

Full Length Research Paper

Analysis of effect of government's trade policy on rice supply in three local government areas of Cross River State, Nigeria

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Received 26 February, 2014; Accepted 9 February, 2015

This study was carried out to analyse the effect of government's trade policy on the supply of rice (imported and local) brands in three local government areas of Cross River State, Nigeria. The study captured two periods, July 2004 to February 2005, during which the Federal Government place Tariff on the importation of rice at 75% and the second period; March 2005 to October 2005 where the tariff was raised to 100% (Guardian Newspaper, 2003). Data for this study were collected from purposively selected rice traders in three case-study markets of Watt, Ika-Ika Oqua and Aningeje Markets representing Calabar South, Calabar Municipality and Akamkpa Local Government Areas Respectively. The data was collected over the period of 64 weeks. During the July 2004 to February 2005 period, 34,878.50 and 30,623.20 kg constituting 53.24 and 46.75% respectively of the total quantities of imported and local rice brands was bought for sale across the three markets. During the March 2005 to October 2005 period, the Federal Government raised the tariff on rice importation from 75 to 100%; this reflected in the quantity of imported and local rice bought for sale across the three markets given as 24,519.09 and 24,185.04 kg respectively constituting 50.34 and 49.66%, implying that increase in tariff rate from 75 to 100% was effective in altering the share of imported and local rice brands in the total quantities of rice bought for sale cross the three markets. The study recommends that tariff should be implemented strictly so as to help set up domestic rice production which would be sustained if Government embarks on research into development of high yielding rice varieties that will be supplied to farmers at low cost.

Key words: Importation, rice supply, tariff, trade policy.

INTRODUCTION

Nigeria is the most populous country in Africa with an estimated population of 160 million and annual growth rate of 2.5 vis-a-vis the population of Africa which is estimated to be about 1 billion in 2013 (World Bank Development Report, 2013).

Going by the figures stated above, Nigeria, unlike other developing countries in Africa is faced with the problem of producing food in sufficient quantity and quality to feed her teeming population. If this problem is to be addressed, then effort should be geared owards

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Table 1. Rice trend in Nigeria and the rest of West Africa.

Indicators	Means			
	1961-1975	1976-1983	1984-1995	1996-1999
Nigeria				
Production	332,800	806,222	2,306,794	3,189,833
Import	2,036	420,756	334,974	525,307
Self reliance ratio	99%	54%	77%	79%
Total consumption	178,199	833,640	1,599,609	2,248,113
Per capita consumption	3	12	18	22
West Africa				
Production	1,779,376	2,344,073	2,822,635	4,041,384
Import	416,183	894,073	1,760,884	2,107,146
Self reliance ratio	65%	56%	42%	50%
Total consumption	1,178,753	1,950,821	2,973,885	3,985,721
Per capita consumption	21	27	30	34

Source: Compiled from FAO-Agraostat.

formulation and implementation of policies that would increase agricultural productivity over a long period of time.

Godwin and Olaf (2001) stated that equitable and sustainable economic development cannot ignore basic food commodities since they play essential role in economic development as their availability and cost impinge directly on food security, expenditure and income of household particularly among the poorer segment of the population. Rice is a staple grain that is consumed globally. In Nigeria, the status of rice in the average diet has been transformed from being a luxury food item to that of a staple, taking place of other meals like cassava and yam (Daramola, 2005).

The continuous increase in the consumption of rice in Nigeria has made the country to depend on massive importation of the product from other part of the world to augment domestic production which is far below quantity demanded. Nigeria currently imports rice and pays for such imports in foreign currency which goes a long way to deplete our foreign reserve (Abebe, 2005). Given the precarious balance of payment position of the country, there is need for government to put in place suitable policies that would drive the rice industry in the country. Nigeria imports about one million metric tons of milled rice per annum which translate to a total expenditure of US\$300 million per annum (Akande, 2014). Comparatively, the demand for rice has been on the increase at a much faster rate in Nigeria than in other West African countries since the mid 1970s. During the 1960s, Nigeria had the lowest per capita annual consumption of rice in the whole of the West African sub-region averaging 3 kg; soon after that period, the per-capita consumption level of rice in Nigeria grew significantly at 7.3% per annum. Despite the catching up

of Nigeria's per-capita rice consumption with the rest of west Africa, Nigeria's consumption level still lag the rest of the sub-region as shown on Table 1.

Several factors have been suggested as being responsible for increase rice consumption in Nigeria, amongst them is urbanization. Rice is easy to prepare compared to other cereals thereby reducing the core of food preparation thus fitting more easily in the urban lifestyles of the rich and poor. In a bid to curb excessive importation of rice through the porous borders of the country and to pursue the food sufficiency objective, Government adopted policies that provide both price and non-price incentives to which agricultural output and sales should respond; these includes fixing of guaranteed minimum buying prices, (incentive product pricing), input prices subsidies, agricultural export promotion, via favourable tariff, quota and outright ban on importation of some food items (Akanji, 1995).

In spite all these incentives, self-sufficiency in food production in Nigeria is still an issue of crucial concern. This is evident in the decreasing trend in the growth rate of output of staple food prices and the rising import value of food items in the country over time (Anyanwu, 1997). This trend is as shown in Table 2.

The Federal Government, in a bid to curb the massive influx of imported rice into the country and to encourage domestic rice production have on several occasions formulated policies such as tariff, quota and outright ban (FAOSTAT, 2001).

Nigeria's rice policy can clearly be associated with three different periods in the history of the country, that includes pre-band, band and post-band periods.

i) Pre-band period (1971-1988): This refers to the era prior to the introduction of absolute quantitative restriction

Table 2. Mean quantity of rice produced and imported in Nigeria (1961-2000).

Rice quantity	1961-1970	1971-1980	1981-1990	1991-2000
Quantity imported (Tons)	1,187.20	205,906.80	390,488.80	466,043.60
Quantity produced (Tons)	176,154.70	355,644.40	1,172,674.20	1,878,785.00
Total quantity (Tons)	177,341.90	561,551.20	1,563,163.00	2,344,828.60

Source: Computed from FAOSTAT Database (2001). <http://oryza.com/Africa/Nigeria/index.shtml>.

Table 3. Taxonomy of Nigeria's trade policy on rice.

Periods	Policy measures
Prior to April 1974	66.6% tariff
April 1974 - April 1975	20% Tariff
April 1975 - April 1978	10% tariff
April 1978 - June 1978	20%
June 1978 - October 1978	19%
October 1978 - April 1979	Imports in containers under 50 kg were banned
April 1979	Imports under restricted license only Government Agencies
September, 1979	6 months ban on all rice imports
January, 1980	Import license issued for 200,000 tonnes of rice
October 1980	Rice under general import license with no quantitative restriction
December 1980	Presidential Task Force(PTF) on rice was created and it used the Nigeria National Supply Company to issue allocations to customers and traders.
May, 1982	PTF commenced issuance of allocations directly to customers and traders in addition to those issued by NNSC
January, 1984	PTF disbanded. Rice importation placed under general license restrictions
October, 1985	Importation of rice and maize banned
July, 1986	Introduction of SAP and the abolition of Commodity boards to provide Production incentives to farmers through increased producer prices.
1995	100%
1996	50%
1998	50%
1999	50%
2000	50%
2001	85%

Source: Federal Government Budgets, 1984-1986, 1995-2000; SAP and Nigerian Economy (1987).

on rice imports.

ii) Band period (1986-1995): During this period, it was illegal to import rice into the country, hence the institution of absolute ban on rice importation.

iii) Post- band period (1995-till date): Here, quantitative restriction on rice importation was lifted while the country adopted a more liberal trade policy.

The ban on rice importation came into effect in 1985. This policy was anticipated to stimulate domestic production through increase in price of the commodity. The introduction of Structural Adjustment Programme (SAP) in 1986 reinforced the ban which was already in place, this to a large extent encouraged domestic production of rice (CBN/NISER, 1992).

During the 1970s and 1980s, increased export earnings coupled with the highly over valued naira exchange rate made it possible for Nigeria to finance huge food imports and this consequently helped depress domestic prices. Large importation of food items especially rice was allowed into the Country at relatively cheap prices (Anyanwu, 1997). This eroded the competitiveness of domestically produced rice and serve as major disincentive to rice farmers in Nigeria. Table 3 provide a summary of Nigeria's trade policy on rice covering the three (3) periods stated above.

Despite the various policies that the Federal Government has instituted prior to this time to ensure self-sufficiency in rice production, imported rice still flood the Nigerian rice markets making it difficult for the nation

to feel the impact of these policies, hence the need for this study. This study seeks to ascertain the impact of the Federal Government of Nigeria's rice trade policy on the local production of rice. The study compares the quantities of imported and local rice brands bought for sale between July 2004 and February 2005 (32 weeks) with those bought between March 2005 and October 2005 (32 weeks) to see if there is a difference between them owing to the fact that there was a structural change between these two periods, since (tariff on rice importation was raised from 75 to 100%).

The specific objectives of the study are to:

- (i) Find out how the rice markets are organised and structured in Watt, Ika-Ika Oqua and Aningeje markets in Cross River State.
- (ii) Compare the quantities of imported and local rice brands bought for sale between July 2004 and October 2005(32 weeks).

RESEARCH METHODOLOGY

The data for this study were collected from purposively selected traders across the three case-study markets of Watt, Ika-Ika Oqua and Aningeje markets from whom the quantities and prices of local and imported rice brands that were sold in the three markets were collected. Z-test was used to compare the differences between the mean quantities of imported and local rice brands bought for sale between July 2004 to February 2005 with those bought for sale between March 2005 to October 2005. The model took the form specified below

$$z\text{-cal} = \frac{X_1 - X_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}}}$$

Where,

X_1 = Mean quantities of imported rice brands bought for sale during the July 2004 to February 2005 period.

X_2 = Mean quantities of imported rice brands bought for sale during the March 2005 to October 2005.

S_1^2 = Variance of the mean quantities of imported rice brands bought for sale during the July 2004 to February 2005 period.

S_2^2 = Variance of the mean quantities of imported rice brands bought for sale during March 2005 to October 2005 period.

n_1 = Number of observations (weeks) during the July 2004 to February 2005 period.

n_2 = Number of observations (weeks) during the March 2005 to October 2005 period

RESULTS AND DISCUSSION

Rice Market Organisations and structure in the three case study markets

The imported and local rice market in Watt, Ika-Ika Oqua and Aningeje markets are organised by traders who deal on rice trade. The organizations differ from one market to the other even though their operations appear similar.

Rice traders in Watt Market belong to a multipurpose co-operative society, which is a sub union of the Watt Market Food Stuff Union. The union charges ₦500 (Five Hundred Naira) as registration fee which is non-refundable and a daily due of ₦40 (Forty Naira). A defaulting member is expected to pay fines ranging from ₦100 (One Hundred Naira) to ₦2,000 (Two Thousand Naira) depending on the gravity of the offence committed.

In Ika-Ika Oqua Market, the registration fee for new member is ₦4,000 (Four Thousand Naira), daily due of ₦40 (Forty Naira) and fines for offenders ranging from ₦50 (Fifty Naira) to ₦1,500 (One Thousand Five Hundred Naira).

Aningeje Market, with relatively small number of traders, has low charges for all her fees and dues. This is connected with the fact that business activities taking place in this market is quite low when compared to those that take place in Watt and Ika-Ika Oqua Markets. Sequel to this fact, the registration fee is ₦2,000 (Two Thousand Naira), the daily due is ₦30 (Thirty Naira) while fines for defaulters ranges from ₦50 (Fifty Naira) to ₦1,000 (One Thousand Naira). The similarities and differences among these markets are displayed in Table 4.

The activities of union operating in the different markets imposes restrictions on the entry of non-members into the business and as a result of this, only registered members of the unions are allowed to operate freely in the market thus making the market assume an oligopolistic status. These unions on the other hand, serve as source of credit to her members; provide welfare packages to members during social functions like marriages, naming ceremonies and burials. The market union also regulates the activities of the traders in the different markets by imposing fines on offenders and daily dues to be paid by each member of the union including the registration fee for any person willing to belong to the market unions; these fees, dues and fines differ from one market to the other as shown in Table 4.

Quantity of imported and local rice brands sold in the three case study markets

Table 5 above shows the quantities of imported and local rice brands bought for sale during July 2004 to February 2005 period and March 2005 to October 2005 period.

During the July 2004 to February 2005 period, when the tariff on rice importation was 75%, about 34,897.50 and 30,623.20 kg bags of imported and local rice, respectively were bought constituting 53.24 and 46.75% of the total quantity of imported and local rice brands (65,520.76) bags bought. During the March 2005 to October 2005 period where the tariff was raised to 100%, the mean quantity of imported and local rice bought for sale was 24,519.09 and 24,185.41 kg bags respectively constituting about 50.34 and 49.66% of the total quantity of rice (48,704.49 kg) bags bought across the three case study markets.

Table 4. Rice Market Organizations and structures in the three markets.

Analytical parameters	Watt market (Calabar South)	Ika-Ika Oqua market (Calabar Municipality)	Aningeje market (Akamkpa Local Government Area)
Market Days	Daily market throughout the week	Daily market throughout the week	Once a week (Saturdays)
Name of Union	Rice Multipurpose Co-Operative Society	Rice Wholesale Association	Rice Wholesale Food Stuff Union
Number of Market Store	45 Lockup- Stores	30 Lock-up Stores	20 Lock-up Stores
Registration Fee	₦5,000.00 (Five Thousand Naira)	₦4,000.00 (Four Thousand Naira)	₦2,000.00 (Two Thousand Naira)
Daily Levy	₦40.00 (Forty Naira)	₦40.00 (Forty Naira)	₦ 30.00 (Thirty Naira)
Fines	₦100 – ₦2,000 (One Hundred Naira to Two Thousand Naira)	₦50 – ₦1,500 (Fifty Naira to One Thousand Five Hundred Naira)	₦50 – ₦1,000 (Fifty Naira to One Thousand Naira)

Source: Compiled from Field Study (2005).

Table 5. Mean quantities of imported and local rice brands bought for sale across the three markets.

Duration	Mean quantity of imported rice bought for sale (kg)	Percentage of imported rice bought for sale (%)	Mean quantity of local rice bought for sale (kg)	Percentage of local rice bought for sale (%)	Total quantity of rice imported and local bought for sale (kg)
July 2004 to February 2005	34,897.50 (3159.16)	53.26	30,623.26 (2,765.26)	46.75	65,520.76 (2,925.05)
March 2005 to October 2005	24,519.09 (2,456.3)	50.34	24,185.41 (921.02)	49.66	48,704.50 (1,506.60)

Source: Compiled from Field Study (2004/2005). Figure in parenthesis are standard deviation.

Table 6. Analysis of variance table for mean quantities of imported and local rice brands bought for sale across the three markets.

Source of variability	SS	DF	MS	F-Cal	F-Critical
Rows	1791.631	1	895.82	115.59**	1.81
Columns	250.512	1	50.10	6.46**	3.14
Error	1200.502	155	7.75		
Total	3242.644	191			

Source: Market Survey (2005/2006). Rows represent the two periods (July 2004 - February 2005). Columns represent the quantities of the imported and local brands of rice bought in the individual markets. **, * denotes significance at the 1, and 5% levels, respectively.

The analysis of variance result presented in Table 6 indicates that there exist significant differences among the mean weekly quantities of local and imported rice bought from the three markets at 1% level of significance. This is evident from the fact that the value of the F-calculated (6.46) is higher than the F-tabulated (3.14) and having estimated the least significant difference of observation (1.97) which was used to compare the differences among the individuals means, it was clear that each of the mean weekly quantity of rice bought from the three markets differ significantly from one another.

The result of the Z-test shows that the quantity of imported rice bought for sale across the three markets during the July 2004 to February 2005 period (34,897.50 kg bags) representing 53.26% of the total quantity of rice bought for sale during this period is significantly different from that which was bought during the March 2005 to October 2005 period (24,519.09 kg bags) representing

(50.34%) of the total quantity of rice bought, implying that the increase in tariff from 75 to 100% reduced the quantity of imported rice bought across the three markets which may have caused the reduction in the total quantity of rice(imported and local) bought for sale across the three markets from 65,520.76 kg bags during the July 2004 to February 2005 period to 48,704.50 kg in March 2005 to October 2005.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are proffered;

- i) If tariff is well implemented by Government of the day, it will go a long way to increase domestic production of rice.
- ii) The quality of local rice should be improved in order to

increase the price competitiveness of the local rice to those of the imported rice. This will encourage consumers to buy more of the local rice as the difference between the local and imported rice quality would be negligible. This increase in demand of local rice will now serve as a boost towards increase rice production by the farmers. With this increase, the per capita income of the farmers will be raised.

iii) This result shows that the increase in tariff from 75 to 100% during these two time periods brought about a 2.90% reduction in the percentage of imported rice bought for sale and 2.91% increase in the percentage of local rice bought for sale in these three markets. This implies that if tariff is effectively instituted with serious surveillance across the nation's borders to ensure strict compliance coupled with consistency in policy formulation, production of local rice would surely be boosted in Nigeria.

Conflict of Interest

The authors have not declared any conflict of interest.

REFERENCES

- Akande T (2014). An Overview of the Nigerian Rice Economy. A Paper Presented at the Nigerian Institute of Social and Economic Research (NISER) Ibadan, Nigeria.
- Akanji B (1995). Hedonic-Price Analysis of the Demand for Grain Crops in Nigeria: The case of Rice and cowpea. Ph. D Thesis, University of Ibadan, Ibadan Nigeria.
- Abebe H (2005). Supply Responsiveness of Peasant Agriculture in Ethiopia: Some Macro Econometric results from Cereals Production. *J. Afr. Stud.* 6(5):210-220.
- Anyanwu JC (1997). *The Structure of the Nigerian Economy (1960-1971)*. Nigeria: Joanee Educational Publishers.
- CBN/NISER (Central Bank of Nigeria / Nigerian Institute of Social and Economic Research (1992). *The Impact of Structural Adjustment Program (SAP) on Nigerian Agriculture and Rural Life*. Vol. I: The National Report
- Daramola B (2005). Government Policies and Competitiveness of Nigerian Rice Economy. Paper Presented at the Workshop on Rice Policy and Food Security in Sub-Saharan Africa organised by WARDA, Cotonou, Republic of Benin.
- FAOSTAT Data Base (2001). Production, Importation and Consumption of Rice in Nigeria. <http://orgza.comafrica/Nigeria/index.shtm>
- Godwin A, Fredrick, Olaf E (2001). The Nigerian Rice Economy in a Competitive World, Constraints, Opportunities and Strategies. *West Afr. Rice Develop. Assoc. (AWARDA)*. 2(3):8-30.
- Guardian Newspaper (2003). Nigeria to Attain Self-Sufficiency in Rice Production in 2007. Speech by the Minister of Agriculture, Mallam Adamu Bello in the Emir of Dutse Palace. 20(2):10.
- World Bank (2003). Nigerian and the Bank, Learning from the Past, Looking to the Future. World Bank Development Report. Washington DC. 60(1):82-85.