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Off-farm Employment: A Panacea for Increased Agricultural Productivity of Farm Owners in Gwer West Local Government Area, Benue State, Nigeria

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Abstract

In developing countries, off-farm employment is regarded as a supplementary or complimentary sub-sector that engages farmers in either off-season or on-season production cycle. This paper investigates off-farm employment as a panacea for increasing agricultural productivity of farm owners in Gwer West Local Government Area, Benue State, Nigeria. Primary and secondary data were employed. Purposive sampling was used in the selection of four communities, while household farmers were selected using systematic sampling. 380 copies of questionnaire were administered. Frequency counts and simple percentage were used to analyse data. The findings showed that off-farm employment posed major impacts on farm workers; and these included reduced farm size, poverty reduction, improved education, increased farm investment, decreased farm output, increased non-farming activities, higher household income, farm labour availability, elevated household needs, and higher farm produce costs. The findings further revealed that there has been an increase in agricultural productivity in the target communities. It is recommended that farmers should be encouraged to invest off-farm income into agricultural activities. As a matter of priority, the government should as well support farm owners with capital and incentives that will enable them enhance their farm productivity.

Keywords: *off-farm, rural economy, food insecurity, labour supply, non-farm income*

1. Introduction

Off-farm employment, a term increasingly recognised in rural economies, refers to income-generating activities that farm owners and workers engage in, and outside their primary agricultural operations. This includes jobs in non-agricultural sectors such as trade, services, industry, etc. (Edohen & Aigbovo, 2023). In Nigeria, where agriculture remains a crucial component of the economy, off-farm employment has emerged as a significant strategy for enhancing the livelihood and productivity of those involved in farming. Off-farm employments are supplementary/complimentary jobs that farmer engage in—either during off-season or in-season—to support themselves and reduce

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poverty (Haggblade et al., 2007; Omohie et al., 2022). Evidence has shown that income from non-farm sources assists in calming financial constraints on farm households, and enhancing farm investment (Nmeregini et al., 2019).

It has been established that off-farm income refers to earnings from wage employment in agriculture on other farms, as well as income from non-farm enterprises or non-farm wage employment (Haggblade et al., 2007; Anang & Apedo, 2023). Therefore, off-farm income is the combined result of rural non-farm income and wage earnings in agriculture.

In this study, there are two key players in off-farm employment: off-farm employers (farm owners); and off-farm employees (farm-workers/ farmhands). Farm owners are those who engage the services of farm-workers/ farmhands, while farm workers are those employed by farm owners in carrying out farming activities. These farmhands also own their farms in which they farm when on their off-days (when they do not have to go to their employer's farms). Farm-workers are individuals engaged in the day-to-day activities of agricultural production. They perform a wide range of tasks such as planting, harvesting, and tending to crops and/or livestock. These workers may either be members of the farm owner's family, or hired labourers, who work under the direction of farm owners. Farm-owners, on the other hand, are those who own or manage agricultural land, and bear the responsibility for the overall productivity and profitability of a farm. They make key decisions regarding the use of resources, investment in technology, and labour management.

Given the prevalence of surplus labour in rural areas due to mechanization and high scarcity of land, improving off-farm employment opportunities is an important way to reduce smallholder farmer's financial constraints, increase rural household incomes, and decrease the scenario of vicious cycle of poverty and food insecurity in underdeveloped countries. Distinctively, if farmers are engaged in non-agricultural sectors, they are likely to intensify production efforts and increase agricultural productivity to provide the resources necessary for investment in the agricultural sector and block reduction of farm size (Man & Sadiya, 2009). Also, off-farm employment is generally thought to have a negative impact on the income and production of farmers at the household level due to competing for labour. However, since there is surplus labour, off-farm employment may not compete with farming activities. De Janvry et al. (2005) employed a household survey dataset to study the influence of rural non-farm employment on household income, poverty and inequality in the Hubei province of China. Their findings revealed that rural non-farm employment has an active spillover effect on household agricultural production and farm size in terms of enhancing on-farm investment strength in the face of scarce rural credit markets.

Moreover, Mezid (2014) stated that a good number of rural farmers, particularly male, are pushed away from on-farm work to off-farm sectors due to the lack of opportunities in on-farm activities. Edohen and Ikelegbe (2020) examined the influence of household characteristics on rural migration in the Benin region, and found that the majority of smallholder farmers were men rather than women. Their findings suggest that male household heads are more likely to engage in off-farm activities, and are the primary group involved in rural migration. In recent years, off-farm activities have contributed significantly to household income. Its impact on domestic food supply, production effectiveness, and household wellbeing remains quite conflicting. For instance, while Lien et al. (2010) noted that off-farm returns had a positive effect on farm productivity, it had no systematic effect on farm technical efficiency. In a study in rural El Salvador, Lanjouw and Feder (2001) established that the poor were mainly involved in non-farm activities as a 'last resort' to overcome poverty constraints.

Jolliffe (2004) reported that, in 2004, a majority of farm households in Ghana were engaged in off-farm activities. Amongst the challenges confronting Ghana, and many developing countries, are food insecurity and poverty (Owusu et al. 2011). Urban and rural poverty coexist in the country, but the incidence of rural poverty seems to be exacerbated by declining farm incomes, low agricultural productivity, and limited employment opportunities outside the farm sector. Hence, rural farm households have devised various means to overcome the challenges of poverty and food insecurity. Participating in off-farm employment activities and sending migrants to waged employment in the cities are some of the means that have been adopted to obviate poverty and food insecurity.

There is a view that increasing food production as the means to tackle food insecurity in Africa may not be adequate; hence the need to promote rural non-farm employment to provide farmers with additional income (Gladwin et al., 2001). In many rural areas of sub-Saharan Africa, non-farm employment opportunities may be considered a possible solution to the vicious cycle of food insecurity. In light of the foregoing, it seems logical that attention to the generation of rural non-farm employment should be important in the fight against rural poverty and food insecurity in Africa. A similar situation has also been reported in the US and Taiwan by Fernandez-Cornejo (2007): that the majority of the two countries' farm households are also involved in off-farm employment. Chang and Wen (2011) adds that this practice in off-farm work is a persistent phenomenon, and the reliance on off-farm work is expected to increase. Also, in a study on off-farm income diversification and poverty decrease in Nigeria, Olugbire et al. (2011) found that the majority of farmers were involved in off-farm jobs, which had considerable positive impacts on their household welfare and return investment.

Previous researches on off-farm employment revealed that their focus has been mainly on the attrition of farmers from farming as a source of employment; and its implication on farm size, agricultural productivity, household income, and food security. None of these studies have focused on the implication of off-farm employment on the agricultural productivity of farm owners. Conceptualizing farm owners as employers of farm workers (off-farm workers), who may themselves own a farm, provides a unique perspective on how off-farm employment can contribute to agricultural productivity. By diversifying income sources through off-farm employment, farm owners can reinvest additional earnings into their agricultural enterprises, potentially increasing their capacity to adopt new technologies, improve farm infrastructure, and employ more skilled labour. This can also lead to improved efficiency and productivity on the farm, ultimately enhancing the overall agricultural output.

In Nigeria, where smallholder farms dominate the agricultural landscape, off-farm employment offers a critical pathway for farm owners to stabilize their incomes and mitigate the risks associated with fluctuating agricultural yields. Thus, understanding the dynamics of off-farm employment, and its impact on farm productivity, is essential for formulating policies that can support sustainable agricultural development in the country.

2. Theoretical Literature

Evidences in literatures advocate that a key driver leading to off-farm labour supply among farm households in developed and developing countries has been the yearning to have diversified sources of income and managing risk. Chang and Mishra (2008); Hazell and Hojjati (1995, cited in Shittu, 2014); and Chavas et al. (2005), among others, reported that due to a very weak capital market in most third world countries, the majority of smallholder farmers often resort to off-farm work to raise cash with a view to relaxing their cash flow and liquidity constraints. This report is buttressed by Stampini and Davis (2009), Pfeiffer et al. (2009), and Oluwasun et al. (2019) who reported that households that involved in off-farm jobs were able to significantly finance their farm inputs—including seeds, services, hired labour, and livestock inputs—which confirms that off-farm income relaxes credit constraints in agriculture. Regardless of the common findings that income from non-farm activities helps to cushion financial constraints faced by farm households and enhances farm investment, reports on the impacts on domestic food supply, production efficiency and household welfare, in general, remain quite contradictory. For instance, while Lien et al. (2010) stated that off-farm income had a positive effect on farm productivity, but no systematic effect on farm technical efficiency; Pfeiffer et al. (2009) reported that off-farm income has a negative effect on agricultural output and the use of family labour on the farm, but a positive impact on the use of purchased inputs. However, they add that it confers insignificant efficiency gain on farm households participating in off-farm activities. Shi et al. (2011) found that the negative lost-labour effect is much stronger than the (small) positive income effect; while, in

Ethiopia, Holden et al. (2004) noted that access to non-farm income in less favoured Ethiopian highlands decreases farm households' incentives to invest in conservation, thereby leading to more overall soil erosion and more speedy land degradation even when the intensity of production is reduced.

Babatunde (2015) highlights two key effects of off-farm income: the liquidity-relaxing effect, which leads to increased farm expenditure and investment; and the lost-labour effect, which diverts labour away from the farm. Several scholars, including Ruben and van den Berg (2001), Ellis and Freeman (2004), and de Janvry et al. (2005), focus on the liquidity-relaxing effect, emphasizing the positive impact of off-farm income on farm productivity. For instance, Ellis and Freeman (2004) found that off-farm income positively influenced land productivity, labour hiring, and the purchase of farm inputs. Similarly, Oseni and Winters (2009) observed more efficient use of hired labour and inorganic fertilizers among Nigerian smallholder farmers involved in off-farm work. In Ghana, Anriquez and Daidone (2010) reported that off-farm employment boosted investments in farm inputs among smallholder farmers, while in Senegal, Maertens (2009) noted an increase in fertilizer use and cultivated areas among Senegalese farmers due to off-farm employment.

Recently, however, there have been mounting facts showing that smallholder farmers rarely rely on farming alone as a source of livelihood: they often engage in off-farm work as means of diversification and maintaining a portfolio of income activities (Barrett, Reardon & Webb, 2001). It is clear that growth in the agricultural production chain will contribute to the overall well-being of the economy. In view of this, Oni et al. (2009) noted that the ultimate interest of economists is that productivity should anchor on how to increase output per unit of input, and to attain the desirable goals of inter-firm, intra-firm, and inter-sector transfers of production resources, thereby providing the means of raising the wellbeing and standard of living of the citizenry. Hence, a meaningful appraisal of productivity in the agricultural sector depends on a clear and precise definition of inputs and outputs in such a way that their movements over time are not at equilibrium or equal. Similarly, determining which inputs and outputs are consistent with a particular concept of productivity is also imperative. In some cases, one is faced with separate and distinct conditions when measuring labour, capital, or land productivity (Oni et al., 2009). While agriculture and the rural non-farm economy coexist in rural areas, it is imperative to gauge their connectivity and interaction with each other in a robust policy making. Moreover, since the two tend to have complementary effects on each other, rural policies may focus on how to maximize their synergies; whereas, when both are competing, policies may focus on how to minimize the trade-offs. Noteworthy, the synergy between agriculture and the rural non-farm economy sector is not homogeneous across geographical locations to provide a silver-bullet policy measure across nations.

Various studies highlight the complementary relationship between agriculture and the rural non-farm economy (Reardon et al., 1994; Pfeiffer et al., 2009, cited in Nasir & Hundie, 2014). Reardon et al. (1994) argued that income from non-farm activities provides smallholder farmers with liquidity to purchase farm inputs and adopt modern technology; all leading to agricultural intensification, modernization, and commercialization. However, engaging in off-farm activities requires reallocating limited resources, often resulting in reduced time and focus on farming. Additionally, higher returns from off-farm activities compared to farming can discourage investment in land conservation and modern technology, potentially hindering agricultural productivity, modernization, and commercialization (Barrett et al., 2001).

In a study on off-farm labour supply and production efficiency of farm households in South West Nigeria, Shittu (2014) revealed that the majority of smallholder rural farmers had some of their members involved in off-farm activities, and that off-farm activities significantly contributed to households' farm labour income. They further revealed how the increase in off-farm labour supply was connected with significant reduction in production inefficiency among rural farm households. The result also showed that the production efficiency of farm households is significantly enhanced by increasing the share of tree crops. Studies in Nigeria by Ajibefun et al. (2002), Amaza and Olayemi (2002), Ajibefun and Abdulkadri (2004), Adebayo (2006), Ogundele and Okoruwa (2006), and Tella (2006): all found that wage labour practically influences farm productivity in the dry savannah region and the humid forest agro-ecological zones of Nigeria. Applying analytical models—such as the Cobb-Douglas production function, the normalized profit function approach, and the Stochastic frontier model—Amaza and Olayemi (2002), and Tella (2006) observed that the use of hired labour reduced productivity when not properly utilized. Also, findings by Akinseinde (2006)—who applied data developmental analysis and the Tobit model—showed that nonfarm income earnings affected farm productivity. Specifically, the higher the nonfarm income of farming households, the higher the inefficiency of these households in crop farming in the humid forest agro-ecological zone of Nigeria (ibid.).

In Lesotho, Mochebele and Winter-Nelson (2002) studied the impact of labour migration on technical efficiency performance of farms by employing Stochastic frontier production, and found that households that sent migrant labour to South African mines were more efficient than households that did not. Similarly, Nkonya et al. (2005) found that pre-harvest labour positively affected crop production in Uganda. Nasir and Hundie (2014) reported that, theoretically, there exist two possible impacts of off-farm employment on agricultural production and productivity. On one hand, this can enhance farm production by providing the finance needed for farm inputs and technologies; while, on the

other hand, this may have a detrimental effect on farm output by competing for labour. Their result further showed that households' engagement in off-farm activities is inversely related to crop production and, to some extent, to land productivity; implying that rural non-farm economy competes with agriculture for labour, and that marginal productivity of labour in agriculture is positive.

Moreover, literatures further reveal that off-farm labour is a significant driver for income diversification and risk management among farm households in both developed and developing countries. Chang and Mishra (2008), Hazell and Hojjati (1995), and Chavas et al. (2005) indicate that smallholder farmers often resort to off-farm work to alleviate cash flow and liquidity constraints, especially in weak capital markets. Stampini and Davis (2009) and Pfeiffer et al. (2009) found that off-farm income helps finance farm inputs, thereby reducing credit constraints.

It is evident from the foregoing that the impact of off-farm work on agricultural productivity is mixed. While some studies—like Lien et al. (2010) and Ellis and Freeman (2004)—highlight the positive effects of off-farm income on farm productivity and input use, others—like Pfeiffer et al. (2009) and Shi et al. (2011)—point to negative outcomes, such as reduced agricultural output and labour reallocation away from farms. Also, theoretical perspectives suggest two main effects of off-farm work income: a liquidity-relaxing effect that could enhance farm investment, and a lost-labour effect that could reduce farm productivity. Similarly, empirical findings vary: with some emphasizing the benefits of off-farm income for farm investment (Ruben & van den Berg, 2001; Oseni & Winters, 2009); while others highlight its negative impact on land conservation and productivity (Holden et al., 2004; Barrett et al., 2001). In Nigeria, studies by Ajibefun et al. (2002) and Akinseinde (2006) reveal that nonfarm income can lead to inefficiencies in crop farming, particularly when not properly utilized.

Hence, despite extensive research, there remains a gap in understanding the specific conditions under which off-farm employment impacts agricultural productivity, either positively or negatively. There is a particular need for more context-specific studies that examine how off-farm work and income contribute to rural agro-economy; and affects the agricultural productivity of employers who hire off-farm workers.

3. Materials and Methods

3.1 Study Area

This study was conducted in Gwer West LGA, Benue State, Nigeria. Gwer West LGA is located between latitudes 7° 20′ 00″N to 7° 50′ 00″N; and longitudes 8° 4′ 00″E to 8° 26′ 30″E. It is bounded by Makurdi and Uma LGAs to the North, Gwer East LGA to East, Otukpo LGA to the South, and Apa and Agatu LGAs to the West (see Figures 1 & 2).

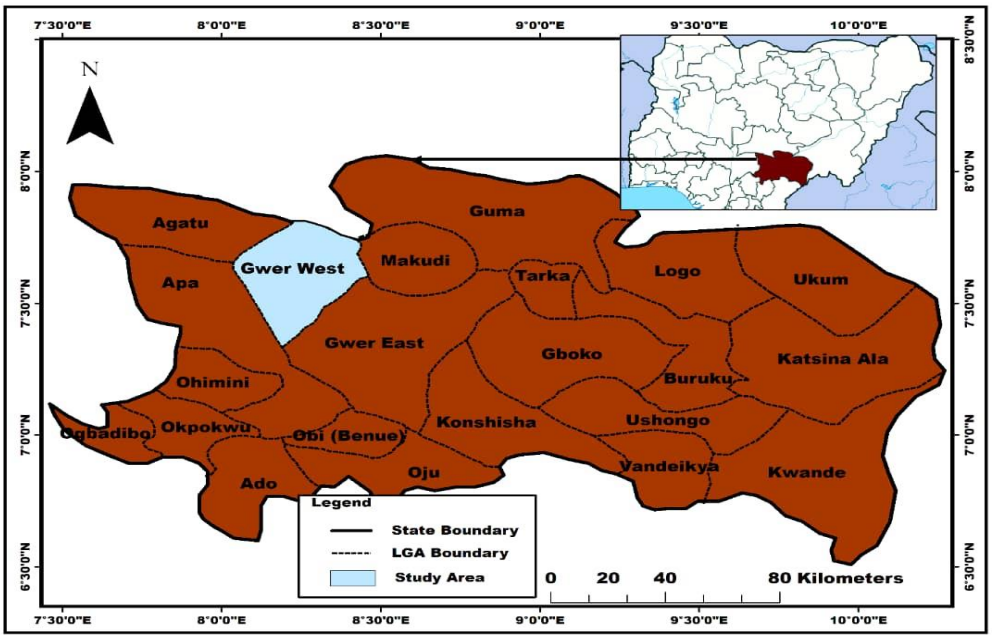

Figure 1: Map of Benue State Showing Gwer West LGA

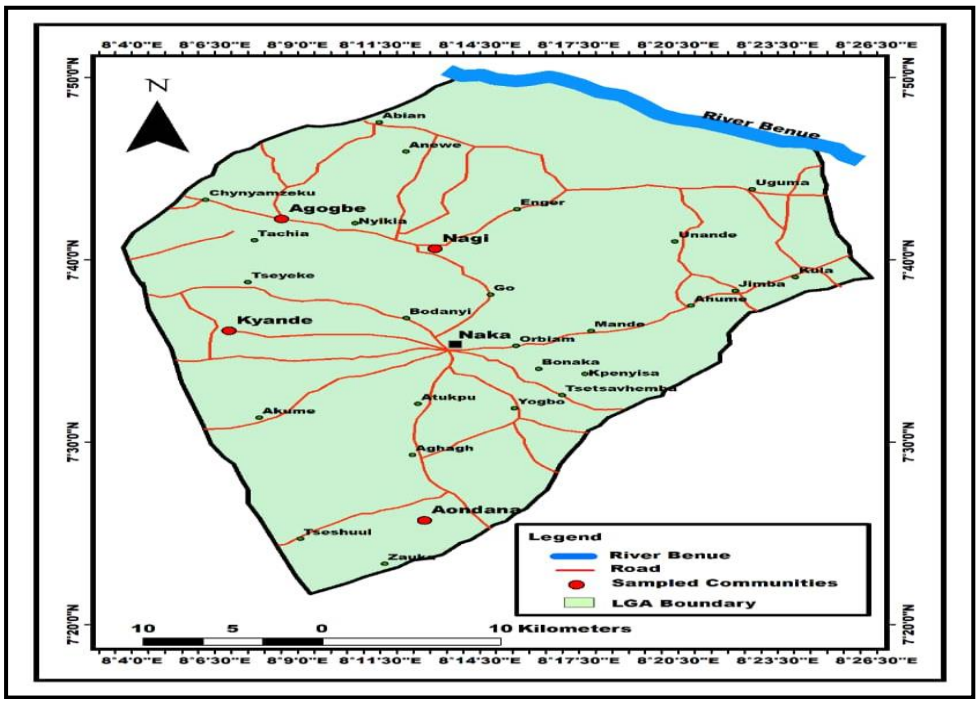

Figure 2: A Map of Gwer West Showing the Sample Communities

3.2 Data Analysis

To achieve the objectives of this study, both inferential and non-inferential statistical methods were utilized in the data analysis. A four-point Likert scale was employed to identify variables with the greatest impact due to off-farm employment in the study area, while a five-point Likert scale was used to assess whether there has been an increase in household agricultural productivity as a result of off-farm employment in the Gwer West LGA. To evaluate the strength of respondents' opinions, weighted counts were calculated. the weighted mean score (WMS) was then derived as a proportion of the overall weighted count and ranked in descending order. The Pearson product-moment correlation (PCC) was applied to test the null hypothesis, which posited that there is no significant relationship between off-farm work and agricultural output.

A purposive random sampling technique was used to select four communities (Kyande, Aondoana, Nagi, and Agagbe) based on the predominance of farming activities in these communities. Systematic sampling was used in the selection of households that are involved in off-farm employment. This method was employed because it was convenient in covering large areas. The study utilized both primary (questionnaire and personal observation) and secondary (NPC, books and journals) data sources to gather information addressing key issues related to off-farm employment as a strategy for enhancing agricultural productivity. The 1991 population of the four selected communities—as reported by the National Population Commission to be 3,288, and projected to 7,850 by 2020—was used to determine the sample size. Since studying the entire population was impractical, the researcher employed Taro Yamane's (1967) formula, as cited in Agheyisi and Ebinum (2019), to determine the sample size:

$$n = \frac{N}{1 + N(e)^2}$$

Where: n = sample size; N = population size; and e = level of precision (0.05)

Therefore;

$$\begin{aligned} n &= \frac{7850}{1+7850\ (0.05)^2} \\ &= \frac{7850}{1+7850(0.025)} \\ &= \frac{7850}{1+19.65} \\ &= \frac{7850}{20.63} \\ &= 380.5 \text{ Approximately } 381 \end{aligned}$$

The proportions of the questionnaire that was distributed according to each sample communities were:

Kyande: $\frac{1704}{7850} \times 381 = 83$

Aondoana: $\frac{1516}{7850} \times 381 = 73$

Nagi: $\frac{1622}{7850} \times 381 = 79$

Agagbe: $\frac{3008}{7850} \times 381 = 146$

Table 1: Questionnaires Distributed at Gwer West

Communities	Population size	Sample size	Number of Questionnaires retrieved
Kyande	1704	83	83
Aondoana	1516	73	73
Nagi	1622	79	79
Agagbe	3008	146	145
Total	**7850**	**381**	**380**

Source: Fieldwork (2021)

In the distribution of the questionnaire for data collection, a street was selected to be the first street in the community. Also, the first house on the street was selected to be part of the sample. Consequently, the next house to be selected was every third house from the initially picked house, and on till the houses on the street were selected. The third street was selected from the initial street, and the processes of house selection were repeated until the total sample was selected from the community.

The study thoroughly addressed the key issues in the four sample communities within Gwer West LGA, where off-farm employment is prevalent. Various questions and observations were critically examined to enhance the findings of the study. Additionally, the demographic variables of sex, education, and livelihood of the respondents were analysed.

4. Results and Discussion

The findings indicated that the majority of the respondents were male, with a frequency of 212 (55.8%); while females accounted for 168 (44.2%) (Table 2). This result aligns with an earlier report by the National Population Commission (2010), which revealed a higher male population than female in the Gwer West LGA.

The study results also supports the work of Edohen and Ikelegbe (2020), which found that there are more male household farmers than females in the Benin region. The predominance of male respondents in this study may be attributed to the cultural norms of the Benue region, where the majority of households

involved in off-farm work are male. Additionally, men typically make most of the decisions in households, communities, and the society at large; while women primarily play supportive roles, focusing on childcare and domestic responsibilities.

Table 2: Characteristics of the Respondents

Variables	Category	Frequency	Percent
Sex	Male	212	55.8
	Female	168	44.2
	Total	**380**	**100**
Education	Non-formal Education	93	24.5
	Primary Education	186	48.9
	Secondary Education	77	20.3
	Tertiary Education	24	6.3
	Total	**380**	**100**
Occupation	Farmer	236	62.1
	Trader	139	36.6
	Drivers	5	1.3
	Total	**380**	**100**

Source: Fieldwork (2021)

The level of education among respondents was another crucial variable collected from the survey participants. The results showed that the majority—186 individuals (48.9%)—had only primary education, while 93 (24.5%) had no formal education. Additionally, 77 respondents (20.3%) had completed secondary education, and 24 (6.3%) had attained tertiary education. These findings indicated that the majority of the study population were undereducated. This lack of adequate education could have had significant implications for their ability to secure white-collar jobs in other sectors of the economy, which, in turn, could limit their potential to boost earnings and reinvest in farming activities.

To understand the primary sources of livelihood among households, which would provide a clearer picture of the growth in agricultural productivity resulting from off-farm employment, it was essential to collect data on the respondents' livelihoods, as shown in Table 2. The results revealed that the majority of the respondents were farmers, accounting for 236 individuals (62.1%); while 139 (36.6%) were traders, and 5 (1.3%) were drivers. This finding indicated that the Gwer West LGA was predominantly an agrarian society. Additionally, the results underscored the availability of rich arable lands that could be cultivated to ensure sustainable food security and wealth-creation. These findings support the conclusions of Olugbire et al. (2011), who studied the impact of off-farm income diversification on poverty reduction in Nigeria.

4.1 The Perceived Impact of Off-farm Employment on Farm Workers in Gwer West LGA

The study also aimed to investigate the economic variables most significantly impacted by off-farm employment in Gwer West LGA. To achieve this objective, a four-point Likert scale analysis was employed; and the results are presented in Table 3. The analysis identified that the reduction in farm size was the variable with the highest impact from off-farm employment in Gwer West LGA. This conclusion was based on a weighted mean score (WMS) of 3.70; with 266 respondents (70%) indicating a very high extent (VHE), and 114 respondents (30%) indicating a high extent (HE) of impact. This reduction in farm size among smallholder farmers suggests that as farmers shift towards off-farm work, their farm sizes gradually decrease; thereby affecting household production, but also potentially increasing the production capacity of other farmers who utilize their services. This finding aligns with studies by De Janvry et al. (2005), and Man and Sadiya (2009).

Table 3: The Perceived Impact of Off-farm Employment on Farm Workers in Gwer West LGA

Variable of impact on off-farm employment		Extent of Impact				Total	Weighted Mean Score/ Rank
		Very High Extent	*High Extent*	*Low Extent*	*Very Low Extent*		
Reduction in farm size	Count/(%)	266 (70.0)	114 (30.0)	0 (0.0)	0 (0.0)	380	3.7
	Weighted Count	1064	342	0	0	1406	1st
Reduction in poverty	Count/(%)	253 (66.6)	127 (33.4)	0 (0.0)	0 (0.0)	380	3.67
	Weighted Count	1012	381	0	0	1393	2nd
Education	Count/(%)	238 (62.6)	138 (36.3)	4 (1.1)	0 (0.0)	380	3.62
	Weighted Count	952	414	8	0	1374	3rd
Increase in farm investment	Count/(%)	197 (51.8)	176 (46.3)	7 (1.8)	0 (0.0)	380	3.5
	Weighted Count	788	528	14	0	1330	4th
Farm output	Count/(%)	217 (57.1)	126 (33.2)	37 (9.7)	0 (0.0)	380	3.47
	Weighted Count	868	378	74	0	1320	5th
Increase in other non-farming economic activities	Count/(%)	156 (41.1)	217 (57.1)	6 (1.6)	1 (0.3)	380	3.39
	Weighted Count	624	651	12	1	1288	6th
Households income	Count/(%)	149 (39.2)	218 (57.4)	13 (3.4)	0 (0.0)	380	3.36
	Weighted Count	596	654	26	0	1276	7th
Farm labour availability	Count/(%)	152 (40.0)	144 (37.9)	71 (18.7)	13 (3.4)	380	3.14
	Weighted Count	608	432	142	13	1195	8th
Elevation of household need	Count/(%)	93 (24.5)	197 (51.8)	84 (22.1)	6 (1.6)	380	2.99
	Weighted Count	372	591	168	6	1137	9th
High cost of farm produce	Count/(%)	126 (33.2)	156 (41.1)	35 (9.2)	63 (16.6)	380	2.91
	Weighted Count	504	468	70	63	1105	10th

Source: Fieldwork (2021)

Additionally, a WMS of 3.67—derived from the responses of 253 respondents (66.6%) for VHE and 127 respondents (33.4%) for HE—indicated that the reduction in poverty was the second highest impact of off-farm employment in the study area. This suggests that as smallholder farmers engage in both agricultural and non-agricultural employment, the resulting income helps reduce poverty that would otherwise significantly affect households. This conclusion supports evidence from Lanjouw and Feder (2001), Haggblade et al. (2007), and Owusu et al. (2011). The third most significant impact was on education, as indicated by a WMS of 3.62. This score was based on the responses of 238 respondents (62.6%) for VHE, 138 respondents (36.3%) for HE, and 4 respondents (1.1%) for low extent (LE). The findings clearly indicate that as households engage in off-farm employment, the income generated is used to finance the education of their children.

Similarly, the variable of increased farm investment was ranked fourth, with a WMS of 3.50. This score was derived from the opinions of 197 respondents (51.8%) for VHE, 176 respondents (46.3%) for HE, and 7 respondents (1.8%) for LE. This finding suggests that off-farm employment encourages farmers to reinvest in the agricultural sector.

Farm output was ranked fifth in terms of impact, with a WMS of 3.47; based on the responses of 217 respondents (57.1%) for VHE, 126 respondents (33.2%) for HE, and 37 respondents (9.7%) for LE. The variable of increased non-farming economic activities was ranked sixth, with a WMS of 3.39, based on the responses of 156 respondents (41.1%) for VHE, 217 respondents (57.1%) for HE, 6 respondents (1.6%) for LE, and 1 respondent (0.3%) for very low extent (VLE).

Household income was identified as the seventh most significant impact of off-farm employment in Gwer West LGA, with a WMS of 3.36. This ranking was based on 149 respondents (39.2%) indicating VHE, 218 respondents (57.4%) indicating HE, and 13 respondents (3.4%) indicating LE. Farm labour availability was ranked eighth, with a WMS of 3.14, based on the responses of 152 respondents (40%) for VHE, 144 respondents (37.9%) for HE, 71 respondents (18.7%) for LE, and 13 respondents (3.4%) for VLE.

The elevation of household needs was ranked ninth, with a WMS of 2.99, based on 93 respondents (24.5%) for VHE, 197 respondents (51.8%) for HE, 84 respondents (22.1%) for LE, and 6 respondents (1.6%) for VLE. The high cost of farm produce was identified as the tenth highest impact, with a WMS of 2.91; based on the responses of 126 respondents (33.2%) for VHE, 156 respondents (41.1%) for HE, 35 respondents (9.2%) for LE, and 63 respondents (16.6%) for VLE.

Overall, the findings clearly indicate that the reduction in farm size, reduction in poverty, and improvements in education were the most significant impacts of off-farm employment in the Gwer West LGA.

4.2 Relationship between Off-farm Employment and Increase in Agricultural Productivity of Farm Owners in Gwer West LGA

To achieve the primary aim of this research, a frequency table was employed to analyse respondents' views on whether there had been an increase in agricultural output among farm owners in the selected communities following the employment of farmers who engage in off-farm work. The results presented in Table 4 indicate that the majority—190 respondents (50%)—strongly agreed with the assertion that agricultural produce had increased since farm owners began employing off-farm workers. Additionally, 181 respondents (47.6%) agreed with the statement, while 9 respondents (2.4%) were unsure or undecided.

These findings align with previous studies by Nasir and Hundie (2014), Nkonya et al. (2005), Akinseinde (2006), Adebayo (2006), Ajibefun and Abdulkadri (2004), Ajibefun et al. (2002), and Ogundele and Okoruwa (2006): all of which similarly revealed that the production output of farm owners significantly increased as a result of employing wage labourers on their farmland.

Table 4: Perceived Increase in Agricultural Produce since the Engagement of Off-farm Workers in Gwer West LGA

Response	Frequency	Percent
Strongly Agree	190	50.0
Agree	181	47.6
Not sure/undecided	9	2.4
Total	**380**	**100.0**

Source: Fieldwork (2021)

To determine whether the results in Table 4 were not due to chance, a hypothesis was formulated stating: "*There is no significant relationship between off-farm work and agricultural output.*" The results are shown in Table 5.

Table 5: Correlations between Off-farm Work and Agricultural Output in Gwer West LGA.

Test Variables/Statistics		Work with the highest off-farm employment opportunities in the area	Possible increase in agricultural produce in the community since the involvement of farmers in off-farm employment
Work with the highest off-farm employment opportunities in the area	Pearson Correlation	1	0.118*
	Sig. (2-tailed)		0.022
	N	380	380
Possible increase in agricultural produce in the community since the involvement of farmers in off-farm employment	Pearson Correlation	0.118*	1
	Sig. (2-tailed)	0.022	
	N	380	380

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Fieldwork (2021)

The results in Table 5 reveal a very weak Pearson product moment correlation (PPMC) coefficient (R) of 0.118 (11.8%). However, since the p-value of 0.022 is less than the 0.05 level of confidence (two-tailed test), the correlation is statistically significant. Consequently, the null hypothesis is rejected, and the alternative hypothesis is accepted. It is therefore concluded that there is a significant relationship between off-farm work and agricultural output.

5. Conclusion and Recommendations

The study reveals key insights into the demographics, livelihood patterns, and effects of off-farm employment in Gwer West LGA, Benue State, Nigeria, highlighting a male-dominated, agrarian community where most residents rely on farming due to the lack of formal education. While off-farm employment provides income diversification, it also poses challenges such as reducing farm size. However, it has significantly increased agricultural output, demonstrating its potential to complement and enhance agricultural productivity in rural communities.

The significance of this study lies in its contribution to understanding the dynamics of off-farm employment in agrarian communities, particularly its effects on farm size, poverty reduction, and overall agricultural productivity. The study provides a basis for policy recommendations aimed at optimizing the benefits of off-farm employment, while mitigating its potential drawbacks.

In light of these findings, it is recommended that, given the widespread adoption of off-farm employment in rural farming communities to overcome income constraints and increase production capacity, it is essential to train smallholder farmers who are involved in off-farm employment to reinvest their off-farm income back into agricultural activities to offset the loss of labour on their farms. Additionally, it is recommended that households involved in off-farm work should ensure that their absence from their farms does not lead to a reduction in farm size due to the neglect of farm allotment rights.

The study also advocates for government support for smallholder farmers through incentives that enhance their farming activities, preventing them from abandoning their farms for non-farm work. Finally, it is recommended that smallholder farmers who engage in off-farm work be encouraged to work as farm labourers rather than being fully engaged in non-farm sectors, as this would help increase agricultural production and address food insecurity in the region.

This study significantly contributes to the body of knowledge on the interplay between off-farm employment and agricultural productivity, providing valuable insights for policymakers, development practitioners, and researchers interested in rural development and agricultural economics.

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