

Poverty and Agricultural Productivity: Implications for Food Security and National Development

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Abstract

Agriculture and food security are important components of a sustainable future and wellbeing that are impeded by critical challenges in developing countries, key among which are poor policies and endemic poverty among the farmers in addition to epic phenomenon of global warming and climate change. While Agriculture is the main stay of most of such economies, it also an important employer of labour and income generation for the people, providing the basic foundation for food security. This study examines the links between poverty and food production, food security and meaningful development of the country. The study is a descriptive survey type, which used questionnaires FGD, interviews, and posits that food insecurity is an important challenge in Nigeria in particular, that is caused by inadequate food production occasioned by poor agricultural policies, high level of poverty, climate change. The study suggests that governments and agriculture stakeholders at all levels must ensure adequate support to agriculture through adequate policies, essential in food security and meaningful development of the country.

Keywords: Agriculture, Agricultural Policy, Development, Food Production and Food Security.

1. Background to the Study

As a foremost and one of the oldest industries in the world, agriculture is an important activity that is as old as man. It as well as the main stay of the nation's economy. It accounts for 40 percent of Nigeria's non-oil export, thus making it a huge and reliable source of employment, income, and foreign exchange earnings for the country. Agriculture is a key livelihood activity that serves as a source of food security that is however, susceptible to many challenges that bother on climate variability, socio-cultural practices and state policies. Agriculture is however, amenable to research and technological leverages, global best bet practices like sustainable land management (SLM), which is that land use type that meets the present changing needs of the people, while simultaneously encouraging the long term productive potential of these resources and the maintenance of their environmental functions for future benefits, and adequate financial support and incentives (Yusuf, 2020, and Dahiru, 2025).

Agriculture is the backbone of Nigeria's economy, employing over seventy-five per cent of the population, with land resources as its chief asset. In response to these challenges, Nigerian governments has set out several policies and strategies to deal with the perennial challenges of the occupations, as well as signed a number of international treaties and declarations, essential in sustainable agriculture and food security. Since the global food crisis of 2007-2008, there was an

increasing global awareness on the need for more and better quality food production, especially in Africa (Dahiru, 2025).

The African food sufficiency challenge can be regarded a blessing of some sort in disguise, because as a fall out to it, far reaching commitments were made by African heads of states and governments to double their budgetary allocations to the sector in 2010-2011.

According to the Food and Agricultural Organization (FAO), about 870 million people are estimated to be undernourished between 2010-2012. This figure represents 12.5 percent of the global population, the vast majority (852 million) of which live in developing countries of the world, where undernourishment is estimated at 14.9 percent of the population (Zakari, Ying, and Song, 2014). In response to these challenges, Nigerian governments launched a number of agricultural policies/interventions aimed at revitalizing the sector, with the most recent of such as the 2015 CBN's ABP, which was conceptualized to link up smallholder farmers with commodity off-taker firms, thereby facilitating farmers' access to all forms of supports and ennoblements like inputs, extension services, credits, and markets, in spite of which food production still lags behind the population growth and needs, thereby leaving gaps in her food production and security needs.

This program was launched in selected states of the country, including Kebbi, during the 2019/2020 cropping year, with selected commodities like rice, maize, wheat, and a view to taking farming from subsistence to commercial level and enhance food security and rural incomes. This study assesses the nexus between poverty, agricultural productivity and food insecurity from the lens of CBN's Anchor Borrowers' program (ABP) agricultural credit support to small scale rural farmers of Kebbi State.

Aim and Objectives

This paper examines the links between CBN's ABP, food production /agricultural productivity, food security, and poverty among targeted small-scale farmers of Kebbi state, with a view to demonstrate the nexus between the trio; and encourage agricultural credit support for improved food production and food security in Nigeria, which are critical in achieving the UN Sustainable Development Goals 1, 2, and 12.

The study holds that:

The key cause of food insecurity is inadequate food production, which is incapable of adequately catering to the various food needs of the people. This development is aided by poverty and poor agricultural policies among other important challenges, with serious implications for the meaningful development of any affected area.

Agricultural financing is crucial in enhanced and sustained agricultural productivity and improved income for farmers, especially among small holder farmers, who are the bulk of the producers of foods in this and part of Nigeria.

Sustainable agriculture is a weapon of mass construction, which is an imperative for efficient food production in an area (Matemilola, & Elegbede, 2017).

In spite of the fact that farming is an age long activity in Nigeria, the country still relies on staple food imports to feed its people, with far reaching challenges on food production and food security.

This study focuses on the impact of ABP on food security occasioned by increased production by smallholder rice farmers of Kebbi state during the 2019/2020 farming season, where statistic on rice production have shown an increase from 90,000 metric tons to 210, 000 metric tons, with a capacity of reaching 320,000 metric tons in the next one year (Yusuf, 2020).

Despite the significant progress made through the APB initiatives however, food insecurity remains a pressing issue in Nigeria. While studies have examined the impact of the ABP intervention on rice production and farmers' income, most have focused on the early years of the program and limited geographic areas. There is hence a need for updated and more comprehensive research to assess the program's long-term impact and identify strategies for scaling its successes.

2. Literature Review

Conceptual Framework

Agriculture is keys to food production, food security and economic stability for households and societies. This sector is however subsistent, non-attractive, and inefficient in Nigeria, and characterized with high risk and low productivity, and hence the perennial threat of food insecurity in the country (Dahiru, 2025; Bhatt, 2018; Pan, 2020).

Agricultural productivity is the measure the outputs from a set of inputs. It shows how efficiently resources are used in farming, while food security is “[the condition] when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and preferences for an active and healthy life”. It thus encompasses the availability of, access to, and their use of food, as well as the stability of all three components (Matemilola & Elegbede, 2017). To effectively fight poverty and revolutionize the sector therefore, governments and stakeholders must make the poor local farmers, active and efficient producers. The focus for availability is on agricultural production as a combination of land and agricultural productivity, while the access dimension includes food prices, and income and food distribution (Dahiru, 2025).

The USAID conceptual framework of food security involves three distinct but interrelated components: food availability, food access, and food utilization. Achieving food security requires sufficient physical supplies of food (availability), adequate household access to these food supplies (access), and appropriate use of food to meet people’s specific dietary and physiological needs (utilization) (Lampridi, Sørensen, & Bochtis, 2019; USAID, 1992).

Table 1: Factors affecting food security

Availability	Access	Utilization
• Land availability • Land productivity • Quantity and quality of labor force • Availability of productive assets • Availability of inputs and production tools • Climate and climatic shocks • Food production infrastructure	• Income • Savings and assets • Market infrastructure • Social constraints, including stigma • Macroeconomic issues and terms of trade • Physical barriers and constraints • Culture and traditions • Conflict • Intra-household food distribution	• Food quality and diversity • Knowledge of nutritional requirements • Knowledge, skills, time, and resources to prepare food • Water supply • Environmental sanitation • Disease and infections • Food habits • Care practices, including child care and care of the sick

Source: USAID, 1992.

Food security is a multi-dimensional issue that entails much more than food production to food accessibility, affordability and stability for all in the society, achieving which depends on good agricultural policies and strategies to fight poverty and other critical challenges like environmental degradation, climate change, agricultural value chain enhancement among others (Dahiru, 2024). The relationship between agricultural credit supports, food production and food security is very strong, independent and mutually reinforcing. This is amply demonstrated by the Central Bank of Nigeria’s (CBN) Anchor Borrowers’ program credit support/ intervention offered to small scale farmers in Kebbi, which served as the catalyst that revolutionized and massively boosted both their (rice) production and disposable incomes, as well as helped the country in reducing its perennial rice and other staple food importations, thereby improving food security for the people in that area (Udemezue, 2018; Imolehin & Wada, 2000; Yusuf, 2020).

Ensuring Food Security in Nigeria

Nigeria will have to take concrete steps to ensure its future food security like:

Ensuring a healthy and educated population, essential in pursuing higher labour and productivity.

Inclusive growth to let progress at macro level trickle down to poorer population

segments.

Modernisation of agriculture including adequate infrastructure and efficient production conditions.

Strong institutional settings that provide good policies and incentives to invest in agriculture, storage, produce marketing, and value addition.

Environmental sustainability and ways to mitigate and cope with biodiversity loss and climate variability. In particular the country must pursue a climate-smart and climate-resilient agriculture that will include sustainable use of its soil resources (Ilaboya, et al. 2012).

3. Materials and Methods

The Study Area and Methods

The study area is Kebbi, Kebbi State, Nigeria, Kebbi State is located on the North-Western part of Nigeria between latitudes 10° and 13° N and longitudes 3° 30' and 6° E. The state has a total land area of about 37,699 square kilometers, out of which 36.46% is made up of farmlands. The state shares borders with Niger Republic to the North and Benin Republic to the west. It is internally bordered to the North-East by Sokoto State, to the East by Zamfara State and to the south by Niger State.

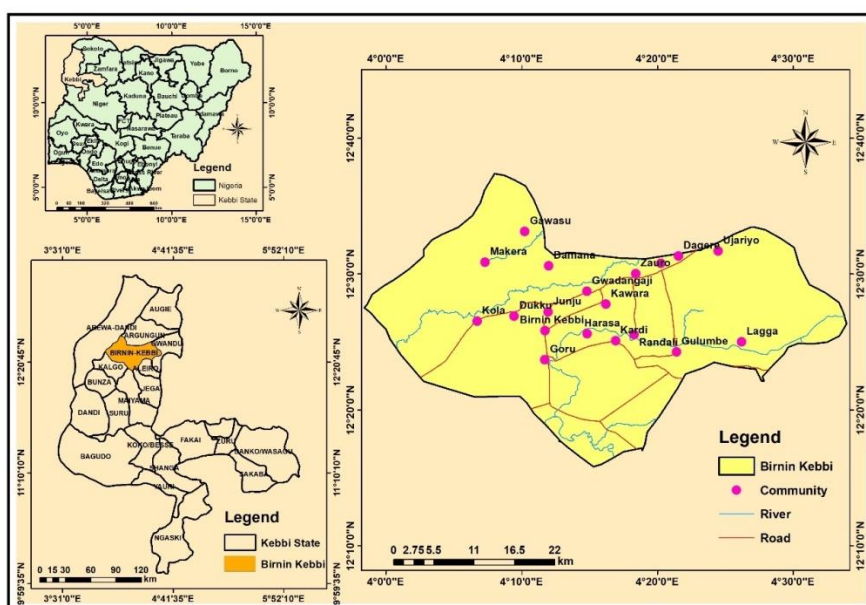


Figure 6: Map of Study Area

Source: NSUK GIS Laboratory.

The state has a tropical type of climate, which is characterized with tropical weather conditions. It has the rainy and dry seasons, with the former between mid-May and mid-September, while the latter lasts for seven months period yearly, with of annual temperature variation between 650F and 1040F, and a population of 3,238,628 (NPC, 2006), with Agriculture as the most important livelihood activity.

Sampling Method

Purposive sampling method was used in data collection given the nature of the study respondents, which is constituted by the APB beneficiary farmers, with a sample size of 300. Both primary and secondary data were used in the study.

4. Results and Discussions

Progress under the ABP, before and after intervention

Significant progress was recorded following the ABP intervention on the production activities of targeted farmers in Kebbi State, as shown in the following tables.

Table 1: Rice Yield in tons before and after ABP intervention

Community name	Land area in hectares	Total yield in tons before ABP	Total yield in tons after ABP
Birnin Kebbi	27	77.50	135.00
Gwadangaji	15	43.50	70.50
Dukku	16	45.60	81.60
Makera	15	42.00	69.00
Ambursa	17	49.30	83.30
Busawa	14	40.60	66.50
Kardi	12	34.20	60.00
Goru	15	43.50	76.50
Zauro	18	50.40	103.50
Kola/Tarasa	20	56.00	115.00
Gulumbe	15	42.75	67.50
Hammari	17	48.45	93.50
Junju	15	42.00	72.00
Dagere	14	43.40	70.00
Damana	16	44.00	65.60
Harasawa	13	37.70	57.85
Kawara	16	44.80	77.60
Randali	15	43.50	84.00
Ujariyo	18	52.20	108.00
Gawasu	17	49.30	87.55
Lagga	15	42.75	81.00
Total	340 Hectare	973.45 Tons	1725.50 Tons

Sources: Researcher's computation from the survey questionnaire

Based on the Researcher's analysis, ABP has made significant progress in rice production across the communities (Umeh & Adejo, 2019; Udemezue, 2018). Before the ABP, the total rice yield across 340 hectares was 973.45 tons, but after the program, the figure rose to 1,725.50 tons representing an increase of over 75 %. Also the increase in total yield implies broader positive economic and social impacts for the study area, signifying increased production/productivity among the targeted farmers.

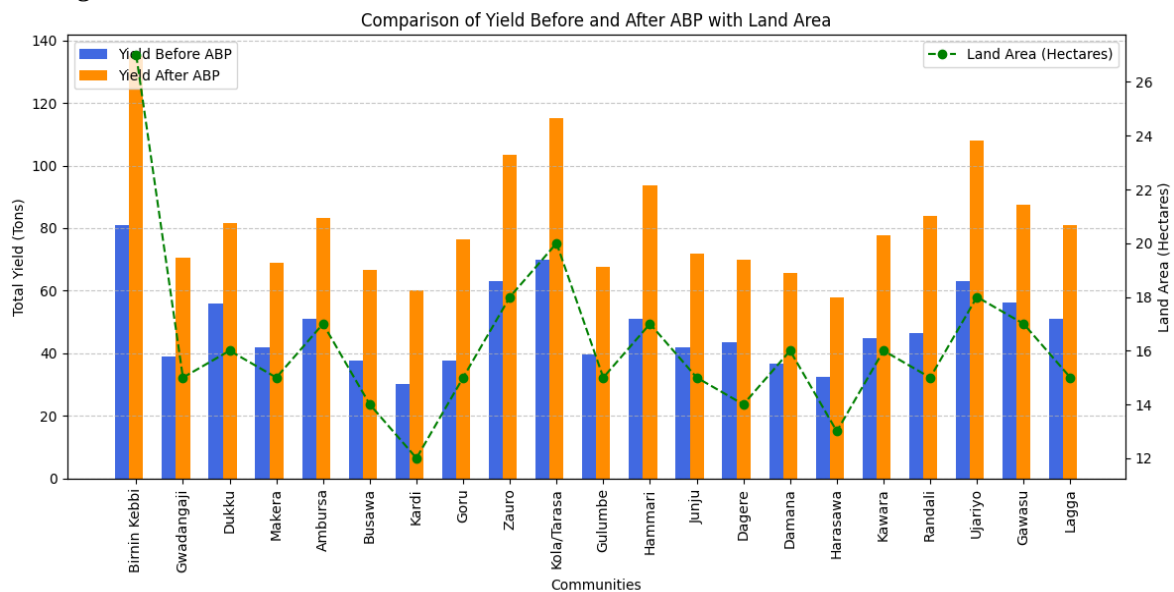


Figure 7: Visualization of Rice yield before and after ABP intervention

The comparison of rice yield before and after the implementation of the ABP reveals

significant improvements in agricultural productivity across multiple communities, suggesting that the program has successfully enhanced farming outputs in the study area.

Economic Impact of ABP on Livelihoods and Income Generation of the Farmers

Part of the objectives of the ABP is to grow the economy and enhance the socio-economy of the smallholder farmers. Data from the field indicated that a ton of rice goes for ₦1,200,000.00. This price is used to calculate the value of farmers' output in ton as indicated on table 2 below (CBN, 2020):

Table 2: Income generation before and after ABP intervention

Land Area (Hectare)	Total Yield Before ABP (Tons)	Total Yield After ABP (Tons)	Income Before ABP (₦)	Income After ABP (₦)	Income Increase (₦)
27	77.50	135.00	93,000,000.00	162,000,000.00	69,000,000.00
15	43.50	70.50	52,200,000.00	84,600,000.00	32,400,000.00
16	45.60	81.60	54,720,000.00	97,200,000.00	42,480,000.00
15	42.00	69.00	50,400,000.00	82,800,000.00	32,400,000.00
17	49.30	83.30	59,160,000.00	99,960,000.00	40,800,000.00
14	40.60	66.50	48,720,000.00	79,800,000.00	31,080,000.00
12	34.20	60.00	41,040,000.00	72,000,000.00	30,960,000.00
15	43.50	76.50	52,200,000.00	91,800,000.00	39,600,000.00
18	50.40	103.50	60,480,000.00	124,200,000.00	63,720,000.00
20	56.00	115.00	67,200,000.00	138,000,000.00	70,800,000.00
15	42.75	67.50	51,300,000.00	81,000,000.00	29,700,000.00
17	48.45	93.50	58,140,000.00	112,200,000.00	54,060,000.00
15	42.00	72.00	50,400,000.00	86,400,000.00	36,000,000.00
14	43.40	70.00	52,080,000.00	84,000,000.00	31,920,000.00
16	44.00	65.60	52,800,000.00	78,720,000.00	25,920,000.00
13	37.70	57.85	45,240,000.00	69,420,000.00	24,180,000.00
16	44.80	77.60	53,760,000.00	93,120,000.00	39,360,000.00
15	43.50	84.00	52,200,000.00	100,800,000.00	48,600,000.00
18	52.20	108.00	62,640,000.00	129,600,000.00	66,960,000.00
17	49.30	87.55	59,160,000.00	105,060,000.00	45,900,000.00
15	42.75	81.00	51,300,000.00	97,200,000.00	45,900,000.00
	973.45 Tons	1725.50 Tons	1,168,140,000.00	2,069,880,000.00	901,740,000.00

Sources: Researcher's computation from the survey questionnaire, (2023).

The data above shows a remarkable increase in income generation after the implementation of the ABP. Before the ABP, total income from rice production across the studied communities stood at ₦1,168,140,000.00, but this rose significantly to ₦2,069,880,000.00 after the program with an increase of ₦901,740,000.00. This more than 77% jump in income, suggesting that ABP interventions have improved the income/financial benefits of rural farmers.

Additionally, the table indicates that the income increases were widespread across both small and large landholding farmers. For instance, a farmer cultivating 12 hectares (e.g., ₦41 million before ABP, and ₦72 million after ABP intervention) and one with 27 hectares (₦93 million before ABP intervention, and ₦162 million after ABP intervention), suggesting that ABP was both inclusive and effective across different farm scales, broader positive socio-economic implications.

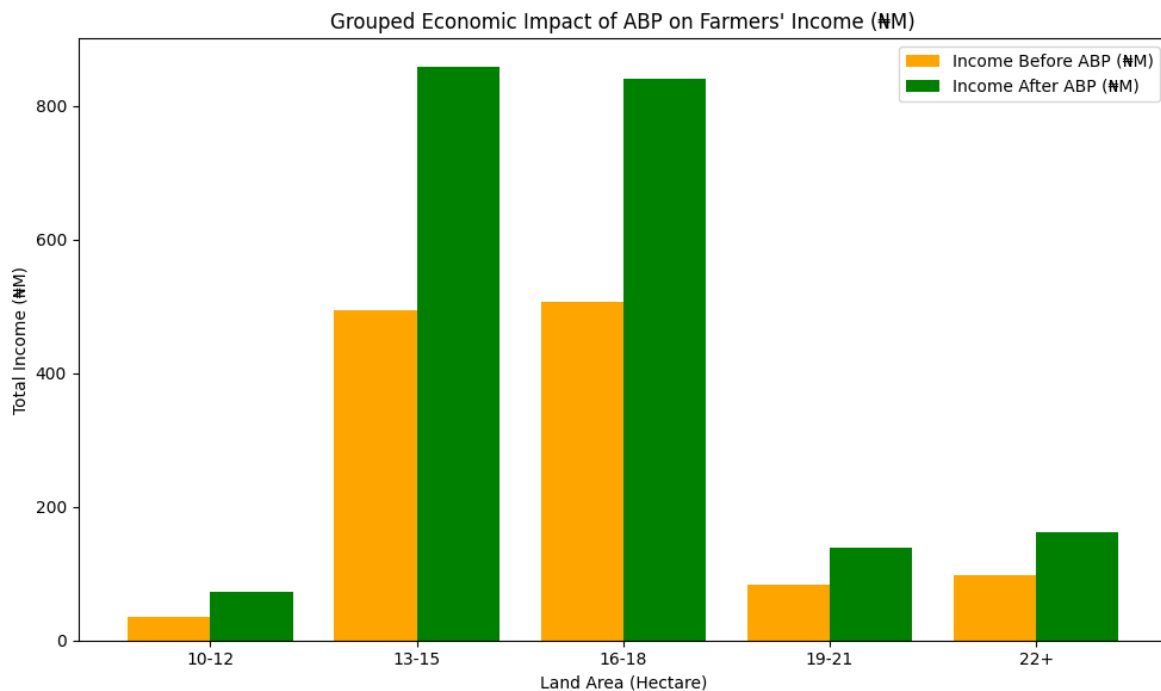


Figure 8: Histogram illustration of income generation before and after the ABP.

The results indicate that the adoption of ABP led to a universal increase in farmers' incomes. The impact on smallholder farmers is particularly significant, as demonstrated by income increases averaging between 49% and 105%. Such growth represents a major boost to household earnings, helping to reduce poverty levels and improve the overall standard of living for farming families. ABP intervention has a significant positive impact on smallholder farmers, with an average income increase of ₦2,652,176.47 per farmer as highlighted by the bar graph.

Table 3: Crop yield and income generated before and after the program

Land Area (Hectare)	Total Yield Before ABP (Tons)	Total Yield After ABP (Tons)	Income Before ABP (₦)	Income After ABP (₦)	Income Increase (₦)
27	77.50	135.00	93,000,000.00	162,000,000.00	69,000,000.00
15	43.50	70.50	52,200,000.00	84,600,000.00	32,400,000.00
16	45.60	81.60	54,720,000.00	97,200,000.00	42,480,000.00
15	42.00	69.00	50,400,000.00	82,800,000.00	32,400,000.00
17	49.30	83.30	59,160,000.00	99,960,000.00	40,800,000.00
14	40.60	66.50	48,720,000.00	79,800,000.00	31,080,000.00
12	34.20	60.00	41,040,000.00	72,000,000.00	30,960,000.00
15	43.50	76.50	52,200,000.00	91,800,000.00	39,600,000.00
18	50.40	103.50	60,480,000.00	124,200,000.00	63,720,000.00
20	56.00	115.00	67,200,000.00	138,000,000.00	70,800,000.00
15	42.75	67.50	51,300,000.00	81,000,000.00	29,700,000.00
17	48.45	93.50	58,140,000.00	112,200,000.00	54,060,000.00
15	42.00	72.00	50,400,000.00	86,400,000.00	36,000,000.00
14	43.40	70.00	52,080,000.00	84,000,000.00	31,920,000.00
16	44.00	65.60	52,800,000.00	78,720,000.00	25,920,000.00
13	37.70	57.85	45,240,000.00	69,420,000.00	24,180,000.00
16	44.80	77.60	53,760,000.00	93,120,000.00	39,360,000.00
15	43.50	84.00	52,200,000.00	100,800,000.00	48,600,000.00
18	52.20	108.00	62,640,000.00	129,600,000.00	66,960,000.00
17	49.30	87.55	59,160,000.00	105,060,000.00	45,900,000.00

15	42.75	81.00	51,300,000.00	97,200,000.00	45,900,000.00
	973.45 Tons	1725.50 Tons	1,168,140,000.00	2,069,880,000.00	901,740,000.00

Sources: Researcher's computation from the survey questionnaire, (2023).

The table reveals a significant rise in farmers' income, reflecting direct economic benefits of improved agricultural productivity. Across all communities, total income increased from ₦1,168,140,000.00 before ABP to ₦2,069,880,000.00 after ABP. This increase mirrors the rise in total rice yield from 973.45 tons to 1,725.50 tons, showing that the ABP successfully translated higher output into greater financial returns.

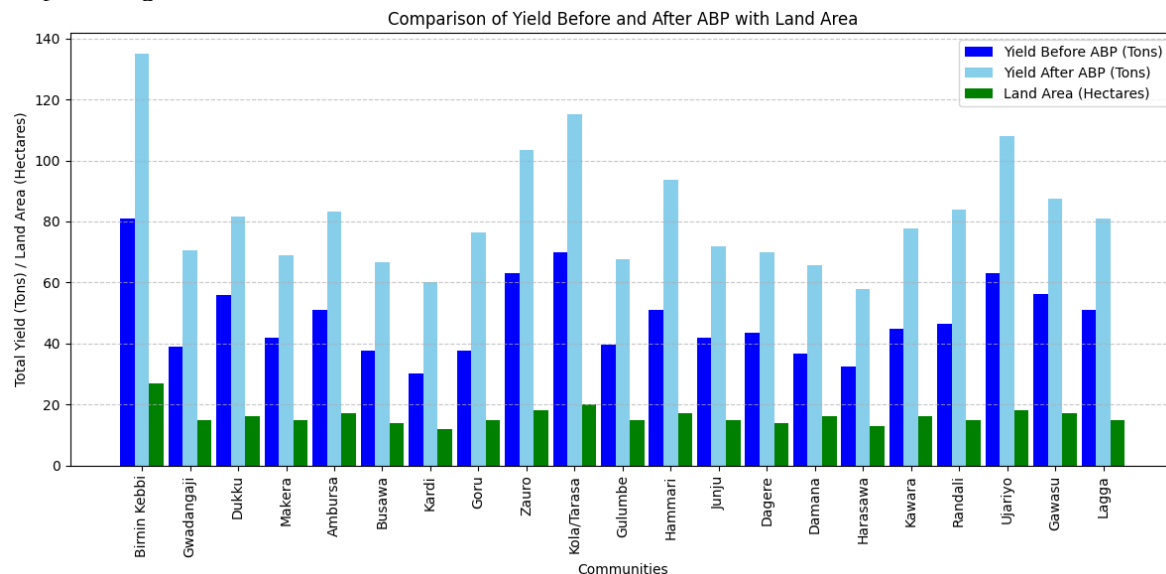


Figure 9: Crop yields before and after ABP intervention

The comparison of rice yields before and after the implementation of ABP demonstrates a clear positive impact on agricultural productivity across multiple communities (Yusuf, 2020).

The ABP intervention has proven to be highly successful, reinforcing the idea that agriculture financing is a key strategy for enhanced and sustainable food production/security and improved farmers' income and meaningful development in an area. The findings of this study indicate ABP intervention has been effective in boosting agricultural productivity by promoting sustainable agricultural practices, and contributed significantly to ensuring food security by transforming traditional smallholder farmers into large-scale and commercially oriented producers, ensuring both steady and sustainable income flow for them. In spite of its potentials, ABP intervention has important challenges inimical like high initial costs at take-off, social barriers like resistance to change and gender inequality, technical hitches and institutional weaknesses, among others.

To fully realize its potentials, a holistic approach is essential to improve access to resources, promote gender equality, and invest in critical infrastructure. By addressing these constraints, the adoption and performance of ABP will be significantly enhanced, paving the way for sustainable agricultural development and improved livelihoods for farmers in Nigeria.

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