FEDERAL REPUBLIC OF NIGERIA

COUNTRY SNAPSHOT

Population: 181,562,056
- Urban: 86,786,663 (48%)
- Rural: 94,775,393 (52%)

Rice Availability (g/c/d): 77
- Urban: 66-69
- Rural: 78-91

Rice market: 100% parboiled rice

Production: USDA, 2016 2.7 MMT
FAO, 2011 3.1 MMT

Domestic industrial rice milling: 12%-24% of total domestic production from approximately 24 mills.

Regional trade: Estimated that 0.8 MMT of rice (~40%) of imported rice enters Nigeria unofficially due to businesses avoiding high duties on imported rice.

IMPORTS

Number of importers: 4-5 large importers with estimated 90% of official import share.

Mode of imports:
90% break and break-bulk vessels, 60% of imports arriving in Port Lagos, 40% in Port Harcourt.

Total imports:
- USDA, 2016 2.1 MMT
- (MT; USDA and UNC, 2014 0.728 MMT FAO are net est.)
- FAO, 2013 2.2 MMT

Type & Origins
- Rough/paddy rice: 422 (0.06%)
- Broken rice: 738 (0.10%)
- Brown rice: 22,717 (3.02%)
- Semi/wholly milled rice: 728,533 (96.83%)

Thailand: 521,002 (71.51%)
India: 172,691 (23.70%)

Sources: 1 CIA Factbook 2015; 2 Overall estimate is FAO 2013; Urban/rural availability is FFI estimate assuming urban population consumes 100% of imported rice, and rural population consumes 100% domestically grown rice. The range represents the FAO 2013 estimates and USDA 2016 estimates for imported and domestically grown rice; 3 UN Comtrade 2014. Abbreviations: g/c/d = grams per capita per day; MT = metric ton; USDA = United States Department of Agriculture; UNC = UN Comtrade; FAO = Food and Agriculture Organization.
FEDERAL REPUBLIC OF NIGERIA

EXECUTIVE SUMMARY
With a population of 181 million, Nigeria consumes more rice than any other country in Africa-about 5.1 million metric tons (MMT) of milled rice equivalent. In Africa, Nigeria was number one in both rice imports and domestic rice production (2.1 and 2.7 MMT respectively) in 2016\(^1\).

Average consumption of rice is 77 grams per capita per day (g/c/d).\(^2\) Rural and urban consumption of rice is relatively similar (ranging between 66-69 g/c/d for urban and 78-91 g/c/d for rural\(^3\)), but their sources for rice differ – urban populations primarily consume imported rice, whereas rural populations consume largely domestically grown rice.

Replacement of rice imports with domestic production is a top government priority. Many policies are in place to achieve this goal, including high import tariffs and subsidized financing to help smallholder farmers. Many international development organizations have programs and projects to support rice production in the country.

Fortification of imported rice is potentially be feasible – four or five companies control 80% of imports – and the urban population would correspondingly be expected to benefit. Fortification of domestically milled rice will have less coverage, as only ~12% of local rice is industrially milled, despite substantial potential for increased industrial milling. Fortification of domestically grown rice that is village-milled or hand-pounded is not considered feasible – alternative means of addressing micronutrient deficiencies in these populations will be necessary. Domestic rice may be an opportunity in the future, as the domestic milling industry consolidates. The same four or five import companies also have 50% share of industrial rice milling.

Given the government’s strong protectionist policies, a large share of the total imports (30%-50%) avoid the high import rice duties by entering through porous borders with Niger and Benin. Any mandatory fortification efforts will face a huge challenge in regulating the borders to enforce fortification or reducing illegal land imports by addressing high duties on imported rice.

Table 1: Demographics and annual rice availability

<table>
<thead>
<tr>
<th>Population(^1)</th>
<th>Urban(^1)</th>
<th>Available(^2) (MMT)</th>
<th>Imports(^2) (MMT)</th>
<th>Exports(^2) (MMT)</th>
<th>G/c/d(^3)</th>
<th>Production(^2) (MMT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>181 million</td>
<td>48%</td>
<td>5.2</td>
<td>2.5</td>
<td>0</td>
<td>77</td>
<td>2.7</td>
</tr>
<tr>
<td>2011-2016 trend(^4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>+2.45% per/yr(^5)</td>
<td>+4.66%(^2)</td>
<td>-1.38%</td>
<td>-7.6%</td>
<td>--</td>
<td>--</td>
<td>-0.6%</td>
</tr>
</tbody>
</table>

G/c/d: grams per capita per day; MMT, million metric tons

\(^1\) CIA Factbook
\(^2\) FAO Food Balance Sheets, 2013
\(^3\) USDA, 2016
\(^4\) Differences depend on whether FAO Food Balance 2013 (most recent available) or USDA 2016 data is cited. Calculated by estimating that imported rice is consumed by urban population and domestically grown rice is consumed by rural.

GRAIN CONSUMPTION AND FORTIFICATION STATUS
Maize and rice have similar availability levels on average and wheat flour being slightly less\(^2\) (Table 2). These relatively low availability levels can be explained by the significance of a

\(^1\) USDA, 2016. http://www.indexmundi.com/agriculture/?country=ng&commodity=milled-rice&graph=production
A variety of other cereal and non-cereal grains considered staple starches in the Nigerian diet, including cassava, cowpea grain, groundnut, plantain, millet (67 g/c/d), sorghum (84 g/c/d), soybean, and yam. Starchy tuber availability is estimated at 689 g/c/d.

**Table 2: Cereal grain consumption/availability and fortification status**

<table>
<thead>
<tr>
<th></th>
<th>FAO 2003(^\text{4}) g/c/d</th>
<th>FAO 2013(^\text{5}) g/c/d</th>
<th>Mandatory(^\text{6})</th>
<th>% Industrially milled(^\text{6})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>45</td>
<td>57</td>
<td>Yes</td>
<td>100%</td>
</tr>
<tr>
<td>Maize</td>
<td>58</td>
<td>90</td>
<td>Yes</td>
<td>Unknown</td>
</tr>
<tr>
<td>Rice</td>
<td>62</td>
<td>77</td>
<td>No</td>
<td>~12%</td>
</tr>
</tbody>
</table>

**Urban**

About 48% of Nigeria’s population of 181 million lives in cities. In urban areas imported rice is a staple food consumed at least once per day in all but the poorest households. Rice consumption is highest in Lagos. Most residents consume rice twice per day.

Overall urban consumption may be in the range of 66-69 g/c/d, assuming that 100% of the 2.1 MMT of imported rice annually is consumed exclusively by the country’s 86 million city dwellers. Data from the 2010-2011 Living Standards Measurement Study–Integrated Surveys on Agriculture (LSMS–ISA)\(^5\) indicates that approximately 90% of surveyed urban households consumed rice (96 g/c/d), with approximately a 70%/30% split between imported and domestically grown rice.\(^6\)

There appears to be substantial demand elasticity in urban rice consumption in Nigeria.\(^6\) When global prices spike, the government imposes high import duties, or when the naira is devalued then local prices go up and imports fall. Consumers in urban areas will switch quite readily back to cassava, yams and potatoes when rice becomes unaffordable. Urban households may also switch between rice and wheat flour-based foods like pasta depending on price movements.

**Rural**

In rural areas rice is an important subsistence and smallholder cash crop. Average rural rice consumption is around 78-91 g/c/d grams, assuming that the rural population of 94 million exclusively consumes the 2.7 MMT of domestic production. LSMS-ISA indicates that approximately 84% of the rural surveyed households consume rice (91 g/c/d), with a reversed 30%/70% split between imported and domestically grown rice, in favor of the latter.\(^6\) It’s likely that consumption varies geographically, with highest rice consumption in the rural north and northeast where there is greater production, and lower consumption in rural areas of non-rice producing states (south and central Nigeria), where cassava, yams, and other root crops are the primary staple food.


\(^5\) A national (but not nationally representative) survey conducted by the Nigerian Bureau of Statistics in partnership with the World Bank.

Rice types
Parboiled rice accounts for over 95% of all rice consumption. Almost all imported rice is parboiled as well as domestic rice in all growing zones. The two dozen large industrial millers in the country have automated plants that integrate parboiling in the milling process by means of husk-fired furnaces and boilers. At the village level, farmers boil or steam their paddy in simple vats before drying it outdoors on tarpaulins and then de-husking in one-pass mills - or in more remote places, by hand pounding.

DOMESTIC CEREAL PRODUCTION

Table 3: Nigeria cereals production - 2016

<table>
<thead>
<tr>
<th>Cereals (MMT)</th>
<th>Maize</th>
<th>Sorghum</th>
<th>Millet</th>
<th>Rice (milled)</th>
<th>Wheat</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.2</td>
<td>6.5</td>
<td>4.8</td>
<td>2.7</td>
<td>0.006</td>
<td>21.206</td>
<td></td>
</tr>
</tbody>
</table>

1 USDA, 2016/IndexMundi

Table 4: Nigeria rice production, 2012-2016 (MMT)

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>2.37</td>
<td>2.77</td>
<td>2.835</td>
<td>2.709</td>
<td>2.7</td>
<td>2.677</td>
</tr>
</tbody>
</table>

1 USDA, 2016/IndexMundi

Production, area and yields
Rice ranks fourth in output among cereals grown in Nigeria, representing 12.7% of total cereals output after maize, sorghum and millet. Rice is grown in 24 of Nigeria’s 32 states on a total of 2.4 million ha. The states with highest production are in the north and northeast, which produce an estimated 50% of the total rice output.

Production in 2016 was roughly the same as 2015 (2.709 MMT) and slightly above the 5-year average of 2.677 MMT. During the last decade, peak production was a record 2.9 MMT in 2011 and the low was 2.0 MMT in 2007. The variation in harvest is largely due to changes in the planted area and secondarily due to amount of rainfall.

There are two annual rice crops: the wet season is from October to January and accounts for 80% of the annual total; the dry season is from May to July and accounts for 15% to 20%. The dry season crop requires irrigation. There are many local irrigation dams and large dams in seven or eight states, which include the major rice producers.

In irrigated river basins, yields are 2.75 MT to 3.0 MT per hectare (ha). The range of yields in Nigeria is from 1.5 to 4.5 MT per ha, which can be considered relatively low since in most Asian countries yields exceeding 6.0 MT per ha are the norm.

Low yields are due to the predominance (2/3 of rice production) of smallholder farmers on plots of 1-2 ha in size. Commercial rice farms with mechanization still only account for less than 10% of the planted area and less than 20% of total production. The largest commercial farms are in the northeast, an area with security threats from the militant Islamist group Boko Haram.

7 Author’s estimate from conversations with industry.
8 All production numbers from USDA, accessed at IndexMundi: http://www.indexmundi.com/agriculture/?country=ng&graph=production
International development support in domestic production

The international development community has supported government policy to increase rice production. In particular the Consultative Group for International Agricultural Research (CGIAR) has its second largest rice research center in Ibadan, Nigeria (its largest is in the Philippines). National Cereals Research Institute (NCRI), is a national research institute for genetic improvement and production of staple grains, including rice.

Several NGOs and international development agencies are also involved in Nigeria rice projects. These include: International Fertilizer Development Corporation (IFDC, US-based), GIZ, Competitive African Rice Initiative (CARI, Gates Foundation funded), Propcom Mai-karfi, DFID, and Japan International Cooperation Agency (JICA). JICA’s efforts focus on improving processing quality of local paddy.

IFDC operates Feed the Future’s Nigeria Agro-Inputs project (2014-2017), funded by USAID-Feed the Future, with the objective of increasing agricultural productivity, improving regulatory framework on fertilizer, and improving access to finance for the maize, sorghum, rice, and cassava value chains in several states. The Stallion Group, one of the top importers dominating the industry, is among the partners involved with the IFDC initiative.

The government protects and encourages growth in the domestic rice industry through high import tariffs and waivers. These are discussed in the two sections below.

IMPORTED RICE INDUSTRY

Table 5: Annual rice import volumes, 2012-2016 (MMT)

<table>
<thead>
<tr>
<th>Year</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.8</td>
<td>2.8</td>
<td>3.0</td>
<td>2.5</td>
<td>2.1</td>
<td>2.64</td>
</tr>
</tbody>
</table>

1 USDA, 2016/IndexMundi

Total rice import volumes in 2016 were 2.1 MMT, marking two consecutive years of declines (Table 5). The devaluation of the naira and restrictions by the government on hard currency available for imports caused the decline.

The figures include an estimated 800,000 MT of rice that entered Nigeria via Benin and Niger through often illegal cross border trade. Since Benin consumes predominantly white rice, this estimate is derived from the assumption that the entirety of the imported parboiled rice entering Benin at Port Cotonou is ultimately destined for Nigeria. This rice arrives mostly in bulk but some cargos are break-bulk.

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Rice origins
Thailand and India are the most important source of rice for Nigerian imports; combined they provided 95% of the rice imported in 2014. Thailand contributed 71.5% of exports, while India contributed 23.7%. Other countries exporting rice to Nigeria in small quantities include China, Brazil, Australia, and Viet Nam.

In Thailand three major re-processors control about 80% of all rice exports to Nigeria and most other export markets for Thai rice. In order of importance they are Capitol Rice, Asia Golden Rice, and a third unidentified company.

Each buys milled rice from dozens of mills and stores it in bulk in silos and warehouses, often using grain chilling. Reprocessing allows sorting and cleaning of the rice to produce just the right quality in terms of percent broken kernels and cleanliness.

In India, large importers buy from several mills near major ports to fill vessels. Often export shipments must be transferred to barges to vessels at anchor. The availability of Indian rice for export varies from year to year, as the Food Corporation of India (FCI) purchases the bulk of the domestic production of rice for its national food distribution welfare scheme, the Public Distribution System (PDS).

Indian rice is mostly 6.5mm in length, the same as domestically produced Nigerian rice.

Mode of imports
Bulk and break-bulk vessel loads make up over 90% of the rice imported to the two main Nigerian ports. Containerized shipments are not competitive due to higher per ton transport costs. Lagos in the west receives 60% of rice imports and Port Harcourt in the east 40%.

Most vessels are 30,000 to 45,000 MT. Bulk vessel arrivals are usually from Thailand and South America, where the ports are well equipped for bulk vessel loading. Imports from India are usually in break-bulk form and in smaller vessels. Some importers rely on containerized shipments when there is excessive congestion at the bulk port. Congestion at Nigeria’s ports can have wait times longer than a week.

All major importers generally import whole vessel loads. Bagging is most often done at the port. Some importers own their own bagging units, such as Stallion Group, which has eight bagging units. Normally four bagging units per vessel, one per hold, are required. Those who do not own their own bagging units rely on international companies such as UK-based Nectar Group International, which provides bagging services at the port.

Stallion Group also has its own polypropylene bag manufacturing plant in Lagos. Other companies may import empty bags on the rice vessels.

Most rice imported via transit shipments through Benin and Niger arrives at the port of Cotonou in Benin in bulk or break-bulk vessel loads. It is bagged at the port of Cotonou on arrival. Nigerian traders transport rice in 30 to 40-MT truckloads across the borders.

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Rice importers
Four or five well-established rice importing companies control about 90% of official rice imports. It is not clear what role they play in the cross border trade with Benin. Some have sister companies active in rice import in Benin.

At least three of these companies also count among the top investors in domestic milling discussed in the next section, because government only grants import permits and reduced import tariffs to companies that make such investments.

Up until three years ago, brown parboiled rice was imported in bulk and then polished at mills in or near Lagos, strategically located for this purpose. However this practice stopped when the government ceased granting duty reductions for brown rice imports. The value added by polishing rice at these mills was relatively small however; primarily rice bran was sold for animal feed.

<table>
<thead>
<tr>
<th>Company</th>
<th>Headquarters</th>
<th>Import share</th>
<th>Local milling capacity?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stallion Group</td>
<td>Dubai</td>
<td>Major</td>
<td>Yes</td>
</tr>
<tr>
<td>Olam Group</td>
<td>Singapore</td>
<td>Major</td>
<td>Yes</td>
</tr>
<tr>
<td>Milan Group</td>
<td>Lagos</td>
<td>Major</td>
<td>Yes</td>
</tr>
<tr>
<td>PJS</td>
<td>Lagos</td>
<td>Medium</td>
<td>None</td>
</tr>
<tr>
<td>Elephant Group</td>
<td>Lagos</td>
<td>Small</td>
<td>Unconfirmed</td>
</tr>
<tr>
<td>Vocat Nigeria Ltd./Chi Group</td>
<td>Lagos</td>
<td>Small</td>
<td>May be planning</td>
</tr>
<tr>
<td>Umza International Farm</td>
<td>Lagos</td>
<td>Unknown</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The largest importers by volume are Stallion Group, Olam Group and Milan Group, but it is difficult to identify the precise volumes due to the practice of buying and selling government-assigned import quotas, as well as the unofficial imports across borders. All are investing in domestic milling or are planning to do so. The others are relatively new entrants to the sector, although some of these companies could also mainly sell their import quotas to larger importers. Importers without milling capacity are charged 70% rice import duty, compared to 30% for those importers with domestic milling capacity.

Most of the major rice importers are large companies with a range of activities. For example Stallion Group and Milan Group are important automobile importers. Milan Group owns one of the largest hotels; Vocat is a major juice bottler, and so on.

The largest importers require large amounts of working capital to import whole vessels and then hold the rice for a few months before it is sold, depending on market conditions.

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Imported rice storage
The major rice importers have warehouses at or near the ports of major ports of Lagos and Port Harcourt. Some rice is kept in warehouses in the free trade zone. This practice allows importers to delay paying import duties until rice is sold. Some importers keep three to four months supply on hand, indicating significant financing requirements to import rice. The Port of Lagos has capacity for 20,000 twenty-foot equivalent containers (TEU)\(^{17}\), equivalent to 480,000 MT of rice\(^{18}\).

Almost all imported rice is bagged at discharge and stored in bags. Imported rice is not normally stored in bulk in silos or warehouse storage.

When brown rice was still being imported, it was transported to mills from vessels in bulk truckloads and polished at these mills before bagging and storage.

Rice imported in 50 kg bags via cross border trade goes to the warehouses of wholesale traders mainly around major inland cities such as Abuja and Kano.

GOVERNMENT RICE POLICIES AND PROGRAMS
The government limits rice imports by restricting the number of import permits granted annually. The government estimates the number of import permits allowed annually based on the gap between local production and expected demand. To stimulate investment GoN has also initiated a system of granting import permits preferentially to companies that have built mills. As a result, the largest importers also control much of the industrial milling capacity.

Once source said the government has lowered the rice import quota for 2016 to just 1.3 MMT, from 1.5-1.8 MMT in 2015. Once granted a permit, the importers typically exceed their quotas by 50% to 100%. The largest importers collectively reportedly owe 24 billion naira in unpaid duties. Customs officials take illegal payments to release shipments even when duties have not been paid.

Importers are required to complete “pre-arrival assessment reports (PAAR)” that analyze the impact of imports on local production prices.

Since 2015 Nigeria has been experiencing hard currency shortages, leading the central bank to limit conversion of hard currency for exports. Only companies with valid import permits are allowed to convert naira to dollars to pay for rice imports.

Government policy initially focused on increasing domestic milling capacity by only granting import licenses to companies that invested in milling plants. Now the need is to encourage greater domestic rice production to use up the excess capacity of these mills.

There are a large number projects and programs to achieve this goal. Large tracts of land are being given out on long-term lease to investors to establish large farms of 100 ha-10,000 ha.


\(^{18}\) Assuming a standard 20-foot container holds 24 MT of grain.
The government has also launched a program to provide greater financing to smallholders to increase production. This is called the “Anchor Borrowers Program”. Under it the Central Bank provides low interest 3% funding to commercial banks to provide loans to commercial milling companies (“anchor borrowers”). The commercial mills use the funds to purchase seed, fertilizer and agrochemicals and provide them on credit to smallholder farmers through their cooperative structures. Repayment of the loans is by delivery of paddy rice to mills.

This program has only been launched in the last year. Stallion Group/Popular Foods is the largest anchor borrower to date. The Wicklow Group, another milling company, has also joined. Other commercial millers are expected to join and it is hoped that the smallholders participating will achieve significant increases in yields.

The government is also supporting farmers with a minimum guaranteed price for their rice in case increased production results in a drop in local prices. Generally millers oppose this kind of government intervention since domestically grown rice will not be able to compete with cheaper imports when world rice prices drop.

**RICE MILLING**

*Village milling*
Around two-thirds of domestically grown rice, equivalent to 1.8 MMT of milled rice, is still processed in small village level husking mills that have an average capacity of about one MT per day. It is estimated that about 10,000 such mills exist and run on diesel or electricity. Clusters of small mills in some localities - as many as 50 - mainly toll mill for farmers.

Domestically grown rice is self-consumed by farmers or traded locally. Such husking mills produce low quality rice unable to compete with imported rice in cities. In some remote areas without electricity, paddy is still husked by hand pounding.

*Industrial milling*
There are about two dozen commercial rice milling enterprises (see Appendix I) with at least 5 MT per hour capacity. This commercial milling capacity is distributed in various rice growing regions. According to one source, the largest milling company, Stallion Group’s Popular Foods has 600 MT per day (25 MT/hr) capacity, consisting of four lines at two plants. Stallion also another mill originally built to polish imported brown rice, with 600 MT per day milling capacity. True integrated capacity at this mill, including parboiling and drying, is 230,000 MT per year. Almost all commercial production is parboiled rice.

Stallion Group plans within the next few years to increase its annual milling capacity to 1 MMT per year and eventually 1.5 MMT. Corporate policy is to align itself to the extent possible with government goal of increasing domestic rice production and milling capacity. Devaluation of the naira and the difficulty in obtaining hard currency for rice imports means that companies that develop domestic supply chains will have an advantage in the rice market in the future.

Olam, Milan and Golden Penny mills each have capacity ranging from 15 to 20 MT/hr, or about equivalent to 100,000 MT of paddy rice per year. Olam reportedly has the infrastructure

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19 Calculations using the known capacities of the listed mills in the table and averaging 5 MT/hr for 17 remaining mills with
available to quickly scale up to 320,000 MT of paddy per year\textsuperscript{20}. There are many small commercial mills with capacity of 5 MT per day, equivalent to approximately 1,500 to 2,000 MT per year of paddy rice. They are not members of the rice millers association.

Due to inadequate supply of surplus domestic paddy rice, these industrial mills operate at less than 50\% utilization. Millers also complain that due to lack of reliable power supply, domestic rice milling cannot be profitable. Use of diesel generators 90\% of the time is too expensive.

According to an equipment supplier source, total industrially milled rice is in the range of 0.5-1 MMT, if this is true then 19\%-37\% of domestically grown rice is industrially milled. However, from available milling information described above and in Table 7, total annual paddy milling capacity of these enterprises is estimated at only 650,000 MT per year\textsuperscript{21}, or 21\%-24\% of domestic rice production – given reports that mills run at less than 50\% utilization, FFI estimates that approximately 329,000 MT of rice is industrially milled in Nigeria, or ~12\% of the domestically milled rice according to USDA 2016 rice production estimates. The rice millers association did not provide an official number for its members’ total capacity for comparison. If Stallion and Olam were to upgrade their milling capacity as described above, total national rice milling capacity could be 1.5 MMT, or about 50\% of total domestic milled rice production.

Table 7: Industrial rice millers in Nigeria (partial list)

<table>
<thead>
<tr>
<th>Company</th>
<th>Mill location</th>
<th>Capacity (paddy)</th>
<th>Farm</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stallion Group/Popular Foods Ltd.</td>
<td>Kano state, Benue state, Lagos, Ogun state</td>
<td>150,000 MT/yr, 80,000 MT/yr, 230,000 MT/yr (polishing)</td>
<td>None</td>
<td>CBN anchor borrower. Purchased 80,000 paddy in 2015</td>
</tr>
<tr>
<td>Olam Group</td>
<td>Nassarawa state</td>
<td>105,000 MT/yr, able to add 210,000 MT/yr\textsuperscript{20}</td>
<td>10,000 ha</td>
<td>Farm produced 72,000 MT of paddy in 2015\textsuperscript{22}</td>
</tr>
<tr>
<td>Milan Group</td>
<td>Lagos, Ogun state</td>
<td>100,000 MT/yr (estimated)</td>
<td>400 ha</td>
<td></td>
</tr>
<tr>
<td>Flour Mills of Nigeria Ltd./Golden Penny Rice Ltd.</td>
<td>Lagos, Ogun state</td>
<td>100,000 MT/yr (estimated)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wicklow Group/Quarra Mills Ltd.</td>
<td>Kwara state</td>
<td>30,000 MT/yr, &lt;50% utilization</td>
<td>10,000 ha partly irrigated</td>
<td>CBN anchor borrower. Non-importer.</td>
</tr>
<tr>
<td>Onyx Rice</td>
<td>Niger state</td>
<td>Unknown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Umza Mills</td>
<td>Kano state</td>
<td>30,000 MT/yr\textsuperscript{15}</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labana Mills</td>
<td>Kebbi state</td>
<td>2 mills</td>
<td>Unknown capacity</td>
<td></td>
</tr>
<tr>
<td>Mikap Rice</td>
<td>Unknown</td>
<td>15,000-20,000 MT/yr\textsuperscript{15}</td>
<td></td>
<td>Government funded</td>
</tr>
</tbody>
</table>

\textsuperscript{20} Nigeria’s Inconsistent Rice Import Policy is a Catalyst for Smuggling. http://nationalmirroronline.net/new/nigerias-inconsistent-rice-import-policy-catalyst-for-smuggling-olam/

\textsuperscript{21} The author’s estimate based on interviews.

**Domestic rice costs**
Millers report costs of 6,500 to 7,000 naira (USD 32.50 to 35) per 50 kg bag for domestic production. However imported rice was being landed at a cost of 5,000 naira (USD 25) per 50 kg bag. Farmers are demanding 75,000 to 80,000 naira (USD 325 to 400) per MT of paddy rice, but mills can only afford to offer 60,000 to 65,000 naira based on current market prices.

**Domestic rice storage**
Generally storage facilities are inadequate for the domestically harvested paddy rice. Commercial millers have warehouses and some silos for paddy rice, but total capacity at these mills is still limited given the lack of sufficient surplus paddy for milling. The mills also store milled rice in warehouses at the mill and in major distribution centers.

In the last decade, the national grain reserve agency has invested in steel silo storage capacity for cereals in ten locations, with combined storage capacity of 100,000 MT. However these target maize and sorghum rather than paddy rice. In any case the federal government has turned them over for state use. If privatized some could be converted to paddy rice storage.

**International support for milling capacity**
International Finance Corporation’s (IFC) agrifinance/financial institutions group has launched a program called CAF Agrifinance Program to support bank lending to groups of rice growers that supply large milling companies. The funding is channeled through the milling company, who puts up a deposit. IFC and the millers guarantee some of the loan repayment in the first stage.

DFID is supporting several millers in the domestic market through its Propcom Mai- karfi program. The program, which aims to create an enabling policy and infrastructure environment for the agricultural and rural sectors, targets multiple agricultural value chains other than rice, including poultry, shea butter, agricultural equipment, etc. Their work specifically related to rice include improving access to agricultural inputs for farmers, and business opportunities for female rice parboilers. The GEMS4 wholesale & retail program (also supported by DFID) is supporting the development of marketing strategies for larger millers, an effort to counter the perception of local rice as inferior to imported rice by increasing awareness and availability of high-quality Nigerian rice. Popular Mills, a subsidiary of Stallion Group, and GEMS4 signed a Memorandum of Understanding in early 2016 to develop a business model aiming for 20,000 smallholder farmers to provide 50,000 MT of paddy to Popular Mills.

**WHOLESALE AND RETAIL TRADE**

**Wholesale**
Imported rice, whether brought in through official channels or smuggled, has well-developed national distribution networks. There is now a push from government and industry to increase the amount of domestic rice distributed through these same channels. In the past there were insufficient quantities of good quality domestic rice for large rice distributors to invest, but now that the supply has become more reliable, branded domestic rice is starting to appear in the same

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distribution channels as imported products. Importers all have large centralized warehouses near the port as well as regional distribution hubs. Wholesale traders buy rice and other commodities from the importers by the truckload for distribution to small shops and market vendors.

Nigerian wholesale traders also bring in up to 20,000 truckloads of rice (each 30-40 MT) from Benin through Niger. The Nigerian traders buy from wholesalers in Cotonou, who fill warehouses with parboiled rice procured from the major importers of bulk vessel loads. Some of these are sister companies of large Nigerian rice importers.

**Retail**
Popular markets in urban neighborhoods, small shops and supermarkets are the most common sales points for rice. The majority of rice sales in urban areas are in 25 kg bags. Market vendors still sell large quantities of rice by the scoop to lower income consumers. Domestically produced rice is traded in weekly local markets but has only recently started to gain market share among urban consumers. More well-to-do consumers purchase one or more bags of 25 kg at a time.

**REGIONAL TRADE**
Unofficial imports (estimated 800,000 MT annually) come in from Benin due to low rice import duties. Most of this transits from the Port of Cotonou in Benin by land to Niger and then enters Nigeria through the Maradi border crossing north of Abuja.

**REGULATORY MONITORING**
Ministry of Commerce is responsible for issuing import permits. It also grants the import duty waiver of up to 30% based on audits of a company’s domestic milling capacity.

Despite these official controls, government does not do an effective job of controlling rice imports in line with official policy objectives to encourage domestic production. Importers make the needed arrangements to exceed the quotas in their import permits. Much rice in cross-border trade is not reported.

Enforcement of fortification falls under the regulatory control of the National Agency for Food and Drug Administration and Control (NAFDAC)\textsuperscript{26}.

**RICE FORTIFICATION – SWOT ANALYSIS**

**Strengths**
- Rice is a staple food for both the urban and rural populations – estimated coverage is 90% in urban areas and 84% in rural populations.
- Multiple cereal grains (wheat, maize, rice, sorghum, and millet) and root vegetables are competing important sources of carbohydrates in the Nigerian diet. Average overall availability is 77 g/c/d for rice, on par with maize, sorghum, and millet. Wheat and maize flour, sugar, and cooking oil already have mandatory fortification legislation. Rice fortification would improve the existing national fortification program’s population reach.

• Only four or five companies account for 80 to 90% of direct rice imports, amounting to 1.5 MMT per year.
• Over 50% of rice imports originate from three major exporters in Thailand who are likely capable of rice fortification.
• Government has significant control over rice importers through granting of import permits and allocation of hard currency for naira.
• The same companies that control imports account for a large share of domestic commercial milling.

Weaknesses
• About 1/3 of imported rice, or 1/4 of total rice consumption, enters Nigeria though illegal and semi-legal cross border trade with Niger and Benin, involving hundreds of small traders.
• Conservatively, only about ~12% of domestic produced paddy is processed at large integrated mills.
  o The remainder, approximately 88% (estimated 2.3 MMT) of locally grown rice is not milled industrially; consumers of small-milled or hand-pounded rice would not be covered by fortified industrially milled rice.

Opportunities
• Government could make fortification of imported and industrially milled local rice a condition of granting rice import licenses and allocation of hard currency.
• The limited number of supplier companies and numbers of bulk vessels facilitates control of fortification of imported rice.
• Industry structure and fortification feasibility by Indian exporting companies requires confirmation.

Threats
• Current porous borders with Benin and Niger indicate poor regulatory enforcement of rice imports.
• Non-fortified milled rice brought in through cross-border trade with Benin and Nigeria would have a significant price advantage (up to $20 per MT by not fortifying) over officially imported fortified rice, which would further stimulate illegal trade.
Appendix 1. RICE INDUSTRY CONTACTS

**Company**
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IRS Mills, Kano state
Umza Mills, Kano state
Ashi Mills, Benue
Mikap Mills, Benue
Ebonyi State Mills
Imota Intergrated Mills, Lagos
Quarra Mills, Kwara state
Attajiri Rill Milla, Sokoto state
Integrated Grain Rice Mills, Eke, Enugu state
Adani Mills, Eke, Enugu state
Atahi Rice Mill, Jigawa state
Dominion Rice Mills and Farms, Taraba
Al-Uma Mills, Taraba
Omor Mill in Anambra
Kare Hi-tect Milla, Zamfara
Abakiliki Mill, Ebonyi
Badaggi Mill, Niger state
Golden Penney Rice Mill, Lagos