

Assessment of the Impact of Kano State Agro-Pastoral Development Project (KSADP) on Food Security and Poverty Reduction among Rural Communities in Kano State

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Abstract

The study investigates the impact of Islamic Development Bank's Kano State Agro-Pastoral Development Project (KSADP) covering nine (9) local government areas of the state. Main objectives of the study were to examine the level of food security and poverty among beneficiaries of Kano State Agro-Pastoral Development Project before the implementation of the project, examine the strategies adopted by the Kano State Agro-pastoral Development Project, assess the outcome and outputs registered by the Kano State Agropastoral Development Project, identify the major obstacles and challenges faced during the implementation of the project and lastly to recommend ways that could be used by policy makers in reducing poverty and enhancement of food security in the study areas. Descriptive survey method was used to enable the collection of quantitative data directly from the beneficiaries and stakeholders of the project, thereby allowing for an empirical assessment of the project's outcomes. The study use purposive sampling technique to identify a total of 132 study area population with calculated sample size of eighty (80) beneficiaries. Therefore a total of 80 questionnaires were distributed across the study areas. Findings of the study revealed that a lack of food security was near universal across the respondents having a total of 97.5% disagreed that households had sufficient food ($M = 1.31$), while $\geq 97.5\%$ agreed with constraints around inputs, knowledge, markets, and water/sanitation ($M \approx 4.40-4.50$).the study further reveal the effectiveness of the KSADP intervention as food production and income achieved high means $M = 4.35$ and 4.35 ; $A/SA \geq 95\%$, with additional gains in knowledge ($M = 4.09$), nutrition ($M = 4.16$), savings/investment ($M = 4.19$), and market access ($M = 4.03$).Finally, the study recommended that policymakers should prioritize investment in infrastructure, particularly rural roads and storage facilities, to strengthen market access and reduce post-harvest losses, training and extension services should be scaled up to sustain knowledge transfer and improve adoption of modern practices, greater emphasis should be placed on climate adaptation strategies and input subsidies to mitigate environmental and economic constraints, youth and women should be mainstreamed into agricultural programs, given their high endorsement by respondents and institutional mechanisms for monitoring and evaluation should be strengthened to ensure accountability, transparency, and adaptive learning in project implementation.

Keywords: Agro Pastoral, Development, poverty and food security

INTRODUCTION

In Nigeria and Kano State in particular, poverty and food insecurity have remained daunting challenges in rural communities. Using the Global Multidimensional Poverty Index(MPI), the National Bureau of Statistics (NBS, 2022) reported, that in Nigeria, 63

percent of its total population was classified as poor. This indicates that a total of 133 million people are multidimensionally poor. The report further indicates that the National MPI is 0.257, indicating that poor people in Nigeria experience just over one-quarter of all possible deprivations. 65 percent of the poor (86 million people) live in the north, while 35 percent (nearly 47 million) live in the South. Poverty level across the states varies significantly, with the incidence of multidimensional poverty ranging from a low of 27 percent in Ondo to high of 91 percent in Sokoto. The report shows a sharp increase in the country's poverty level where an average of 82.9 million Nigerians are considered poor and food insecure by national standard. From 2019 to 2024, Nigeria's agricultural sector has been hurt by several shocks: regular flooding, desertification of crop and grazing land, extremist insurgencies, and conflicts between herdsmen and local farmers. Food processing continues to suffer from lack of financing and infrastructure. Nigeria slipped into recession after growth figures showed that the economy has contracted by 2.06 percent. These challenges have exacerbated food inflation which rose to 23.75 percent in 2022 and by April 2024 it rose to 33.69 percent (Premium Times, 15th March 2024). The sluggish growth is mainly attributed to a slowdown in economic activity that has been adversely impacted by the inadequate supply of foreign exchange and aggravated by the foreign exchange restrictions targeted at a list of 41 imports, some of which are imports for manufacturing and agro-industry. This has resulted in cuts in production and shedding of labor in some sectors.

Agriculture is the dominant component of Nigerian economy. According to the Central Bank of Nigeria, (CBN), Economic Report (2021), Agriculture contributed to 24.17 percent to nominal GDP recording a shortfall from the previous year (2020) which stood at 25.70 percent. The CBN Report (2022), further reveals that the contribution of the sector to the GDP in 2022 stood at 23.69, while the same sector's contributions to the real GDP stood at 23.1 percent in 2023, recording a slight decrease from the previous figure in 2022 (CBN, 2023)). Farmers in the country have limited access to credit and the existing extension services are grossly inadequate. Accordingly, there were one (1) extension worker for 25, 000 farmers in the country compared to the best practice of 500 to 1000 farmers. Mechanized farming is also grossly inadequate with only about 30,000 tractors for 14 million farming groups and families. (NBS, Quarterly Report, 2023). Similarly, mechanization remains low in Nigeria, with smallholder farmers producing over 80% of the nation's food supply. Farmers rely on traditional tools like hoes and cutlasses, which limit their ability to cultivate larger plots or maximize productivity in some states. The Food and agricultural Organization (FAO, 2021), revealed that Nigeria's mechanization rate is only 0.27 horse power per hectre compared to 2.6 (hp/ha) and China (4.1 hp/ha). Agricultural production in Nigeria consists of crop, livestock, fishery, and forestry production. In terms of subsector contribution as a proportion of total agricultural sector contribution to GDP, crop production captures the largest share. In 2012, provisional estimates from the Central Bank of Nigeria show that crop production accounted for close to 88 percent of total GDP from agriculture, followed by livestock production (CBN 2014). Similarly, the sub sector remains the largest segment and it accounts for about 87.6% of agricultural sector output in 2020. This was followed by livestock, fishing and forestry at 8.1, 3.2 and 1.1 respectively. (Oyaniran, 2020)

Beyond doubt, the importance of agriculture to poverty reductions and employment generation in Nigeria is critical. The sector's activities provide a livelihood for many Nigerians. It is a key activity for Nigerian economy after oil, whereas, wealth

generated by oil reaches a restricted share of people. The World Bank (2023), further alluded to the fact that 'agriculture can help reduce poverty, raise incomes and improve food security for 80 percent of the world poor, who live in rural areas and were mainly in farming. However, despite the vital role of agriculture in decimating food insecurity and poverty reduction, food security and poverty have been a major global concern for many decades (UNO, 2022). Developing nations have over the years confronts these daunting challenges with vigor, employing national and international policy initiatives to tackle them. Internationally, the inflow of foreign capital in form of development grants and assistance into poor nations was remarkably carried out, targeting small holder farmers and other vulnerable population. The United Nations (UNO), Food and Agricultural Organization (FAO), the International Fund for Agricultural Development (IFAD), the World Bank, the Islamic Development Bank (IDB) etc, are at the forefront in confronting the challenges of food security and poverty through global policy initiatives and financial commitments in developing states. These initiatives have significantly impacted on the life of million populations around the globe. Many International Donor Agencies and in particular, Islamic Development Bank (IDB), has initiated and successfully implemented many programmes aimed at poverty reductions and food security enhancement. Among these projects are: Agro-pastoral Development and Local Initiative Promotion Programmes in Tunisia, between 2012-2020, and was sponsored by IFAD; Agro-pastoral Development Digitization and Market Access in Guinea, 2022-2023 by the African Development Bank(ADB); Agro-pastoral Productivity and Market Development in Niger, 2022-2025 by the United States Agency for International Development(USAID) and Crop Research Institute for the Semi Arid Tropics(ICRISAT); Agro-pastoral Development and Integrated Rural Development Project in Tunisia, 2002-2003, by International Fund for Agricultural Development(IFAD); Research and Innovation for Productive, Resilience and Healthy Agro-pastoral Systems in West Africa Project covering Burkina Faso, Mali and Niger, 2022-2024 sponsored by European Union(E.U). The successes of these projects in many countries, prompted Nigerian government to seek for Islamic Development Bank's intervention in some selected states with high poverty and food insecurity profile. Hence, the IDB's official engagement and launching of Kano State Agro-pastoral Development Project (KSADP)

According to KSADP Project Assessment Report(2017, p2), 'prior to the launching of Agro-pastoral Development Project, the Islamic Development Bank(IDB)'s operational size in Nigeria is about 1billion Dollars, of which 41 percent is project financing, 40 percent trade related activities and 19 percent private sector operations'. Moreover, the Bank's active portfolio consists of the following operations: Jigawa State Integrated Rural Development Project; Construction and Equipment of Six Science Secondary Schools in Kaduna State, Bilingual Education Project for Adamawa, Borno, Gombe, Kaduna, Kano, Kwara, Niger, Nassarawa and Osun States, Africa Finance Corporation(AFC)-transport, telecommunications and petrochemical projects); Construction and Equipment of a 300-Bed Specialized Hospital in Kaduna State, Zaria Water Supply Expansion Project and, Ilesa Water Supply and Sanitation Project. Other projects that were successfully completed in Nigeria is 30 Million Dollars National Program for Food Security (NPFs) in Anambra, Gombe and Yobe States, that involved 27 Local Government Areas. Major components of the programmes were agricultural inputs, livestock improvement, and aquaculture, capacity building and agro-processing,(Project Assessment Document, 2017). Base line of the study therefore lies

on the success recorded by these projects in Nigeria. Thus, this study seeks to assess the impact of Kano State Agro-pastoral Development Project (KSADP) on food security and poverty reduction among rural communities in Kano State. The KSADP project aimed at food security enhancement and poverty reduction. The food security aspect of the project will be achieved through two main Intervention components. These are: Crop production and Livestock enhancement and development. Under crop productions, small holder farmers will be supported to enhance productions of maize, rice, sorghum, soybeans, cowpea, wheats and groundnut. KSADP will support them with agricultural input such as fertilizer, improved varieties of seeds, storage facilities, machines, pesticides, grain markets development, agricultural extension services and training etc would be provided to smallholder farmers. The second component will support Livestock development (cattle, sheep, goats, chickens). KASDP will invest in livestock value chains (meat and milk), infrastructure development such as construction of animal health clinics, cattle market development, slaughter house development and artificial insemination centers; provision of matching grants for smallholder farmers interested in animal fattening and support for vaccination of cattle, sheep and goats. The Poverty Reduction components are: empowerment programmes, capacity building, Credit facilities. The study uses Multi-dimensional Poverty Index (MPI) as a tool to measure poverty.

From the foregoing, it could be observed that food security and poverty alleviation have remained central issues in global development discourse for decades (United Nations, 2022). Consequently, developing countries, particularly in Africa, continue to grapple with these twin challenges, employing a wide range of policy interventions and donor-supported programs to mitigate their effects. These initiatives often target smallholder farmers, pastoralists, and rural communities whose livelihoods depend on agriculture. Successful agro-pastoral development programs have been implemented in Tunisia, Guinea, Niger, Burkina Faso, and Mali, with significant outcomes in productivity enhancement, rural empowerment, and resilience building (African Development Bank, 2022; European Union, 2023). Inspired by these outcomes, the Nigerian government sought the intervention of the Islamic Development Bank to address persistent challenges of food insecurity and poverty, culminating in the establishment of the Kano State Agro-Pastoral Development Project (KSADP). The KSADP was launched as a comprehensive agricultural initiative that integrates crop and livestock development with poverty reduction strategies. Its agricultural component emphasizes improving smallholder crop productivity through inputs such as fertilizers, improved seed varieties, storage facilities, mechanization, extension services, and market linkages (KSADP Project Assessment Report, 2017).

On the livestock side, the project promotes cattle, sheep, goat, and poultry development through investment in value chains, animal health services, artificial insemination centers, and modern slaughterhouses. Importantly, KSADP incorporates empowerment programs, capacity building, and credit access to address multidimensional poverty among rural populations. By combining food production with poverty alleviation strategies, KSADP seeks to strengthen household food security while simultaneously enhancing incomes and reducing vulnerability among rural communities in Kano state.

Despite the importance of agriculture to Nigeria's economy, the sector continues to face structural constraints such as low mechanization, limited credit access, climate-related shocks, and insecurity in rural areas (Central Bank of Nigeria,

2022; NBS, 2023). These challenges have contributed to rising food inflation, worsening nutritional outcomes, and increasing multidimensional poverty levels. In Kano State, which is predominantly agrarian, poverty levels remain among the highest in the country, with over 68% of the population classified as multidimensionally poor (NBS, 2022). Moreover, recurrent conflicts between farmers and herders, coupled with declining productivity, have intensified the vulnerability of rural households (World Bank, 2023). Addressing these issues requires context-specific, well-funded, and sustainable agricultural interventions such as KSADP, which combine food security with poverty reduction objectives. While existing studies have examined the broad relationship between agriculture, poverty, and food security in Nigeria (Oyaniran, 2020; World Bank, 2023; UNICEF, 2024), there is limited empirical evidence on the specific impact of large-scale agro-pastoral development projects such as the KSADP on rural livelihoods in Kano state. Previous donor-supported agricultural projects have highlighted successes and challenges in crop and livestock productivity, but the degree to which KSADP contributes to multidimensional poverty reduction and household food security outcomes in the region remains underexplored. This study, therefore, fills a vital gap in the literature by assessing the contribution of KSADP to food security and poverty reduction among rural communities in Kano state.

Statement of Research Problem

In Nigeria, food security and poverty has been a major concern of government at all levels. The country has a population of over 230 million people, making it the most populous country in Africa and the sixth most populous in the world. However, statement by the UN Department of Economic and Social Affairs-population Division (2025), revealed that the current population of Nigeria is 237,438,656. The population is unevenly distributed across the country, with the North West geo-political zone having the highest population density, while the South East has the least.

In Nigeria, 40% (82 million people) of the country lives below the International Poverty Line of \$2.15 daily, whilst another 25% are vulnerable, resulting in where over 40% of the population is undernourished. It was ranked second poorest in food affordability globally by the Institute of Development Studies, United Kingdom.

The Household Survey of Expenditure (2021) that about 28 per cent of the country's population was food insecure based on the cost of a diet with localized food references that achieved food-based dietary guidelines. Similarly, according to Household Survey of Expenditure,(2022), about 40 per cent of Nigeria population is identified as food insecure, malnourished and impoverished witnessing an increase of 12 percent in food insecurity index. In the same vein, data from World Food Program (2022), show that 26 states, (including Abuja) are in stressed food security situation with minimally adequate food consumption at 34 per cent. The acute food insecurity has risen by 5.4 million Nigerians to 17 million in 2022. Since 2019, Nigeria has remain food insecure, compared to others countries in Sub Saharan Africa (Global Hunger Index, 2023). The World Bank (2023) also report that as a result of global crisis, rising rates and inflation that stall global economic growth, Nigeria will continue to suffer more increased poverty and food insecurity among other challenges.

Although Kano state has an excellent record of commercial activities and agricultural development, being a regional trade hub servicing a market of over 300 million people located in northern Nigeria, neighboring countries such as Niger, Chad and Cameroon, as well as across the Sahel economic zone/North Africa. However, the

state has suffered from the country general economic decline since the 1990s. By 1997, approximately 70% of the State's medium and large-scale manufacturing establishments are non-operational, while the rest have shrunk considerably, operating at less than 40% capacity. This has resulted in high rates of unemployment, depressed incomes and low rates of economic growth.

Moreover, the State economy is driven largely by commerce, manufacturing and subsistence agriculture, which is the dominant activity with about 70% of the population, engaged directly or indirectly. It also has more than 18,684 km² (7,214 sq mi) of cultivable land and is the most extensively irrigated state in the country. Indeed 24 large dams capable of providing irrigation water to more than 800,000 ha of land during the dry season and a total of 58 dams covering an estimated 56,582.5 ha were constructed in the state. There are approximately 1,620,000 farm families and an average farming family owns about 1 hectare of land (ICRISAT, 2020). However, in spite of all the above indicators, Kano state has remained one of the six poorest states in the northwest (GHS survey, 2022/2023).

To forestall these challenges, Nigerian government and Kano State government in collaboration with International Donor Agencies have initiated many programmes with emphasis on poverty alleviation and food security enhancement in Kano state. Some of these have targeted the youths and women empowerment while others have targeted rural agriculture especially the smallholder farmers. Among these institutions is the Islamic Development Bank (IDB). Kano State Agro-pastoral Development Project (KSADP) is being sponsored by the IDB. The study therefore investigates the impact of KSADP on food security and poverty reduction and among rural communities in Kano State.

However, the Intervention regimes of the KSADP seem to be inappropriate and may affect the successful implementation and accomplishment of the entire project. For example, the project's selection of smallholder farmers as the sole beneficiaries of its food security and poverty reduction programmes is faulty. This is because other groups and vulnerable households including women, widows, local artisans, petty traders, food vendors, unskilled laborers, community Based organizations and self-help groups etc who constitute the rural population generally were neglected. Secondly, Kano State Agricultural Research and Development Agency (KNARDA) being the Executing Agency ought to have organized its secretariat in the rural areas (study areas). Its establishment in the capital city of Kano would create communication gap as many of the project's beneficiaries would find it difficult to access. Finally, traditional rulers especially in the rural and semi urban areas ought to have been responsible or fully coopted in the selection of beneficiaries and fund disbursement. These and many other problems made the attainment of project's objectives susceptible.

Research Questions

The following research questions will be answered in the course of the study:

- i. What was the level of food security and poverty reduction among beneficiaries of Kano State Agro-Pastoral Development Project before its implementation in the study area?
- ii. What are the strategies adopted by the Kano State Agro-pastoral Development Project in promoting food security and poverty reduction in the study area?

- iii. What are the outputs and outcome of the Kano State Agro-pastoral Development Project in the study area?
- iv. What are the major obstacles and challenges faced during the implementation of Kano State Agro-Pastoral Development Project in the study area?
- v. What suggestions or recommendations could be offered to policy makers that would enhance food security and poverty reduction among rural communities in Kano State?

Research Objectives

- i. To examine the level of food security and poverty reduction among beneficiaries of Kano State Agro-Pastoral Development Project before its implementation in the study area?
- ii. To examine the strategies adopted by the Kano State Agro-pastoral Development Project in food security enhancement and poverty reduction in the study area
- iii. To assess the outcome and outputs registered by the Kano State Agro-pastoral Development Project in the study area
- iv. To identify the major obstacles and challenges faced during the implementation of Kano State Agro-Pastoral Development Project in the study area.
- v. To recommend ways that could be used by policy makers in reducing poverty and enhancement of food security in the study area.

2. METHODOLOGY

This study employed a descriptive survey research design to assess the impact of the Kano State Agro-Pastoral Development Project (KSADP) on food security and poverty reduction among rural communities in Kano State. The descriptive survey method was considered appropriate because it enables the collection of quantitative data directly from the beneficiaries and stakeholders of the project, thereby allowing for an empirical assessment of the project's outcomes (Creswell & Creswell, 2018). The population of the study comprises of all beneficiaries of the Islamic Development Bank (IDB)-sponsored Kano State Agro-Pastoral Development (KSADP). The KSADP beneficiaries were drawn from nine (9) Local Government Areas (LGAs) distributed across the three senatorial zones of Kano State. The LGAs include: Kura, Garun Mallam, Bagwai, Dawakin Tofa, Rano, Danbatta, Gezawa, Gwale and Gwarzo. Given the scope of the study, a sample size of eighty (80) respondents was selected to represent the study population using purposive sampling technique. This purposive sampling technique was employed to ensure that only those who directly benefitted from the project were included in the study. Primary data were collected through the administration of structured questionnaires, which consisted of both closed-ended and Likert-scale questions. The questionnaire was designed to capture respondents' socio-demographic characteristics, and areas of KSADP interventions. The data collected were coded and analyzed using the Statistical Package for the Social Sciences. Descriptive statistical tools such as frequencies, percentages, means, and standard deviations were employed to summarize the responses and to provide insights into the general trends in food security and poverty reduction outcomes among beneficiaries. To ensure content validity, the questionnaire was reviewed by academic experts in agricultural economics

and rural development, as well as practitioners familiar with donor-supported agro-pastoral projects. A pilot test was conducted among small group of respondents outside the sampled LGAs. Thereafter, reliability of the instrument was tested using Cronbach's Alpha with a coefficient of 0.70 considered acceptable.

3. RESULTS

Table 1: Demographic Characteristics of Respondents

Demographic Variables	Frequency (N)	Percentage (%)
Gender		
Male	53	66.3
Female	27	33.8
Total	80	100
Age		
18–30 years	17	21.3
31–40 years	32	40.0
41–50 years	20	25.0
51 years and above	11	13.8
Total	80	100
Marital Status		
Single	16	20.0
Married	58	72.5
Divorced	2	2.5
Widowed	4	5.0
Total	80	100
Educational Level		
No formal education	41	51.2
Primary education	22	27.5
Secondary education	10	12.5
Tertiary education	7	8.8
Total	80	100
Occupation		
Farming	52	65.0
Trading	18	22.5
Artisan	4	5.0
Civil Servant	5	6.3
Others	1	1.3
Total	80	100
Household Size		
1–5 members	33	41.3
6–10 members	37	46.3
11 and above	10	12.5
Total	80	100
KSADP Participation		
Input	34	42.5
Livestock	22	27.5
Training/Empowerment	15	18.8
Credit Facility	9	11.3
Total	80	100

Table 1 provides the summary of the demographic information of the respondents. From the table, it could be observed that demographic information covered were gender, age, marital status, educational qualification, occupation, household size and the type of KSADP participation. From the table computed data shows that males constituted 66.3% of the sample compared to 33.8% females. Age distribution was concentrated in 31–40 years (40.0%) and 41–50 years (25.0%), indicating a youthful, active workforce. Most respondents were married (72.5%), while 20.0% were single, and small proportions were divorced or widowed. Educational attainment was generally low, with

over half (51.2%) having no formal education, though 8.8% attained tertiary education. Occupationally, farming dominated (65.0%), followed by trading (22.5%). Household sizes were large, with 46.3% reporting 6–10 members. KSADP participation was highest in input support (42.5%) and livestock (27.5%), while training (18.8%) and credit facilities (11.3%) were less common. The totals confirm consistency across variables, reflecting a rural farming community with large households, low formal education, and significant dependence on agricultural interventions.

Answering Research Questions

Descriptive statistics was used in answering the research questions. In particular, frequency counts, percentage, mean and standard deviation were used in answering the research questions.

Research Question 1: What is the level of food security and poverty reduction among beneficiaries of IDB’s Agro-Pastoral Development Project before its implementation in the study area?

Table 2: Level of Food Security and Poverty Reduction among Beneficiaries Of IDBs

Question	SA F(%)	A F(%)	UD F(%)	DA F(%)	SD F(%)	M	Std	Decision
Before the implementation of the Agropastoral Development Project, my household had sufficient food throughout the year.	0 (0.0%)	0 (0.0%)	2 (2.5%)	21 (26.2%)	57 (71.2%)	1.31	0.518	Disagree
My household often experienced food shortages before the project was implemented.	40 (50.0%)	39 (48.8%)	1 (1.2%)	0 (0.0%)	0 (0.0%)	4.49	0.528	Agree
Before the project, my household income was insufficient to meet basic needs.	39 (48.8%)	40 (50.0%)	1 (1.2%)	0 (0.0%)	0 (0.0%)	4.48	0.527	Agree
Before the project, my household had limited access to agricultural inputs such as seeds, fertilizers, and tools.	34 (42.5%)	44 (55.0%)	2 (2.5%)	0 (0.0%)	0 (0.0%)	4.40	0.542	Agree
Before the project, my household had limited knowledge of modern farming techniques	39 (48.8%)	39 (48.8%)	2 (2.5%)	0 (0.0%)	0 (0.0%)	4.46	0.550	Agree
Before the project, my household faced challenges in accessing markets for agricultural products	40 (50.0%)	38 (47.5%)	2 (2.5%)	0 (0.0%)	0 (0.0%)	4.48	0.551	Agree
Before the project, my household had limited access to clean water and sanitation facilities.	42 (52.5%)	36 (45.0%)	2 (2.5%)	0 (0.0%)	0 (0.0%)	4.50	0.551	Agree

Source: Field work, 2024

Table 2 provides computed response with regards to the level of food security and poverty reduction among beneficiaries of IDB’s Agro-Pastoral Development Project before its implementation in the study area. From the table, computed responses provided an evidence of severe pre-project deprivation. The result shows that 97.5% of the respondents disagreed that households had sufficient food year-round (M = 1.31, SD = 0.52), while 98.8% of the respondents affirmed frequent food shortages (M = 4.49, SD = 0.53). Computed result equally shows that income inadequacy was pervasive (A/SA = 98.8%, M = 4.48, SD = 0.53). Furthermore, structural constraints were evident with a

larger proportion of the respondents citing limited access to inputs (A/SA = 97.5%, M = 4.40), limited knowledge of modern farming (A/SA = 97.5%, M = 4.46), weak market access (A/SA = 97.5%, M = 4.48), and inadequate water/sanitation (A/SA = 97.5%, M = 4.50). based on the obtained results which were having mean score ranging between 4.40 and 4.50 for key constraints, it could be said that there is the prevalence of high food insecurity and poverty among beneficiaries of IDB's Agro-Pastoral Development Project before the implementation of the project in the study area

Research Question 2: What are the strategies adopted by the IDB's Agro-pastoral Development Project in food security enhancement and poverty reduction in the study area.

Table 3: Strategies adopted by the IDB's Agro-pastoral Development Project in food security enhancement and poverty reduction in the study area

	SA	A	UD	DA	SD	M	Std	Decision
Question	F(%)	F(%)	F(%)	F(%)	F(%)			
The project provided training on modern farming techniques to improve agricultural productivity.	24 (30.0%)	43 (53.8%)	8 (10.0%)	5 (6.2%)	0 (0.0%)	4.08	0.808	Agree
The project introduced improved seeds and livestock breeds to enhance food production.	24 (30.0%)	45 (56.2%)	9 (11.2%)	2 (2.5%)	0 (0.0%)	4.14	0.707	Agree
The project provided access to credit facilities to support agropastoral activities.	20 (25.0%)	54 (67.5%)	6 (7.5%)	0 (0.0%)	0 (0.0%)	4.18	0.546	Agree
The project established cooperatives to strengthen community participation and resource sharing.	17 (21.2%)	38 (47.5%)	21 (26.2%)	4 (5.0%)	0 (0.0%)	3.85	0.813	Agree
The project promoted sustainable land and water management practices.	8 (10.0%)	30 (37.5%)	31 (38.8%)	11 (13.8%)	0 (0.0%)	3.44	0.855	Agree
The project provided access to extension services for technical support and advice	16 (20.0%)	43 (53.8%)	12 (15.0%)	9 (11.2%)	0 (0.0%)	3.83	0.883	Agree
The project facilitated the construction of infrastructure such as irrigation systems and storage facilities	19 (23.8%)	47 (58.8%)	9 (11.2%)	5 (6.2%)	0 (0.0%)	4.00	0.779	Agree
The project organized workshops and seminars to educate beneficiaries on agropastoral practices	21 (26.2%)	48 (60.0%)	7 (8.8%)	4 (5.0%)	0 (0.0%)	4.08	0.742	Agree
The project provided access to veterinary services for livestock management.	22 (27.5%)	48 (60.0%)	7 (8.8%)	3 (3.8%)	0 (0.0%)	4.11	0.711	Agree

Source: field work 2024

Table 3 provides computed responses with regards to the strategies adopted by the IDB's Agro-pastoral Development Project in food security enhancement and poverty reduction in the study area. From the table, computed result shows that strategies such as training on modern techniques (A/SA = 83.8%, M = 4.08, SD = 0.81), improved seeds/livestock (A/SA = 86.2%, M = 4.14, SD = 0.71), access to credit (A/SA = 92.5%, M = 4.18, SD = 0.55), infrastructure (irrigation/storage) (A/SA = 82.5%, M = 4.00, SD = 0.78), workshops/seminars (A/SA = 86.2%, M = 4.08, SD = 0.74), veterinary services (A/SA =

87.5%, M = 4.11, SD = 0.71) were all having strong impact in ensuring food security and enhancement of poverty reduction in the study areas. However, cooperatives/community resource sharing (A/SA = 68.8%, M = 3.85, SD = 0.81) and extension/technical support (A/SA = 73.8%, M = 3.83, SD = 0.88) were having moderate impact while sustainable land and water management (A/SA = 47.5%, M = 3.44, SD = 0.85) was having a weak impact in ensuring food security and enhancement of poverty reduction in the study areas. In overall, the strategies adopted by the IDB's Agro-pastoral Development Project in food security enhancement and poverty reduction in the study areas were impactful having only land/water management with the lowest rating which signals implementation and/or adoption constraints.

Research Question 3: What are the outcome and outputs registered by the IDB'S Agro-pastoral Development Project in the study area?

Table 4: Outcome and Outputs Registered by the IDB'S Agro-pastoral Development Project in the study areas

	SA	A	UD	DA	SD	M	Std	Decision
Question	F(%)	F(%)	F(%)	F(%)	F(%)			
The project has increased my household's food production and availability	32 (40.0%)	45 (56.2%)	2 (2.5%)	1 (1.2%)	0 (0.0%)	4.35	0.597	Agree
My household income has improved significantly due to the project.	33 (41.2%)	43 (53.8%)	3 (3.8%)	1 (1.2%)	0 (0.0%)	4.35	0.618	Agree
The project has reduced my household's reliance on external food assistance	26 (32.5%)	45 (56.2%)	1 (1.2%)	8 (10.0%)	0 (0.0%)	4.11	0.857	Agree
The project has improved my household's access to markets for agricultural products	20 (25.0%)	48 (60.0%)	6 (7.5%)	6 (7.5%)	0 (0.0%)	4.03	0.795	Agree
The project has enhanced my knowledge and skills in agropastoral practices.	23 (28.7%)	44 (55.0%)	10 (12.5%)	3 (3.8%)	0 (0.0%)	4.09	0.750	Agree
The project has improved the nutritional status of my household members.	23 (28.7%)	48 (60.0%)	8 (10.0%)	1 (1.2%)	0 (0.0%)	4.16	0.645	Agree
The project has increased my household's savings and investment in agro-pastoral activities	22 (27.5%)	53 (66.2%)	3 (3.8%)	2 (2.5%)	0 (0.0%)	4.19	0.618	Agree
The project has improved my household's access to clean water and sanitation facilities.	20 (25.0%)	44 (55.0%)	9 (11.2%)	7 (8.8%)	0 (0.0%)	3.96	0.849	Agree
The project has strengthened community cohesion and cooperation	16 (20.0%)	36 (45.0%)	21 (26.2%)	5 (6.2%)	2 (2.5%)	3.74	0.938	Agree
The project has contributed to the empowerment of women and youth in the community.	21 (26.2%)	40 (50.0%)	5 (6.2%)	3 (3.8%)	11 (13.8%)	3.71	1.285	Agree

Source: Field work, 2024

Table 4 equally provides computed responses with regards to the outcome and outputs registered by the IDB'S Agro-pastoral Development Project in the study areas. From the table, computed results show that higher outcome/output were observed for household food production and availability (A/SA = 96.2%, M = 4.35, SD = 0.60), household income (A/SA = 95.0%, M = 4.35, SD = 0.62). However, the respondents

indicated moderate-to-strong outcomes for reduced reliance on external food assistance (A/SA = 88.8%, M = 4.11, SD = 0.86), access to markets (A/SA = 85.0%, M = 4.03, SD = 0.80), knowledge and skills in agropastoral practices (A/SA = 83.8%, M = 4.09, SD = 0.75), nutritional status (A/SA = 88.8%, M = 4.16, SD = 0.65), savings/investment in agropastoral activities (A/SA = 93.8%, M = 4.19, SD = 0.62), access to clean water/sanitation (A/SA = 80.0%, M = 3.96, SD = 0.85); and comparatively lower outcomes for community cohesion/cooperation (A/SA = 65.0%, M = 3.74, SD = 0.94), empowerment of women and youth (A/SA = 76.2%, M = 3.71, SD = 1.28). In overall, the results revealed that the project improved food production, income, market access, nutrition, and knowledge. Social outcomes such as women and youth empowerment scored lower, suggesting areas for further enhancement.

Research Question 4: What are the major obstacles and challenges faced by the IDB during the implementation of Agro-Pastoral Development Project in the study area?

Table 5: Obstacles and Challenges faced by the IDB during the implementation of Agro-Pastoral Development Project in the study area?

Question	SA F(%)	A F(%)	UD F(%)	DA F(%)	SD F(%)	M	Std	Decision
Limited access to credit facilities hindered the success of the project.	43 (53.8%)	34 (42.5%)	1 (1.2%)	2 (2.5%)	0 (0.0%)	4.48	0.656	Agree
Poor infrastructure (e.g., roads, storage facilities) affected the implementation of the project.	34 (42.5%)	44 (55.0%)	2 (2.5%)	0 (0.0%)	0 (0.0%)	4.40	0.542	Agree
Inadequate training and technical support limited the effectiveness of the project	32 (40.0%)	41 (51.2%)	7 (8.8%)	0 (0.0%)	0 (0.0%)	4.31	0.628	Agree
Climate change and environmental factors negatively impacted the project's outcomes	31 (38.8%)	42 (52.5%)	6 (7.5%)	1 (1.2%)	0 (0.0%)	4.29	0.660	Agree
Lack of community participation and ownership affected the sustainability of the project	37 (46.2%)	40 (50.0%)	2 (2.5%)	0 (0.0%)	1 (1.2%)	4.40	0.668	Agree
Delays in the distribution of agricultural inputs affected the project's success	41 (51.2%)	34 (42.5%)	4 (5.0%)	1 (1.2%)	0 (0.0%)	4.44	0.653	Agree
High costs of agricultural inputs limited the adoption of improved practices.	39 (48.8%)	33 (41.2%)	3 (3.8%)	4 (5.0%)	1 (1.2%)	4.31	0.866	Agree
Conflicts within the community hindered the implementation of the project..	30 (37.5%)	24 (30.0%)	13 (16.2%)	12 (15.0%)	1 (1.2%)	3.88	1.118	Agree
Limited access to markets for agricultural products reduced the project's impact.	32 (40.0%)	37 (46.2%)	7 (8.8%)	3 (3.8%)	1 (1.2%)	4.20	0.848	Agree
Inadequate monitoring and evaluation of the project limited its effectiveness.	48 (60.0%)	29 (36.2%)	2 (2.5%)	1 (1.2%)	0 (0.0%)	4.55	0.614	Agree

Source: Field work, 2024

Table 5 provides computed responses with regards to the major obstacles and challenges faced by the IDB during the implementation of Agro-Pastoral Development Project in the study areas. From the table, computed responses shows that limited

access to credit (A/SA = 96.2%, M = 4.48, SD = 0.66), poor infrastructure (A/SA = 97.5%, M = 4.40, SD = 0.54), inadequate training/technical support (A/SA = 91.2%, M = 4.31, SD = 0.63) and climate/environmental impacts (A/SA = 91.2%, M = 4.29, SD = 0.66) are the strongest obstacles and challenges faced by the IDB during the implementation of Agro-Pastoral Development Project in the study areas. Further analysis of the responses identified community participation/ownership (A/SA = 96.2%, M = 4.40, SD = 0.67), delays in input distribution (A/SA = 93.8%, M = 4.44, SD = 0.65), high input costs (A/SA = 90.0%, M = 4.31, SD = 0.87), community conflicts (A/SA = 67.5%, M = 3.88, SD = 1.12), limited market access (A/SA = 86.2%, M = 4.20, SD = 0.85) and inadequate monitoring/evaluation (A/SA = 96.2%, M = 4.55, SD = 0.61) were equally serving as obstacle/challenges during the implementation of Agro-Pastoral Development Project in the study areas. Thus, in overall, the result revealed that poor infrastructure, limited credit, insufficient training, high input costs, and climate factors significantly hindered the project implementation.

Research Question 5: What are the ways that could be used by policy makers in reducing poverty and enhancement of food security in the study area?

Table 6: Ways that could be used by policy makers in reducing poverty and enhancement of food security in the study areas

Question	SA	A	UD	DA	SD	M	Std	Decision
	F(%)	F(%)	F(%)	F(%)	F(%)			
Providing more training and capacity-building programs will enhance the success of similar projects.	50 (62.5%)	27 (33.8%)	2 (2.5%)	1 (1.2%)	0 (0.0%)	4.58	0.612	Agree
Improving access to credit facilities will support agropastoral activities and reduce poverty	48 (60.0%)	30 (37.5%)	2 (2.5%)	0 (0.0%)	0 (0.0%)	4.58	0.546	Agree
Investing in infrastructure (e.g., roads, storage facilities) will improve market access and food security.	51 (63.7%)	28 (35.0%)	1 (1.2%)	0 (0.0%)	0 (0.0%)	4.63	0.513	Agree
Strengthening community participation and ownership will ensure the sustainability of development projects	50 (62.5%)	29 (36.2%)	1 (1.2%)	0 (0.0%)	0 (0.0%)	4.61	0.515	Agree
Addressing climate change and environmental challenges is critical for the success of agropastoral projects	50 (62.5%)	26 (32.5%)	4 (5.0%)	0 (0.0%)	0 (0.0%)	4.58	0.591	Agree
Providing subsidies for agricultural inputs will encourage the adoption of improved practices.	59 (73.8%)	20 (25.0%)	1 (1.2%)	0 (0.0%)	0 (0.0%)	4.73	0.477	Agree
Establishing stronger market linkages will enhance the profitability of agropastoral activities.	56 (70.0%)	22 (27.5%)	2 (2.5%)	0 (0.0%)	0 (0.0%)	4.68	0.522	Agree
Increasing the involvement of women and youth in project activities will improve outcomes	67 (83.8%)	13 (16.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	4.84	0.371	Agree
Regular monitoring and evaluation of projects will ensure accountability and effectiveness	67 (83.8%)	12 (15.0%)	1 (1.2%)	0 (0.0%)	0 (0.0%)	4.83	0.414	Agree
Providing insurance schemes for farmers will mitigate risks associated with agropastoral activities..	67 (83.8%)	11 (13.8%)	2 (2.5%)	0 (0.0%)	0 (0.0%)	4.81	0.453	Agree

Source: Field work, 2024

Table 6 provides computed responses on the ways that could be used by policy makers in reducing poverty and enhancement of food security in the study areas. From the table, the respondents were of the view that training/capacity building (A/SA = 96.2%, M = 4.58, SD = 0.61), access to credit (A/SA = 97.5%, M = 4.58, SD = 0.55), infrastructure investment (A/SA = 98.8%, M = 4.63, SD = 0.51), community participation/ownership) (A/SA = 98.8%, M = 4.61, SD = 0.52), climate change adaptation (A/SA = 95.0%, M = 4.58, SD = 0.59), input subsidies (A/SA = 98.8%, M = 4.73, SD = 0.48), market linkages (A/SA = 97.5%, M = 4.68, SD = 0.52), greater involvement of women and youth (A/SA = 100.0%, M = 4.84, SD = 0.37), regular monitoring and evaluation (A/SA = 98.8%, M = 4.83, SD = 0.41) and insurance schemes (A/SA = 97.5%, M = 4.81, SD = 0.45) were all capable of reducing the rate of poverty and enhance food security in the study areas. In particular, women/youth involvement (M = 4.84; A/SA = 100%), monitoring and evaluation (M = 4.83; A/SA = 98.8%), and insurance schemes (M = 4.81; A/SA = 97.5%) were rated the highest by the respondents. Thus, based on the computed results, it shows that strategies such as monitoring, evaluation, market linkages, training, credit, infrastructure, climate change adaptation, subsidies, and youth/women involvement are the ways through which policy makers could utilize in reducing poverty and enhancement of food security in the study areas.

4. DISCUSSION

This study seeks to assess the impact of Kano State Agro-pastoral development projects on food security and poverty reduction among rural communities. The objectives of the study were to examine the level of food security and poverty among beneficiaries of Kano State Agro-Pastoral Development Project before the implementation of the project, examine the strategies adopted by the Kano State Agro-pastoral Development Project, assess the outcome and outputs registered by the Kano State Agropastoral Development Project, identify the major obstacles and challenges faced during the implementation of the project and lastly to recommend ways that could be used by policy makers in reducing poverty and enhancement of food in the study areas.

Findings of the study revealed that a lack of food security was near universal across the respondents having a total of 97.5% disagreed that households had sufficient food (M = 1.31), while ≥97.5% agreed with constraints around inputs, knowledge, markets, and water/sanitation (M ≈ 4.40–4.50). Based on the obtained results, it could be deduced that households faced severe food insecurity, low income, poor access to inputs, limited knowledge of modern farming, and inadequate markets prior to the project. This reflects high poverty and vulnerability before intervention in the study areas.

With regards to outcome and output indicators, the result portrays the effectiveness of the intervention. This is because both food production and income achieved high means (M = 4.35 and 4.35; A/SA ≥ 95%), with additional gains in knowledge (M = 4.09), nutrition (M = 4.16), savings/investment (M = 4.19), and market access (M = 4.03). Nevertheless, social outcomes were weaker and more heterogeneous in community cohesion (M = 3.74, SD = 0.94) and empowerment of women and youth (M = 3.71, SD = 1.28) thereby indicating that inclusive benefits may require deeper social programming and longer time horizons. Thus, based on the obtained results, it is evident that the project improved food production, income, market access, nutrition,

and knowledge. However, social outcomes such as women and youth empowerment scored lower, suggesting areas for further enhancement.

The strategies adopted by the IDB's Agro-Pastoral Development Project demonstrated strong alignment with the needs of the rural farming population. Specifically, training, provision of improved seeds/livestock, credit facilities, and infrastructure development all recorded high levels of agreement among respondents ($M \geq 4.00$). These interventions directly addressed the most binding constraints identified before the project, thereby strengthening food security and reducing poverty. Nevertheless, land and water management ($M = 3.44$) and extension/technical support ($M = 3.83$) were rated lower, highlighting the need for sustained capacity building and improved adoption mechanisms.

The challenges identified also aligned with findings in similar rural development projects. Findings of the study shows that limited credit, poor infrastructures, high input costs and inadequate monitoring were the strongest impediments having all of these with a mean score greater than ($M = 4.40$). These findings suggest that while the project has significant impact towards ensuring food security and poverty reduction, systemic challenges within the broader environment could limited full realization of the benefits. Similarly factors such as conflicts, weak community ownership, and climate change equally served as persistent barriers that requires both institutional and policy responses.

Lastly with regards to the ways that could be used by policy makers in reducing poverty and enhancement of food security in the study areas, the result revealed a very high consensus (means 4.58–4.84; $A/SA \geq 95\%$) among the respondents, with the strongest support for gender/youth inclusion ($M = 4.84$), strengthened M&E ($M = 4.83$), and insurance ($M = 4.81$). These figures collectively recommend a dual emphasis on scaling high-acceptance interventions (training, inputs, finance, market linkages) while strategically investing in capabilities and incentives that enable adoption of ecologically critical but harder-to-implement practices (land and water management).

5. CONCLUSIONS

This study concludes that the Kano State Agro-Pastoral Development Project significantly enhanced food security and poverty reduction in the study area. The statistical evidence indicates that while households experienced high vulnerability before the project, the implemented strategies substantially improved agricultural productivity, household welfare, and community development. Nevertheless, persistent challenges such as weak infrastructure, limited training, and environmental pressures constrained full achievement of outcomes. The study affirms that inclusive and targeted development initiatives can yield significant benefits when aligned with local realities.

Recommendations

Based on the findings, the following recommendations were made:

1. Policymakers should prioritize investment in infrastructure, particularly rural roads and storage facilities, to strengthen market access and reduce post-harvest losses.
2. Training and extension services should be scaled up to sustain knowledge transfer and improve adoption of modern practices.

3. Greater emphasis should be placed on climate adaptation strategies and input subsidies to mitigate environmental and economic constraints.
4. Youth and women should be mainstreamed into agricultural programs, given their high endorsement by respondents.
5. Institutional mechanisms for monitoring and evaluation should be strengthened to ensure accountability, transparency, and adaptive learning in project implementation.

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