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# EFFECT OF ONDO STATE AGRICULTURAL INPUTS SUPPLY AGENCY ON PROFITABILITY OF CROP FARMERS IN OWO LGA, ONDO STATE, NIGERIA

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## ABSTRACT

***This study assessed the effect of Ondo State Agricultural Inputs Supply Agency (OSAISA) on the profitability of crop farmers in Owo Local Government Area of Ondo State, Nigeria. The study specifically described the socio-economic characteristics of arable crop farmers, compared the profitability of OSAISA patronizing food crop farmers (PF) and non-patronizing food crop farmers (NPF) and identified the various constraints encountered by patronizing farmers in dealing with OSAISA. One hundred and twenty food crop farmers were selected through a multi-stage random sampling procedure. Information was obtained from the respondents using a well-structured questionnaire. Data collected were analyzed with both descriptive statistics and budgeting technique. Findings revealed that 88.3% and 86.7% of the PF and NPF, respectively were males. About 50.0% of PF and 56.7% of NPF were between 41 and 50 years of age. The net farm income of the PF was greater than the NPF and benefit cost ratio for PF was more sustainable and viable than that of NPF. The major constraint faced by the OSAISA' PF was inadequate capital to purchase the desired inputs. Based on the results, the study concludes that OSAISA contributes tremendously to the profitability of patronizing farmers in the study area. It is, therefore, recommended that farmers should be given easy access to acquire loan to meet their input demand and farming business in general; including adequate and timely supply of inputs for effective and efficient productivity.***

**Key words:** OSAISA, patronizing and non-patronizing farmers, budgeting technique, constraints, farm size

## INTRODUCTION

Agriculture has always played a very prominent role in sustaining the economy of Nigeria. In fact, it was the mainstay of the nation's economy before the discovery of crude oil (Omorogiuwa *et al.,* 2014; Kolawole *et al.,* 2016). Even with increased attention given to oil sector, agriculture is the base of Nigeria's economy and the main source of livelihood for most Nigerians (Omorogiuwa *et al*., 2014; Bernstein, 2017; Ikenwa *et al*., 2017; Diao *et al.,* 2018). In 2015, the agricultural sector contributed about 23% of the country's gross domestic product (GDP), having ca. 75% share of non-oil exports earnings (Federal Ministry of Agriculture and Rural Development, 2016). Recently, the agricultural sector contributed 24.6% of the GDP in the second quarter of 2020, according to National Bureau of Statistics (NBS, 2021). Agriculture remains a crucial sector in the economy of Nigeria, being a major source of raw materials, food and foreign exchange; employing over 70% of her labour force, and serving as a potential vehicle for diversifying her economy (Liverpool-Tasie *et al.,* 2011; Ogbalubi and Wokocha, 2013).

Considering the roles of agricultural sector to the economic development of the country, Nigerian government had been able to introduce and implement quite a number of policies and programmes with a view to increasing land access through reforms, providing rural infrastructure, enhancing credit access and granting input subsidies that would boost agricultural productivity. Despite these diverse interventions, the Nigerian agricultural sector is still under-developed (Nchuchuwe and Adejuwon, 2012). The sector faces many challenges, including an outdated land tenure system that limits access to land (1.8 ha per farming household), a very low level of irrigation development (< 1% of cropped land under irrigation), limited adoption of research findings and technologies, high cost of farm inputs, poor access to credit, economic and political challenges, inefficient fertilizer procurement and distribution, inadequate storage facilities and poor access to markets have all combined to keep agricultural productivity low (average of 1.2 metric tons of cereals per ha) with high post-harvest losses and waste (Mgbenka and Mbah, 2016; FAO, 2020). In addition, Nwaobiala and Ubor (2016) suggested

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that modern agricultural transformation and productivity in Nigeria depends, among other things, on the availability and adequacy of inputs. Agricultural productivity is one of the key determinants of high and sustained agricultural growth over long term (Adeleke *et al.,* 2009). However, for developing countries, agriculture share in relation to gross domestic product is low (Desai and Rudra, 2018).

Therefore, improvement in crop production in agriculture is an important avenue to sustain life, protect and maintain the medical well-being, as well as psychological and aesthetic comfort of the populace. Olomola and Nwafor (2018) find that the agricultural sector was able to make significant progress by increasing output in staples such as maize, millet, sorghum, cassava, rice, and yam as a result of the presidential initiatives. Despite these sporadic achievements, inadequate infrastructure, agricultural inputs and overdependence on imports affect the state of agricultural productivity (Olomola and Nwafor, 2018).

To meet food demands, agriculture in 2050 will need to produce almost 50% more food, feed and biofuel than it did in 2012. Food and Agriculture Organization estimate takes into account recent United Nations (UN) projections indicating that the world's population would reach 9.73 billion in 2050. In sub-Saharan Africa and South Asia, agricultural output would need to more than double by 2050 to meet increased demand, while in the rest of the world the projected increase would be about one-third above current levels (FAO, 2017). Daudu and Ajayi (2009) stressed that improved crop production is enhanced through the provision of inputs such as fertilizers, agro-chemicals, improved seeds and farm machineries among others. They further noted that fund for agricultural programmes is time-bound and delay in the release of funds often leads to the problem of untimely supply of agricultural inputs which eventually affects crop production and agriculture in general.

Over the years, there has been a resurgent interest in large scale agricultural input subsidies across sub-Saharan Africa (Abubakari and Abubakari, 2014; Dorward and Chirwa, 2014; Amurtiya, *et al.,* 2018). The input subsidization is, however, necessary to promote adoption of new technologies, increase efficiency and thus increase agricultural productivity of farmers (Chibwana *et al.,* 2012; Aloyce *et al.,* 2014). These agricultural inputs range from improved seeds and planting materials, fertilizers, herbicides and crop protection chemicals, equipment or farm tools to machinery (Nwaobiala, 2015). In Nigeria, agricultural input subsidies are grants given by the government to farmers in order to reduce their production cost and improve their profit margin (Amurtiya *et al.,* 2018). Over the years, the Ondo State Government has been making considerable expenditure on the provision of subsidized farm inputs (especially agro-chemicals) in the State (AllAfrica, 2011; Mogues and Olofinbiyi, 2018). However, this led to the establishment of an input supply body or agency called Ondo State Agricultural Inputs Supply Agency (OSAISA).

The agency was formerly known as Ondo State Agricultural Inputs Supply Company (OSAISC) which metamorphosed from the erstwhile commercial division of the Ondo State Agricultural Development Project (ODSADEP); a world bank assisted programme designed to revolutionize agriculture in the State. Ondo State Agricultural Inputs State Company was thus registered as a limited liability company in 1991 and formally commenced business in May, 1992 with farm service centres in each LGA of the state and headquarters in Akure. Ondo State Agricultural Inputs State Company was later renamed as Ondo State Agricultural Inputs Supply Project (OSAISP) in May, 2002 to make it more vibrant and the name was also later changed to Ondo State Agricultural Inputs Supply Agency (OSAISA) in 2010 by the State government. The mandate of OSAISA was to ensure that genuine agro-inputs and allied products effectively reach the grassroots farmers thereby affecting the lives of the people positively and prodding the state economic potency (OSAISA, 2014).

The basic question is how well OSAISA has performed since its establishment in terms of its impact on arable crop farmers' profitability. Therefore, this study was designed to assess the effect of OSAISA on profitability of crop farmers in Owo LGA of Ondo State, Nigeria with reference to patronizing farmers (PF) and non-patronizing farmers (NPF) in the services of OSAISA. This study is specifically designed to describe the socio-economic characteristics of the farmers in the study area; determine and compare the profit level of patronizing farmers in OSAISA and non-patronizing farmers based on production of selected food crops; and identify the various constraints encountered by patronizing farmers in dealing with OSAISA.

## MATERIALS AND METHODS

This study was carried out in Owo LGA of Ondo State, Nigeria. Owo town is the headquarters of the Local Government and it is 48 km east of Akure metropolis and 400 km north of Lagos State. It has a total land area of about 993 $km^2$ with a population of 222,262 (National Population Census, 2006), in line with the information from the Ondo State Ministry of Economic Planning and Budget, Akure (2010). Owo local government is one of the 18 local government areas of Ondo State. It is bounded by Emure-Ise-Orun local government area of Ekiti State to the north, Akure and Idanre to the east and south respectively, while Ose local government forms the border to the west and part of the south. River Ogbese and Ose form the natural boundaries between Owo and a few of these neighbouring LGAs (Oyinloye and Tokunbo, 2013). The principal towns under the Local Government are Ipele, Uso, Emure-Ile, Ipenmen, Amurin, Iyere,

Idashen, Ijebu and Isuada. The major occupation of the people is farming, lumbering, saw-milling, trading, metal crafts, iron and wooden materials, and civil service works among others. The farming activities include planting of food crops such as yam, cassava, maize, cocoyam, cowpea and vegetables among others. The major cash crops grown in the area are cocoa, citrus, oil palm, rubber, coffee and kolanut (Mafimisebi *et al*., 2019). The target population for this study comprised cassava and maize farmers with a mixed cropping pattern.

A multistage sampling procedure was used for this study. Firstly, Owo LGA was purposively selected out of the eighteen LGAs that constitute Ondo State, because OSAISA patronizing farmers and cassava-maize mixed cropping farmers were fully available in the local government. The second stage involved a purposive selection of six out of the nine principal towns from the local government area due to the high level of crop production as well as availability of OSAISA patronizing farmers. These towns were Uso, Emure-Ile, Ipenmen, Iyere, Idashen and Isuada. In the third stage, two villages were randomly selected from each of the selected towns which made up a total of 12 villages that were used for the study. At the fourth stage, in each village, 10 farmers (five OSAISA patronizing farmers and five non-patronizing farmers) were randomly selected and interviewed. A total number of 60 OSAISA patronizing farmers (PF) and 60 non-patronizing farmers (NPF) were interviewed. Therefore, 120 cassava and maize mixed cropping farmers were selected for the study.

Primary data were collected with the aid of well-structured questionnaire and interview schedule to collect relevant information about the effect of OSAISA on crop farmers. The instrument contained open and close ended questions which covered various facts about the farmers and their crop production activities. Furthermore, the data's authenticity was verified through Focus Group Discussions (FGD) with 40 selected OSAISA patronizing farmers, with the assistance of other co-authors.

**Method of Data Analysis**

Descriptive statistics and budgeting technique were both employed in this study. Frequency distribution, percentages and mean were used to describe the socio-economic characteristics of the crop farmers in the study area. The profitability of PF and NPF was estimated using budgeting technique. The budgeting analysis involves the deduction of the total variable costs (TVC) from the total revenue of cassava and maize (in Naira, ₦) to obtain the gross margin of each crop for individual farmer in the study area. The TVC of production consisted of cost of labour, fertilizers, agro-chemicals, cassava cuttings, maize seeds and other miscellaneous expenses. The total fixed costs (TFC) included the costs of depreciation in cutlasses, wheelbarrows, files, hoe, motorcycle, baskets and other farm tools and equipment. The expression is given as:

$$GM_i = \sum_{n=1}^{n} P_i Y_i - C_i \quad \text{..... (1);}$$

where $GM_i$ is gross margin of ith farm measured in Naira (₦), $P_i$ is farm gate price in ₦ per kg of cassava and maize produced from $i^{th}$ farm, $Y_i$ is total quantity in kg of cassava and maize of $i^{th}$ farm, $C_i$ is TVC incurred on $i^{th}$ farm, and $n$ is total number of cassava and maize farms sampled.

From equation 1, $P_1Y_1$ is total revenue (TR) and $C_1$ is TVC; therefore, TC = TVC + TFC. Then, net income (NI) is TR – TC. The benefit cost ratio (BCR) is computed as follows:

$$BCR = \frac{\sum TR}{\sum TC} \quad \text{..... (2).}$$

Enterprise is profitable if BCR > 1, but not profitable if BCR < 1. If BCR = 1, it means the enterprise just breaks even. All analyses were carried out on SPSS and Microsoft excel.

## RESULTS AND DISCUSSION

**Socio-Economic Characteristics of Respondents**

The socio-economic characteristics of OSAISA PF and NPF in the study area are presented in Table 1. The results show that 88.3% of the PF were males and 86.7% of the NPF were males. This implies that there were more male patronizers of OSAISA than the female patronizers since male engaged more in farming activities than the female. Also, the result shows that about 50.0% of PF and 56.7% of NPF fell between 41 and 50 years of age. The mean values of the two groups fell within the range of 46-49 years. This implies that farmers in the study area were middle aged and were still strong, active and vibrant to engage effectively in cassava and maize production. The findings showed that PF (40.0%) and NPF (18.3%) had secondary school education, and about 5.0% of PF had tertiary education. So, the PF were more educated. This might be due to the fact that they were a bit enlightened and favourably disposed to innovative information from ODSADEP and OSAISA to improve their productivity in crop production relative to demand, supply and utilisation of agricultural inputs. The educational status of the farmers was an important factor affecting usage of agricultural inputs. The higher the educational level of the farmer the better is their understanding of improved agricultural technologies (Kenea *et al.,* 2019).

In addition, the data show that the majority of the respondents (76.7%) were married. This implies that cassava and maize farmers are dominated by married people in the study area. This result supports the findings of Onyekuru *et al.* (2019) that cassava production is dominated by married people. About 50.0% of pooled respondents had household size ranging from four to six persons across the two groups with a mean household of six persons. This implies that the households are moderately large in size, this could serve as a source of family labour. Garner and Campos (2014) stated that, the larger the household size is, the more family labour that

would be available for agricultural production. Also, Table 1 shows that 61.7% of PF and NPF had their farm size in the range of 1-2.5 ha, indicating that the respondents were mainly small-scale crop farmers.

The interaction with the farmers during FGD revealed that farmers were confronted with land tenure problem and lack of credit facilities to increase farm sizes. The result supports the findings of Olagunju and Ogunniyi (2006) that most of the farmers in Southwestern Nigeria cultivated small areas of land. Land size is an important factor affecting the demand for agricultural inputs because the increase in size of land holdings encourages more crop production and invariably provides sufficient income and there by funds to purchase modern farm inputs (Kenea *et al.*, 2019).

**Table 1:** Socio-economic characteristics of respondents

| Variables | PF ($n$ = 60) | | NPF ($n$ = 60) | | Pooled ($n$ = 120) | |
|---|---|---|---|---|---|---|
| | F | % | F | % | F | % |
| Gender | | | | | | |
| Male | 53 | 88.3 | 52 | 86.7 | 105 | 87.5 |
| Female | 7 | 11.7 | 8 | 13.3 | 15 | 12.5 |
| Age (years) | | | | | | |
| 30-40 | 14 | 6.7 | 12 | 20.0 | 26 | 21.7 |
| 41-50 | 30 | 50.0 | 34 | 56.7 | 64 | 53.3 |
| 51-60 | 12 | 20.0 | 10 | 16.7 | 22 | 18.3 |
| 61-70 | 3 | 5.0 | 2 | 3.3 | 5 | 4.2 |
| Above 70 | 1 | 1.7 | 2 | 3.3 | 3 | 2.5 |
| Mean | 46 | | 49 | | 47.5 | |
| Level of education | | | | | | |
| No formal | 10 | 16.7 | 17 | 28.3 | 27 | 22.5 |
| Primary school | 23 | 38.3 | 32 | 53.3 | 55 | 45.8 |
| Secondary | 24 | 40.0 | 11 | 18.3 | 35 | 29.2 |
| Tertiary | 3 | 5.0 | 0 | 0.0 | 3 | 2.5 |
| Marital status | | | | | | |
| Unmarried | 13 | 21.7 | 15 | 25.0 | 28 | 23.3 |
| Married | 47 | 78.3 | 45 | 75.0 | 92 | 76.7 |
| Household size (persons) | | | | | | |
| 1-3 | 5 | 8.3 | 8 | 13.3 | 13 | 10.8 |
| 4-6 | 29 | 48.3 | 31 | 51.7 | 60 | 50.0 |
| 7-9 | 21 | 35.0 | 18 | 30.0 | 39 | 32.5 |
| Above 9 | 5 | 8.3 | 3 | 5.0 | 8 | 6.7 |
| Mean | 5 | | 6 | | 6 | |
| Farm size (ha) | | | | | | |
| 1.0-2.5 | 35 | 58.3 | 39 | 65.0 | 74 | 61.7 |
| 2.6-5.0 | 17 | 28.3 | 16 | 26.7 | 33 | 27.5 |
| 5.1-7.5 | 8 | 13.3 | 4 | 6.6 | 10 | 8.3 |
| Above 7.5 | 2 | 3.3 | 1 | 1.7 | 3 | 2.5 |
| Mean | 1.76 | | 1.54 | | 1.65 | |
| Farmland ownership | | | | | | |
| Inheritance | 35 | 58.3 | 31 | 51.7 | 66 | 55.0 |
| Community land | 16 | 26.7 | 23 | 38.3 | 39 | 32.5 |
| Gift | 7 | 11.6 | 4 | 6.6 | 11 | 9.2 |
| Purchased | 2 | 3.3 | 1 | 1.7 | 3 | 2.5 |
| Rent | - | 0.0 | 1 | 1.7 | 1 | 0.8 |
| Farming experience (years) | | | | | | |
| 1-5 | 3 | 5.0 | 2 | 3.3 | 5 | 4.2 |
| 6-10 | 8 | 13.3 | 12 | 20.0 | 20 | 16.7 |
| 11-15 | 12 | 20.0 | 17 | 28.3 | 29 | 24.2 |
| 16-20 | 28 | 46.7 | 22 | 36.7 | 50 | 41.7 |
| Above 20 | 9 | 15.0 | 7 | 11.7 | 16 | 13.3 |

Source: Field Survey, 2020

About 55.0% of the respondents acquired land through inheritance, while 2.5% and 0.8% purchased and rented their lands, respectively. This finding corroborates Ogunlade *et al.* (2009) who reported that majority (72.9%) of farmers in Nigeria inherited their farmlands and that the practice made them free to cultivate as much as they could. This means that crop farmers can use their farmland for a long period of time; however, farmland through inheritance usually leads to fragmentation of land. On the other hand, leased/rented farmlands could limit the practices of the farmers and its adoption of technologies or purchase of agricultural inputs.

Some of the respondents (41.7%) representing 46.7% for PF and 36.7% for NPF had farming experience of 16-20 years. So, the majority of them have adequate experience in crop production.

**Profitability Analysis of OSAISA Patronizing and Non-patronizing Farmers**

**Profitability of farmers with farm size < 1 acre**

The results of the profitability analysis of the farmers at < 1 acre are presented in Table 2. It could be seen that the total revenues from cassava and maize outputs were found to be ₦1,898,000 for PF and ₦1,621,200 for NPF, per cropping season. The TVC incurred was ₦411,800 (PF) and ₦481,000 (NPF), the gross margin was ₦1,486,200 (PF) and ₦1,140,200 (NPF), while the net farm incomes of ₦1,459,800 (PF) and ₦1,111,300 (NPF) were realized. A higher profit is noted among OSAISA PF than NPF. However, a PF gained average profit of net farm income of ₦41,709 while NPF gained ₦28,495 at less than one acre.

**Profitability of farmers with farm size 1.1-2.0 acres**

The results of the budgeting analysis for the farmers at 1.1-2.0 acres are presented in Table 2. As the farm size increased the number of farmers that cultivated it reduced, representing 28.3% of PF and 26.6% of NPF in the study area. This is supported by the findings of Oluwatayo *et al.* (2008) who stated that the majority of maize and cassava farmers operated at subsistence levels, but this does not affect the trends of increase in profitability of OSAISA PF and NPF. It could be seen that the total revenues from cassava and maize outputs were ₦2,280,500 for PF and ₦1,904,000 for NPF, per cropping season. The TVC incurred was ₦493,500 (PF) and ₦511,000 (NPF), the gross margins of the farmers were ₦ 1,787,000 (PF) and ₦1,393,000 (NPF), while the net farm incomes of ₦1,772,800 (PF) and ₦1,373,750 (NPF) were realized. A higher profit is noted among OSAISA PF than NPF. Also, at 1.1-2.0 acres, a PF gained average profit of net farm income of ₦104,282 while a NPF gained ₦85,859.

**Profitability of farmers with farm size 2.1-3.0 acres**

Also, the results of the budgeting analysis for the farmers at 2.1-3.0 acres are presented in Table 2. As the farm size increased the number of farmers that cultivated it reduced, representing 10.0% of PF and 6.7% of NPF in the study area. The total

revenues from cassava and maize outputs were ₦1,150,000 for PF and ₦754,000 for NPF, per cropping season. The TVCs incurred were ₦346,500 (PF) and ₦352,800 (NPF), the gross margins of the farmers were ₦803,500 (PF) and ₦401,200 (NPF), while the net farm incomes of ₦796,070 (PF) and ₦395,530 (NPF) were realized. A higher profit is noted among OSAISA PF than NPF. A PF gained average profit of net farm income of ₦132,678 while a NPF gained ₦98,833 at 2.1-3.0 acres.

**Profitability of farmers with farm size > 3 acres**

Lastly, the results of the profitability of the farmers at a farm size above 3 acres are also depicted in Table 2. As for others, as the farm size increased the number of farmers that cultivated it reduced, representing 3.3% of PF and 1.7% of NPF in the study area. The total revenues from cassava and maize outputs were found to be ₦406,400 for PF and ₦195,500 for NPF, per cropping season. The TVCs incurred were ₦91,600 (PF) and ₦48,200 (NPF), the gross margins were ₦314,800 (PF) and ₦147,300 (NPF), while the net farm incomes of ₦311,050 (PF) and ₦145,330 (NPF) were realized. A higher crop output and profit is noted among OSAISA PF than NPF. A PF gained average profit of net farm income of ₦155,525 while a NPF gained ₦145,330 at 3 and above acres.

Generally, the resultant higher profit realized by OSAISA PF may be as a result of the low cost and subsidized inputs of relative to that of NPF and also trainings and skills acquired from Ondo State Agricultural Inputs Supply Agency (Linking Partners for Niger Delta Development, NDLINK, 2014). Thus, using the mean profit of net farm income as a criterion, each PF would realize at least ₦41,709 (US$109.19) at < 1 acre, ₦104,282 (US$272.99) at 1.1-2.0 acres, ₦132,678 (US$347.33) at 2.1-3.0 acres, and ₦155,525 (US$407.13) at > 3.0 acres, higher than each NPF who realized ₦28,495 (US$74.59) at < 1 acre, ₦85,859 (US$224.76) at 1.1-2.0 acres, ₦98,833 (US$258.73) at 2.1-3.0 acres and ₦145,330 (US$380.45) at > 3.0 acres.

Furthermore, the study found out that cassava and maize (mixed cropping) production is a profitable venture. The benefit-cost ratio (BCR) computed showed that both groups had their BCR > 1 which further indicates that cassava and maize (mixed cropping) production is profitable, but OSAISA PF had the higher profit. The results in Table 2 imply that the PF had higher profit than the NPF based on the different levels of farm size. This may be connected to the benefits and support derived from OSAISA in terms of subsidized price of inputs, organized trainings, among other benefits in addition to the innovative technical information from ODSADEP to improve their crop production profile. Access to subsidized farm inputs increases farmers' productivity via increases in farm size and reduced transition cost in the adoption of new technologies (Chibwana *et al.,* 2012; Aloyce *et al.,* 2014). Lowering of input prices, as a result of the subsidy, provide incentives for farmers to use more of the inputs, translating into increased output (Seck, 2016) and higher farm profit (Ayinde *et al.,* 2019).

**Table 2:** Profitability of maize and cassava production based on farm size for PF and NPF ($n$ = 60 for PF, $n$ = 60 for NPF)

| | < 1 acre | | 1.1-2 acres | | 2.1-3 acres | | > 3 acres | |
|---|---|---|---|---|---|---|---|---|
| No. of respondents according to farm size | PF (F=35; %=58.4) | NPF (F=39; %=65.0) | PF (F=17; %=28.3) | NPF (F=16; %=26.6) | PF (F=6; %=10.0) | NPF (F=4; %=6.7) | PF (F=2; %=3.3) | NPF (F=1; %=1.7) |
| Items | | | | | | | | |
| Cassava yield (kg yr$^{-1}$) | 25,302 | 21,860 | 32,348 | 23,488 | 1,7633 | 11,674 | 6,860 | 3,302 |
| Price (₦ kg$^{-1}$) | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 43 |
| Sub revenue (₦) | 1,088,000 | 940,000 | 1,391,000 | 1,010,000 | 758,200 | 502,000 | 295,000 | 142,000 |
| Maize yield (kg yr$^{-1}$) | 2,700 | 2,271 | 2,965 | 2,980 | 1,306 | 840 | 371 | 178 |
| Price (₦ kg$^{-1}$) | 300 | 300 | 300 | 300 | 300 | 300 | 300 | 300 |
| Sub revenue (₦) | 810,000 | 681,200 | 889,500 | 894,000 | 391,800 | 252,000 | 111,400 | 53,500 |
| Total revenue (₦) | 1,898,000 | 1,621,200 | 2,280,500 | 1,904,000 | 1,150,000 | 754,000 | 406,400 | 195,500 |
| Expenses | (₦) | (₦) | (₦) | (₦) | (₦) | (₦) | (₦) | (₦) |
| Depreciated charges | 26,400 | 28,900 | 14,200 | 19,250 | 7,430 | 5,670 | 3,750 | 1,970 |
| Total fixed cost (TFC) | 26,400 | 28,900 | 14,200 | 19,250 | 7,430 | 5,670 | 3,750 | 1,970 |
| Variable costs | | | | | | | | |
| Agro-chemicals | 155,350 | 182,850 | 184,550 | 191,550 | 126,500 | 129,000 | 25,100 | 12,500 |
| Fertilizer | 46,500 | 48,500 | 65,750 | 67,950 | 47,100 | 48,500 | 15.000 | 15.000 |
| Cassava cuttings | 21,300 | 27,300 | 23,200 | 29,400 | 16,000 | 18,300 | 2,500 | 500 |
| Maize seeds | 25,500 | 31,350 | 27,500 | 28,350 | 20,500 | 23,350 | 5,000 | 1,500 |
| Labour | | | | | | | | |
| Land clearing and preparation | 28,000 | 41,000 | 32,000 | 30,000 | 27,500 | 25,000 | 5,500 | 2,500 |
| Planting and replanting | 15,000 | 17,000 | 28,000 | 31,000 | 10,000 | 7,800 | 5.000 | - |
| Weeding | 52,000 | 71,000 | 50,500 | 58,000 | 42,000 | 45,000 | 10,500 | 5,500 |
| Fertilization | 12,000 | 10,000 | 17,000 | 17,500 | 10,000 | 11,850 | - | - |
| Spraying against pests/diseases | 19,000 | 17,000 | 21,000 | 22,000 | 14,000 | 11,500 | 6,000 | 3,500 |
| Harvesting | 32,000 | 29,000 | 36,000 | 27,750 | 28,000 | 26,500 | 14,000 | 5,000 |
| Maize drying/shelling/bagging | 5,150 | 6,000 | 8,000 | 7,500 | 4,900 | 6,000 | 3,000 | 2,200 |
| Total variable cost (TVC) | 411,800 | 481,000 | 493,500 | 511,000 | 346,500 | 352,800 | 91,600 | 48,200 |
| Total costs (TFC + TVC) | 438,200 | 509,900 | 507,700 | 530,250 | 353,930 | 358,470 | 95,350 | 50,170 |
| Gross margin (TR – TVC) | 1,486,200 | 1,140,200 | 1,787,000 | 1,393,000 | 803,500 | 401,200 | 314,800 | 147,300 |
| Net farm income (A – B) | 1,459,800 | 1,111,300 | 1,772,800 | 1,373,750 | 796,070 | 395,530 | 311,050 | 145,330 |
| *Mean profit of gross margin | *42,463 | 29,236 | *105,118 | 87,063 | *133,917 | 100,300 | *157,400 | 147,300 |
| *Mean profit of net farm income | *41,709 | 28,495 | *104,282 | 85,859 | *132,678 | 98,833 | *155,525 | 145,330 |
| Benefit cost ratio (BCR) = TR/TC | 4.33 | 3.18 | 4.49 | 3.59 | 3.25 | 2.10 | 4.26 | 3.90 |

Source: Field Survey, 2020. *Note: ₦382 is 1US$. *F* is frequency

**Table 3:** Constraints faced by OSAISA's patronizing farmers

| Constraints | Frequency** | % |
|---|---|---|
| Lack of adequate capital to purchase desired inputs | 56 | 93.3 |
| Lack of inputs distribution vehicles to farming localities | 49 | 81.7 |
| Lack of OSAISA sales outlets or market stalls in farming localities | 47 | 78.3 |
| Awareness on trainings/seminars organized by OSAISA had been very low | 31 | 51.7 |

Source: Field Survey, 2020. ** represents multiple response

**Constraints Faced by OSAISA Patronizing Farmers**

Results in Table 3 show the constraints encountered by the PF in dealing with OSAISA. The data show that 93.3% of the PF indicated inadequate capital to purchase the desired inputs. About 81.7% indicated lack of inputs distribution vehicles to farming location, 78.3% indicated lack of OSAISA sales outlets or market stalls in their localities, and 51.7% indicated not getting information concerning OSAISA organized trainings/seminars. This implies that the most important problem faced by the PF was inadequate capital to purchase the desire inputs which might be connected to the economic condition of the country. This finding corroborates Osabohien *et al.* (2020) who reported that in rural sub-Saharan African communities many households do not have access to credit facilities, leading to low agricultural production, among others. This is also corroborated by FAO (2016), Adjognon *et al.* (2017) and Osabohien *et al.* (2019). Without adequate credit assistance, farmers will suffer hardship, because access to credit provides households with emergency relief, such as the purchase of seeds, fertilizers and agro-chemicals (Mukasa *et al.,* 2017).

## CONCLUSION & RECOMMENDATION

The study examined the effect of Ondo State Agricultural Inputs Supply Agency (OSAISA) on the profitability of crop farmers. The results showed that cassava and maize enterprise (mixed cropping) was a profitable venture, and that OSAISA has contributed positively to the profitability of patronizing farmers (PF) than non-patronizing farmers (NPF) thereby improving their financial status. Thus, effective and efficient use of inputs by the PF who purchased agricultural inputs at subsidized rates boost their profitability.

In conclusion, the support accrued from OSAISA by the PF had a positive impact on their crop output in the study area, as far as patronizing OSAISA is concerned. Finally, the major challenge faced by the PF was inadequate capital to purchase the desired inputs. This was followed by lack of inputs distribution vehicles to farming locations among other problems encountered by the PF. Based on the findings, the following recommendations are made:

i. Government should ensure that farmers are given easy access to acquire loan (low interest rate) in order to improve on their productivity;
ii. OSAISA should ensure adequate and timely supply of all necessary agricultural inputs to all farm service centres across the State;
iii. Distribution of inputs should be improved by providing distribution vehicles to the rural areas;
iv. There should be provision of market stalls or sales outlet that will be nearer to the farmers' localities thereby preventing extra cost of transportation of the farmers in those areas who will need not to travel to town for purchase of inputs;
v. OSAISA should ensure that adequate awareness campaign strategies to get the farmers informed whenever a training or seminar is organized;
vi. Farmers are advised to always patronize OSAISA in order to benefit from their subsidy packages for efficient and effective farming business, as well as for better output with appreciable income.

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