



Effect of Border Closure on Household Rice Consumption in Oyo State, Nigeria

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Abstract

The study analyzed the effect of border closure on household rice consumption in Oyo state Nigeria. Specifically, the study determined the number of times rice is consumed weekly before and during border closure (local and foreign rice); ascertained the quantity of local and foreign rice consumed per kilogramme weekly before and during border closure; ascertained conditions that necessitated border closure and identified types of rice consumed. Data was collected from 246 respondents with the aid of a structured interview schedule using simple random sampling. Descriptive statistical tools such as frequencies, percentages and mean; and inferential tools (paired sample t-test analysis) were used to present the results. The finding of the study shows the conditions that necessitated border closure as claimed by the respondents were smuggling of hard drugs (80.5%), smuggling of arms and weapon (78.0%), illegal trade of goods (73.2%), proliferation of low-quality rice (57.3%), the influx of prohibited item (76.8%), stability of domestic economy (61.0%), prevention of illegal immigrants (63.4%), enhancement of the growth of local industries (73.2%), encouragement of the consumption of locally produced food (79.3%) and improvement of domestic and regional competitiveness (69.5%). Most of the respondents (64.6%) preferred to consume short-grain rice. There is a significant difference between the quantity of foreign rice consumed before and during border closure ($t= 13.649$, $P= 0.000$). Consequently, border closure has significant effect on the consumption of foreign rice by reducing the quantity consumed during the closure. However, local rice consumption is on the increase. The study, therefore, recommended that the production of quality short grain rice should be encouraged among farmers since it is in high demand by consumers.

Keywords: *Border, Border closure, Household, Rice, Rice consumption, Border effect.*

Introduction

Rice (*Oryza sativa*) is a leading and common staple food in many countries of the world and the exponential growth in rice consumption in Nigeria is also being replicated in other parts of the world, especially in West Africa. Rice has become one of the most dominant staples in the Nigerian diet. Rice not only dominates other cereals, it also dominates the average Nigerian budget. Compared to other staples, rice is also widely consumed across the population; 84 percent of households reported consuming rice at home

(Gyimah-Brempong and Kuku-Shittu, 2016). There are, however, minor spatial differences in the pattern of rice consumption while 91 percent of urban households in Nigeria consume rice, a slightly lower percentage-80 percent-of rural households do so. Consumption of imported and domestic rice also differs by location. Many households consume more local rice than imported rice, while urban households consume more of imported than local rice. There is a preference for local rice in the northern zones, where it

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accounts for over 80 percent of the rice consumed, compared to the southern zones, where only about 12 percent is local rice (Johnson and Ajibade, 2016).

Rice is consumed across all geopolitical zones and socioeconomic classes in Nigeria. Only about 57% of the 6.7 million metric tonnes of rice consumed in Nigeria annually is locally produced, leading to a supply deficit of about 3 million metric tonnes (Obi, 2019). The poor quality of the local rice was found to reduce its demand. The major factors that significantly influence households' preference for either a combination of local and imported rice or the imported rice only were the income of the household head, household size and the educational status of the household heads. However, the price per unit kilogramme of rice was not a significant factor (Bamidele, Abayomi and Esther, 2008). Morse, (2019) stated that domestic production has failed to meet domestic demand, and the hole has been filled by other countries. Hence, the need for favourable policies to bridge the gap. Even in the face of rice production deficit, the Federal Government of Nigeria gave an executive order on the partial closure of the land borders in August 2019 due to massive smuggling activities, especially rice; many saw it as the right direction to increase local production of rice (Jimoh, 2020).

According to Wikipedia, (2021) borders are geographic boundaries, imposed either by geographic features such as oceans, or arbitrary groupings of political entities such as governments, sovereign states, federated states and other subnational entities. According to Britannica, (2022) Nigeria is bordered by the north by Niger, to the east by Chad and Cameroon, to the south by the Gulf of Guinea of the Atlantic Ocean, and to the west by Benin. But It was observed that the border closure on rice importation has also favoured the employment of labour in the various rice production chain, invariably enhancing the GDP of the country. When the border closure happened, Nigeria did not know there would be a pandemic, but luckily, the border closure prevented food items from

going out of the country informally as they used to. The COVID-19 pandemic has also taught a great lesson that the country can look inwards and better the economy without foreign interventions, even now that the whole world is in a great crisis; economic and food-wise (Jimoh, 2020)

The border closures have had significant negative concerns for traders, especially informal ones along the Benin-Nigeria axis. Smugglers bringing in rice from Benin appeared to be making a killing for Nigeria's economy. Orjinmo, (2019) stated that the biggest contraband route was between Cotonou, Benin's biggest city, and Nigeria's commercial hub Lagos, which is just a few hours' drive away. According to the World Bank, as cited by Orjinmo (2019), Benin's economy is heavily reliant on the informal re-export and transit trade with Nigeria, which accounts for about 20% of its GDP, or national income and about 80% of imports into Benin are destined for Nigeria. Smugglers have been taking advantage of the fact that it is cheaper to import rice from Nigeria's neighbours. The rice was making its way into Nigeria to meet the shortfall in local production for a country of almost 200 million people. Nigerians' appetite for rice is almost insatiable in a country where the grain is a staple.

Obisesan, (2020) stated that despite the Nigerian government's restriction on the importation of rice into the country in 2019, the directive failed to address the fact that locally processed rice is too expensive for households to purchase. In the case of low price rice, the quality is poor. This is one of the challenges affecting rice consumption in Nigeria. The processing procedure entails parboiling raw rice to soften the husk, drying and milling it before selling to distributors or retailers. After milling, small stones must be removed using a de-stoner. De-stoning rice makes locally processed rice more appealing. But the majority of the small scale processors cannot afford the equipment. There is therefore a need for the Nigerian Ministry of Agriculture and Rural Development to enhance getting modern rice processing

techniques/technologies to more processors. This would enable processors to take advantage of the openings and opportunities made available by the federal government for local rice producers to access the markets to supply rice for households' consumption.

This study, therefore, analysed the effect of border closure on household rice consumption in Oyo state Nigeria. Specifically, it determined the number of times rice is consumed weekly before and during border closure (local and foreign rice); determined the quantity of local and foreign rice consumed per kilogramme weekly before and during border closure; ascertained conditions that necessitated border closure and types of rice consumed. Hypothetically, there is no significant difference between the quantities of foreign rice consumed before and during border closure.

Materials and Methods

The study was carried out in Oyo State, Nigeria. It's located in the South-West geopolitical zone of Nigeria. The State covers a total of 28,454 square kilometres of landmass and it is bounded in the south by Ogun State, in the north by Kwara State, in the west it is partly bounded by Ogun State and partly by the Republic of Benin, while in the East by Osun State. The landscape consists of old hard rocks and dome-shaped hills, which rise gently from about 500 meters in the southern part and reach a height of about 1,219 metres above sea level in the northern part. The topography of the State is of gentle rolling low land in the south, rising to a plateau of about 40metres. The State is well-drained with rivers flowing from the upland in the north-south direction. The climate in the State favours the cultivation of crops like Maize, Yam, Cassava, Millet, Rice, Plantain, Cocoa tree, Palm tree and Cashew (Oyo State government, 2021).

Two variables were used during the study, they are: the dependent and independent variables. The dependent variable is the effect of border closure on household rice consumption. It was measured by asking the quantities of rice in kilogramme consumed before and during closure. Data collection was through a structured interview schedule. Two agricultural zones in Oyo state close to Nigeria's borders with the Benin Republic were purposively selected for the study and they were Ibadan/Ibarapa and Saki zones. Saki West and Atisbo local governments were randomly selected from Saki zone while Ibarapa North and Ibarapa Central local governments were randomly selected from Ibadan/Ibarapa zone. In the selected local governments, 80; 55; 43 and 68 respondents were proportionately selected from Saki West; Atisbo; Ibarapa North and Ibarapa Central respectively to give a sample size of 246 households. Data collected was analyzed by using descriptive statistics such as percentages, means, and frequency counts while inferential statistics used was paired sample t-test analysis.

Results and Discussion

Number of Times Rice Is Consumed Per Week (Local and Foreign Rice) Before and During Border Closure

Table 1 indicates that the mean values of the number of times local rice was consumed weekly before and during border closure were 1 and 2 times respectively. This implies that the consumption rate of local rice during border closure increases due to border closure. Table 1 also indicates that the mean values of the number of times foreign rice was consumed weekly before and during border closure were 4 and 1 times respectively. This means that the rate of consumption of foreign rice reduces due to border closure effects.

Table 1: Distribution of respondents according to the number of times rice is consumed per week (local and foreign rice) before and during border closure

Numbers of times rice is consumed per week	Local		Foreign	
	Before closure	During closure	Before closure	During closure
No consumption	177(72)	117(47.6)	69(28)	129(52.4)
≤3	9(3.6)	57(23.1)	9(3.7)	99(40.3)
4-6	48(19.6)	24(9.7)	138(56.1)	15(6.1)
7-9	12(4.9)	6(2.4)	138(56.1)	15(6.1)
Mean	1	2	4	1

Source: Field Survey, 2021

Quantity of Rice Consumed Per Kg Weekly Before and During Border Closure

Table 2 shows the quantity of local rice consumed per kg weekly. The mean values of the quantity of local rice consumed before and during border closure were 0.95kg and 1.10kg respectively. This implies that the household rate of local rice consumption increased during the closure of the border. Table 2 also

shows the quantity of foreign rice consumed per kg weekly. The mean values of the quantity of foreign rice consumed before and during border closure were 3.27kg and 1.20kg respectively. This implies that the household quantity of foreign rice consumption fell during border closure.

Table 2: Distribution of respondents according to the quantity of local rice consumed per kg weekly before and during border closure

Quantity consumed per cup (kg) weekly	Local		Foreign	
	Before closure	During closure	Before closure	During closure
No consumption	177(72.0)	117(47.6)	69(28)	129(52.4)
≤3	33(13.4)	117(47.5)	63(25.7)	111(45.2)
4-6	12(4.8)	15(6.1)	93(37.7)	3(1.2)
7-9	6(2.4)	0 (0.0)	21(8.5)	3(1.2)
10-12	3(1.2)	0 (0.0)	0 (0.0)	0(0.0)
Mean	0.95	1.10	3.27	1.2

Source: Field Survey, 2021

Conditions that Necessitated Border Closure

Table 3 shows the conditions that necessitate border closure. Majority (80.5%) claimed that smuggling of hard drugs, smuggling of arms and weapons (78%), illegal trade of goods (73.2%), the proliferation of low-quality rice(57.3%), the influx of prohibited items (76.8%), stability of the domestic economy (61.0%), prevention of illegal immigrants

(63.4%), the growth of local industries (73.2%), encouragement of the consumption of locally produced food (79.3%) and improvement of domestic and regional competitiveness (69.5%). This implies that border closure was necessitated by several factors such as economic, security and food security.

Table 3: Distribution of respondents according to the conditions that necessitated border closure

*Condition that necessitated border closure	Frequency	Percentage
Smuggling of hard drugs	198	80.5
Smuggling of arms and light weapons	192	78.0
Illegal trade of goods	180	73.2
The proliferation of low-quality rice	141	57.3
The influx of prohibited items	189	76.8
Stability of domestic economy	150	61.0
Prevention of illegal immigrants	156	63.4

To enhance the growth of local industries	180	73.2
To encourage the consumption of locally produced food	195	79.3
Improvement of domestic and regional Competitiveness	171	69.5

Source: Field Survey, 2021

*Multiple responses

Types of Rice Consumed

Table 4 shows the types of rice consumed by respondents. Most of the respondents (64.6%) claimed short-grain rice, 48.8% claimed medium grain rice and 29.3% claimed consumption of long grain rice. This implies

that respondents have a preference for short-grain rice. This could be attributed to easiness in preparation for food, natural sweetness and relatively cheaper compare to other types.

Table 4: Distribution of respondents according to the type of rice consumed

Types of rice consumed	Frequency	Percentage
Short grain	159	64.6
Medium grain	120	48.8
Long grain	72	29.3

Source: Field Survey, 2021

*Multiple responses

Paired Sample T-Test Analysis Showing Significant Difference between the Quantities of Foreign Rice Consumed Before and During Border Closure

Table 5 revealed that there is a significant difference between the quantity of foreign rice consumed before and during border closure ($t= 13.649$, $P= 0.000$). This confirms that border closure affected the consumption of

foreign rice by reducing the quantity consumed however; the consumption of local rice is on the increase. However, Obih. and Baiyegunhi, (2017) enumerated that consumers' preference for imported rice brands in Nigeria has been largely due to differences in the quality attributes of local and imported rice brands.

Table 5: Paired sample T-test analysis showing significant difference between the quantities of foreign rice consumed before and during border closure

Variables	t value	Significance	Remarks
Difference between quantities of foreign rice consumed before and during border closure	13.649	0.000	Significant

Source: Field Survey, 2021

Conclusion and Recommendations

Based on the findings of the study, it was concluded that conditions that necessitated border closure as claimed by the respondents were smuggling of hard drugs, smuggling of arms and weapons, illegal trade of goods, the proliferation of low-quality rice, the influx of prohibited items, stability of the domestic economy, prevention of illegal immigrants, enhancement of the growth of local industries, encouragement of the

consumption of locally produced food and improvement of domestic and regional competitiveness. Also, border closure has a significant effect on the consumption of foreign rice by reducing the quantity consumed. However, local rice consumption is on the increase. The study, therefore, recommended that the production of quality short grain rice should be encouraged by the farmers since it's in high demand by consumers.

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