

Getting Out of the Nigerian “Wheat Trap”: A Multi Disciplinary Approach

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Abstract. This paper reviews the protracted dependence and entrenchment of imported wheat grain for local consumption, and all wheat based confectionaries produced in Nigeria, by successive Government, and other stakeholder in wheat sector since independence of the country in 1960 known as “the wheat trap”, its effect on Nigerian economy and the way out. Wheat grows poorly under Nigerian climate, however urbanization, increasing population, perceived conspiracy, civilization and copying of western feeding lifestyle, has made wheat based products increasingly and tremendously, being consumed in the country, and hence the country spends huge amount of foreign exchange for the importation of wheat. Nigeria spends an estimate of (USD 4 billion per annum) within the last 5 years, on the importation of wheat alone. Attempt made by successive Nigerian Government and non-Governmental organization (NGO's) to avert this situation, their shortcomings, and achievements, both immediate (short term) and long term, to surmount this scourge, were x-rayed, with a view to proffer a multidisciplinary solutions to arresting this trend. Inferences drawn were based on simple economic theories and analysis, both theoretical and practical, to substantiate that with appropriate legislation and execution of relevant laws marched with more technological research, both in the area of crop improvement and in the area of composite flour technology, based on available locally grown oil seeds, cereal and or root tuber crops, will go a long way to help in saving the continuous depletion of Nigerian foreign reserve by the importation of wheat. Also discussed as a way out, is the expected level of collaboration and all inclusive approach among the stakeholders (consumers of wheat based products (Nigerian citizens), importers of wheat grains, Nigerian Government, farmers, milling and baking companies, researchers, other businessmen involved in the up and downstream wheat value chain), which is presently lacking. The all inclusive participatory economic /technology direction is what it takes to galvanize and increase local production and stop the current trend of kangaroo wheat importation in Nigeria.

Keywords- *Wheat Importation, Nigerian Economy, Multidisciplinary Approach, Composite Flour Technology*

1. INTRODUCTION

Wheat (*Triticum Aestivum* Desf.) is a cereal crop, naturally unique among other cereals, due to the presence of gluten a Latin word which means “glue” in relatively high quantity in its grain, than in other cereal grains. Gluten is basically a generic name for a brand of protein strands found in wheat grain and other few cereal grains [1]. Its rich gluten content is characterized by its viscoelastic properties as the word glue portends. The unique bread making properties of wheat flour are attributed mainly to the ability of its gluten proteins to form a visco-elastic network when mixed with water [2]. This feature hitherto makes wheat grain, most suitable in terms of baking properties, thus used globally for production of different types of confectionary. Different varieties and species exists having varied percentage gluten content, from low to high which also serves as basis of classification. Wheat varieties are called clean white or brown if they have high gluten content and they are called soft or weak flour, if gluten content is low. In 2013, world production of wheat was 713 million tons, making it the third most-produced cereal after maize and rice. Wheat crop as presented in plate .1 is highly adapted to temperate climates of the world where it can be grown easily, while a host of others areas struggle to do so, due to their unfavourable climates conditions.

Nigeria is the largest regional economy in West Africa, but has a very low per capita income due to its teeming population, it is most populous black nation on earth, with a population of 173 million in 2013 with growth rate forecast of 3% per annum; Nigerians population in 2017 is estimated at 189 million as at 2016, Australian Export Grains Innovation[3].



Plate 1: Wheat production stages from crop nursery to harvest of grains.
Source. www.123rf.com/stock-photo/wheat_grain.html

With Agriculture contributing only one fifth of its Gross Domestic Product (GDP) Nigeria is highly a consumer nation. Nigeria has a comparative advantage for production of most cereal grains due to its tropical climate and vast fertile land, in exception of wheat, barley oats, and rye. Nigeria is the highest producer of maize and sorghum in Africa, with 12 and 10 million metric tonnes (MMT) per annum, second highest producer of sorghum worldwide, and fifth highest producer of maize worldwide, but 13th in the highest importers of wheat worldwide, estimated at 4mmt in 2015. Its per capita wheat consumption is estimated at 20kg in 2011[4].

The main end users being bread, biscuit, pastas, noodles producers. Wheat is the highest single imported commodity in Nigeria for the past 10 years. Most of Nigerian imported wheat comes from the United States of America (USA) and recently Australia. The average quantity of wheat importation into Nigeria in the last 3 years is estimated at 4.1mmt, and is expected to grow up to 10mmt by 2030[3], [5].

Many developing countries became heavily dependent on staple foods which they import and for which conditions for local production are poor or non-existent. Once such dependent consumption pattern is established, it becomes a problem to change, and rather assumes a self inflicting position. Alternative sources of domestic supply will be obstructed by differences, design and other rigidities in linking domestic producers to markets [6]. In his book, "The wheat trap" Andre and Beckman, x-rayed in details the act of entrenchment of imported wheat in Nigeria, and interpolated the expected consumption pattern of wheat based products between 1960's and 1970's, and even in the future. Large scale wheat importation in the future to the detriment of local production was foreseen, because of both economic and political power, by the wheat business beneficiaries that will collaborate to ensure its survival.

The genesis of wheat importation which led to the "wheat trap" in Nigeria could be traced back to 1960's and even during the colonial or pre-colonial era. Though cultivation of wheat had begun before this era, in the 16th century when wheat was cultivated on small plots and pockets of inland valley soils (fadama), using local cultivars [7], its diverse uses were alien to local farmers. Local production stood between 3,000 to 5,000MT per annum which was enough for local consumption [8]. Then wheat importation was primordial and minimal, mainly by the colonial masters who imported for their use, ignoring local varieties/production. Sooner they started the importation, they began modest introduction of foreign wheat to the elites, and equally

advertised its superiority and diverse uses. Between, 1960 to 1968 the politicization of imported wheat has gained grounds, and was reinforced and entrenched by this external commercial orientation sold to locals and bourgeoisies, that it is even easier and more profitable to telex Europe and America for quality supply than to patronize a fragmented, low quality and complex domestic system [6]. However, the major difference between the imported wheat and the local variety was largely the percentage gluten content and yield per hectare, which could have been solved then, with re-orientation of the local farmers, and the evolving a better adaptable and quality variety for local production.

By 1974 the concerted efforts to entrench imported wheat began to yield profits as the first time ever wheat import escalation was recorded in the history of Nigeria as shown in Figure.1. Thereafter, foreign wheat trading interest/cabals began tying of knots with local importers and wheat millers for consolidation of what may be referred as the "trapping" proper. They frustrated each Government effort directly or indirectly to control or ban wheat importation, outrightly. Total countries wheat output also came under serious debate at a time, between the Government, on one side and wheat millers, bankers, importers, bakers who insisted that government control has no positive effect and does not galvanize local production [9].

Government responded to each of their claims with legislations, counter-legislations and policies irrespective of whether those observations or arguments are factual. Even when import duties were increased 5% to 15% to discourage importation of wheat, external wheat trading interests were ready offer discounts to douse the effect. Some of the countries had on several occasions lobbied Nigerian Government to drop the importation levy in order to encourage increased supply and utilization of surplus capacity, and to foster flour exports to neighbouring countries [5], but how does it impact in Nigerian economy.

The local production which began to gather momentum after the outright ban of wheat in importation in 1986 soon withered away lacking a robust market that will enable it to grow, a wheat development blue print/action plan, and due to the fact that wheat millers ignored the local varieties. Government could not sustain this pressure and the outright ban on importation of wheat was lifted shortly. Policies on composite flour, by inclusion between 10-20%, of cassava in 2012 and 40% in future, proposed by successive Nigerian administration which was another bold step, could not see the light of the day. The policy, however, was beset with

challenges, such as the change in quality and taste of baked goods, increased costs associated with infusion of enzymes in the bread making process to ensure consistent bread quality, and limited availability of high quality cassava [10]. In a bid to dismiss this wonderful idea, the issues were exaggerated making the abolition of the law look like the only possible solution. The external wheat interest and the local wheat dealers, importers, bakers, and the milling companies later won the battle having a field day for wheat importation in Nigeria.

Within these years of kangaroo wheat importation, the consumption pattern changed and increased exponentially as other wheat based products gained popularity. About 90% of the wheat consumption became mainly for industrial use, imported by only flour millers for production of wheat flour used in baking different kinds of confectionaries which include bread, cakes, pastas, noodles, spaghetti macaroni, and biscuits (cookies), while only 10% were consumed at household level as wheat dough (wheat meal) together with any kind of soup for (swallow), an important diet for many Nigerian families. However, in the recent years, the popularity of wheat meal consumption with a choice soup increased tremendously, due to issue of high glycemic index associated with other substitute cereals. This issue further doubled the consumption at the household level. Fortunately, the information on celiac disease shortly took care of expected rise in wheat meal consumption in the household level.

The rapid urbanization, increasing population and copying of the western food habits and lifestyle further deepened the preference for convenient foods such as bread, biscuits, and other baked products which are recipes from the wheat sector, and thus even worsened the situation [11]. It is pertinent to note that most of these confectionaries now preferred by Nigerians in other to demonstrate how much they have civilized or westernized, also belong to the class of food called "junk" highly discouraged in the developed countries.

Unfortunately, presently Nigeria is experiencing the worst wheat crisis since the independent of the country in 1960, which is unconnected with the earlier enumerated problems, kangaroo importations, domestic supplies of other substitute staple products within Nigeria and neighboring countries which is not increasing to match population growth, and the recent astronomical growth in pastas production. In the last three years virtually all flour mills and other pasta related companies in the country have established noodle production facilities in a bid to "forward integrate". However, only very few have integrated backwardly by establishing wheat farms that could help to boost local production. The rapid growth of the quick service restaurant industry (fast food) offering savory pastries in recent years has also contributed to the astronomical rise of wheat demand in Nigeria. [13].

Majority of these problems are typical of people's lifestyle and reasoning, which can be corrected with swift people's orientation. "Noodle production is estimated to use up to 560,000 tonnes of Hard Red Winter (HRW) wheat in 2012-13," "Although Nigeria is traditionally a market for HRW, in recent years there has also been a steady increase in demand for other types of wheat such as Soft Red Winter (SRW)

wheat for use in cookies (biscuit) production, Hard White Wheat (HWW) wheat for bread and noodle production, and even durum for pasta production.[5]. The actual demand processes even presents more enormous quantity more than what is being reported formally, considering the lack of correct data in this regards. Interestingly, presently flour mills are not alone in the importation of wheat grain but are joined by other businessmen who desire profits [13].

These they achieved through vested interest of foreign exporting countries and companies through powerful baking, milling and import license lobbies within and outside Nigeria. According to an industry source, Nigerian wheat flour is exported informally to neighboring countries as official exports are not permitted. Trade figures are not available for such exports, but industry sources estimate informal exports of wheat products far exceed 450,000 tonnes. The report said branded Nigerian flour can be found in several countries in West and Central Africa like Benin, Togo, Cameroun, Niger and Chad respectively [5].

However, due to the restrictions on the access to foreign exchange, within the last 18 months, importation of wheat as at May 2016 declined by 5% to 4.1 MMT². Nigeria equally moved out of first ten most importing countries to 13th, while local production remains low, at 60,000 tonnes per annum, and at 2-3metric tonnes output per hectare. Nigeria's local milling capacity is also estimated at 8 MMT per annum, by the year 2030 it is estimated that wheat milling capacity could also rise to 15MMT per annum [13]. However, all the figures and mere estimates from the formal sector, informal sector business is high in Nigeria due to the enormous number of porous borders and has no records.

The effect of this kangaroo importation of wheat on Nigerian economy is enormous. Apart from the devaluation of Naira, the perpetual negative trade balance, the depletion of the country's external reserve, the weakening of the local currency, the loss of foreign exchange that could have been used for infrastructural development and the undermining of the countries food security.

The effect of weakened local currency has manifested in the present standard of living of Nigerians, the untold hardship presently experienced in the country, through the rise in cost of consumer goods and services. Nigeria like other third world countries is faced with agricultural stagnation from being a net exporter of agro-raw materials in 1960's to big importer of food items [14]. Since the exploration of oil started in Nigeria the old agricultural dynasties Nigeria is known for, such as the groundnut pyramids of the Northern Nigeria, Cocoa and rubber in the West and Palm oil, Rubber and Cashew in Eastern Nigeria disappeared due to quicker alternate source of foreign exchange in oil, today Nigeria is on the event of re-inventing itself, if only the diversification of the economy will not be on paper as usual. Virtually all Nigerian Government that came on board promised diversification of economy, but the situation remains the same.

II EFFORTS MADE BY SUCCESSIVE NIGERIAN ADMINISTRATION

Due to inadequate local production and high demand of wheat flour in Nigeria, importation was inevitable, the challenges faced, and some of the efforts of subsequent Nigerian Governments to avert the trend are as follows.

- (a) In 1982 Nigeria made a giant step towards improving her local wheat production from oil surplus finances, by provision of dams and establishment of river basins, for irrigation and extensive growing of wheat, since poor water supply and lack of irrigation facilities were part of the identified problems. This gave birth to Kano River, Bakolori, and Southern Chad irrigation facilities [12].
- (b) Between 1971 and 1981, agricultural import bills, including those of wheat increased 13-fold from US \$192 million to US \$450 million. This among others led to the outright ban of wheat importation in May 1986 as fallout of Structural Adjustment Programme (SAP). Decline in wheat importation began in 1987 when Government launched Accelerated Wheat Production Programme (AWPP) in order to stimulate local production and encourage backward integration. The ban led to increase in local production to about 150,000MT as shown in Fig.2. With the lifting of the ban on importation of wheat the production figures declined to 50,000 MT [8] [13]. The banning of wheat importation in 1986 yielded some fruits as shown in fig .1, but it was not sustained, due to pressure from wheat interests both locally and internationally. The ban was lifted shortly.
- (c) Government's efforts and intervention also came in form of research grants to research institutes to evolve better varieties/ inputs, and to educate the wheat farmers on best practices, for growing wheat to avert issue of poor seed variety and agricultural practices.
- (d) In 2012 The Federal Government increased import duties from 5% to 15% in order to discourage importers and encourage the local producers of wheat grain, but all to no avail [5]. Government also formulated a policy planned to reduce wheat importation by implementing 10%, and proposed 40% cassava wheat composite flour, inclusion in bread policy in future, in July 2012. The cassava inclusion policy failed like previous attempts [5]. Increased smuggling of wheat, poor cassava flour supply chains, weak policy implementation, technology and processing challenges, reluctance of millers to use cassava flour, and cassava bread policy instability forced this policy into oblivion.

Targeting a substantial increase from 70,000mt in 2013 to 1.5mmt by 2017, the government introduced Wheat Transformation Agenda (WTA) providing farmers with subsidies, improved seedlings, credit facilities and inputs such as fertilizers, tractors and implements under anchors borrowers scheme, as well as marketing value chains for accrued harvests. While this commendable efforts of the Government was to woo farmers to wheat production, is being improved upon on yearly basis in the wheat value chain, the wheat millers still ignore locally produced wheat to the extent that farmers virtually beg people to buy their wheat, even at any price as there are no market

for wheat produced locally thus discouraging farmers from wheat cultivation. A typical instance is the issue of Jibia farmers in Kastina State who claimed they were advised by Government officials from Sokoto River Basin Authority to embark on wheat production and later faced problem of disposing the harvested wheat[19]

Government further increased its stakes to wheat farmers in the wheat producing belt by providing a solid framework to access of agricultural loans, at very low interest rate, but so many farmers claimed lamented about the difficulties of accessing the loans. Since 2011 many farmers has been dislodged from their ancestral farm due to the activity of Boko Haram insurgence and the fear of Fulani herdsmen attacks. The number of practical farmers especially in the wheat producing areas has been drastically reduced due this situation.

- (d) The former Honourable Minister of Agriculture and Rural Development, Dr. Akinwummi Adesina, CON, had stated that the Federal Government has emphatically put a lie to the long-touted myth that Nigeria cannot produce wheat in commercial quantities to enable her exit the choking grip of importation of the commodity. The Minister made the assertion on the 12th March 2014, while launching two new high-yield, early maturing, heat-tolerant and drought-resistant wheat varieties developed by the Lake Chad Research Institute (LCRI), in conjunction with the International Centre for Agricultural Research in Dry Areas (ICARDA), International Maize and Wheat Improvement Centre (CIMMYT) and Institute for Agricultural Research (IAR), Ahmadu Bello University, Zaria, with assistance from the Federal Government and grant from the African Development Bank (ADB), [16]. With the ₦237 billion (US\$1.2 billion) disbursed by the CBN via the Commercial Agriculture Credit Scheme (CACS) since inception, for over 300 agriculture-related projects and two varieties, The two new wheat varieties, named Norman Borlaug and Reyna-28 which have potential yields of 4 – 5 metric tons per hectare as against the traditional variety with a yield per hectare of just 0.8 million metric tons per hectare were showcased to members of the public, agribusiness investors, farmers journalists and other stakeholders on the field in Kadawa in Kura Local Government of Kano State, [16]. Norman Borlaug and Reyna-28 deemed to produce an average yield of 4-5 MT/ha with good percentage gluten content, having been distributed to farmers under Wheat Transformation Agenda (WTA) of the Federal Government, it is expected that there will be a substantial increase in local production. Some fiscal incentives, such as duty-free import of related equipment and machinery, were also introduced. These resulted in rising prices for wheat flour and other wheat based foods.

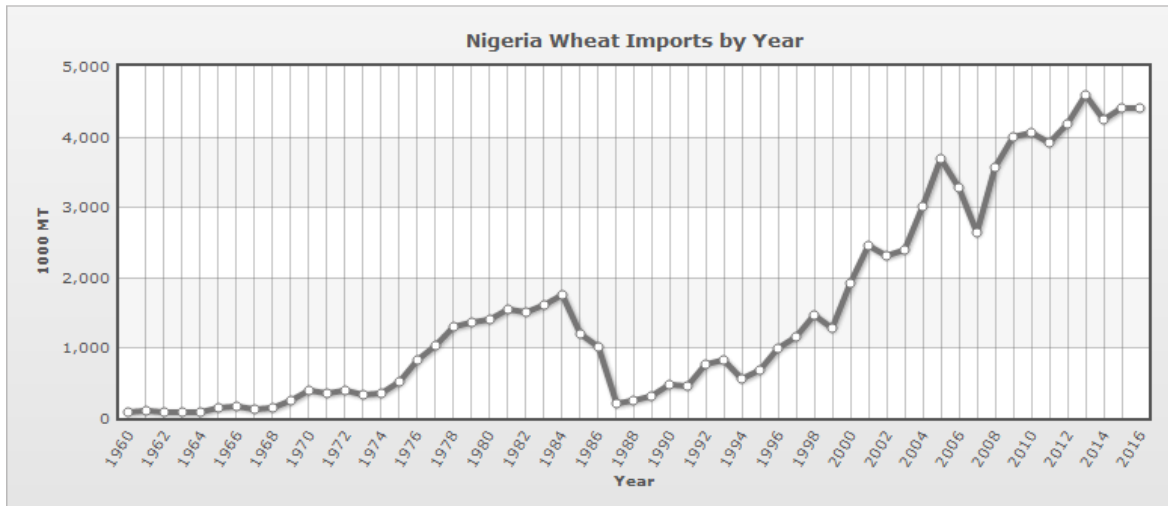


Figure1. Nigerian wheat importation from (1960-2016)
Source, [11].

III LOCAL PRODUCTION OF WHEAT IN NIGERIA AND PROBLEMS

The local production of wheat in Nigeria has been poor due to unfavourable climate; wheat is naturally adapted to temperate climates and high altitude regions which Nigeria is not one, though other climate friendly wheat species are emerging lately. Due to this reason production has been largely difficult and very low output per hectare between (1-2tons), mainly by efforts of the Government in providing irrigation facilities and improved seedlings. Wheat yields could increase significantly with new varieties under production in the wake of Government’s WTA. The yearly output/harvest is presented in Figure 2.

The problems is even more in 2016 as production decreased further more due to activities of Boko Haram and climatic change . The majority of farmers in the North Eastern Nigeria where there is comparative advantage for wheat production were dislodged from their farms and homes by Boko Haram insurgence. Presently they settled in internally displaced peoples camp (IDP’S) far away from their ancestral homes, and are living on donated food items. Fulani herdsmen attacks on farmers and their crops have made the situation even worse lately, as they went on rampage dislodging farmers from their ancestral farming areas. Reportedly, there are limited government funds to rehabilitate the massive destruction of farmlands and infrastructure [14]. Especially the re-settlement of these farmers and the

provision of mother seedling/ stock to go back to which will not be easy.

Other problems remains lack investment in the local wheat production sector, relatively high precipitation resulting in yield losses from disease and root problems, and poor quality of wheat varieties cultivated, inadequate credit facilities has also been identified as the reason why farmers find it difficult to increase their capacities of production. In 2016 under WTA Minister for Agriculture and Rural Development also presented another two wheat variety developed by IITA and Lake Chad Research institute to give further support and advantage to farmers going into wheat production.

The Agricultural situation in Nigeria and indeed the whole Sub-Saharan Africa has gone beyond the growing of agricultural deficit to the level of crisis in production. The argument was that many African States even designed policies that tend to discourage local agricultural growth, for instance taxation and not making the proper decisions on their agricultural/economic future. They have the disposition of being lobbied by external forces to take bad decision to the detriment of their local economy. Due to exponential population growth, urbanization and non-attractiveness of the agricultural sector within the region, citizens are rarely attracted to farming.

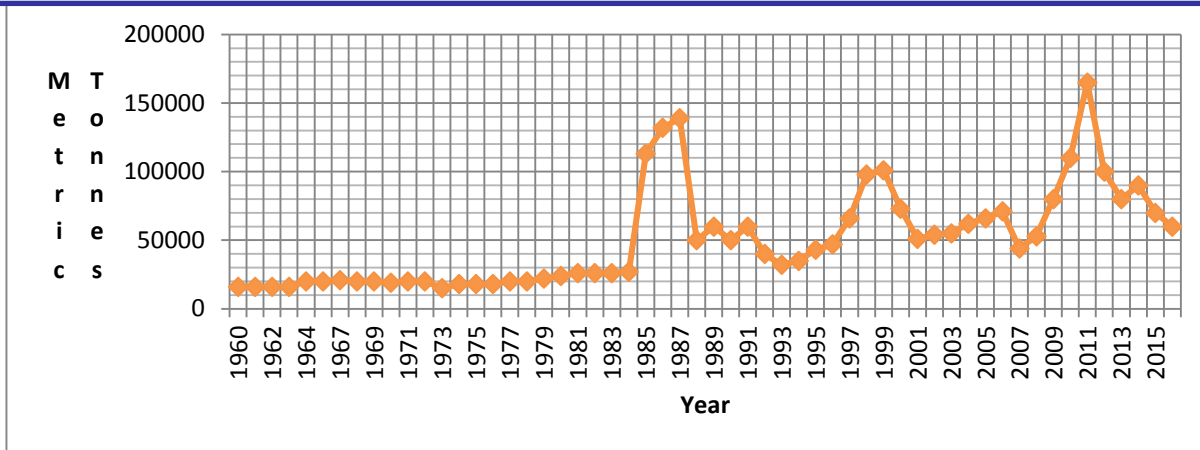


Figure 2. Nigerian wheat production from 1960-2016.
Source. [11], [12].

In the last four years there has been tremendous decrease in the local production as presented in Figure 2, the kangaroo importation has continuously strangled the local production, reducing it further from 165,00 tons in 2011 to 70,00 tons in 2015. What was it that was done right in the 3 different peaks of local wheat productions, in 1987, 1999, and in 2011 and what was it that was done wrong in all these other years of very low production. From the illustration presented in Figure 2, it could be easily inferred that within the period of increase in local production Government had taken one step or another to control the imported quantity, and as soon as the control measures are relaxed, a sharp decline is noticed each time. Year 2011 recorded the highest output since independence, while year 1973 recorded the all time low in wheat production in Nigeria.

IV RECOMMENDATIONS (THE WAY FORWARD)

Government's position about wheat importation in Nigeria over the years has been consistent but policies have not. Because wheat has consistently being the highest single commodity import in Nigeria over the past 10 years draining Nigerians foreign exchange, wheat and wheat related issues as regards to Nigeria as a nation, should have be given much more priorities and attention by the present and past Nigerian Governments than what is obtainable today. The Federal Government should as a matter of urgency setup a committee reporting to the presidency that will be charged to spearhead the wheat reforms in Nigeria. This will depart from the norm presently where wheat is treated just like any other cereals, and several government agencies will do their bit and nobody takes responsibility. The committee will be mandated to draw a road map/target specifying the number of years and where we are expected to be, in terms of local production and importation, which will be verifiable by the Government and be used as an indicator to evaluate the performance of the committee within the period.

The composition of the committee should include all stakeholders such as representatives of researchers in wheat production, processing and storage, milling and baking companies. Others are representatives of the Nigerian citizens, farmers, technocrats, agro- marketers, wheat importers, and representative of the Government. This

committee will be saddled with all wheat related issues such as transformation of research finding to production shop floors and monitoring compliance by the concerned sectors, buying, aggregating and marketing of locally produced wheat, solving production problems such as choice of variety, processing and baking issues. They should be closest allies of the farmers, organizing town hall meeting periodically in the wheat production areas to tackle fundamental agricultural extension issues which do arise, such as diseases, best practices for wheat farming, introduction of new varieties to farmers and using best practices to optimize output,. Others are offering improved education of farmers and proper monitoring of agricultural grants and credit, including subsidies to ensure that the funds are properly utilised for improved results. The committee would establish demonstration farms where farmers would be trained on wheat production using the latest technologies in mechanization.

The relevant Government agencies in charge of Government commodity import/export, in collaboration with the committee must rise up to the challenge, to discharge their duties no matter who is involved. Presently, data from industrial sources on wheat importation/business in Nigeria are different from the one in public domain. Questions should be asked, accurate records must be kept, about whom and who are, importers of wheat in Nigeria, the "actual", not claimed quantities of wheat that is imported by each importer, both formal and informal, and the origin of these imported grains and the users of the raw materials and the end products.

In other to take a good advantage of history, the committee must identify and liaise with research interest groups in this area, both past and present, Government agencies that had the statutory responsibilities and had been involved in wheat value chain in the recent past, to x-ray successes and shortcomings, and the real persons or groups that makes up the downstream wheat value chain in Nigeria presently. If all this information are available, and all stakeholders genuinely come together to agree on modalities to come out of this "wheat trap" irrespective of their diverse interest, the development of a more realistic, holistic and inclusive

approach to develop a blueprint and an action plan to increase local production and minimize wheat importation in Nigeria will be possible.

For instance like the recent MOU between the Wheat Farmers Association of Nigeria and the Flour Millers Association of Nigeria, to accelerate self-sufficiency in local production as well as fixing the minimum price of wheat at N140, 000 per tonne, be reviewed after a period of 12 months [9], is a step in the right direction, but it should be more holistic and all stakeholders inclusive. It should be the committee's job to broker agreement, and handle such issues, not few stakeholders. The man using the flour to baking purposes should be aware of the MOU just like the man or organisation processing (milling) and other stakeholders, who will or may probably have a role to play to sustain the recovery plan.

For businessmen, individuals, or organizations in Nigeria or within the Sub-region that are buying processed flour informally from Nigeria, with our local currency and then take it across the borders will also be tackled by the committee. They also places huge burden in our economy since they are not paying in foreign currency. It may rather be economically safe if these countries can import wheat directly from Europe or America and be delivered directly to their countries or to Nigeria for milling or buy Nigerian milled flour with foreign currency USD.

Nigeria is not the only country in this situation presently. India has been in this kind of situation, but today their story is different today. It took a robust Government right attitude to change the situation. The committee can study the India model, and borrow a leaf from there. According to the

illustrations presented in Figure 3, it could be seen that among the wheat importing countries are mainly developing countries who have also falling into a similar wheat trap like Nigeria, while the greatest exporters are the developed countries. However, the advantage of climate and the adapted varieties should not in any way be downplayed but much more can be done as a country.

Government provision of rural requisite infrastructure, like irrigation facilities, storage facilities, access roads to farms for tractor accessibility to farms and for easy evacuation of harvested crops is key, but most irrigation facilities in the wheat producing areas are old and lacked some modernity to enable it function in this present era. However future wheat farming design and farms should be modern and mechanizing in nature.

The wheat committee should arrange for a system to be put in place like the anchor borrower's scheme of the Federal Government, where mechanized equipment under the wheat production value chain such as combine harvesters will procured for farmers in a particular wheat producing areas to rent This will enable farmers to increase their individual capacity which will affect the annual production capacity in Nigeria. Infact the Government should have long term plans aimed at establishment of seed production value chains, fertilizer factories and farm machinery spare parts as a long term plan. There should be increased public investment in irrigation and agricultural research; amongst others Rain-fed highlands, such as Mambilla Plateau in Taraba State, Jos in Plateau State, and Obudu in Cross River State.

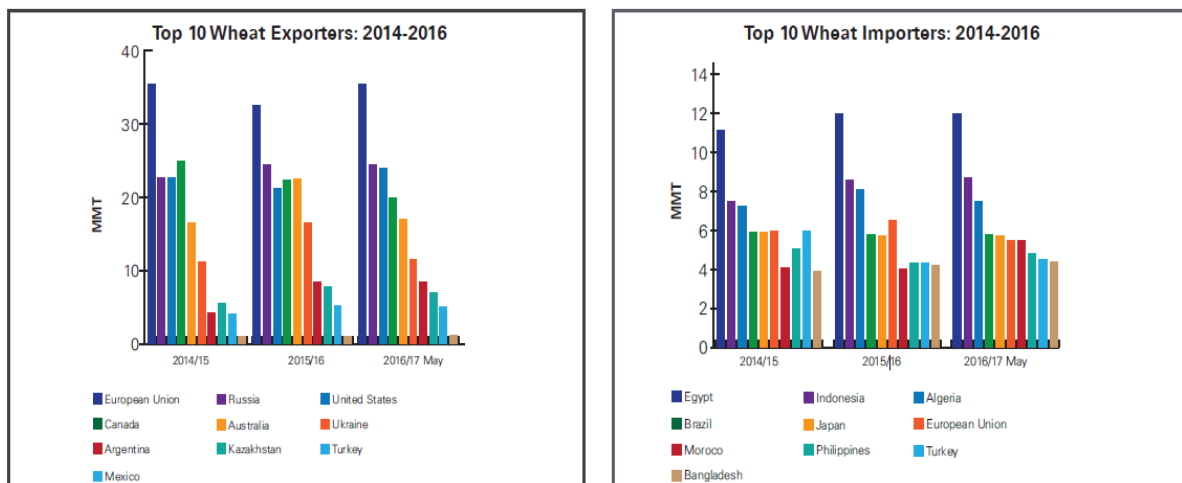


Figure. 3. Top ten wheat exporter and importers: 2014-2016.
Source: [5].

The Federal Government should evolve a policy that will make it mandatory for all mega-wheat milling companies to integrate backward into wheat farming in Nigeria, as presented in Figure 3. The policy should also involve mandating them to produce composite wheat flour using locally available raw material, with different percentage inclusion at reduced prices from the regular flour, and it should be off shelf, so that baking organisation especially the rural based, may buy as a matter of choice at reduced prices. As a part of the policy, all the bakeries both in rural and urban areas should be compelled to be baking composite bread using modern methods and technology, along with the 100% wheat bread, and let it be also off shelf for people who can't afford the regular bread. The wheat committee could work out other modalities on how many percentage composite flour and bread will be approved for all the bakeries and milling companies within the country, which they will equally enforce its compliance.

Researchers should be re-engaged motivated, in the development introduction of more suitable wheat varieties; partnerships with other countries to test compatibility, disease resistant wheat varieties, partnering with organisation such as International centre for Maize and Wheat Improvement Center (CIMMYT) and International Center for Agricultural Research in the Dry Areas (ICARDA) in collaboration with Lake Chad Research Institute (LCRI). Increasing wheat production requires prior investigation of the crop's requirements. In places with relatively low technology a naturally favourable environment is paramount for optimum production, [17].

Research in the area of composite flour technology should be seriously looked into with the help various related research institute and all stakeholders in research in Nigeria, to have a workable standard of inclusion for almost our locally available cereal crops, oil seeds, root and tuber crops and pulses.

The government should re-consider policies that will further make it difficult for importation of wheat, either inform of increase in the tariff or rational ban on importation of wheat, whereby allocating each major player in the industry an importation quota, based on their present capacity as shown in Figure, 4. The importation quota issued on yearly basis will dictating the amount allocated to his organisation for import, and not a free for all kangaroo importation as we have presently. The milling companies will be equally advised that any desired further capacity/quantity addition should be done through local varieties purchase and or backward integration

According to Andre and Beckman,1985, he argued that wheat shortages was as a result of policies inconsistency that allowed massive wheat importation, adding that

Nigerian local wheat production will accelerate if importation was restricted.

In 1987, the Government banned the importation of wheat and implemented an Accelerated Wheat Production Programme aimed at stimulating local production of wheat in Nigeria. Farmers were mobilized to produce wheat and were provided necessary inputs at subsidized rates, and equipment to boost wheat production. The production of wheat expanded from 50,000MT in 1987 to 600,000MT by 1990. Our farmers had proven that they can produce wheat, if well supported. However, several challenges scuttled the burst of energy to produce wheat locally. The introduced varieties had very low yields, as average yield was less than one ton per hectare. But more importantly, the programme failed because of the reluctance of wheat millers in the country to patronize wheat produced locally in the country. With the lifting of the ban in 1990, the programme abruptly ended, and wheat production slumped to 70,000MT by 1991.

Nigerian Government should embark in serious massive orientation of Nigerian citizen through the Federal Ministry of Information over wheat products consumption, and its effect in Nigerians economy. The important of other locally available substitute or composite wheat based products based on available locally material should be stressed to further discourage them from the borrowed nutritional lifestyle. Recently, Nigerian locally grown wheat is being imported by neighboring countries of Cameroun and Chad as cash crop. Since the ban on wheat importation in 1987, production figures and area planted with wheat increased considerably. During this period, wheat production increased from 400, 000 to 600, 000. Nigerian consumers are price sensitive and they are compensating for the increased costs of wheat based foods by seeking cheaper alternatives or shifting away from wheat products altogether. This made U.S. wheat slightly less competitive at about \$300 per ton, as flour millers begin to patronize other less expensive wheat supply sources. They are seeking the cheapest wheat sources available to blend them with U.S. wheat to keep their wheat products competitive in the marketplace [3].

As a result, wheat suppliers from Russia, Australia, Canada, Ukraine, Kazakhstan and others are beginning to export more to Nigeria thereby reducing the U.S. market share. U.S. wheat exports were down about 200,000 tons in MY 2012/13 as compared to the previous year, and the U.S. market share slid to reach about 80 percent of the Nigerian market from 90 percent (USDA,2016).

Lack of accurate record and organized distribution process /pathway for wheat and wheat based products in the wheat value chain has been counterproductive and should also be tackled by the committee.

In the Words of former Agric Minister "A silent revolution is [now] happening on wheat farms all across Northern Nigeria. The target of the wheat transformation is to

increase national production from 300,000 metric tons to about 1.5 million metric tons per annum by 2017. embarrassing, particularly the food sub-sector, it is bedeviled with serious data problems The wheat transformation agenda will generate one million jobs in the rural areas of Nigeria over the next four years of the program and generate over N42 Billion in incomes annually for farmers and millers” (Akinwummi, 2014). These figures may as well look like a mirage today, and nobody will take responsibility

V CONCLUSION

There should be a political will on the part of the Government to form a wheat committee directly reporting to the presidency and made all the stakeholders to collaborate and cross-pollinate ideas, as well as borrowing a leaf from other countries that had been in a similar position in the past, and major wheat producing countries to synergize and evolve a variety of wheat that will be adapted to other Nigerian fertile agricultural lands. The committee will properly analyse the workability of interventions and monitor closely the farmers who have

collected Government subsidies to be sure that they are being put to optimum use. They Government should learn to be strong and patience with their policies, facilitating increase in local wheat production as it is a long term project with long gestation period. There should be a separate budget for wheat production/ reforms and wheat should not be treated as just like any other cereal. Consumer and confectionary industries should be made to have a choice between 100% and composite types of wheat baked products and flour. These items should be readily available in the retail markets and shops. However, the WTA initiative of the FGN, if effectively implemented, is expected to be a step in the right direction, but the authorities presently handling it has so many in their hands. Wheat road map or reforms needs a special attention and patience, and someone has to take responsibility (the wheat committee). Such over-dependence on imported wheat will pose significant risks to Nigeria's future growth. Nigeria must grow a lot more of its own wheat and reduce the national, economic and political risks from depending on other nations for our food supply.

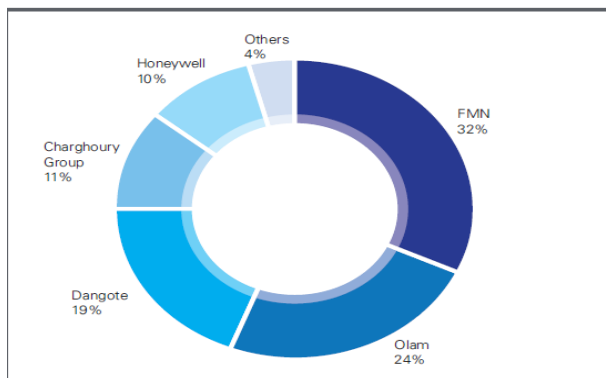
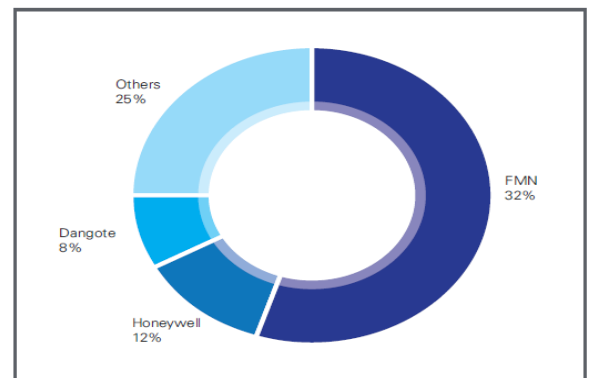


Figure 3a Size of Nigerian wheat market by capacity
Source: [9]



3b By revenue.

REFERENCES

- [1] Wikipedia, (2012). “Wikipedia freeEncyclopedia”. “Wheat” R etrieved From [Http://en.Wikipedia.Qrg/wiki/wheat](http://en.Wikipedia.Qrg/wiki/wheat). Retrieved on 10th March, 2016.
- [2] Defloor, I., Nyis, M., Delcour, J.A.,(1993). Wheat starch, cassava starch, and cassava flour impairment of the breadmaking potential of wheat flour. *Cereal Chem.* 70, 526– 530.
- [3] AEGIC, (2015). Australian Export Grains innovative centre,Global ,Marketing Series. Retrieved from <http://www.Aegic.org.au/media/global-grain-series.aspx>. Retrieved on 10th March,2016.
- [4] Food and Agriculture Organisation Statistics (FAOSTSAT) (2014).Database of World Agriculture, Retrieved from <http://www.fao.org/es/ess/chartroom/factoid04.asp>. Retrieved on 25/1/2016.
- [5] USDA, (2016).United States Department of Agriculture, Grain and Feed Annual Lagos Nigeria, April 2016.
- [6] Andre, G and Beckman, B, (1985). The wheat trap: Bread and under development in Nigeria, London: Zed books.
- [7] AERLS, (1979). Agricultural Extension Research and Liaison Services, Ahmadu Bello University Zaria. Report on wheat production and marketing in Nigeria.
- [8] Magaji, M. D., Abubakar, B. Y and Olabanji, O. (2012). Current Status of Wheat Research and Production in Nigeria: Implication for Food Security. Presentation on Wheat for Food Security in Africa, Oct, 8th, Addis Ababa, Ethiopia 2012.
- [9] KMPG Nigeria (2016). Wheat based consumer foods in Nigeria. .Retrieved from KPMG.,com. Grain: World Market and Trade.
- [10] Ohimain, E. I, (2014). Nigeria Wheat transformation agenda and Prospects *International Journal of Engineering Science and Innov-ative Technology*,
- [11] USDA, (2016). (Foreign Agricultural Service). Nigeria Seminar Training .com: Nigeria Remains a Strong Growth Marketfor Wheat. Retrieved from www.nigerianseminarstraining.com.
- [12] Rislancodeen, M, (1991). Economic problem of Wheat production in Nigeria., Unpublished thesis submitted to PG school, for award of MSc. Economics. Ahmadu Bello University Zaria.

- [13] United States Department of Agriculture(2014). Grain and Feed Annual Update Lagos Nigeria, March 2014.
- [14] Foraminifera Market Research, (2016). Southtech web Developers, Production of Wheat Flour in Nigeria: Pre-feasibilityReport. Retrieved from www.foraminifera.com/market_research_reports/agro_processing-forestry-fishing/prod-of-wheat-flour.
- [15] World Grain, (2012). Nigerian wheat Dilemma. Retrieved From, grain.com/news/news-home/features/2013/12/nigerias-wheat-dilemma.aspx?cck=1 www.world-grain.com/articles/...Grain.../Nigerias_wheat_imports_to_dec1.aspx.
- [16] Akinwummi, A, (2014). Nigeria has Broken the Wheat Jinx-Agric Minister. Retrieved from www.Icrimad.gov.ng/index.php. Retrieved on 31th May 2017.
- [17] Oche, C. Y (2002). Agricultural Zonation for Wheat Production in Savannah Region of Nigeria. Singapore *Journal of Tropical Geography* 19 (1): 39-50.
- [18] Amin, S. (1982). Under development and Dependence in Black Africa, Origin and Contemporary form. Cohen,,D.L and Daniel, J. Political Economy of Africa. Selected Readings, Longmans Group Limited.
- [19] Daily Trust Newspaper, Abuja 14th August 2014.Jibia Farmers lacks market for their locally produced wheat grain.