The Nigeria Fertilizer Value Chain:
- Impediments and Recommendations

A needs assessment carried out on the fertiliser sector in Nigeria and presented to Key Stakeholders in the Public Sector

November 23rd, 2016
Workshop Outline

I. Agriculture and the Nigeria Fertilizer Market

II. Nigeria’s Fertilizer Value Chain Analysis

III. Value Chain Impediments

IV. Strategy and Recommendations
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Global Fertilizer Overview

Global Overview

- The Global fertilizer industry forecast to have a capacity surplus for the next 5 years\(^1\) (2016-2020)
  - Urea - 9% surplus (16-19Mt urea/year) —Issues with gas supply
  - Potash - 12% surplus (6 to 8MT K\(_2\)O/year by 2020)
  - Processed Phosphates - 5 MT capacity increase by 2020—difficult to estimate surplus

Market Focus

- Traditional markets are mature—
  - little growth left (North America, Asia, China, Europe, Latin America, India)
  - Manufacturers with strategic advantage to Africa are looking to invest.
  - Manufacturers are finding competitive options that add value in order to maximize market share—Toyota, OCP, Nigerian Nitrogen producers
  - Manufacturers are looking for export opportunities.

\(^{1}\) IFA. Fertilizer and Raw Materials Global Supply 2016-2020

World Fertilizer Prices: 2005 - 2016

Source: AfricaFertilizers.org
Proposed Fertilizer Developments in Africa: 2016 – 2020

Only new investments completed or planned post-2010 shown

- **Algeria**
  - Increase of 10 MMT of granulation capacity between 2013 and 2020

- **Morocco**
  - 2.3 MT on line late 2015
  - 3.6 MT total capacity

- **Senegal**
  - Indorama: 0.8M MT and 1.5M MT, P (2016)
  - Notore: 0.5M MT plant, E (2017)
  - Dangote: 2.8M MT plant, N (2017)
  - Indorama: 1.4M MT plant, N (2016)

- **Nigeria**
  - 3.6 MT total capacity
  - 1.8 million tons to 7.1 million tons by 2020

- **Gabon**
  - Gabon Govt/Olam: 1.4M MT urea: Decision pending end 2016
  - Elemental Minerals: 2.0MT potash 2018

- **South Africa**
  - 0.6MT SOP-2016

- **Tanzania**
  - Danokil Potash

- **Egypt**
  - Urea production to increase by 1.8 million tons to 7.1 million tons by 2020

- **Tunisia**
  - Yara development decision pending on 0.6MT SOP-2016

- **Republic of Congo**
  - Ferrostaal / Topsoe / Fauji: 1.3M MT N plant (2021)

**SOURCE:** IFA, own searches
Focus on Nigeria: Fertilizer Market Changes

30 MILLION
Nigeria flares the equivalent of 30 Mill Tons of urea annually. New Ammonia/urea plants in Nigeria with “low” gas prices

4.6 MILLION
Nigeria will have domestic manufacturing capacity of 4.6 mill tons of urea by the end of 2017

CAPACITY
All three manufacturers have considered options for either increased urea capacity, ammonium phosphate or NPK manufacture.

DEMAND
Committed domestic manufacture will greatly exceed the current domestic demand
Focus on Nigeria: Investments & Yields

**YIELDS**

Nigeria’s Yield Per Hectare has not kept up with global increases

**INVESTMENTS**

Nigeria’s Fertilizer Investments (Procurement and Subsidy) have had no correlation with changes in yield

**YIELD SOURCE:** World Bank

**INVESTMENTS**

**INFLATION SOURCE:** IMF

**SUBSIDY SOURCE:** IFDC
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

**STATE GOVERNMENTS’ MONOPOLY**

State Government procurement and distribution

- **Kaduna SuperPhosphate (FSFC)**
- Multiple changes in distribution between FG and States

**FEDERAL GOVT MONOPOLY (FPDD*)**

NAFCON (Urea and NPK) and distribution of local production

FPDD distributed imported goods through States, ADPs and LGAs

State blending plants

**GOVERNMENT MONOPOLY**

New companies enter

- New NPK blends (27.13.13 / 20.10.10)
- Government Procurement

**GOVT PROCUREMENT & DISTRIBUTION**

- Government procurement and distribution
- State participation in subsidy
- Distribution through States / LGAs

**IMPORT LIBERALISATION & SUBSIDY**

- **GES** Anchor Borrower’s Programme

**PRIVATE SECTOR INVEST & SUBSIDY**

- **PS Importers and local Manufacture**
- **Blender is majority PS** – Govt plants shut down
- **Client is Government**
- **Distributor is Govt**

- **PS Importers and local Manufacture**
- **Blender is Government**
- **Client is Government**
- **Distributor is Government**

*Fertiliser procurement and distribution division*
The Nigerian government has expressed the intention of restructuring the economy using agriculture as the motor.

- **Focus on fighting corruption**
- **Trade deficit from importation of manufactured goods and food**
- **The Green Alternative to crowd in private-sector investments**
- **Limited Forex availability**
- **Fertilizer market dominated by government**
- **Fertilizer market declined by 200,000 MT in 2016**
- **Intervention fluctuates dependent on budget allocation**
- **CBN Anchor Borrower’s program driving fertilizer distribution**

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1 Federal Ministry of Agriculture and Rural Development
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Fertilizer Value Chain Actors

MANUFACTURING  IMPORTING  BLENDING  DISTRIBUTION  RETAILING  FARMING
Comparison of Distribution Networks in Sub-Saharan Africa

The strength & sustainability of distribution networks varies across SSA with Nigeria at the low end, largely driven by the enabling environment.

### State of Supply Chain Networks Across Sub-Saharan Africa

<table>
<thead>
<tr>
<th>Key Factor</th>
<th>Burkina Faso</th>
<th>Ghana</th>
<th>Kenya</th>
<th>Malawi</th>
<th>Mali</th>
<th>Mozambique</th>
<th>Nigeria</th>
<th>Tanzania</th>
<th>Uganda</th>
<th>Zambia</th>
</tr>
</thead>
<tbody>
<tr>
<td>SHF Demand for Inputs</td>
<td>Low</td>
<td>Low</td>
<td>High</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Role of Government</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Private Sector Presence</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
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<tr>
<td>Infrastructure</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Donor / NGO Interventions</td>
<td>Low</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
<td>Low</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Agro-Dealer Networks</td>
<td>Low</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>Low</td>
<td>HIGH</td>
<td>MEDIUM</td>
<td>MEDIUM</td>
</tr>
</tbody>
</table>

**Overall Rating**

- **Weak Networks**: Burkina Faso, Nigeria, Mali, Uganda
- **Established Networks**: Tanzania, Ghana, Kenya

**Impact on Strength of Networks**:
- Weak or Unfavorable
- Medium or Moderately Favorable
- Strong or Very Favorable
## Fertilizer Value Chain - Manufacturers

<table>
<thead>
<tr>
<th>Production</th>
<th>Finance and Sales</th>
<th>SCM and Programmes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Notore</strong> 500,000 MT/Yr</td>
<td>▪ Producing at about 50% of yearly capacity Exporting 30%+ of production (off season)</td>
<td>▪ Supplies Urea and Urea Super Granules. ▪ Sells product in small packs for retail markets.</td>
</tr>
<tr>
<td><strong>Indorama</strong> 1.4M MT/Yr</td>
<td>▪ Production currently about 98% of capacity – 3,850 MT/Day ▪ Exporting majority of production – off season</td>
<td>▪ Will rely on existing supply companies for immediate distribution (Springfield and Afcott).</td>
</tr>
<tr>
<td><strong>Dangote</strong> 2.8M MT/Yr</td>
<td>▪ Production to begin from middle of 2017</td>
<td>▪ Will rely on existing supply companies for immediate distribution (Springfield and Afcott).</td>
</tr>
</tbody>
</table>

### Investments by Notore, Indorama, and Dangote (circa $4.5B)
- the largest investments ever in the Nigerian agriculture sector
- Circa 85% of real value of Government’s investment from 1976 - 2014
Stakeholder Activity – Importer Blenders

Business metrics
- Largest blending site in country at import point.
- Large forex requirements to support food commodity imports and fertilizers.
- Strong Brand.

Programmes and Activities
- Programs to support import substitution
  - Outgrowers/accumulators
  - Fertilizer distribution for States
  - Seed development
  - Commercial farming

- Investment in 5 blending facilities and SSP production.
- No imports in 2016

- Continental Growth program
  - Manufacturing facilities
  - Blending
  - Supply options ex Morocco

- Created outgrower program in 7 states to offtake grains.
- Crop specific blends-working with government

Other Blenders
- 30 blending facilities in country- approx. 18 are functional.
- Increasing interest in refurbishing these, driven by supply/forex issues and interest in crop specific fertilizers

Forex issues restricting development.
- Strategy to get close to farmer and provide value services
- Soil Mapping of the maize belt-2016
- Development of crop specific fertilizers-for testing in 2017

- Need quality control measures implemented.
- Need understanding/review of competitive viability
CURRENT Private Sector investments are potential game changers:
- Current urea production outstrips demand and will generate circa 836,000 mt of urea export in 2017 (see chart)
- Investments will kick-start a marketing drive to stimulate and exploit latent demand
- Though returns from local sales are higher than from export, continued forex shortage will constrain repatriation and encourage export

![UREA SEASONALITY](chart.png)

## UREA INVESTMENT

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factory Gate Demand**</td>
<td>25,760</td>
<td>24,371</td>
<td>47,684</td>
<td>50,230</td>
<td>82,433</td>
<td>80,773</td>
<td>93,758</td>
<td>61,161</td>
<td>47,672</td>
<td>30,347</td>
<td>27,420</td>
<td>28,392</td>
</tr>
<tr>
<td>Cumulative Export</td>
<td>101,603</td>
<td>188,561</td>
<td>265,505</td>
<td>334,670</td>
<td>379,467</td>
<td>420,986</td>
<td>449,588</td>
<td>512,422</td>
<td>578,321</td>
<td>658,291</td>
<td>746,447</td>
<td>836,754</td>
</tr>
</tbody>
</table>

*For Indorama & Notore
**Assumption of 600,000mt of Urea demand per year
The Agro Retail Dealer

AVERAGE ANNUAL REVENUE
75% of agro-dealers earn less than $6,500 in annual revenues; almost 60% earn less than $3,000

- 26% < $650
- 19% $650 - $3,000
- 17% $3,000 - $6,500
- 38% > $6,500

PERCENTAGE OF AGRO-DEALERS STOCKING AGRO-PRODUCTS
The CPP distribution chain is the most mature

- 90% CPP
- 66% Fertilizer
- 57% Seed

~5,000 Agro-Dealers in Nigeria

WHOLESALE DISTRIBUTORS
Large distribution hubs, located in urban centers carrying most agro-inputs (also supplying DTC)

- ~10% of Agro-Dealers

RETAIL STOREFRONTS
Located in peri-urban areas, most are certified and registered to distribute agro-inputs

- ~50% of Agro-Dealers

TABLE-TOP DISTRIBUTORS
Last-mile distributors, largely uncertified or unregistered; located in semi-rural areas

- ~40% of Agro-Dealers

~900 subsidy-dependent dealers ~1,600 private-sector dealers

Sources: In-country interviews with stakeholders across the value chain; World Bank Open Data, Baseline Survey of Agro-dealers, 2011, USAID, IFDC, AGRA, Fertilizer Supplies Association of Nigeria; BMGF Study DIIVA (Diffusion and Impact of Improved Varieties in Africa), July 2014
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Critical Impediments in the Nigeria Fertilizer Market

**POLICY**
- Government direct participation in the value chain
  - Inconsistent subsidy interventions
- Absence of quality regulation
- Lack of technical advice to policy makers
- Dearth of market data

**TECHNICAL**
- Immature distribution channels
- Lack of technical advice to policy makers and value chain participants.
- Supply of generic fertilisers

**FINANCE**
- Lack of trusted relationships to support trade credit
- Lack of working capital and value chain finance to purchase stocks

**Current Impediments**
- NSA restriction on urea movement
- Restrictions on urea importation
- Import reduction due to lack of forex

**Structural Impediments**
Critical Impediments in the Nigeria Fertilizer Market

- Supply Chain Financing
- Government Supply
- Immature Distribution Channels
- Quality Regs
- Forex Policy
- Data Analytics
- Fertilizer movement
Government Participation in Fertilizer Value Chain

- Government fertilizer budget fluctuates from year to year and spending does not correlate with the budget. Late approval process also impacts private sector supplies.

- Government has been a competitor to the private sector in fertilizer which has inhibited investments in the supply chain.

- Government interventions have been fraught with corruption* and have led to an increase in costs – direct and social (low demand, reduced yields and income).

*Adamawa state study by the Country Policy Centre in 2011 showed only 11% of intended beneficiaries got subsidies.
Policy Impediments and their Effects: Structural

Inconsistent Budget Interventions
- Prevents distribution channel investment impacting reach, availability and value addition at the farm level.
- Inability of farmers to get product in time or at all for optimum crop growth.

Direct Intervention by Govt. in Distribution
- Prevents distribution channel investment impacting reach, availability and value addition at the farm level.
- Significant leakage of product and/or implementation funding leading to low product distribution to farmers

Quality / Regulation
- Limits farm productivity
- Affects the farmers’ confidence of products in the marketplace;
- Impacts on investor entry into the market

Knowledge and Data
- Restricts policy development and decision making
- Limits policy implementation
Policy Impediments and their Effects: Current

NPK & Import Substitution

• Limits the amount of product available and increases the cost of NPK to the farmer.

NSA & Fertilizer Restrictions

• Impacts on urea supply as both straight and blended ingredient.

• Leads to delays in supply at critical time.
Government policies have

- Made Government, and not the farmer, the customer
- Limited development of the supply chain – weak linkages; no credit;
- Poor quality products supplied
- Created a supply gap
- Crowded out the Private Sector

Many of the Financial and Technical Impediments are highly correlated and linked to policy impediments
# Technical Impediments and their Effects

<table>
<thead>
<tr>
<th>Weak Market Competition</th>
<th>Weak Supply Chain Linkages</th>
<th>Poor Market Data</th>
<th>Limited Business Knowledge</th>
</tr>
</thead>
</table>
| • Poor market differentiation;  
  • investment in research  
  • new product development;  
  • Low expertise down the value chain.  
  • weak decision making  
  • Sub optimum blending options.  
  • Absence of crop specific blends  
  • Poor relationship between distributor to retailer and retailer to farmer.  
  • Impacts on investment in channel, leading to supply constraints, poor knowledge transfer and sub optimal ROI to farmers  
  • Difficulty in getting decision making data  
  • fertilizer distribution  
  • fertilizer response  
  • fertilizer use patterns  
  • value chain costings.  
  • Blending and granulation expertise impacting on:  
  • quality and price.  
  • feasibility assumptions  
  • development of viable business entities |
Financing is needed at all levels

In Nigeria there have been numerous efforts to get banks to lend into the agricultural sector. It has not happened to date.

Working Capital (inventory) finance is the highest priority need.

Fixed Capital (equipment and facilities) financing is also lacking at some levels, but without a solution to the working capital scarcity, capital investments cannot be optimally utilized. Thus, our first-order focus is on working capital.

Working capital finance for the distribution chain (importer to local ag-dealer) has vastly different characteristics than farmer-level working capital.

* CBN Statistical Bulletin 2015
Finance Impediments and their Effects

**Structural Impediments**
- Uncertain policy regarding supply – tariffs, restrictions & interventions
  - Reduced and/or delays investment in stocking, building marketing channels and plant & equipment at all levels, including the farmer.
- Lack of working capital to purchase stocks within the distribution chain
  - No ability to build stocks for peak season
  - Supplies arriving after optimal time for usage/application
  - Pressure on downstream chain to make prepayments, thus allocating supply to where there is cash versus where the highest agronomic benefits exist
- Lack of working capital to purchase stocks by farmer
  - Poor utilization of fertilizer leading to lower yields and income
  - Use of available cash to buy cheaper products in market where content quality, adulteration and short-weights become issues, thus impacting yields/income

**Current Impediments**
- Uncertain CBN policy on forex & depreciation
  - Increased financial risks thus inhibiting investments (requiring larger “hurdle rate”) and thus reducing supply.
- Differential in foreign exchange rates & depreciation
  - Lack of access to USD to reduces stock supply.
  - Lack of access to USD to repatriate profits reduces incentive to operate for foreign firms
  - Effective “tax” on outbound forex transactions raise effective costs for plant, equipment and inventories
Impediments in Designing Finance Programs

01
High levels of government intervention have inhibited private sector financing.

02
Historically, financing structures have not been designed in a “holistic” manner (i.e. work together with technical and policy solutions).

Note: These are the most difficult to design, implement, manage and scale-up.

03
Bank financing has shown not to be a dependable source of funding for the majority of distribution chain participants.

04
The real/core problems often are not identified and vary at each level of the distribution chain and within each level.

05
Proper targeting of finance programs has not occurred. Thus, shortcomings in supply availability are often sidelined due to the focus on smallholder farmer credit.
Relationships in the Fertilizer Value Chain

- Manufacturers
- Importers
- Blenders
- Wholesalers
- Hub
- Distributors
- Retailers
- Farmers
Relationships in the Fertilizer Value Chain

- Manufacturers
- Importers
- Blenders
- Wholesalers
- Hub
- Distributors
- Retailers
- Farmers
Moving Forward

Historically **Government** has intervened in the fertilizer value chain to ensure food security;

**Private Sector** is making historical investments to drive fertilizer supply in-country;

Impediments as highlighted need to focus on the market changes to leverage private sector investments to build efficient markets for improved fertilizer supply to Nigeria’s smallholder farmers.
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Historically, fertilizer support (subsidy, procurement, and/or distribution) has been the FMARD’s largest line item.

The Current Administration’s Green Alternative Agriculture Promotion Policy clearly articulates the need to focus policy instruments on a government enabled, private sector led engagement.

In regards to fertilizer policy there is a need for:

Rechanneling subsidy programmes to ensure accountability, monitoring, and evaluation.

The Green Alternative
The Agriculture Promotion Policy 2016-2020
Government Recommendation I

Creation of an Input Regulatory System

- Development of a regulatory strategy
- Creation of an execution structure
- Funding of the regulatory system

**Principles**

- ECOWAS Fertilizer Bill in final stages of implementation
- FMARD developed a fertilizer regulatory road map in 2004 which called for an autonomous agency that would assess and collect fines for violations and tonnage and registration fees.
- Current Fertilizer Bill in Senate addresses broad need for quality assurance in the value chain.
- Greater detail required to restructure FISS into a regulatory body.

**Strategy**

- Design a regulatory system to address the issues of quality assurance and truth-in-labeling for the input sector.
- Examine in more detail the options for:
  - A regulatory system for fertilizer versus an input regulatory system for seed, fertilizer, and CPPs;
  - Sources of funding such as tonnage fees and registration to support agency operations.
Government Recommendation 2

Investment on Data Collection for Fertilizer

- Identification of data needed in regards to the fertilizer sector
- Identification of key partner institutions to collect and analyze data
- Funding of data collection services.

<table>
<thead>
<tr>
<th>Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Current figures on fertilizer production, distribution, sales, farmer use and response is of poor quality.</td>
</tr>
<tr>
<td>• National Bureau of Statistics gathers key data on the Nigerian markets as well as reporting on critical sectors of the economy.</td>
</tr>
<tr>
<td>• FAOSTAT and the World Bank’s EBA and LSMS are examples of initial data that can serve as the foundation for strengthening national data needs.</td>
</tr>
<tr>
<td>• Currently, <a href="http://www.africafertilizer.org">www.africafertilizer.org</a> supports FAO’s harmonization of data.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Identify critical data needs related to the fertilizer sector that can support proper analysis of farmer needs, and market intelligence that can support both public and private sector investments</td>
</tr>
<tr>
<td>• Examine in more detail the options for:</td>
</tr>
<tr>
<td>• Strengthening support to NBS on key data requirements</td>
</tr>
<tr>
<td>• Identify donor partners to co-invest</td>
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</tbody>
</table>
Government Recommendation 3

Increased Investment in National Soil Mapping

- Expansion of soil reference points and mapping tools are needed to provide crop specific recommendations
- Validation efforts and field research is required to validate
- Private-sector needs to be involved as equal actors in mapping efforts

<table>
<thead>
<tr>
<th>Principles</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• FMARD has a large inventory of Soil Doc equipment.</td>
<td>• Catalyze Private-sector interests to drive the soil mapping process.</td>
</tr>
<tr>
<td>• The Africa Soil Information Service is looking to support FMARD in further developing their national soil map.</td>
<td>• Identify regions of the country where soil mapping is a public good;</td>
</tr>
<tr>
<td>• New investors are planning to build fertilizer and soil testing laboratories as well as invest in supporting mapping efforts, estimated at several million dollars.</td>
<td>• Develop a joint roadmap with concrete timelines that harmonizes multiple investments (Soil Doc, AfSIS, and Private Sector)</td>
</tr>
<tr>
<td>• Currently, private sector investments and public sector interventions show potential to harmonize efforts.</td>
<td></td>
</tr>
</tbody>
</table>
Government Recommendation 4

Identify Appropriate Urea Movement Strategy

Urea delivery from factory to farmer fields needs a measured strategy to ensure reduced risk in IED utilization while at the same time ensuring additional supply gaps and costs are not carried over to the smallholder farmer.

**Principles**

- Nigeria is the only country in the world where Urea is controlled due to perceived IED risks.
- The National Security Agency requires urea producers to submit a monthly registry on product movements in advance of delivery.
- FAO’s FAOSTAT and the World Bank’s Enabling the Business of Agriculture are examples of initial data that can serve as the foundation for strengthening national data needs.
- In 2016, fertilizer supply was greatly reduced due to abrupt requirements on fertilizer supply.

**Strategy**

- Identify critical data needs related to the fertilizer sector that can support proper analysis of farmer needs, and market intelligence that can support both public and private sector investments.
- Examine in more detail the options for:
  - Strengthening support to NBS on key data requirements;
  - Identify donor partners to co-invest
## Technical Recommendation 1

### Technical Analysis and Feasibility Study on NPK Blending Plants

- To support policy decisions relating to blending/granulation.
- Ensure quality outcomes and sustainability of capital projects.
- Provide technical support to value chain participants to ensure quality process, product optimization, and best technologies for market adoption.
- Build domestic capacity in these technologies.

### Principles

- Significant investments in large scale blending and DAP Investments are expected in the next 2 to 4 years.
- There are over 30 existing blending plants in Nigeria with 18 listed as operational.
- Current government policy is aimed at import substitution and where feasible domestic production.
- There is growing interest by government and private sector in the development of crop-specific blends.

### Strategy

- Undertake a detailed assessment of the status of the existing blending plants in the country to understand current and potential capacities;
- Conduct an economic analysis of the competitiveness of existing blending operations along with new investments to identify ability to deliver efficiently in the current market conditions.
### Technical Recommendation 2

#### Development of the Distribution Channel

- Support scaling up of private sector channel development:
- Work with existing projects, output accumulators and input supply operatives to build sustainable distribution channels.
- Support government to ensure interventions (if any) are not competitive or excluding to private sector.

<table>
<thead>
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<th>Strategy</th>
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</thead>
</table>
| - Market linkages from distribution to the farmer are weak.  
- IFDC’s USAID Feed the Future Inputs Project and DfID’s PropCom Maikarfi Project are supporting distributor and input dealer capacity building.  
- Manufacturers (Notore, Indorama, Dangote) are planning to invest in supply channels that will create opportunities to accelerate a more dynamic marketplace for the smallholder farmer. | - Based on Government commitment on the withdrawal of interventions that compete with the private-sector the following should be promoted:  
  - Embed extension support with private sector participants to build knowledge down the supply chain;  
  - Identify donor partners to strengthen linkages from distributor — agro-dealer — farmer |

**Note:** Recommendation is viable if Government does not intervene in fertilizer supply
Technical Recommendation 3

Development of Crop and Soil Specific fertilizers

- Build on the geo-specific soil nutrient status maps to support the validation of specific crop nutritional needs against the nutrient status maps.
- Develop and fine tune fertilizer formulations to optimize plant growth and nutrient use.
- Support industry to efficiently market new products.

**Principles**
- 15-15-15 and 20-10-10 are the predominant NPK blends in the market and do not optimize nutrient needs by crop or location.
- Key private sector market participants are interested in building a competitive advantage by developing specific fertilizer formulas.
- Significant yield and ROI gains have been realized in multiple countries in SSA over the last 5 years by developing specialized blends with trace elements.

**Strategy**
- Work with existing partners (IFDC, IITA, NARS, National Fertilizer Technical Committee, AFSIS, Private sector, etc...) to develop a strategic framework

**Note:** Recommendation is viable if Government does not intervene in fertilizer supply
Finance Recommendation 1

Financing the Distribution Channel

- Trade Credit Guarantees
- Trade Credit Funding

Principles

- The Nigerian Government has developed a risk sharing mechanism for agriculture lending (NIRSAL).
- AFAP has supported trade credit guarantee mechanisms in multiple countries in Africa.
- The AfDB is in the process of implementing the African Fertilizer Financing Mechanism.
- Based on current private-sector investments, there is a need to further develop trade financing tools that support improved supply chain financing

Strategy

- Design programs that can address, independently or together, The issues of risk reduction and funding.
- Examine in more detail the options for delivery:
  - Existing entities
  - Sources of funding to support guarantee and lending activities
Finance Recommendation 2

Financing the Farmer

- Loan Pool Participations
- Off-Taker Guarantees
- Ag-Dealer Customer Credit

**Principles**
- Commercial banks typically do not provide farmer financing to individual smallholder farmers due to the cost of delivery.
- The Government has initiated numerous schemes to improve the availability of credit to the smallholder farmer with limited success.
- Rabobank was invited to analyze the Bank of Agriculture operations in 2012.
- This is the most difficult component in the value chain to provide financial support.

**Strategy**
- Design programs that can leverage and assist entities that have pre-existing relationships with the farmer and ensure appropriate technical expertise is provided. Examine in more detail:
  - The requirements and interest level of targeted entities
  - Existing entities that could potentially deliver the solutions
  - Sources of funding to support the required asset purchases and lending activities
## Finance: Programs to Consider

<table>
<thead>
<tr>
<th>Program</th>
<th>Target Recipients</th>
<th>Objective</th>
<th>Mechanism</th>
<th>Prioritization Reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trade Credit Guarantees</strong></td>
<td>Distribution Chain Entities</td>
<td>Increase product flow and availability</td>
<td>Reduce Credit Risk</td>
<td>• High Impact Potential</td>
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<td></td>
<td></td>
<td>• Easier Implementation vs. Funding</td>
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<tr>
<td><strong>Trade Credit Funding</strong></td>
<td>Distribution Chain Entities</td>
<td>Increase product flow and availability</td>
<td>Provide Inventory Financing</td>
<td>• High Impact Potential</td>
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<td></td>
<td>• Complementary to Guarantee Program</td>
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<tr>
<td><strong>Loan Pool Participations</strong></td>
<td>Farmers via MFIs</td>
<td>Increase fertilizer usage at the farmer level</td>
<td>Incent MFI Lending by:</td>
<td>• Farmer Credit Provided by Private Sector</td>
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<td>a) Increasing MFI Lending Capacity</td>
<td>• Breaks “New Ground” thus Higher Risk</td>
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<td>b) Increasing MFI Profitability</td>
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<tr>
<td><strong>Off-Taker Guarantees</strong></td>
<td>Farmers via Off-Takers</td>
<td>Increase fertilizer usage at the farmer level</td>
<td>Reduce Credit Risk to Off-Taker</td>
<td>• Reduces Market Distortions</td>
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<td>• Requires Fundamental Change to Existing GoN Approach</td>
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<td>(political process that would take time)</td>
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<tr>
<td><strong>Ag-Dealer Customer Credit</strong></td>
<td>Farmers via Local Agro-Dealers</td>
<td>Increase fertilizer usage at the farmer level</td>
<td>Provide Financing for Sales on Account</td>
<td>• High Impact Potential</td>
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<td></td>
<td>• Operationally Intensive</td>
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<td>• Higher Credit Risk</td>
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