



Assessment of the Impact of NG-CARES Agricultural Inputs and Services on Poverty Reduction among Smallholder Farmers in Plateau State, Nigeria

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Abstract

This study assessed the impact of the Nigeria COVID-19 Action Recovery and Economic Stimulus (NG-CARES) Agricultural Inputs and Services on poverty reduction among smallholder farmers in Plateau State, Nigeria, within the context of rising poverty and post-COVID-19 economic recovery challenges. Adopting a mixed-methods approach with an explanatory sequential design, the study utilized quantitative data from 310 beneficiaries selected through a multi-stage sampling technique, alongside qualitative insights from key informant interview and field observation. Descriptive statistics and a paired t-test were employed to analyse quantitative data, while thematic analysis was used for qualitative data. Findings revealed that NG-CARES interventions—comprising provision of fertilizers, improved seeds, livestock inputs, mechanization support, and extension services—significantly enhanced farm productivity and livelihood outcomes. A substantial proportion of beneficiaries (93.55%) reported improved agricultural productivity, while the paired t-test results showed a statistically significant increase in living standards from a mean score of 1.71 (pre-intervention) to 2.57 (post-intervention), with a mean difference of 0.857 ($t = 15.818$, $p < 0.05$). These results led to the rejection of the null hypothesis, confirming that the programme had a significant positive impact on poverty reduction. Qualitative findings further indicated that the programme improved food security, income levels, and resilience among vulnerable households through targeted support and group-based delivery mechanisms. However, implementation challenges such as delayed input distribution, livestock mortality, weak monitoring at group level, and logistical constraints limited optimal outcomes for some beneficiaries. The study concludes that agricultural input support programmes like NG-CARES are effective tools for poverty reduction when properly implemented. It recommends improved timing of input delivery, strengthened monitoring and accountability systems, and increased funding to expand programme coverage and enhance its sustainability and impact.

Keywords: Agricultural Inputs and Services, NG-CARES Programme, Poverty Reduction, Smallholder Farmers, Plateau State

Introduction

Poverty remains a critical national, continental, and global challenge. At the global level, coordinated efforts such as the United Nations-led Millennium Development Goals (MDGs) and the Sustainable Development Goals (SDGs), implemented in collaboration with the World Bank, underscore the persistent commitment to eradicating extreme poverty (Moatsos, 2025). Despite these initiatives, recent global shocks have reversed earlier gains. The COVID-19 pandemic alone pushed over 70 million additional people into extreme poverty by mid-2020, increasing the global extreme poor from the pre-pandemic estimate of 595 million (Gwaison,

Apeh, & Gwaison, 2021). As of 2024, approximately 8.5 percent of the global population—about 700 million people—live below the international extreme poverty line of \$2.15 per day, while 44 percent (about 3.5 billion people) survive on less than \$6.85 per day, the threshold for upper-middle-income countries (World Bank Group, 2024). These statistics highlight the structural and multidimensional nature of poverty, particularly in developing regions.

In Africa, poverty remains pervasive and deeply entrenched, particularly Nigeria. Earlier estimates by the National Bureau of Statistics (NBS, 2017) and the Human Development Report (2017) indicated that about 70 percent of Nigerians lived on less than USD 2 per day, reflecting policy inconsistencies and limited political will in addressing poverty sustainably (Sule & Sambo, 2020). Notably, this trend persists despite Nigeria's vast agricultural resource base and growth potential, with many farmers remaining trapped in chronic poverty (Henry, Idi, & Abdullahi, 2023).

Poverty measurement in Nigeria further underscores the severity of the crisis. The national poverty line is defined as an annual real per capita expenditure of ₦137,430 (approximately ₦376.5 per day), below which individuals are classified as poor (Sasu, 2024). By 2023, Nigeria's poverty rate was estimated at 38.9 percent, representing about 87 million people—making it the country with the world's second-largest poor population after India (World Bank Group, 2025). Moreover, the Nigeria Multidimensional Poverty Index (MPI) (2022) revealed that the country's recovery from the 2016 economic recession was truncated by the COVID-19-induced recession in 2020, further eroding household welfare. Regional disparities are stark: approximately 86 million poor people (65 percent) reside in Northern Nigeria, compared to 47 million (35 percent) in the South (NBS, 2022). States such as Sokoto (90.5%), Bayelsa (88.5%), Gombe (86.2%), Jigawa (84.3%), and Plateau (84%) record particularly high multidimensional poverty rates.

Historically, successive Nigerian governments have implemented several poverty alleviation programmes, including Operation Feed the Nation (OFN), the Green Revolution Programme, Directorate of Food, Roads and Rural Infrastructure (DFRRI), National Directorate of Employment (NDE), Better Life Programme (BLP), Poverty Alleviation Programme (PAP), and National Poverty Eradication Programme (NAPEP), albeit with mixed outcomes. The limited success of these interventions necessitated renewed policy innovation, culminating in the establishment of the Nigeria COVID-19 Action Recovery and Economic Stimulus (NG-CARES) Programme in 2020, later renamed Nigeria Community Action for Resilience and Economic Stimulus (NG-CARES). The programme was developed in partnership with the World Bank to mitigate the socio-economic effects of the pandemic (World Bank Group, 2025).

In line with the Federal Government's ambition to lift 100 million Nigerians out of poverty within a decade, a \$750 million credit facility was secured to implement the programme across the 36 states and the Federal Capital Territory (Federal NG-CARES Support Unit, 2024). Given Nigeria's heterogeneous socio-economic context, states were empowered to design context-specific responses to address local vulnerabilities (World Bank, 2020). The NG-CARES Programme is structured around three Result Areas and eleven Disbursement Linked Indicators (DLIs). This study focuses on Result Area 2, which targets agricultural inputs and services to

enhance food security and safeguard food supply chains for poor and vulnerable households (NG-CARES, 2021). In Plateau State, the FADAMA Development Agency serves as the implementing agency for this component (Plateau State Operation Manual, 2021).

The economic impact of COVID-19 significantly affected Plateau State. Internally Generated Revenue (IGR) declined sharply from ₦16.47 billion in 2019 to ₦8.33 billion in 2020 (Jugu et al., 2021), exacerbating fiscal constraints and poverty conditions. Poverty trends in the state reflect a worsening trajectory: from 51 percent in 2018 to 55.1 percent in 2019, rising to 84 percent multidimensional poverty by 2022 (NBS, 2022). These figures underscore the vulnerability of households in the state and the urgency of effective intervention. Although Plateau State ranked third nationally in the 2024 Independent Verification Agency (IVA) assessment of NG-CARES performance (Dinju, as cited in Chollom, 2024), operational challenges persist. The NG-CARES Agricultural Inputs and Services is faced with constraints and poor rural road infrastructure make accessibility from farm to market difficult, which reduce productivity (Dandam, as cited in Laravel, 2021). Additionally, funding limitations and capacity gaps have constrained the programme's ability to reach a broader segment of the poor and vulnerable population.

Against this backdrop, this study seeks to answer the research question: How has NG-CARES Agricultural Inputs and Services impacted on poverty reduction among beneficiaries in Plateau State? The main objective is to assess the impact of NG-CARES agricultural inputs and services on poverty reduction among beneficiaries in Plateau State. The null hypothesis (H_0) states that NG-CARES agricultural inputs and services have no significant impact on poverty reduction among beneficiaries in Plateau State. The study covers the period 2019–2025, and focuses its investigation on FADAMA NG-CARES delivery platform for Result Area 2 in Plateau State.

Literature Review and Theoretical Framework

Concept of Poverty Reduction:

Poverty has been conceptualized from diverse perspectives, reflecting its multidimensional and dynamic nature. Henry *et al.* (2023), define poverty as a condition in which individuals lack the capacity to attain a desired state of well-being and socially acceptable standards of living. This condition manifests in the absence of basic necessities such as food, clothing, and shelter, as well as structural defects in the economic systems affecting individuals or groups. Similarly, the World Bank conceptualizes poverty beyond income deprivation to include low levels of health and education, limited access to clean water and sanitation, inadequate physical security, lack of voice, and insufficient opportunities to improve one's livelihood. This broader framing underscores poverty as a multidimensional phenomenon.

Scholars commonly distinguish between absolute and relative poverty. Absolute poverty refers to a situation in which individuals lack the minimum resources required for physical survival, including food, shelter, and clothing. Relative poverty, on the other hand, exists when individuals possess fewer resources compared to others in their society, thereby limiting their ability to participate in socially acceptable and economically productive activities (Abubakar,

Mohammed, & Ikwuyatum, 2022). While absolute poverty emphasizes subsistence thresholds, relative poverty highlights inequality and social exclusion.

Poverty reduction, therefore, entails deliberate efforts aimed at improving the welfare conditions of the poor. Ibor and Amos (2023) describe poverty reduction as a condition in which individuals possess the means to acquire fundamental livelihood necessities. Bununu (2020) further conceptualizes it as raising individuals' monetary expenditure above the poverty line while simultaneously improving access to education, healthcare, information, economic opportunities, land tenure security, and other social services. In this sense, poverty reduction is not limited to income enhancement but includes addressing structural deprivations. Obiwuru (2019) also views poverty reduction as a set of coordinated measures designed to eradicate poverty. In operational terms, effective poverty reduction strategies require comprehensive policy actions.

Agricultural Inputs and Services and Poverty Reduction

Agriculture remains central to poverty reduction in developing economies, particularly in agrarian regions where rural livelihoods depend heavily on farming. Abid and Sarwa (2023) define agricultural inputs and services as the resources and tools utilized to enhance agricultural productivity. Agricultural inputs include tangible resources such as improved seeds, fertilizers, pesticides, irrigation facilities, and machinery. Agricultural services, in contrast, encompass technical assistance, extension services, training programmes, mechanization support, and access to credit facilities. These inputs and services collectively enable farmers to increase productivity, improve efficiency, and enhance market competitiveness.

Within this context, the NG-CARES Agricultural Inputs and Services support groups of small-scale farmers in accessing improved seeds, fertilizers, livestock inputs, mechanization services to address labour shortages, and extension and advisory services. The intervention spans the agricultural value chain, with the objective of enhancing food security, safeguarding food supply chains, and strengthening resilience among poor and vulnerable households in the aftermath of the COVID-19 pandemic (Plateau State Operation Manual, 2021).

Review of Related Empirical Studies

Empirical literature provides insights into the nexus between agriculture-focused interventions and poverty reduction in Plateau State and beyond. For instance, Ezekiel (2019) examined the effect of conflicts on food security and poverty status among Irish potato farmers in Plateau State. Using structured questionnaires and descriptive statistical analysis, the study found that only 12 percent of the 225 respondents were food secure, while 88 percent were food insecure. Additionally, approximately 88.4 percent of respondents were classified as poor. Although the study highlighted the vulnerability of Irish potato farmers, its scope was limited to a single crop without broader consideration of diversified agricultural production systems.

Similarly, Onuoha, Abimiku, and Ademu (2023) analyzed the impact of the National Fadama Development Projects on Poverty Reduction among Beneficiaries in Plateau State. Covering the three senatorial districts, the study employed a simple random sampling technique to select six Local Government Areas (LGAs) and used the Yamane formula to determine a

sample size of 1,806 beneficiaries. The findings revealed that the National Fadama Development Projects had a statistically significant impact on poverty reduction, leading to recommendations for expansion of the programme to reach more beneficiaries.

However, while these studies were conducted within Plateau State and involved the Fadama platform, they differ substantively from the present study. The earlier investigations were conducted under the previous National Fadama Development Project framework and did not specifically address the post-COVID-19 economic context or emphasize mechanization as a core intervention strategy. In contrast, the present study assesses the NG-CARES Agricultural Inputs and Services intervention implemented under the FADAMA NG-CARES platform, with particular emphasis on mechanization farming as a response to labour shortages and productivity constraints arising from the pandemic. By situating the analysis within the COVID-19 recovery framework and focusing on mechanization-driven agricultural productivity, this study contributes to existing literature by filling an identified gap.

Theoretical Framework

This study adopts the Sustainable Livelihoods Approach (SLA) as its theoretical framework. Originally developed by Robert Chambers and Gordon Conway (1992), refined by Ian Scoones (1998), and operationalized by the UK Department for International Development (1999), the SLA provides a robust framework for interrogating the livelihoods of poor and vulnerable populations (Lusinga-Machikicho *et al.*, 2022). Chambers and Conway (1992) defined a livelihood as comprising “the capabilities, assets (stores, resources, claims and access), and activities required for a means of living.” The SLA is participatory in orientation and grounded in the recognition that poor people possess assets and capabilities that can be strengthened to improve their living conditions. It provides a comprehensive lens for analyzing vulnerability, resilience, and poverty dynamics (Oxfam, 2024).

The framework emphasizes five core livelihood assets or capitals: Human Capital [education, skills, health]; Natural Capital [land, water, environmental resources]; Physical Capital [infrastructure, tools, equipment]; Financial Capital (income, savings, credit access); and Social Capital [networks, social relations, institutions]. Rural households combine these capitals to formulate livelihood strategies that lead to specific livelihood outcomes such as increased income, improved food security, reduced vulnerability, and sustainable resource use. However, the policy implications of the SLA operate at two levels. First, wealthier populations should adopt lifestyles that reduce environmental pressure. Second, for poorer populations—particularly in rural areas—policy should focus on enhancing capability, equity, and sustainability. This includes: Providing enabling infrastructure and services like education, healthcare, farmer support services, transport, and flexible credit (Morse, 2024)

The relationship between the NG-CARES agricultural inputs and services and SLA is very evidence, because the approach focuses on strengthening vulnerable households by improving their assets and resilience; Supporting small businesses through financial assistance; Enhancing food security by stabilizing agricultural livelihoods; Providing social protection to mitigate COVID-19’s impact. Hence, applying the theory ensures that interventions are holistic, long-term, and effective in reducing poverty. Specifically, NG-CARES Agricultural Inputs and

Services align with the five livelihood capitals as follows: Natural Capital: Provision of improved seeds and fertilizers enhances land productivity; Human Capital: Extension services and training improve farmers' knowledge and technical skills; Financial Capital: Input support and financial assistance reduce production costs and increase income potential; Physical Capital: Mechanization services improve access to farming equipment and infrastructure; and Social Capital: Group-based support systems under FADAMA strengthen collective action and institutional linkages.

However, critiques of the sustainable livelihoods approach have been combined around five overlapping areas, these are identified as follows: theory; method and scale; history and time; politics; and knowledge. For instance, the approach has been criticized on the ground of absence of explicit theory. The use of the household as the unit of analysis has been critiqued by gender theorists. Also, it has failed to provide the understanding of how livelihoods have come to be: through what processes, policies and mechanisms, both short and long term (Natarajan et al., 2022). Consequently, despite these weaknesses the researcher still fine SLA more appropriate for the study.

1.4 Conceptual Framework of the Study



Source: Researcher's Computation, 2025

The conceptual framework revealed that the study is anchored on two variables, the Agricultural Inputs and Services as the Independent Variable (IV), while Poverty Reduction as the Dependent Variable (DV).

Methodology

This study employed a mixed methods approach using an explanatory sequential design. The quantitative phase involved the administration of structured questionnaires to beneficiaries of the FADAMA NG-CARES Agricultural Inputs and Services programme in Plateau State, followed by a qualitative phase comprising interviews and field observations to provide deeper explanations of the quantitative findings. Secondary data were also sourced from relevant policy documents and programme reports such as The Plateau State Overview report on the NG-CARES Programme (2021), FADAMA NG-CARES Achievement Report, (2025); and The Nigeria Covid-19 Action Recovery and Economic Stimulus (NG-CARES) Programme, (2021); Non-Governmental and International Organizations' Reports on Poverty that includes: World Bank Poverty Index, and The National Bureau of Statistics (NBS) on the Multidimensional Poverty Index (2022). The study population consist of 70,573 registered beneficiaries. Using the Krejcie and Morgan (1970) sample size determination table, a sample of 381 beneficiaries was selected through a multi-stage sampling technique. Additionally, a FADAMA NG-CARES facilitator was purposively selected for in-depth interview. Quantitative data were analyzed using

descriptive statistics and a paired t-test to test the hypothesis at a 5% level of significance and 95% confidence level. The decision rule was to reject the null hypothesis where $p < 0.05$ and fail to reject it where $p > 0.05$. Qualitative data from interviews and observations were analyzed using thematic analysis.

Data Presentation and Analysis

Based on the 381 sample size for the study as indicated, questionnaires were administered to the 381 respondents and 310 were validly filled and returned for data presentation and analysis.

Hence, 81.36% is the rate of returned.

Socio-Economic Characteristics of Respondents

The frequency distribution and percentage of participants are presented based on their demographic characteristics, which include: age, household size, sex, marital status, educational level, and occupation.

Table 1 Socio-Economic Characteristics of Respondents (n =310)

Variable	Category	Percentage (%)	Mean
Age (years)	21–30	0.67	53.76
	31–40	14.05	
	41–50	37.12	
	51–60	19.06	
	61–70	13.04	
	71+	16.05	
Household size (persons)	1–4	26.76	7
	5–8	49.16	
	9–12	19.73	
	13+	4.35	
Sex	Female	39.80	
	Male	60.20	
Marital status	Widowed	6.69	
	Married	93.31	
Educational level	Secondary	26.76	—
	Tertiary	73.24	
Primary occupation	Farming	100	
	Trading	-	

Source: Field Survey 2025

Table 1 analysed the socio-economic characteristics of respondents on Agricultural Inputs and Services. The age distribution shows that the respondents had an average age of 53.76 years, indicating that most beneficiaries were within the economically active and productive age bracket. The largest proportion (37.12%) fell between 41–50 years, suggesting that NG-CARES interventions largely reached mature adults capable of participating effectively in programme activities. The household size also shows that the average household size was 7 persons, with nearly half (49.16%) having 5–8 members. The programme's support to these households is therefore likely to have a significant welfare impact, particularly in improving consumption, food security, and income stability. The sex posits that males constituted 60.20% of the respondents, while females accounted for 39.80%. This distribution indicates that

although NG-CARES reached both genders, participation was higher among men. The gender balance suggests inclusiveness but also reflects typical gender roles in farming.

Marital Status of respondents identified that a majority (93.31%) of the respondents were married, while only small proportions were widowed (6.69%). Married individuals often have larger household responsibilities, indicating that the programme successfully targeted households with higher vulnerability to poverty. The educational level of respondents revealed that most beneficiaries (73.24%) had tertiary education, while 26.76% attained secondary education. The high literacy level among respondents suggests that a large proportion of beneficiaries possessed the skills and knowledge to effectively engage with programme interventions. Occupation of respondents as shown in the distribution depicts that farming was the dominant occupation among beneficiaries, with 100% engaged in farming. This confirms that NG-CARES interventions—particularly agricultural inputs and services—were directed primarily at farming households, who are among the most vulnerable to poverty and livelihood shocks. This also depicts the need of the state as an agricultural hub.

Descriptive Statistics

The research objective is to assess the impact of NG-CARES agricultural inputs and services on poverty reduction among beneficiaries in Plateau State. The responses of respondents are presented in tables for measurement or analysis.

Table 2: Distribution of NG-CARE Agricultural Inputs and Services

Support Group	Frequency	Percentage (%)
Fertilizer	90	29.0
Fertilizer + Extension + Herbicides	60	19.4
Chicks	43	13.9
Piggery	33	10.6
Seeds (Maize) + Fertilizer + Extension Services	30	9.7
Seeds (Maize)	20	6.5
Goats	14	4.5
Seeds (Irish Potatoes) + Fertilizer + Extension Services	10	3.2
Seeds (Rice)	10	3.2
Total	310	100.0

Source: Field Survey 2025

Table 2 indicates that the distribution of inputs and services under the NG-CARE programme shows a strong emphasis on improving crop productivity through fertilizer support. Fertilizer alone accounted for 29% of all support provided, making it the most common intervention. This highlights fertilizer access as a major constraint among farmers in Plateau State. Additionally, a substantial number of farmers (19.4%) received a bundled package of fertilizer, extension services, and herbicides—an integrated approach designed to improve both crop nutrition and weed management while providing technical guidance.

Livestock support was also notable, with 13.9% receiving chicks and 10.6% benefiting from piggery interventions. These inputs promote diversification into poultry and pig farming, which can enhance food security and income stability. Other forms of support included goats (4.5%) and seed packages combined with fertilizer and extension services for maize, Irish potatoes, and rice. The presence of multiple value chains in the support distribution indicates

that the NG-CARE programme addressed both crop and livestock needs to enhance resilience and productivity across farming households.

In an interview the respondent NG-CARES Agricultural Inputs and Services from FADAMA explained that:

“The support on agricultural inputs and services is provided to beneficiaries based on group representation; each group consist of ten members. The support does not attain to beneficiaries as individuals rather, it attained to them as a group. Whenever the FADAMA office bring inputs in form of seeds (crop and livestock) or services that is meant for the beneficiaries, it is provided to each group based on their request. Also, if a group received maize seeds or rice seeds to cultivate, the facilitators inspect the farmland of the beneficiaries to ensure that they actually plant the crop received. The office provides extension service such as training or workshop to the beneficiaries and supply them fertilizer, herbicides, farming kits etc. to encourage mechanized farming and promote productivity. Furthermore, he states that the facilitators monitor progress of beneficiary’s farm production till harvest to ascertain progress” (Informant C, 11th September, 2025).

Table 3: NG-CARE Support and Farm Productivity

Response	Frequency	Percent (%)
Strongly Disagree	-	-
Disagree	20	6.45
Neutral	-	-
Agree	141	45.48
Strongly Agree	149	48.07
Total	310	100.00

Source: Field Survey 2025

Table 3 revealed the perception of beneficiaries regarding productivity improvement which finding was overwhelmingly positive. A combined 93.55% (Agree = 45.48%, Strongly Agree = 48.07%) stated that the agricultural inputs and services they received improved their farm productivity. This strong level of agreement indicates that the intervention effectively addressed key production constraints such as access to quality seeds, fertilizer, extension services, and livestock input.

Only 6.45% of respondents disagreed, suggesting very few farmers did not experience measurable productivity improvement. This high level of satisfaction demonstrates that the support packages were relevant, timely, and impactful for most beneficiaries, contributing to increased yields, improved livestock performance, and enhanced farm output overall. However, the few number of beneficiaries representing 6.45% that did not experience improvement among whom is a man that noted that cow destroyed the maize farm cultivated completely and nothing was salvage from the farm. He complained that the year he experienced great set back. The other beneficiaries that also recorded loss are those that were given goats in form of livestock seed who reported that the goats were infected and all died, it was a total loss. In an interview the respondent representing NG-CARES Agricultural Inputs and Services from FADAMA stated that:

Timing has been one of the great challenges faced in farming. He revealed that there are times when support from government comes late and the office distribute these inputs to farmers late.

Instead of the farmers witnessing increase in productivity the result of the output will be less since the timing is wrong. This is exactly what happened to the man that cow destroyed his maize farm. The maize seedling was given late and at the primary stage of production, cows entered his farm and destroyed everything. He reported the incident to the FADAMA office and the facilitator went to the farm, confirm it and took pictures. At that time nothing could be done and the man has to bear the lost (Informant C, 11th September, 2025).

During the interview, the participant also confirms the issue of goats. He revealed that they had this challenge in two communities that were given goats but at the end of the day the goats got infected and they all died. He states that the office made enquiry to know why the lost and discovered that those goats were brought from Maiduguri to Jos. Hence, the long distance and change of weather was what affected the goats, so they could not survive it. Therefore, both the office (government) and the beneficiaries experienced these great lost, because the good intention of government as concerns these incidents was defeated. However, apart from this, great number of beneficiaries have recorded great success and have testified (Informant C, 11th September, 2025).

Test of Hypothesis

The null hypothesis (H₀) states that: The NG-CARES agricultural inputs and services have no significant impact on poverty reduction among beneficiaries in Plateau State.

Table 4: Paired t-Test: Living Standard Before and After Support

Variable	Obs	Mean	Std. Err.	Std. Dev.
Living Before (0=Very Poor, 1=Poor, 2=Average, 3=Good, 4=Very Good)	310	1.71	0.050	0.591
Living After	310	2.57	0.053	0.625
Difference (After – Before)	310	0.857	0.054	0.641
t-value		15.818		
Degrees of freedom		309		
p-value (two-tailed)		0.000		

Source: Field Survey 2025

Table 4 establishes that the paired t-test provides statistical evidence of the programme's impact on the welfare of beneficiaries. Before receiving inputs and services, the average living standard score was 1.71, which falls between “poor” and “average.” After the intervention, the mean increased to 2.57, indicating that many households progressed toward, or reached, the “good” category of living standards.

The mean increase of 0.857 points is substantial and statistically significant, with a 95% confidence interval ranging from 0.750 to 0.964, showing that the true improvement is reliably positive. The t-value of 15.818 with 309 degrees of freedom, and a p-value of 0.000, confirms that the improvement is highly significant at the 1% level. This means the change is not due to random variation but a direct effect of the NG-CARE support.

In practical terms, access to fertilizer, seeds, extension services, livestock inputs, and herbicides improved farm productivity, which in turn enhanced income, food availability, and overall welfare. The statistical evidence strongly supports the conclusion that NG-CARE

agricultural inputs and services had a meaningful and measurable positive impact on the living conditions of beneficiaries in Plateau State. Hence, the decision rule stated that when the p-value is greater than the level of significance at 0.05 the decision rule: fail to reject the null hypothesis. Therefore, the p-value of $0.000 < 0.05$ = The NG-CARES agricultural inputs and services has significant impact on poverty reduction among beneficiaries in Plateau State.

Thematic Analysis of Interviews

This section presents the thematic analysis of interview data obtained from Agricultural Inputs and Services informant tag as Informant C. The questions and responses were coded and organized into patterns of meaning. These patterns were grouped into seven (7) themes reflecting the impact of the programme on poverty reduction in Plateau State.

NG-CARES Programme Objectives and Poverty Reduction Strategy

Informant emphasized that the programme aims to support vulnerable households, stimulate economic activities, and mitigate the socio-economic effects of COVID-19. NG-CARES started as a result of the COVID-19 pandemic, during that period a lot of businesses were affected and some people were unable to go to farms. Government felt the need to assist these people, and therefore in collaboration with World Bank the NG-CARES programme was initiated. So, the main goal of the NG-CARES is to render assistance and to help people that had challenges during the Covid-19. (Informant C, 11th September, 2025).

Beneficiary Targeting and Inclusion Mechanisms

The selection of beneficiaries across the indicators is guided by a criterion. The criteria for NG-CARES Agricultural Inputs and Services is based on the vulnerable poor and physically challenge persons. To identify these set of persons, the facilitators go to the communities and in most cases meet the village heads sensitize them about the programme, then they will mobilize the people and the facilitators sensitize the people on what the programme is all about. The Youth leaders from the communities are also engaged in identifying the targeted beneficiaries before selection proper (Informant C, 11th September, 2025).

Transparency, and Accountability Mechanisms

Monitoring, Transparency and accountability are key mechanisms that must be in place to guarantee the success in implementation of the NG-CARES programme at each point. Therefore, the informant revealed that there is strong evidence of the existence of these mechanisms in the implementation process.

At the local level FADAMA -facilitators mostly work with the local government chairmen and counsellors. So, whenever inputs meant for the people is available, they are contacted. After disbursement, on the template there are contact information of those people that receive the inputs, and facilitators go round at some stages to ensure those inputs are utilized effectively. The facilitators monitor the planting stage till harvest to ascertain progress. In order to ascertain transparency and accountability the agency don't normally work alone, there are key personalities or stakeholders that are in picture of everything so that at least if there is anything wrong, they will know. Again, the agency try by all means to see that it covers almost all the districts attending to one after the other (Informant C, 11th September, 2025).

NG-CARES programme and Poverty Reduction among Beneficiaries

The informant acknowledged that NG-CARES has contributed to improved livelihoods, reduced vulnerability, and enhanced economic opportunities among beneficiaries, and the intervention have succeeded in reaching the poorest and most vulnerable.

The FADAMA consisting of the NG-CARES Inputs and Services, and the NG-CARES Agricultural Assets for Production and Mitigating Food Loss and Waste has reached about 80% of the target poor and vulnerable groups (Informant C, 11th September, 2025).

Implementation and Operational Challenges

This theme reveals that although NG-CARES is well-designed, implementation and operational challenges limit its effectiveness. These constraints reduce coverage, delay interventions, and sometimes weaken the programme's poverty reduction outcomes.

The NG-CARES Agricultural Inputs and Services experienced some challenges and one is such that there are so much crowd, whose names are not in the list and they will insist that they want to benefit too from the intervention, which is not possible. At some instance, the group chairmen, when given items to beneficiaries under their supervision may not distribute to the members faithfully, some may make effort to syphoned or sabotage the good intension of the intervention. Timing in farming is another challenge, inputs may arrive late for disbursement, like of recent herbicides was distributed late and applying it late does not produce good result. Also, a beneficiary who received maize seeds late, planted and cows destroyed everything. He reported to the office but at that time the office could not do anything, he just has to bear the lost. Similar, goats supplied and disbursed were infected due to change of weather as a result, became a total lost for both the agency and beneficiaries (Informant C, 11th September, 2025).

Lessons Learned from Programme Implementation

Informant highlighted important lessons regarding programme design, resource allocation, targeting, and implementation strategies.

On the other hand, at the field we discovered that people are suffering and government have identified that and have made effort to see that the needs of these people is been taking care, for this, government is compassionate and care a lot for the poor. With the issue of goats, we've learnt to look inward for supply to avoid such a massive lost in the case of next time (Informant C, 11th September, 2025).

Sustainability and Policy Implications

The informant agreed that the NG-CARES programme be sustained and scale up, therefore, recommended that:

Timing in farming must be look into, and during capturing there should be moderation, there should be a stated number of people needed so that the agency captures exactly that particular number, and next time capture a different set of people. Also, Government should expand the programme so that more people can benefit (Informant C, 11th September, 2025).

Results from Observations

The result observed in the field has helped in assessing the NG-CARES programme in Plateau State to show that the programme actually exists and beneficiaries of the interventions

were actually supported as stated. This is presented in Table 522 on the five independent variables against the dependent variable.

Table 5: Observation Checklist

Indicators	Items to Observe	Observed Comment /Remark
Agricultural Inputs and Services	Improved Seeds, fertilizers, etc were actually received	Yes, the improved seeds, fertilizers, etc. were actually received as stated by all the beneficiaries, see Table 2. This was not seen by the researcher since; they received the intervention in previous years.
	Evidence of tools, inputs, or produce	No, most of the beneficiaries claimed that the tools given such as rain coat/boots and hand gloves are damaged due to continuous usage. Since, farming is seasonal evidence of seeds such as maize, and rice was not feasible.
	Evidence of livestock being raised	Yes, evidence of the availability of pigs was seen. Though, evidence of availability of chicks present was not seen to show continuity and all Goats received died.

Source: Field Survey 2025

Table 5 shows that the FADAMA NG-CARES was contacted, phone numbers of facilitators at the field were given and contacted as well, and the names, phone numbers and details of group leaders were presented for easy access to beneficiaries. Beneficiaries were located and they acknowledge that they have receive improved seeds, fertilizers and other facilities such as rain coat/boots and protective hand gloves from the FADAMA NG-CARES. For beneficiaries given livestock in the case of chicks no evidence of being raised because at the time of visit they have been sold out with some casualty as narrated by the beneficiaries. In the case of goats all the beneficiaries incur lost at the primary stage claiming that the goats at the point of arrival were infected in which the facilitator also narrated during an interview. However, in the case of piggery, there is evidence of being raised.

Discussion of Findings

Findings from Table 2 indicate that the NG-CARES Agricultural Inputs and Services intervention, implemented through the FADAMA delivery platform, significantly promoted agricultural production across both crop and livestock subsectors in Plateau State. The programme was designed to enhance food security and strengthen the resilience of farming households in the aftermath of the COVID-19 pandemic, which severely disrupted livelihoods and increased household vulnerability. This aligns with the Plateau State NG-CARES policy framework, which defines Agricultural Inputs and Services (DLI 2.1) as a mechanism for supporting small-scale farmers with improved seeds, fertilizers, mechanization services, and extension support to boost productivity and mitigate labour constraints (Plateau State Operation Manual, 2021). Interview evidence further confirms that the intervention was conceived as a recovery strategy to restore agricultural livelihoods and ensure sustainable food supply in the state (Informant D, 13th September, 2025).

Farmers in Plateau State were organized into groups of ten members to qualify for NG-CARES support. Beneficiary identification was guided by vulnerability criteria, with facilitators working closely with community leaders and youth representatives to mobilize and select

targeted farmers from poor and vulnerable households, including physically challenged individuals (Informant C, 11th September, 2025). This participatory selection process reflects an attempt to ensure inclusiveness and community ownership of the intervention.

Beyond input distribution, the programme provided extension services, training, and continuous monitoring of farm activities. Inputs such as seeds, fertilizers, herbicides, livestock, and farming tools were allocated based on group requests, while facilitators conducted farm inspections to verify utilization and track production progress. These complementary services underscore the integrated nature of the intervention, which sought not only to supply inputs but also to strengthen farmers' technical capacity and productivity. The NG-CARES Agricultural Inputs and Services intervention therefore represent a strategic investment in productive capacity, consistent with the Sustainable Livelihoods Approach (SLA), which emphasizes strengthening assets and capabilities to reduce vulnerability and improve livelihood outcomes (Ozoh, Metu, Stephen, & Madueke, 2020).

The strong level of agreement reported by beneficiaries in Table 3 suggests that the intervention effectively addressed key production constraints faced by smallholder farmers. While many beneficiaries recorded improved yields and productivity, some experienced significant losses due to unforeseen factors such as late delivery of inputs, livestock disease, weather variability, and farm destruction by grazing animals. Interview findings highlighted that delays in input distribution undermined agricultural outcomes, as timely access to inputs is critical in farming cycles. For instance, late provision of maize seeds resulted in crop destruction, while livestock supplied to some groups died due to infection and climatic stress (Informant C, 11th September, 2025). These challenges illustrate systemic weaknesses in logistics, risk management, and coordination within the intervention framework.

Empirical evidence from hypothesis testing strongly supports the effectiveness of the intervention. The calculated t-value of 15.818 indicates a statistically significant impact of the NG-CARES Agricultural Inputs and Services programme on poverty reduction among beneficiaries in Plateau State. This finding corroborates earlier studies which affirm that provision of production inputs is a critical strategy for improving agricultural productivity and promoting poverty reduction (Mkhonto & Musundire, 2019).

Conclusion and Recommendations

Investigations revealed that the NG-CARES agricultural inputs and services impact on poverty reduction among beneficiaries in Plateau state is statistically significant, having a calculated t-value of 15.818. In conclusion, analysis has shown that the intervention provides long-term relief for beneficiaries, which tend to be most impactful in enhancing the living standard and household welfare of the beneficiaries, as a result have the capacity to reduce poverty among beneficiaries in the State. Therefore, this result suggests that programme focusing on the provision of agricultural inputs and services to farmers for productivity enhancement and livelihood support are more effective in reducing poverty.

Based on the data presented and analysed and hypotheses tested the study recommends that:

- i. Government and implementing agencies (NG-CARES) should strengthen logistics and planning systems to ensure that inputs such as seeds, fertilizers, and herbicides are delivered at the appropriate farming season. Timeliness is critical to maximizing productivity and preventing losses experienced by some beneficiaries.
- ii. There is a need to enhance supervision mechanisms to prevent mismanagement at the group level and reduce risks such as livestock disease and crop destruction. This includes veterinary checks for livestock, insurance schemes, and improved farm protection strategies.
- iii. Given the programme's proven impact on poverty reduction, increased funding should be allocated to expand coverage to more poor and vulnerable farmers who are currently excluded. This will improve inclusiveness and amplify the programme's overall poverty reduction impact.

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