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Analysis of Rice Production and Consumption Trends in Nigeria

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Abstract

One of the overarching goals of Nigeria agriculture development programs and policies is increasing agricultural productivity for accelerated economic growth. Despite the various policies measures to increase crop production, domestic rice production has not been increased enough to meet the rising population of the country "Nigeria". Even during the rice import ban period, Nigeria was still importing several hundred thousand tons of rice per year through illegal trade. In the light of the above, this research was conceived to investigate the extent of rice production, importation and consumption trends in Nigeria.

Keywords: Rice; Production; Consumption Trends

Introduction

The Asian continent dominates in terms of global rice production, with China and India leading the way. Rice is among the three leading food crops of the world, with maize (corn) and wheat being the other two. All three directly provide no less than 42% of the world's required caloric intake. In 2009, human consumption was responsible for 78% of the total usage of produced rice. More than 3.5 billion of the world's population thinks of rice as their staple food, which translates to at least half of the people living in the world [1]. Asian countries produce the most rice worldwide, while countries in Africa, Latin America, and the Middle East have shown considerable increase in rice consumption and demand. The top 10 rice producing countries in the world today are China, India, Indonesia, Bangladesh, Thailand, Vietnam, Burma, the Philippines, Cambodia, and Pakistan. These countries are also among the top rice consumers of the world, and combine to account for around 90% of the world's rice consumption. Both figures have been on the rise in the last couple of decades [1]. According to the most recent official data, rice is the world's second most important cereal crop following only corn [2]. Nearly, 482 million metric tons of husked rice was produced in the last harvesting year worldwide. Traditionally, countries in Asia have the largest share in world rice production. However, with a production volume of over 210 million metric tons in 2017, China was the world's leading paddy rice producer, followed by India with a total global consumption of milled rice amounted to approximately 477.77 million metric tons in 2016/2017.Nigeria has a world share of 0.8 % [2]. In the Caribbean and Latin America, an increase of about 40% has been observed in rice consumption during the last twenty years.

This is attributed to steadily increasing incomes, as well as continued population growth. Demand for rice is expected to continue to increase in coming years, at least up until 2035. According to a comprehensive study conducted by the Food and Agricultural Policy Research Institute, the world's demand for milled rice can be expected to rise to 496 million tons in 2020, from 439 million tons in 2010. By the year 2035, this requirement will likely further rise up to an estimated 555 million tons. Asians are expected to account for 67% of the aforementioned increase, this despite an expected decline of consumption in such countries as India and China, as they explore other types of crops to incorporate into their daily diets. Rice will account for almost half of these countries food expenditures, not only for the extreme poor, but also for those of mid-level and high income status [3].

Nigeria is currently the largest rice producing country in Africa. This is as the result of conscientious efforts by the current administration to place more emphasis on agrarian production. With the available literature, annual rice production in Nigeria has increased from 5.5 million tons in 2015 to 5.8 million tons in 2017. In 2015, Nigerians spent not less than ₦1bn on rice consumption, adding that while spending had drastically reduced, consumption had increased because of increased local production of the commodity. The consumption rate now is 7.9 million tones and the production rate has increased to 5.8 tons per annum. The increase was as a result of the Central Bank of Nigeria (CBN)'s Anchor Borrowers Program with a total of 12 million rice producers and four million hectares of FADAMA rice land [4]. The move was aimed at reducing the nation's over reliance on oil which has in the past year proved economically devastating as oil prices plummeted on the global market.

The government is also keen on improving the country's self-sufficiency and reducing the commodity's import burden that currently runs into almost $400 million annually. Rice farming in the country has received a boost from the local central bank through the Anchor Borrowers Program that avails loans and distributes requisite tools to farmers to boost production. By the end of 2017, the Federal Ministry of Agriculture director claimed that the country had indeed reached self-sufficiency in the commodity [5]. According to a report from the ministry, the country's production capacity had reached 15 million metric tons. This would translate to major savings as the country would no longer need to import the commodity. The country in fact consumes about 8 million tons, a figure that rises by about 6% annually. It is therefore projected that with around 34 states involved in rice cultivation the country would have a surplus for export by the year 2019. The country is taking steps to control the rampant smuggling that has had a negative impact on local market prices [5].

The statistic of rice production in Nigeria shows a 5% increase every year. For the first half of year, 2016, it has already risen by 2.67%. The import rates have also increased to 5,850 from 4,800 during the same period of time. For today, Nigeria is only capable to supply only 49% of domestic demand [6]. Out of the thirty six States in Nigeria, only eight States can produce rice in a large scale. These states include: Anambra, Nassarawa, Ebonyi, Kaduna, Niger, Kano Kaduna and Benue. However, Anambra State is one of the engine houses of rice production in Nigeria. The industrial rice farms have already pushed the rice production of the State from 90,000 metric tons to 210, 00 metric tons and with this, capacity of production will soon reach 320,000 metric tons in the next one year. Therefore, it will reach and then surpass the rates of consumption of rice in Adamawa State and when this number is reached, it will show a clear victory over consumption rates [6]. According to the Nigeria rice production statistics, Nigerian rice importations have made up 50% of the local consumption rates [6]. Currently, Nasarawa State is the leader when it comes to rice production in Nigeria. It has over 10,000 fully irrigated rice hectares. However, the global rice production statistics show that the top five importers of Nigeria are the USA, Vietnam, India, Thailand, and Brazil. These countries help Nigeria to overcome the shortfall of over 4.3 million metric tons. This shortfall is valued over ₦365 billion [7]. In Nigeria, rice consumption has risen tremendously at about 10% per annum due to changing consumer preferences. However, research has shown that most Nigerians prefer to consume imported rice brands as compared to local rice varieties [8]. The reason is that most Nigerian rice processors lack adequate technology of rice processing to meet international standard.

On the other hand, the economy of Nigeria has for a long time been dominated by trade in crude oil and because of the reason, agriculture since 1966 became stagnant irrespective of the big injection of money through World Bank. Thus, loans and some of the agricultural programs largely became neglected [9]. The programs are operation feed the nation (OFN, 1976), National Accelerated Food Production (NAFPP, 1975), Green Revolution (1979), Back to Land (1984) among others. The Special Rice Project (SRP, 1998) and National Fadama Development Project (NFDP, 1999) are still existing due to a huge injection of funds from the World Bank [9]. However, the problems may be due to managerial and infrastructural failure, instability of policy implementation as a result of frequent change in governments. This makes agricultural inputs to be very expensive and unavailable to farmers even in the current democratic dispensation.

Rice (*Oryza Sativa*) is a staple food in many countries of Africa and other parts of the world. It is also the most import staple food for about half of human race [10]. According to Imolehin and Wada, rice has become the second most important cereal in the world after wheat in terms of production due to a recent decline in maize production [11]. However, it is widely cultivated throughout the tropics, and where flood controls are affective as in south-East Asia. Majority of foreign rice imported into West Africa is from south-East Asia. In sub-Saharan Africa, West Africa is the leading producer and consumer of rice [12]. West Africa accounts for 64.2% and 61.9% of total rice production and consumption in sub-Saharan Africa. Rice is a staple crop throughout west Africa such as Cote Devoire, Gambia, Guinea, Guinea Bissau, Liberia, Senegal and Sierra Lone with an exception of Burkina Faso and Niger where the River Niger drainage system become the major rice growing environment in the region. In West Africa, Nigeria ranks highest as both the producer and consumer of rice in the sub-region with figures slightly above 50% [11].

Udemezue classified rice as the most important food depends upon by over 50% of the world population for about 80% of their food need. Sequel to the growing importance of the crop, FAO estimated that annual rice production should be increased from 586 million metric tons in 2001 to meet the projected global demand of about 756 million metric tons by 2030 [10,13]. One of the overarching goals of Nigeria agriculture development programs and policies is increasing agricultural productivity for accelerated economic growth. Rice is important in Nigeria for several reasons; it is a major contributor to internal and sub-regional trade. West African Rice Development Association (WARDA) and Imolehin and Wada put potential areas for rice production as 4.6 - 4.9 million ha and 1.7 million ha respectively [12,11]. The increase in production is due to an increase in land under rice cultivation and not increase in yield. The difference between potential and actual yields is also very high. A yield of 4.4 -7.2t/ha has been recorded on research farm. However, average rice yields are consistently low and stand at around 1.5t/ha [14,15]. Most ADPS and River Basins Development Authorities (RBDAs) which were in the forefront of providing rice cultivation facilities and infrastructures are now largely ineffective due to neglect, underfunding and an inefficient bureaucracy. Hence, farmers' yield will continue to be low as long as the agronomic constraints are not properly solved. According to Godwin, Frederick and Olaf the demand for rice in Nigeria has been increasing at a much faster rate than in other West African countries since the mid 1970s [16]. In the 1960's, Nigeria had the lowest per capita annual consumption of rice in the sub – region (average of 3kg). Since then, Nigerian per – capita consumption levels have grown significantly at 7.3% per annum. Consequently, per - capita consumption during the 1980s

averaged 18kg and reached 22kg in 1995 –1999. More so, various factors appear to have trigged the structural increase in rice consumption. Urbanization appears to be the most important cause of the shift in consumer preference towards rice in Nigeria [16]. Data from several states in Nigeria demonstrate that rice availability and rice prices have become a major welfare determinant for the poorest segments of the countries consumers who also least food secure [16]. Research has shown that production and processing technologies have not been able to meet the increasing demand for rice [13]. In the West African sub region, Nigeria has experienced a well established growing demand for rice caused by rising per capita consumption and consequently the insufficient domestic production had to be complimented with enormous import both in quantity and value at various time [10]. As a matter of this, Nigerian government imposed policy on rice over the last thirty years, although the policy has not been consistent. From 1986 to the mid- 1990s imports were illegal, in 1995 imports were allowed at a 100% tariff. In 1996, the tariff was reduced to 50% but increased to 85% in 2001 [16]. The erratic policy reflects the dilemma of securing cheap rice for consumers and a fair price for producers.

Despite the various policies measures, domestic rice production has not yet increased enough to meet the increase demand, even during the rice import ban period, Nigeria was still importing several hundred thousand tons of rice per year through illegal trade. More so, with the removal of the rice import ban, consumption resumes its rapid growth, taking advantage of the downward trends of rice price on the world market [16]. For the rice import in 2003, Nigeria recorded 1600701 tones, 1396692 in 2004, 1174071 in 2005, 974647 in 2006, 1215758 in 2007, 970787 in 2008, 1160671 in 2009 and 1882759 in 2010, while 2187419 was recorded in 2011 followed by 2455202 a year later, just as 2187370 was the tones of rice imported in 2013.Research revealed that between 2003 and 2013, Nigeria imported 17,206,077 tons of rice with an average import at 1,564,188 million [7].

In the light of the above, this research was born to probe the extent of rice production, importation and consumption levels in Nigeria. Table 1 below shows rice production trends in Nigeria from (1960 – 2018), while Table 2 also shows rice imports and consumption trends in Nigeria from 1980-2016 respectively.

Rice Production Economy in Nigeria

Despite the fact that rice is cultivated almost all the round corner of the ecological zones of Nigeria, yet its sustainability to mankind still remains small. In 2000, out of about 25 million hectares of land cultivated to various food crops, about 6.37% was allocated to rice production [10].

In 1967, production of paddy rice in Nigeria experienced an increment when output stood at 385 thousand tons. At this period, 262 thousand hectares were brought under cultivation with average national yield of 1.47 tons per hectare [16]. Although, paddy rice production rose from 134,000 to 344,000 tons in 1970 and area cultivated was 156,000 to 25000 ha [11]. Paddy rice production has since been on the tremendous increase in the area planted. Output and productivity in paddy rice production were achieved over the last two decades and now stand at (66000 ha, 1.09 million tons and 2.07 ton/ ha respectively. Nigeria became the largest rice producing country in West Africa and the third largest in Africa after Egypt and Madagascar since 1980 [12]. In 1990, the country produced about 3.4 million tons of rice from about 1.2 million ha. This production capacity would have been sustained but was later decreased due to unsteady government policy on rice import. Thus, increased production over the last two decades could be attributed to the ban imposed on rice imports in 1985 and if this restriction had been maintained, Nigerian rice farmers would have risen to the challenge of meeting the domestic demand for the commodity [11].

According to Godwin, Federic and Olaf in Udemezue, rice output oscillated in the 1960s with no clear- cut pattern, output growth increased in the early 1970s but declined in the 1977 [16,10]. Between 1981 and 1983, growth in output declined and remained at a zero growth rate till 1984. With respect to rice production in Nigeria, there is a great disparity between the states of the Federation in rice production output and yield. In 2000, Kaduna State was the largest rice producer, accounting for about 22% of the country's rice out. Niger state accounted 16%, Benue State (10%) and Taraba State 7% respectively. In dry season, Benue State accounted for the highest output (61%). On a geographical zone basis, central zone was the largest producer of rice in Nigerian, accounting for 44% of total rice output in 2000. North West was the second (29%) while the south west was the least (4%).

Godwin, Federic and Olaf, were of the opinion that most of the producing zones have experienced a decrease in their cropped area between 1995 and 2000. From 20% to 40%, one was being recorded in Imo and Kano states [16]. Only 6 states, Osun, Kogi, Cross River, Borno, Adamawa and Kastina have increased their rice cropped areas during the last five years. A great variation also exists between the states in terms of yield, the average national rice yield during the dry season (3.05 tons/ha) was higher than that of the wet season: 1.85 tons/ha. This could be a confirmation of the higher yield acclaimed to be associated with irrigated rice production system. During the wet season there is a considerable variation between states. States with relatively high yields include Enugu (3 tons/ha), Imo (2.7 tons/ha), and Ebonyi (2.5tons/ha). For the dry season, Benue (3.6 tons/ha) and Adamawa (3.3 tons/ha) had yield higher than the national average. As already noted, the negatively higher yield during the dry season could be partly due to irrigation. On a zonal basis, during the wet season, the yield of rice was highest in South East (2.4 ton/ha). This was followed by the North East (2.0ton/ha) and the central zone (1.8tons/ha) while the South West had the least (1.4 tons/ha). For the dry season, it was observed that yield was highest in the central zone (3.6 ton/ha) but lowest in the North West (1.74 tons/ha).

Year	Production	Unit of Measure	Growth Rate
1960	239	(1000 MT)	NA
1961	229	(1000 MT)	-4.18%
1962	246	(1000 MT)	7.42%
1963	202	(1000 MT)	-17.89%
1964	269	(1000 MT)	33.17%
1965	236	(1000 MT)	-12.27%
1966	270	(1000 MT)	14.41%
1967	260	(1000 MT)	-3.70%
1968	249	(1000 MT)	-4.23%
1969	257	(1000 MT)	3.21%
1970	284	(1000 MT)	10.51%
1971	307	(1000 MT)	8.10%
1972	310	(1000 MT)	0.98%
1973	342	(1000 MT)	10.32%
1974	348	(1000 MT)	1.75%
1975	390	(1000 MT)	12.07%
1976	406	(1000 MT)	4.10%
1977	412	(1000 MT)	1.48%
1978	394	(1000 MT)	-4.37%
1979	372	(1000 MT)	-5.58%
1980	523	(1000 MT)	40.59%
1981	579	(1000 MT)	10.71%
1982	648	(1000 MT)	11.92%
1983	607	(1000 MT)	-6.33%
1984	579	(1000 MT)	-4.61%
1985	680	(1000 MT)	17.44%
1986	630	(1000 MT)	-7.35%
1987	1184	(1000 MT)	87.94%
1988	1249	(1000 MT)	5.49%
1989	1982	(1000 MT)	58.69%
1990	1500	(1000 MT)	-24.32%
1991	1911	(1000 MT)	27.40%
1992	1956	(1000 MT)	2.35%
1993	1839	(1000 MT)	-5.98%
1994	1456	(1000 MT)	-20.83%
1995	1752	(1000 MT)	20.33%
1996	1873	(1000 MT)	6.91%
1997	1961	(1000 MT)	4.70%
1998	1965	(1000 MT)	0.20%
1999	1966	(1000 MT)	0.05%
2000	1979	(1000 MT)	0.66%
2001	1651	(1000 MT)	-16.57%
2002	1757	(1000 MT)	6.42%
2003	1870	(1000 MT)	6.43%
2004	2000	(1000 MT)	6.95%
2005	2140	(1000 MT)	7.00%
2006	2546	(1000 MT)	18.97%
2007	2008	(1000 MT)	-21.13%
2008	2632	(1000 MT)	31.08%
2009	2234	(1000 MT)	-15.12%

2010	2818	(1000 MT)	26.14%
2011	2906	(1000 MT)	3.12%
2012	3423	(1000 MT)	17.79%
2013	3038	(1000 MT)	-11.25%
2014	3782	(1000 MT)	24.49%
2015	3941	(1000 MT)	4.20%
2016	3780	(1000 MT)	-4.09%
2017	3780	(1000 MT)	0.00%
2018	3780	(1000 MT)	0.00%

Source: United States Department of Agriculture (2018) [17]

Table 1: Rice Production Trends in Nigeria from 1960-2018

Year	Imports (000 tons)
1980	450
1981	657
1982	539
1983	544
1984	365
1985	365
1986	320
1987	400
1988	200
1989	300
1990	220
1991	210
1992	270
1993	380
1994	411.26
1995	374.35
1996	2,266.64
1997	6,990.54
1998	1,500
1999	1,700
2000	1,900
2001	1,900
2002	1,300
2003	1,500
2004	1,700
2005	1,800
2006	1,600
2007	1,700
2008	1,400
2009	1,500
2010	1,700
2011	1,900
2012	2,090
2013	4,105
2014	6,802
2015	8,706
2016	7,590

Source: Imolehin and Wada (2000) in Longtau (2003) PCU, FMARD-Nigeria (2001), FAO (2003), CBN 2005 an FAO Statistics (2010) http://faostatfao.org/international Journal of Agriculture (2011), United States Department of Agriculture (2017). NA=Not available [11,9,18]

Table 2: Rice Imports and Consumption Trends in Nigeria from 1980-2016 12/10/2018

Conclusion and Recommendation

The Statistics of rice production in Nigeria clearly shows that the country needs 7 million metric tons of its demand. For today, Nigeria is capable to supply only 49% of domestic demand. However, rice production in Nigeria keeps growing, but it will not be enough to supply the domestic demand of the whole country in the next several years. In the light of this, the paper recommends that both private and public sectors should intensify more efforts towards domestic rice production just to meet the demand of the citizens.

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