

Availability of Urea for Blending of NPK - a matter of National Security.


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INTRODUCTION

Nigeria's food production is constrained by the unavailability of urea, a nutrient the country produces in excess and needs most (nitrogen deficiency is the most severe in the soils). A scarcity of urea prevents the farmer from accessing other nutrients (other nutrients need to be blended with urea) and limits the capacity utilization of the blending plants in the country. The unavailability of urea restrains the growth of agriculture and curbs Nigeria's diversification efforts.

This document explains the cause of urea's local unavailability. It also highlights the impact of this unavailability on the Nigerian economy and recommends some policy actions to improve fertilizer availability to Nigerian farmers.

BACKGROUND

Successive governments have declared agriculture as essential to Nigeria's development.

Income diversification is essential to the government, and agriculture—a combination of crop and livestock production enabled by agroecological quality and available arable land—has been recognized as having the potential to reduce the government's dependence on oil and gas.

Competitive agricultural productivity, and consequently production, will provide a combination of favourable macro-economic outcomes for the country:

- Food security
- Reduction or elimination of the food import burden
- Control of food inflation



It is also generally accepted that increased production beyond the food demand of a number of staples—cassava, maize, rice, yam, and sorghum—will provide the opportunity for processing, which could be the foundation of the country's industrial growth.

Given that agriculture employs about 35% of the population, mostly in the country's rural areas, the valorization of agriculture directly improves the rural GDP, develops the skills of the rural population, and reduces rural-urban migration. The potential socio-economic gains from the country's agricultural performance have made the sector a strategic sector with successive governments since the early 1980s.

It is accepted that fertilizers have been a key driver of agricultural productivity growth around the world and can, therefore, be used as a tool for agricultural modernisation. Given that fertilizers are also the most expensive farm inputs, successive Government administrations have consistently prioritized making them available, accessible, and affordable. The triple objective of making

fertilizers available, accessible, and affordable has driven government fertilizer programmes over the last 40 years.

Historical Government Activities & Events

Government has a deep belief in its role as interventionist and has developed a culture of controlling the fertiliser supply chain

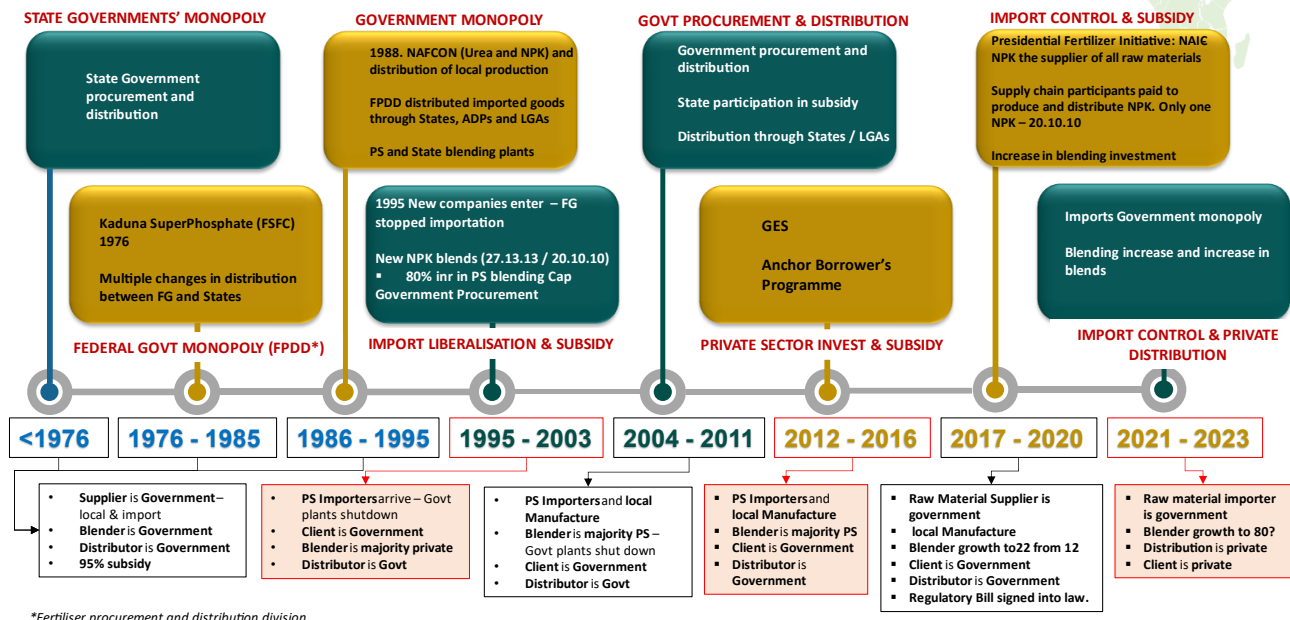


Figure 1: Fertilizer procurement and distribution division

Initially, governments (state and federal) controlled the fertilizer supply chain, from import to last-mile distribution to farmers; the government also invested in fertilizer production to take advantage of natural resources that existed in the country – primarily natural gas. To solve the availability problem, the policy thrust was government procurement and distribution; to improve accessibility, governments used public marketing corporations and Agricultural Development Programme (ADP) extension services; price subsidies have been used to try to resolve the affordability problem.

The government's first notable policy shift was in 2011 with the Growth Enhancement Support Scheme (GESS), which, while driven by the same traditional objectives, reduced the government's direct participation in the distribution chain (procurement and distribution) and attempted to direct the subsidies to targeted farmers to reduce the subsidy leakage to unintended beneficiaries.

The Presidential Fertilizer Initiative is the core of the current distribution structure.

The Presidential Fertilizer Initiative (PFI), launched in December 2017, is potentially a **game-changing** policy intervention that sought to achieve the same historical objectives through the private sector without the use of Government procurement and distribution, and without price subsidies. The PFI was designed to:

1. Increase fertilizer consumption by getting fertilizers to farmers at a more affordable price without a subsidy, thereby reducing Government expense;
2. Import only raw materials rather than compounds to reduce the demand for forex and improve the balance of trade;
3. Resuscitate the local blending industry, create jobs, and provide more adequate and, therefore, productive blends than the generics currently available on the market.

The PFI was triggered by an agreement between the King of Morocco and the President of Nigeria to supply 1 Million Metric Tons of Diammonium Phosphate also called DAP (Phosphate) to Nigeria at a concessional price. Morocco was keen to partner with Nigeria on its journey towards agricultural modernisation. Subsequently, the PFI Committee and the NAIC-NPK (managers of the PFI) negotiated with local urea producers for concessional pricing and, thereafter, received sovereign discounts from the Government of Russia for the Muriate of Potash (Potash).

With NAIC-NPK, Foreign Exchange (FX) demand was reduced (raw materials instead of finished goods and at concessional pricing) and better controlled. NAIC-NPK was also able to obtain favourable credit terms that were extended to the blenders, thereby reducing the sector's overall liquidity demand.

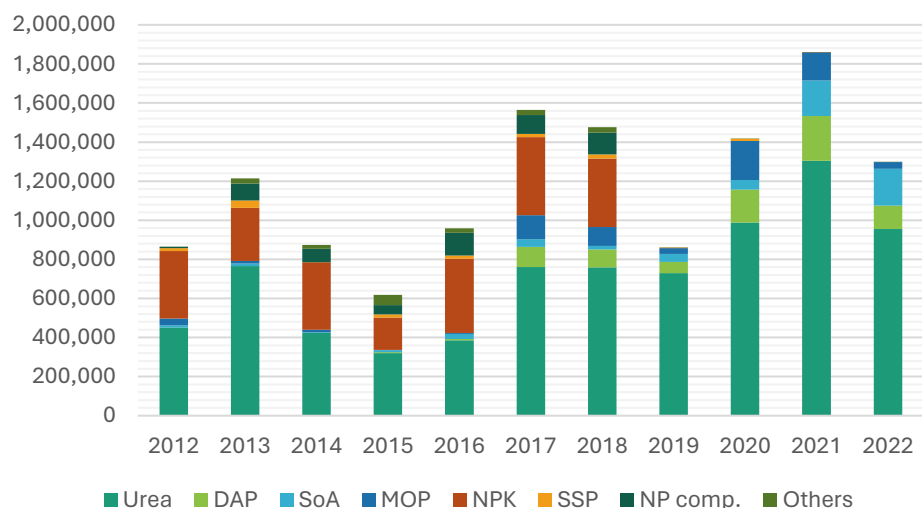
Problem Statement

The low fertilizer uptake in Nigeria presents a significant challenge despite the country's substantial Urea production capacity and the blending capacity of NPK. Key questions arise:

1. Why is fertilizer uptake in Nigeria substantially low despite ample Urea production capacity and NPK blending capabilities?
2. Why is the domestic price of Urea linked to export parity, considering that the Federal Government (FG) sells 95% of the raw materials (feedstock) for Urea production to manufacturers at concessional rates?
3. What factors contribute to Urea manufacturers not prioritizing sales within the domestic Nigerian market?
4. Why is there a declining trend in the quantity of NPK blended and sold, even though Nigeria locally produces and sources 63% of the required raw materials?

These questions underscore the need for a comprehensive understanding of the factors influencing fertilizer utilization and market dynamics in Nigeria, paving the way for effective strategies to enhance domestic fertilizer uptake and agricultural productivity.

Apparent Fertilizer Consumption in Nigeria (MT)



The initial results, at a high level, appear satisfactory.

The overall results of the PFI have been impressive. Fertilizer consumption increased more than 75%, from a pre-PFI average of circa 830K to a PFI average of 1,400K, driven by the country's increase in production capacity—3 trains of 4.4M MT—since the beginning of the PFI. The blending capacity grew from 11 plants pre-PFI to 80 plants in 2023.

Supply of raw materials, urea in particular, has hampered blending.

The consumption growth of the sector has trailed its potential significantly. The consumption of NPK blends, the principal reason for establishing the PFI, has not grown despite the new investments in the local blending industry, even after correcting for the effect of the Russian–Ukraine war.

The utilisation of the blending capacity of the country has been, on average, very poor (< 15%). Yearly reviews of the sector by the Fertilizer Technical Working Group (FTWG¹) have shown a consistent shortage of the supply of Urea – a critical raw material for blending NPKs. In the last 4 years, Urea has been the principal cause of the scarcity.

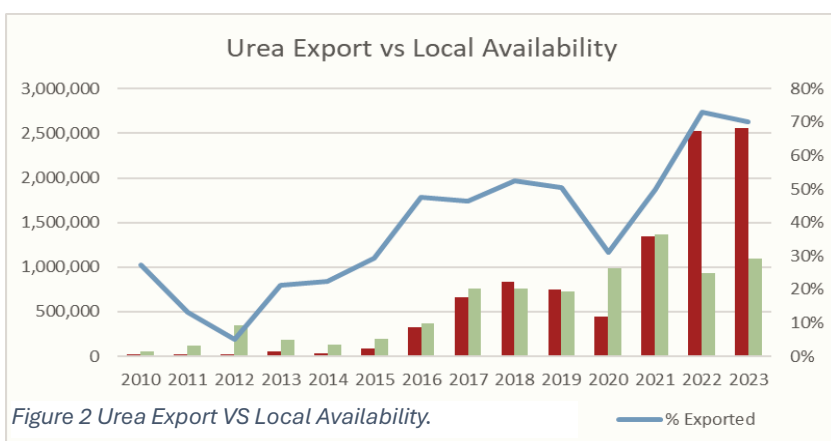
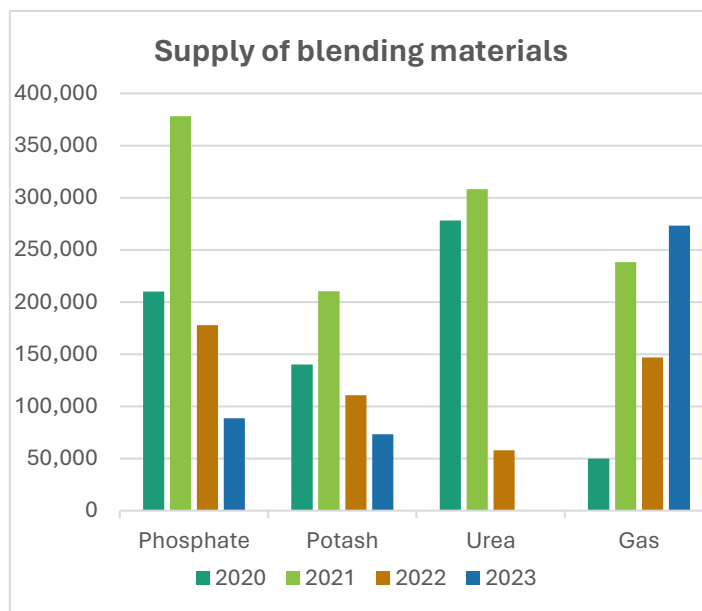
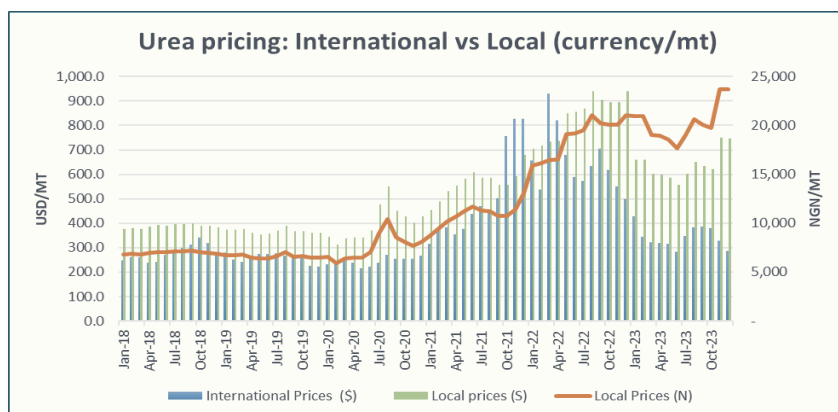


Figure 2 Urea Export VS Local Availability.

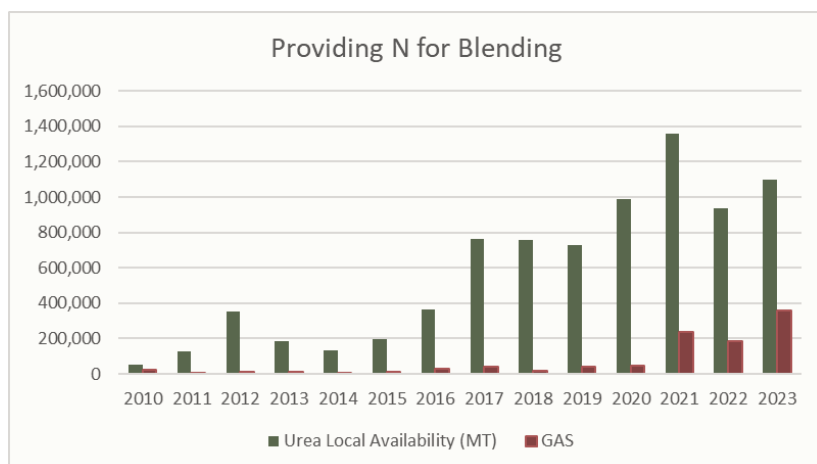


In addition to the scarcity, the producers do not appear to have made any concession for the local market. As shown in Figure 2, The price differential (between retail and international FOB prices) increased from an average of 39% in 2018 to 104% in 2022 in dollar terms. From a Naira situation, the retail prices have continued to increase even though international prices have been dipping.

A critical raw material scarcity creates a scarcity of NPK blends, leading to price inflation. Urea is produced daily, but consumption is seasonal. A willingness to make the product available would require, as is done with export, volumes consistently shipped to and stored within the high-consumption areas.

With the consistent shortage of market-priced urea supply and the pressure to provide blends to the market, PFI-NPK (formally known as NAIC-NPK) conceded to the importation of Granular Ammonium Sulphate (GAS).

¹ FTWG is a yearly workshop of a group of key stakeholders in the supply chain from both the public (Civil and development) service and the private sector, to establish the apparent consumption of fertilizers.



On the major crops of the country, there is a significant Nitrogen gap which is having an impact on the yield of the country. On average, maize uses only about 14% of the recommended nitrogen, cassava 7% and rice – 29%. Consequently, the yield potential of crops is depressed due to the lack of adequate urea.

The current situation with the fertilizer supply chain could, therefore, be summarized as:

1. Urea produced in the country, significantly more than the country's demand, is unavailable, thereby creating a constraint to the sector's growth.
2. A substitute for Nitrogen (N) from urea, ammonium sulphate, is being imported, increasing forex demand on available nutrient, with the additional risk of introducing higher sulphur than required in our soils, leading to higher acidity.
3. Nigeria obtains concessionary pricing and availability from sovereigns outside the country but cannot derive concessions for the urea made in the country.

| | <i>Yields (MT per ha)</i> | <i>African Yield potential (MT per ha)</i> | <i>N Application (kg/ha)</i> | <i>N RAR (kg/ha)</i> | |
|------------------|---------------------------|--|------------------------------|----------------------|-----|
| Rice | 1.95 | 11.35 | 20.51 | 60-80 | 29% |
| Cassava | 6.65 | 33.68 | 4.34 | 55-70 | 7% |
| Cowpea | 0.78 | 3.63 | 2.85 | 30 | 10% |
| Sorghum | 1.18 | 4.94 | 18.45 | 64 | 29% |
| Maize | 2.25 | 8.94 | 15.16 | 100-120 | 14% |
| Soybean | 0.93 | 3.07 | 2.04 | 15 | 14% |
| Groundnut | 1.10 | 3.37 | 2.27 | 54 | 4% |
| Millet | 0.95 | 2.53 | 18.07 | 60 | 30% |
| Yams | 8.07 | 18.20 | 4.94 | 45-90 | 8% |
| Tomato | 4.23 | 94.50 | 11.9 | 125 | 10% |

Table 1 Nitrogen(N) Application Gap and resulting Yield Gap (N RAR >)

Policy Recommendations

The following recommendations are made after having reviewed countries with fertilizer export capacities, and with an emphasis on agriculture like Nigeria's (Egypt, Algeria and Morocco are examples). A combination of three policy actions would be necessary to make urea available to farmers.

1. Local supply volume guarantees

The Nigerian Government should insist that urea producers fulfil a yearly supply quota to the Nigerian market that assures availability for market growth throughout the year. A Committee made up of PFI-NPK, FEPSAN, NAIDA, and AFO should come up with the yearly quota based on their estimation of the demand. Throughout the year, urea producers must be able to demonstrate sufficient effort to prioritize local supply.

2. Negotiating a price for the local market.

Rather than allowing the local producers to index their prices on international prices, the Nigerian Government to negotiate with Urea Producers a price of locally supplied Urea that reflects the concessions (gas and other fiscal concessions) made to the producers, the food security ambition of Nigeria, and a margin that is adequate for the producers.

3. Implement an Export Tax Regime.

Set and implement a penalising export tax regime on urea export for producers who haven't met the yearly urea quota for the Nigerian Market.

These three policies, if properly executed, should ensure availability of Urea in the country.
