capacity as significant constraints to maximising employment benefits. Abraham's work critically underscores that agricultural growth alone is not enough to achieve decent work if complementary investments in value addition, mechanisation, and labour rights protection are lacking. The author recommends policies that integrate agricultural productivity with rural enterprise development and youth employment programs.

Aremu (2024) investigated the relationship between farm size, mechanisation, and decent work opportunities in rural Nigeria using data from Adamawa and Taraba States. The study applied a multivariate regression model to a dataset of 500 farm households. The analysis demonstrated that larger farm sizes and moderate mechanisation levels are associated with increased labour demand, better wages, and more stable rural employment. However, it also warned that excessive mechanisation without skill development could displace unskilled labour. The study's critical contribution lies in highlighting the balance between technological advancement and inclusive job creation, aligning closely with SDG 8's emphasis on "productive employment and decent work for all." Aremu recommended scaling up the adoption of appropriate technology while integrating training programs to enhance rural workers' employability and resilience.

Mohammed (2025) explored livelihood diversification among rural women farmers in northeastern Nigeria, with a particular focus on Adamawa State. The study used qualitative interviews and focus group discussions with 220 women farmers to understand how agricultural activities intersect with employment opportunities. The findings revealed that women rely heavily on small-scale farming, agro-processing, and informal trading to sustain their livelihoods. However, gender inequality in land access, credit acquisition, and decision-making limits their ability to scale operations or transition into more formal employment structures. Mohammed critically notes that most interventions fail because they overlook women's specific constraints and their central role in the rural economy. The study recommends mainstreaming gender-responsive agricultural policies, enhancing women's access to productive resources, and supporting female-led cooperatives to achieve meaningful progress toward SDG 8 in rural areas.

Tafida et al. (2023) assessed how Boko Haram insurgency affects rural livelihoods and employment in conflict-affected communities of Adamawa State. The study employed a cross-sectional survey design involving 400 households across three Local Government Areas severely impacted by insecurity. The findings indicated that persistent insurgency has led to farmland abandonment, reduced agricultural output, and a sharp decline in rural employment opportunities. Many households resorted to low-income coping strategies, such as petty trading and informal labour, which do not provide decent or sustainable work. The authors critically argue that security remains a prerequisite for any meaningful agricultural development and employment creation in the region. They recommend integrating security stabilisation with agricultural recovery programs, extension services, and livelihood rehabilitation schemes for displaced households.

Chigbu (2023) examined how the principles of decent work can be integrated into agricultural policy to improve rural labour systems in Nigeria, with Adamawa State as a focal area. The study adopted a qualitative policy analysis approach, drawing on interviews with policymakers, agricultural extension officers, and rural workers. The findings revealed that agricultural development plans often prioritise production over labour standards, leading to underpaid seasonal work, limited job security, and unsafe working conditions. By applying a decent work lens, the study critically shows that agricultural growth must be coupled with labour protection measures to create sustainable livelihoods. Chigbu recommends introducing rural labour standards, enhancing social protection for

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farmworkers, and aligning agricultural strategies with SDG 8 goals to ensure inclusive development.

3.0 Methodology

3.1 Research Design

The study employed a mixed-methods research design, integrating quantitative and qualitative approaches to provide a comprehensive understanding of the impact of agricultural growth on SDG 8 (Decent Work) in rural Adamawa State. The quantitative component involved a cross-sectional survey of rural households engaged in agriculture to generate statistically representative data on agricultural practices, health outcomes, and decent work indicators. These data were analysed using statistical techniques to identify patterns and relationships. The qualitative component included semi-structured interviews and case studies, providing deeper insights into the experiences, perceptions, and challenges faced by farmers, labourers, and other stakeholders, along with detailed examinations of specific agricultural initiatives. This mixed-methods approach ensured triangulation, complementarity, contextualisation, and completeness of findings, enhancing their validity and reliability. A sequential explanatory design was adopted, with quantitative data collected and analysed first, followed by qualitative data to explain and elaborate on the initial results.

3.2 Population and Sampling Techniques

The target population for this study was rural households actively engaged in agricultural activities within selected Local Government Areas (LGAs) of Adamawa State, Nigeria. Recognising the diverse agro-ecological zones and socio-economic conditions within the state, the selection of LGAs was guided by criteria that ensured a representative and robust sample. These included selecting LGAs with significant agricultural activity, representing diverse agro-ecological zones, and ensuring accessibility and security for effective data collection. Based on these criteria and preliminary assessments of the state's agricultural landscape, three LGAs were selected to reflect varying levels of agricultural intensity, diverse ecological zones, and differing security contexts. According to the National Population Commission's projections, Adamawa State had an estimated population of approximately 4.2 million in 2023, with about 70% living in rural areas. This translated to an estimated 2.94 million rural residents, a large proportion of whom were engaged in agriculture. Although precise figures for the agricultural population were difficult to obtain due to the informal nature of the sector, it was estimated that a substantial share of rural households participated in agricultural activities.

To ensure rigour and representativeness in data collection, a combination of quantitative and qualitative sampling techniques was employed. A multi-stage stratified random sampling method was used for the quantitative survey to reflect the demographic and agricultural diversity of the target population. The selected LGAs were stratified into rural communities based on population size and agricultural activity, and random samples of communities and households were selected systematically to minimise selection bias. Sample size determination was guided by statistical power analysis to ensure sufficient representation for detecting meaningful relationships. For the qualitative component, purposive sampling was used to select key informants for semi-structured interviews and case studies, including farmers, labourers, community leaders, health workers, and government officials. Case studies were chosen for their relevance to the research objectives and their potential to provide in-depth insights into agricultural development initiatives and their impact on rural livelihoods. This combined sampling approach enabled a comprehensive and nuanced understanding of the impact of agricultural growth on SDG 8 in rural Adamawa State.

3.3 Data Collection Methods

This study employs quantitative and qualitative data collection methods for comprehensive and robust analysis.

3.3.1 Survey Design and Administration

A structured questionnaire was designed to collect quantitative data from rural households, covering key areas such as household demographics and socio-economic characteristics, agricultural practices and productivity, access to agricultural inputs, credit, and markets, health and nutritional status of household members, decent work indicators including wages, working conditions, and social protection, access to healthcare services and infrastructure, access to education and training, as well as gender roles and responsibilities in agriculture. The questionnaire was pre-tested in a pilot study to ensure its validity and reliability. Data were collected through face-to-face interviews with household heads or other knowledgeable members, and trained enumerators effectively administered the questionnaire.

3.3.2 Qualitative Data Collection

Qualitative data was collected through semi-structured interviews and case studies to provide in-depth insights into rural communities' experiences, perceptions, and challenges.

3.3.2.1 Semi-structured Interviews

Semi-structured interviews were conducted with key informants, including farmers and agricultural labourers, community leaders and traditional rulers, health workers and nutritionists, government officials and extension workers, as well as representatives of community-based organisations (CBOs) and non-governmental organisations (NGOs). The interviews were guided by a structured protocol that covered key topics such as agricultural practices and challenges, access to resources and markets, health and nutrition issues, working conditions and labour practices, policy and institutional environment, gender roles and responsibilities, and perceptions of agricultural development initiatives. All interviews were audio-recorded and later transcribed to facilitate systematic analysis.

3.3.2.2 Case Study Selection and Procedures

Case studies were conducted to provide detailed examinations of specific agricultural development initiatives and their impact on health and decent work outcomes. The selection of case studies was based on their relevance to the research objectives, representation of diverse agricultural practices and interventions, and their potential to offer in-depth insights into the linkages between agricultural growth, health, and decent work. The procedures involved a comprehensive document review of project reports and evaluations, site visits to observe agricultural practices, in-depth interviews with project beneficiaries, implementers, and stakeholders, and focus group discussions with community members to capture their perspectives. Field notes, audio recordings, and photographs were used to document the case study data systematically.

3.4 Data Analysis Techniques

3.4.1Quantitative Data Analysis

Quantitative data collected through the structured questionnaire will be analysed using statistical software packages, primarily

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SPSS and STATA. These tools will facilitate the computation of descriptive and inferential statistics, enabling a rigorous examination of the relationships between agricultural growth, health outcomes, and decent work indicators in rural Adamawa State.

Descriptive Statistics:

Descriptive statistics, including means, frequencies, percentages, standard deviations, and ranges, will be employed to summarise the sample's socio-economic characteristics and describe the distribution of key variables. This will provide a comprehensive overview of the demographic profile of the respondents, the prevalence of various agricultural practices, the distribution of health outcomes, and the characteristics of decent work indicators in the study area.

Correlation Analysis:

Correlation analysis will be used to examine the strength and direction of linear relationships between agricultural growth indicators (e.g., agricultural productivity, income), health indicators (e.g., nutritional status, access to healthcare), and decent work indicators (e.g., wages, working conditions). This will provide preliminary insights into the associations between these variables.

Regression Analysis:

Regression analysis, particularly multiple linear regression, will be the primary method for assessing the impact of agricultural growth on health and decent work outcomes while controlling for potential confounding factors. This technique will allow us to estimate the magnitude and statistical significance of the relationships between the independent variables (agricultural growth indicators) and the dependent variables (health and decent work indicators).

Regression Equation:

The general form of the multiple linear regression equation will be:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + ... + \beta_n X + \varepsilon$$

Where:

Y represents the dependent variable (e.g., health outcome, decent work indicator).

β_0 is the intercept, representing the value of Y when all independent variables are zero.

β_1, β_2, and β_3 are the regression coefficients, representing the change in Y for a one-unit change in the corresponding independent variable, holding all other variables constant.

X_1, X_2, X_3 are the independent variables (e.g., agricultural productivity, income, access to resources).

ε is the error term, representing the unexplained variation in Y.

These models will include relevant control variables, such as household size, education level, gender, and access to infrastructure, to account for potential confounding effects.

ANOVA and t-tests:

ANOVA (Analysis of Variance) and t-tests will compare mean differences between groups. For example, ANOVA will be used to compare mean health outcomes or decent work indicators across different categories of agricultural practices or income levels. T-tests will be used to compare mean differences between two groups, such as male and female respondents.

Structural Equation Modelling (SEM):

Structural Equation Modelling (SEM) analyses complex relationships between variables, particularly those involving latent constructs. It allows us to examine the direct and indirect effects of agricultural growth on health and decent work outcomes while accounting for the interrelationships between these variables. This technique is beneficial for analysing the mediating and moderating effects of various factors on the relationships between agricultural growth, health, and decent work.

By employing these statistical techniques, the study will provide a robust and comprehensive analysis of the quantitative data, enabling the researchers to test the hypotheses and draw meaningful conclusions about the impact of agricultural growth on SDG 8 in rural Adamawa State.

3.4.2 Qualitative Data Analysis

Qualitative data were analysed using thematic analysis, which involved identifying and interpreting patterns and themes within the data. Audio recordings were first transcribed verbatim, after which the transcripts were systematically coded based on the research questions and theoretical framework. The generated codes were then organised into broader themes and sub-themes that captured the core meanings of participants' responses. These themes were interpreted in line with the study's objectives to provide deeper insights into the research problem. Finally, the qualitative findings were triangulated with the quantitative results to enhance the validity and reliability of the study.

4.0 Data Presentation, Analysis, And Discussion of Results

4.1 Introduction

The data was collected from 355 respondents across three selected Local Government Areas (LGAs) in Adamawa State. The analysis follows the study's mixed-methods approach, integrating quantitative findings from the structured questionnaires with qualitative insights from semi-structured interviews and case studies. The results are organised in line with the study's objectives, focusing on the relationship between agricultural growth and Sustainable Development Goal 8 (Decent Work) in rural areas of Adamawa State.

Descriptive statistics are presented using frequencies, percentages, and means, while inferential statistics such as correlation and regression are employed to assess the impact of agricultural growth on decent work indicators. Qualitative findings are used to complement and contextualise the quantitative results.

4.2 Socio-Demographic Characteristics of Respondents

Table 4.1 shows the distribution of respondents by sex, age, education, and household size. The data provide an overview of the socio-economic profile of the sampled population.

Table 4.1: Socio-Demographic Characteristics of Respondents (N = 355)

Variable	Category	Frequency	Percentage (%)
Sex	Male	209	58.9

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Variable	Category	Frequency	Percentage (%)
	Female	146	41.1
Age	Below 30 years	72	20.3
	30–39 years	115	32.4
	40–49 years	101	28.5
	50 years and above	67	18.9
Education	None	84	23.7
	Primary	107	30.1
	Secondary	111	31.3
	Tertiary	53	14.9
Household Size	1–5	94	26.5
	6–10	176	49.6
	11 and above	85	23.9

Source: Field Survey, 2025

The socio-demographic profile of respondents revealed that the majority were male (58.9%) compared to female respondents (41.1%). This reflects gendered patterns of accessibility, where men often act as household heads and decision-makers in agriculture and resource allocation. The substantial proportion of women still offered critical insights into gendered experiences of food insecurity and education. Most respondents were aged 30–39 years (32.4%) and 40–49 years (28.5%), indicating that the burden of food insecurity and limited educational opportunities rested heavily on those in their economically productive years. Educational attainment was generally low, with 23.7% having no formal education, while only 14.9% attained tertiary education, highlighting systemic barriers to learning. Additionally, nearly half of the respondents (49.6%) reported household sizes of 6–10 members, which, along with limited literacy, intensified food insecurity and constrained educational investments. These patterns collectively underscored the structural challenges linking food insecurity and educational deprivation in Adamawa State.

4.3 Agricultural Practices and Productivity

Table 4.2 presents respondents' main agricultural activities.

Table 4.2: Agricultural Practices and Productivity

Variable	Category	Frequency	Percentage (%)
Main Crops Cultivated	Maize	167	47.0
	Rice	103	29.0
	Groundnut	52	14.6
	Others (Millet, Sorghum, Vegetables)	33	9.4
Livestock Rearing	Yes	211	59.4
	No	144	40.6
Farming Methods	Traditional	148	41.7
	Modern	79	22.3
	Both	128	36.0
Use of Inputs	Improved Seeds	195	54.9
	Fertilizers	233	65.6
	Pesticides	178	50.1
	Irrigation	69	19.4
	Mechanisation	48	13.5
Crop Loss in the Last 12 Months	Yes	263	74.1
	No	92	25.9
Causes of Loss (Multiple)	Drought	115	32.4
	Pests/Disease	97	27.3
	Flooding	71	20.0
	Lack of Inputs	60	16.9
	Conflict	35	9.9

Source: Field Survey, 2025

The agricultural practices and productivity patterns of respondents showed a firm reliance on staple crops, with maize (47.0%) and rice (29.0%) being the most commonly cultivated. In contrast, groundnut (14.6%) and other crops such as millet, sorghum, and vegetables (9.4%) were less prevalent. This limited crop diversification reduced dietary variety and nutritional quality, even though 59.4% of respondents complemented crop farming with livestock rearing. Most farmers depended on traditional farming methods (41.7%), with only 22.3% adopting modern practices such as mechanisation and irrigation, while 36.0% combined both, indicating a gradual but uneven shift toward modern agriculture. Input usage patterns also reflected limited modernisation, with fertilisers (65.6%) and improved seeds (54.9%) being more common than pesticides (50.1%), irrigation (19.4%), or mechanisation (13.5%). Notably, 74.1% of farmers experienced crop losses in the past year, mainly due to drought (32.4%), pests

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and diseases (27.3%), flooding (20.0%), lack of inputs (16.9%), and conflict (9.9%). These findings highlighted how environmental shocks, weak institutional support, and insecurity undermine productivity, perpetuating food insecurity and impeding sustainable rural development in Adamawa State.

4.4 Access to Agricultural Inputs, Credit, and Markets

Table 4.3: Access to Inputs, Credit, and Markets

Variable	Category	Frequency	Percentage (%)
Source of Inputs	Own Purchase	188	52.9
	Government Support	69	19.4
	Cooperatives	64	18.0
	Others	34	9.7
Access to Credit	Yes	102	28.7
	No	253	71.3
Market Distance	1–5 km	127	35.8
	6–10 km	148	41.7
	Above 10 km	80	22.5
Membership in Cooperative	Yes	118	33.2
	No	237	66.8
Extension Services	Yes	143	40.3
	No	212	59.7

Source: Field Survey, 2025

The findings revealed that most farmers (52.9%) obtained their agricultural inputs through personal purchase. Only 19.4% accessed government support, 18.0% relied on cooperatives, and 9.7% depended on NGOs or informal sources. This showed that farmers largely bore the cost of inputs individually, which constrained productivity due to high expenses and limited support. Access to credit was also poor, with only 28.7% able to secure loans, while 71.3% lacked financial access, restricting their ability to invest in improved technologies and inputs. Market access posed additional challenges, with 41.7% of respondents travelling 6–10 km, 35.8% travelling 1–5 km, and 22.5% travelling over 10 km to access markets, all of which increased costs and post-harvest losses. Furthermore, only 33.2% of farmers belonged to cooperatives, and 40.3% received extension services, leaving the majority without institutional support. These patterns underscored weak support systems, inadequate infrastructure, and financial barriers that collectively perpetuated low agricultural productivity, market inefficiencies, and persistent food insecurity in Adamawa State.

4.5 Decent Work Indicators

Table 4.4: Employment and Working Conditions

Variable	Category	Frequency	Percentage (%)
Employ Labourers	Yes	139	39.2
	No	216	60.8
Average Daily Wage	₦500–₦1000	84	60.4
	₦1001–₦2000	37	26.6
	Above ₦2000	18	13.0
Average Working Hours	Below 6 hrs	29	20.9
	6–8 hrs	81	58.3
	Above 8 hrs	29	20.9
Social Protection for Labourers	Yes	42	30.2
	No	97	69.8
Fair Wage (Labourers' Perception)	Yes	71	51.1
	No	68	48.9
Safe Working Conditions	Yes	76	54.7
	No	63	45.3

Source: Field Survey, 2025

The findings revealed that only 39.2% of farmers employed labourers, while the majority (60.8%) relied on family labour, reflecting the small-scale, subsistence nature of agriculture in Adamawa State. Most labourers earned low daily wages, with 60.4% receiving ₦500–₦1000, 26.6% earning ₦1001–₦2000, and only 13.0% earning above ₦2000, indicating poor remuneration and limited incentives for agricultural work. Working hours were pretty lengthy, with 58.3% of labourers working 6–8 hours daily, 20.9% working less than 6 hours, and another 20.9% working over 8 hours. This could lead to fatigue or income instability, depending on the season. Additionally, only 30.2% had access to social protection, leaving most workers vulnerable to exploitation, illness, or job loss. Although 51.1% perceived their wages as fair and 54.7% considered their work environment safe, nearly half expressed dissatisfaction and concerns over safety. Overall, these results highlight the precarious nature of agricultural labour in the state, characterised by low wages, inadequate protection, and unsafe conditions, which weaken rural employment opportunities and limit agricultural productivity.

4.6 Relationship between Agricultural Growth and Decent Work

Correlation and regression analyses were conducted to determine the impact of agricultural productivity on decent work indicators (income, wages, labour conditions).

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Table 4.5: Correlation Analysis between Agricultural Productivity and Decent Work

Variable	Income	Wages	Working Conditions
Agricultural Yield	0.482**	0.395**	0.311*

Note: **p < 0.01; p < 0.05*

Source: SPSS Output, 2025

The correlation analysis revealed a positive and significant relationship between agricultural productivity and decent work indicators. Agricultural yield showed a strong positive correlation with income ($r = 0.482$, $p < 0.01$), indicating that higher productivity led to increased household earnings. A similar positive and significant relationship was observed between yield and wages ($r = 0.395$, $p < 0.01$), suggesting that productivity improvements contributed to better remuneration for farm labourers. Additionally, a moderate but significant positive correlation was found between yield and working conditions ($r = 0.311$, $p < 0.05$), suggesting that productivity growth was linked to improvements in workplace safety and labour conditions, though not as strongly as income or wages. Overall, these results showed that boosting agricultural productivity played a key role in enhancing income and labour outcomes, but further efforts were needed to ensure that consistent improvements matched gains in productivity in working conditions.

Table 4.6: Regression Analysis of Agricultural Growth on Decent Work Indicators

Dependent Variable (Decent Work Index)	B	t-value	Sig.
Agricultural Yield	0.426	6.782	0.000
Access to Inputs	0.312	4.911	0.000
Access to Credit	0.185	2.945	0.004
Extension Services	0.161	2.313	0.021
$R^2 = 0.47$, $F(4, 350) = 76.21$, $p < 0.001$			

Source: SPSS Output, 2025

The regression analysis demonstrated that agricultural growth factors had a significant and positive influence on decent work indicators. Agricultural yield showed the most potent effect on the decent work index ($\beta = 0.426$, $t = 6.782$, $p < 0.001$), indicating that higher yields substantially improved income, wages, and working conditions. Access to inputs also had a strong and statistically significant effect ($\beta = 0.312$, $t = 4.911$, $p < 0.001$), emphasising the role of essential resources like seeds and fertilisers in boosting productivity and labour welfare. Similarly, access to credit was found to significantly influence decent work ($\beta = 0.185$, $t = 2.945$, $p = 0.004$), showing that financial support enabled farmers to expand production and sustain better employment conditions. Extension services contributed positively as well ($\beta = 0.161$, $t = 2.313$, $p = 0.021$), though with a lower effect compared to yield and inputs, reflecting the value of knowledge and technical support in improving workplace standards. The model explained 47% of the variance in decent work outcomes ($R^2 = 0.47$), and the F-statistic confirmed its overall significance ($F(4, 350) = 76.21$, $p < 0.001$). Overall, the results showed that productivity, input access, credit availability, and extension services were key drivers of decent work, underscoring the importance of integrated agricultural and labour policies.

4.7 Qualitative Findings (Interviews and Case Studies)

The qualitative findings revealed critical issues surrounding labour exploitation and informality in agricultural work across Adamawa State. Interviewees consistently emphasised that many farmworkers receive irregular payments and are employed without formal contracts, leaving them without job security or legal protection. This lack of formal agreements reflects weak enforcement of labour laws in rural areas, exposing workers to exploitation and undermining their rights. Such conditions discourage long-term commitment to agricultural work and limit the sector's contribution to sustainable development. Gender inequality was also a recurring theme, as women, despite playing a significant role in farm labour, face severe barriers to land ownership, credit access, and extension services. These structural inequalities perpetuate marginalisation, reduce women's economic benefits from their labour, and hinder the sector's overall growth potential.

In addition, environmental and institutional factors further aggravate agricultural and labour challenges. Participants highlighted that climate shocks such as droughts and floods lead to significant crop losses, lower farm incomes, and reduced employment opportunities, while recurrent farmer–herder conflicts disrupt farming activities and displace households. These shocks deepen vulnerabilities and make workers more susceptible to poverty and exploitation. Furthermore, institutional weaknesses, including corruption, political patronage, and poor coordination in government agricultural support programs, were identified as significant obstacles. Many respondents expressed frustration with the lack of transparency and accessibility of government initiatives, which erodes trust and limits their impact. Addressing these intertwined issues of exploitation, gender disparity, environmental shocks, and institutional failure is essential for promoting decent work and advancing sustainable agricultural development in Adamawa State.

4.8 Discussion of Findings

The findings of this study revealed that agricultural growth had a significant positive impact on income, wages, and working conditions, aligning with the objectives of SDG 8, which promotes decent work and economic growth. Higher yields were found to increase household earnings and improve farmworkers' wages, while sustained productivity gains contributed to better working environments. This underscores agriculture's central role as more than just a source of livelihood; it is also a pathway to enhancing economic inclusion and rural development in Adamawa State. However, the study also identified structural barriers such as limited access to credit, weak extension services, and low mechanisation levels that hinder productivity growth and limit the sustainability of these benefits. These challenges make it difficult for farmers to consistently achieve decent work outcomes and sustain agricultural growth over time.

Additionally, qualitative findings emphasised persistent issues of weak labour protection and gender inequality in the agricultural sector. Many workers were employed informally, receiving irregular pay and lacking formal contracts, which left them vulnerable to exploitation. Women, despite their significant contributions, continued to face barriers to land ownership, credit

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access, and institutional support. Environmental shocks such as droughts, floods, and conflicts also disrupted farming activities and reduced labour availability. These issues highlighted the need for stronger institutional and social reforms to complement productivity gains. Addressing credit constraints, strengthening extension services, increasing mechanisation, promoting gender equity, and mitigating climate risks are essential steps toward ensuring inclusive, resilient, and sustainable rural economies. These measures can fully realise the potential of agricultural growth in advancing decent work and economic development.

5.0 Conclusion and Recommendations

The study concluded that while agricultural growth presents significant opportunities to advance Decent Work (SDG 8) in rural Adamawa State, its potential is currently constrained by deep-rooted structural and institutional weaknesses. The agricultural sector remains dominated by low-input and low-yield practices that are highly vulnerable to climate shocks and conflict disruptions. This fragile production system leads to marginal income and limited investment capacity, trapping smallholder farmers and labourers in a persistent cycle of poverty and vulnerability. The findings clearly show that without targeted interventions, agricultural growth alone cannot create decent work. Key institutional gaps, such as limited access to affordable credit, weak extension services, and underdeveloped cooperative structures, undermine the sector's ability to deliver sustainable livelihoods. These conditions perpetuate poor wages, lack of social protection, and informality, highlighting the urgent need for systemic reforms.

To transform agriculture into a sustainable engine of decent work, the study recommends a shift from production-focused strategies to policies that build inclusive and resilient rural economies. Suggested actions include implementing climate-smart agriculture, establishing minimum wage standards for agricultural labour, and improving access to mechanisation and irrigation technologies to boost productivity. Expanding access to rural credit, revitalising extension services, and strengthening cooperatives will enable smallholder farmers to increase output and bargaining power. Equally important is the introduction of gender-responsive land and credit policies to address the systemic inequalities faced by women farmers. By combining productivity improvements with robust institutional reforms and social protections, Adamawa State can unlock agriculture's full potential as a driver of decent work, economic growth, and sustainable rural development.

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