Int. j. adv. multidisc. res. stud. 2022; 2(2):322-326

International Journal of Advanced Multidisciplinary Research and Studies

ISSN: 2583-049X

Abstract

Assessment of inputs accessibility to smallholder farmers in Nigeria: A case study of Kuje Area Council, Abuja

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access to Extension Services. Gender, age, farm size, house hold size, years of farming experience and accessibility to farm inputs all have significant effect on farmer's productivity. The socio-economic result shows that the male gender had the highest percentage of 58.9%, farmer's ages between 31-40 years with 40%. Based on this, it was recommended that: Extension services should be more in the aspect of record keeping knowledge as most of the farmers had no formal education this will help the farmers keep records of their produce for each year ruling out assumptions and also, Government should partner with agro dealers to make inputs accessible to farmers as majority don't access farm inputs from agro dealers or government.

Keywords: Inputs, Accessible, Smallholder farmers, Abuja, Nigeria

This study focused on the Assessment of Inputs

Accessibility to Small Holder Farmers in Nigeria: A Case

Study of Kuje Area Council, Abuja. The research was conducted in five Kuje villages: Chukuku, Tkiyi, Chibiri,

Shebuko, and Doji. The study was primarily led by three

objectives, all of which were analyzed using descriptive

statistics. The study's communities were chosen at random,

and a total of 90 smallholder farmers were chosen from the

five communities. Primary data was obtained using a well-

structured questionnaire. However, assistance was provided

to a few farmers who were unable to read the contents of the

questionnaire due to illiteracy. The study's findings were

organized into frequency and percentage distribution tables.

The study found that the majority of farmers do not have

1. Introduction

Before Nigeria's independence in 1960, agriculture was the most important sector of the economy, accounting for 75 percent of the country's export revenues and producing more than half of its GDP (Sennuga and Oyewole, 2020) ^[14]. However, as the petroleum business grew fast, the sector was overlooked. Aregheore (2013) ^[4] investigated the sector's relative decline, which resulted in a large reliance on imported products, and as a result, consumer preference for these imported products grew. Nigeria has recently been struck with the awakening that agriculture is a huge pillar of its economy and that there is a significant link between the nation's ability to attain its food security goals and agricultural development (Egboduku, *et al.*, 2021; Omabuwa, *et al.*, 2022)^[6, 11].

Smallholder farmers rely on traditional methods of production and this has lowered the level of productivity. For instance, over 70% of the maize production in the majority of developing countries is from smallholders who use traditional methods of production (Sennuga, *et al.*, 2020). These farmers generally obtain very low crop yields because the local varieties used by farmers have low potential yield, most of the maize is grown under rain-fed conditions and irrigation is used only in limited areas, little or no fertilizers are used and pest control is not adequate (Sennuga, *et al.*, 2020). This has heightened the need to boost agricultural output and sustainability around the world, yet there is a scarcity of information on how to do so. Farm inputs must be abundant, economical, accessible, and of acceptable quality in order for agriculture to thrive. Seeds, fertilizers, and agrochemicals are critical for increasing smallholder farmers' productivity and incomes in developing nations.

Many donors support efforts that improve smallholders' access to inputs since it is a vital aspect in equitable agricultural and rural development. According to some of these programs are successful, while others are not (John, *et al.*, 2015)^[9]. Farmers' access to modern agricultural inputs is the backbone of any agricultural revolution. Improved seeds, fertilizers, and crop protection chemicals are just a few of the agricultural inputs available, as are machinery, irrigation, and knowledge. Seeds are necessary for good crop production, as well as farm productivity and profitability. Fertilizer provides the soil with nutrients





that are necessary for growth. The enormous increases in agricultural productivity growth in Asia during the Green Revolution in the 1960s can be attributed in part to increased fertilizer use and improved seeds. Irrigation is also necessary for growth since it allows for off-season farming, multiple harvests per year, and the cultivation of extra area. However, to be able to generate outputs that can meet both food and market needs, use of agricultural inputs is paramount.

However, Gichangi, et al., (2019)^[8] opined that the use of productivity enhancing inputs is still a major challenge among smallholder farmers. Agricultural inputs such as seeds and fertilisers are very significant in improving agricultural yield. Hence, smallholder farmers should be able to achieve higher yields and margins if they adopt recommended agricultural practices and have access to inputs. Inputs play a fundamental role in Agricultural production and productivity the world over, as they constitute the basal segment of the agricultural value chain. This is particularly so when we talk of productivity enhancing technologies or inputs such as improved seed, agro- chemicals among others. According to the USDA, protection chemicals (pesticides, herbicides, crop insecticides, and fungicides) reduce weed species, hazardous insects, and plant diseases that affect crops (Sahel Newsletter, 2014)^[13]. Small-scale farmers in Nigeria, who make up the majority of the farming population, are severely harmed by rural poverty and neglect, which makes it difficult for them to obtain farm inputs (Rapsomanikis, 2015) ^[12]. However, Ajah (2014) ^[1] postulated that Smallscale farming in Nigeria is characterized by unequal access to key resources such as farm inputs and low levels of investment. However, it is necessary to conduct research to assess the small-scale farmers' access to farm inputs as well as their challenges. This is imperative because the index for measuring the independence of any nation is her ability to feed her population. Poverty contributes to low agricultural output since many Nigerian rural farmers cannot afford to buy the essential farm inputs like fertilizers, insecticides, and improved seeds that would raise productivity (Anyasi, et al., 2020)^[3]. Despite their significant contributions to agricultural production, processing, distribution, and storage, small-scale farmers lack access to farm inputs, posing a danger to food security (Mgbenka, et al., 2015)^[10]. Small-scale farmers have relatively limited access to current, upgraded technologies (Mgbenka et al., 2015)^[10]. This has severely limited their production, which has a negative impact on the country's overall GDP. According to Ayoola and Ayoola (2016)^[5], in Nigeria, access to resources such as land, labor, fertilizer, financing, and other inputs is a huge difficulty because the government exclusively supports cash crops. Due to a variety of agronomic constraints, Nigerian small-scale farmers employ fewer modern inputs than their counterparts elsewhere in the world. As a result, this study will seek to examine the factors influencing input accessibility among smallholder farmers that have not been addressed in earlier studies. Input access is critical for agricultural development. As a result, farmers typically achieve relatively poor crop yields since the indigenous varieties they employ have a low potential yield, the majority of maize is produced under rain-fed circumstances with irrigation used only in a few regions, little or no fertilizers are used, and pest control is inadequate (Sennuga, et al., 2020). Therefore, the purpose of this study is to find out the factors affecting Inputs Accessibility among smallholder farmers in Kuje Area Council Abuja, Nigeria. The specific objectives of this study are to:

- 1. describes the socio-economic characteristics of the respondents in the study area;
- 2. determine the sources of inputs to small holder farmers in kuje area council;
- 3. evaluate the effect of farm input to farmer's productivity in the year 2019 and 2020.

2. Materials and methods

Abuja, the Federal Capital Territory, Nigeria, situated "North of the confluence of the Niger River and Benue River". The boundaries are with Niger state to the "West and North, Kaduna to the Northeast, Nassarawa to the east and south and kogi to the southwest". With a land mass of approximately $7,315km^2$. It is "lying between altitude 8.25" and 9.20 north of the equator and longitude 6.45 and 7.39 east Greenwich meridian, Abuja is geographically located in the centre of the country" and it is made up of six area council, which are Gwagwalada, Bwari, Kuje, Kwali, Abaji and AMAC (en.m.wikipedia.org). The population of federal territory is estimated at 3,464,123 capital (http://worldpopulationreview.com). There are two distinct climate seasons in the federal capital territory, the rainy season beginning from May to October and the dry season from November to April (www.worlddata.infoclimate).

This research was specifically carried out in Kuje Area Council of the Federal Capital Territory (FCT), in North Central Nigeria, West Africa. Chukuku, Tkiyi, Chibiri, Shebuko, and Doji were purposefully chosen for the study because they had an impressive number of smallholder farmers who are still extremely engaged in their farming activities, as well as because they were close to the researcher. Crop farming and production are the main agricultural activities carried out by the farmers in the study region. In addition to crop cultivation, a number of them also raise cattle. Yam, cassava, maize, and peanuts are among the principal crops grown. They also raised livestock like chickens, goats, and lambs. Everything is done on a tiny scale (Aluko, *et al.*, 2021)^[2].

Population of the study and research design

Five small-scale farmer groups in Chukuku, Tkiyi, Chibiri, Shebuko, and Doji were studied. All five villages share the same socioeconomic and agro-climatic characteristics and are within a 5-kilometer radius of one another. The results were analyzed using a descriptive research method in order to have a better understanding of the information about input accessibility among smallholder farmers in the study area.

Sampling techniques and sample size

The primary data for this study was obtained from the small holder farmers through the use of questionnaire. As previously indicated, this study was carried out in the Kuje Area Council (FCT). Small holder farmers were handed questionnaires at several locations within the area's council. Chukuku, Tkiyi, Chibiri, Shebuko, and Doji are five rural wards that were purposefully chosen for the study. A total of one hundred (100) questionnaires were distributed in order to obtain information from the respondents, with ninety (90) of them being successfully retrieved, accounting for 90% of the total. As a result, a total of 90 people took part in the study. International Journal of Advanced Multidisciplinary Research and Studies

Method of data collection

The primary data was obtained through survey questionnaire that were given to each of the respondents. However, some of the respondents who were illiterate were helped and the contents of the questionnaire were verbally explained to them in order to obtain their responses. The study's main focus was on the socioeconomic characteristics of small holder farmers in the study region, the sources of inputs for small holder farmers in the study area, and the effect of farm input on farmer productivity in the study area in the years 2019 and 2020. The chief researcher aided in the data collection process.

Data analysis

All of the data obtained from the study was analyzed using descriptive statistics such as frequency and percentages. All results were presented using frequency and percentage. Coded results were first imputed on an Excel spreadsheet, which was then transferred to the Statistical Packages for Social Sciences (SPSS) for analysis.

3. Results and discussion

Socio-economic characteristics of respondents in the study area

 Table 1: Demographic representation of the Socio-economic characteristics of the respondents (90)

| Percentage |
|------------|
| 2 |
| 58.9 |
| 41.1 |
| |
| 46.7 |
| 43.3 |
| 10 |
| |
| 5.6 |
| 72.2 |
| 20 |
| 2.2 |
| |
| 46.7 |
| 39.9 |
| 14.4 |
| |
| 22.2 |
| 77.8 |
| |
| 64.4 |
| 35.6 |
| |
| 15.6 |
| 84.4 |
| |

Source: Field survey, 2021

Table 1 above shows the socio-economic characteristics of respondents in the study area. The result revealed that majority of the respondents interviewed were male with 58.9% while the female made up 41.1% of the sample size. The ages of respondents between 20-39 years were 46.7%, 43.3% represented ages of respondents between 40-60 years and 10% of the respondent represented those above 60 years of age. The result shows that the majority of the farmers are middle age of between 20-39 years and are active and energetic. This implies that middle-aged farmers are highly productive, have the ability to take risks, and are quick to

adapt new ideas. This is in keeping with the findings of (Ezike, et al., 2022)^[7], who stated that young farmers are known for their risk-taking capacity and enthusiasm to accept new technologies. Table 1 further, revealed that 72.2% of the respondents in the study area are married; 5.6% of them are single, 20% of the respondents are widowed while 2.2% are separated from their spouse. The household size indicated that 46.7% of respondents have household size ranges 1-10 while 77.8% represents household size above 10. The education level of respondents revealed that 46.7% of the respondents in the study area had no formal education; 38.9% and 14.4% had primary and secondary education respectively.64.4% of respondents revealed that farmers with farm size in the range of 1-10 hectares and 35.6% represented respondents with farm size above 10. This also indicated that 15.6% of farmers had work experience in the range of 1-10 years and majority above 10 years with 84.4%.

Sources of farm inputs

Table 2 below reveals that 52.2% of the respondent reserve inputs from the previous harvest while 47.8% of the respondents say they do not. 34.4% of the respondents get their inputs from individual supply agent where 65.6% do not.61.1% of the respondent source for their inputs from open market and 38.9% do not.62.2% of the respondent in the study area reveal that they do not source for their input from friends and relation while 37.8% of them do not. 36.7% of the respondent gets their input from agro dealers while 53.3% do not. Respondents that access inputs from government represent 37.8% and 62.2% do not. 44.4% of the respondents in the study area access their input from cooperative while 55.6% do not.75.6% of respondents revealed that inputs are affordable while 24.4% indicated it is not affordable.98.9% of respondents revealed that inputs are of good quality and 1.1% says no.54.4% of the respondents make use of fertilizer in planting their crops and 45.6% did not use fertilizer.72.2% of the respondents made use of agro chemical and 27.8% indicated they did not use.

 Table 2: Sources of farm inputs

| Variable | Percentage % |
|--------------------------|--------------|
| Previous harvest | 52.2 |
| Individual supply agents | 34.4 |
| Open market | 61.1 |
| Friends & Relations | 37.8 |
| Extension agents | 36.7 |
| Agro dealers | 46.7 |
| Government | 37.8 |
| Cooperative | 44.4 |
| Affordability | 75.6 |
| Good quality seed | 98.9 |
| Fertilizer usage | 54.4 |
| Agro chemical | 72.2 |

Source: field survey, 2021

Effect of farm input to farmer's productivity in the year 2019 and 2020.

The findings in figure 1 and 2 indicated that those farmers that used fertilizer had more output in 2020 compared to 2019 and farmers revealed that they made use of good quality seeds. Even though most do not have formal education and this affected their response because they do not have adequate record data to show the output of their produce



Table 3: Output of one sample statistic

| Year | Mean | Standard deviation | Standard deviation mean error |
|------|--------|--------------------|-------------------------------|
| 2019 | 108.06 | 66.390 | 6.998 |
| 2020 | 186.00 | 101.528 | 10.702 |

4. Conclusion

This research was carried out to look into input accessibility to smallholder farmers in Kuje area council of Abuja, Nigeria. The study had revealed that 61.1% of farmers access their farm inputs from open market while 52.2% get from previous harvest. At the end of this thorough research, it was discovered that smallholder farmers have limited access to agricultural input which is critical for agricultural development. in Nigeria, access to resources such as land, labor, fertilizer, financing, and other inputs is a huge difficulty because the government exclusively supports cash crops. Although, the result further revealed that many of the smallholder farmers in the study area who made use of farm input like fertilizer had increase in their output.

5. Recommendations

- 1. Extension services should be more in the aspect of record keeping knowledge as most of the farmers had no formal education this will help the farmers keep records of their produce for each year ruling out assumptions.
- 2. Government should partner with agro dealers to make inputs accessible to farmers as majority don't access farm inputs from agro dealers or government.
- 3. More Cooperative societies in agriculture sector should be encouraged as they can assist farmers in access to loan of inputs. When farmers get access to subsidized loans through cooperatives there will be will to produce more.

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