Presidential Brief
Agricultural Transformation Agenda

We will grow Nigeria's agricultural sector

September 9th 2011

Presentation made by the Honorable Minister of Agriculture to the Economic Management Team

Agricultural Transformation Agenda
Directly building on Mr. President's Transformation Agenda

"Nigeria can no longer continue to be a sleeping giant; we have to wake up and if we wake up, we must begin to do things differently."

-His Excellency, President Goodluck E. Jonathan GCFR, President, Commander-in-Chief of the Armed Forces of the Federal Republic of Nigeria
Nigeria's lost glory in the world trade of groundnuts

Our former glory in the global trade of groundnut – Circa 1961

Share of world's shelled groundnut exports in 1961
Measures: % of world trade

- Our competitors maintained their dominance due to strong marketing organizations that linked the farmers to markets and hence were able to meet new strict sanitary and phytosanitary requirements, particularly for Aflatoxin, a serious food toxin.
- New technologies, AflaSafe, have been developed in Nigeria by IITA to enable Nigeria meet the new strict sanitary and phytosanitary requirements.

Nigeria's dominance was eclipsed by China, USA and Argentina

Nigeria's export volumes compared to global export volumes for shelled groundnut 1961 – 2008
Measure: Thousands of metric tons

Global market-share trend of shelled groundnut among key producers
Measure: Percent of global trade of shelled Groundnut

*FAO **Doreo Analysis, FAO
**Nigeria’s stagnation in the world trade of cocoa**

Our former glory in global trade of cocoa - Circa 1961

- While Nigeria’s production stagnated, the industry grew to over 2.7 Million MT.
- Our competitors maintained their dominance due to strong marketing organizations that linked the farmers to markets and provided support in the form of improved planting material, fertilizer, credit and rural infrastructure.
- Our stagnation has meant we have been unable to benefit fully from rapidly rising global prices.

**Nigeria’s lost glory in the world trade of palm oil**

Our former glory in global trade of palm oil - Circa 1961

- While Nigeria declined rapidly, the industry grew even faster to over 33 Million metric tons.
- Our competitors at the time - Indonesia and Malaysia, continued to invest in their agricultural sector, with a particular emphasis on R&D to develop higher yielding varieties and remain competitive.
- This investment translated into countries such as Malaysia today controlling 40% of the world trade of Palm products valued at over US$38 Billion.

*FAO * **Dorey Analysis, FAO*
Nigeria’s lost glory in the world trade of cotton

In 1961, Nigeria was the major West African cotton exporter. However, its position was eclipsed by Mali and Burkina Faso. Competitors maintained their position due to strong marketing organizations, that linked the farmers to markets and provided support in the form of improved planting materials and fertilizer and the ability to meet quality standards.

Nigeria lost a US$10 Billion (1.6 Trillion Naira) annual export opportunity from four agricultural commodities alone

Potential annual export revenues assuming Nigeria maintained its 1961 market share*

Measure: Millions of USD

<table>
<thead>
<tr>
<th>Current export revenue</th>
<th>Oil Palm</th>
<th>Cocoa</th>
<th>Groundnut</th>
<th>Cotton</th>
<th>Potential additional export revenues</th>
<th>Cotton Potential export revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>540</td>
<td>611</td>
<td>555</td>
<td>96</td>
<td>3,997</td>
<td></td>
</tr>
</tbody>
</table>

* Additional export revenues assuming 1961’s market share applied to 2008’s values for global trade of individual commodities.

** FAO, World Bank, Dabka Analysis, FAO
Nigeria's low agricultural productivity – Yield per hectare

Comparison of Nigeria's yields across all crops versus other leading agricultural countries

Key takeaways
- Yield per Hectare is the driver of agricultural competitiveness.
- Nigeria's yield per hectare is 20% of that obtained in similar developing countries.
- In 1961, Indonesia's yields were lower than that of Nigeria. In 20 years, Indonesia increased its yield 3 times.
- Nigeria has one of the lowest rates of agric inputs.
- Across the board, Nigeria ranks at the bottom on agric indices.
  - Mechanization intensity: 10 tractors per 100 Ha compared to Indonesia with 241 tractors per 100 Ha.
  - Irrigation: 0.8% of arable land irrigated compared to Thailand's 89%. 

Nigeria's low fertilizer utilization**
Measure: Kg per hectare

<table>
<thead>
<tr>
<th>Nigeria</th>
<th>World</th>
<th>Asia</th>
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<tbody>
<tr>
<td>13</td>
<td>100</td>
<td>150</td>
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</table>

Doreo's Analysis, FAO

**IFDC

Nigeria's low utilization of improved seeds**
Measure: Percent of farmers

<table>
<thead>
<tr>
<th>Nigeria</th>
<th>East Africa</th>
<th>Asia</th>
</tr>
</thead>
<tbody>
<tr>
<td>5%</td>
<td>25%</td>
<td>60%</td>
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</tbody>
</table>

FAO 'IFDC
The role of government expenditure in agricultural growth – Asia versus Nigeria

Agricultural growth trends and government expenditure versus Asia

Key takeaways
- Malaysia, Thailand and China all experienced significant growth in agricultural production per capita.
- Conversely, Nigeria’s agricultural production per capita has stagnated and has been declining rapidly over the last decade.
- The driver of Asia’s growth was significant government investment.
- Asia invested up to 16% of their national budget in agriculture to lay the foundation for broader economic growth and industrialization.
- Nigeria’s investment in exceptionally low, averaging approximately 2% of government expenditure.
Nigeria Imports over 1 Trillion Naira in wheat, rice, sugar and fish every year

**Key takeaways**
- Nigeria’s food import bill is exceptionally high. The top four imports consume over 1 trillion naira in foreign exchange every year.
- Nigeria’s food imports are growing at an unsustainable rate of 11% per annum.
- Relying on the import of expensive food on global markets fuels domestic inflation.
- Nigeria is importing what it can produce in abundance.
- Import dependency is hurting Nigerian farmers, displacing local production and creating rising unemployment.
- Import dependency is not acceptable, nor sustainable fiscally, economically or politically.

**The days of importing cheap food are over.**

- Food exporters have demonstrated a willingness to ban exports to ensure their countries' food security e.g. Thailand, Russia, India, Vietnam etc.
- Export bans jeopardize Nigeria’s food security.
- Any shock in global markets will put Nigeria’s national security at risk e.g. North African riots.

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**Nigeria's top 4 food imports**

**Measure:** Annual food imports in billions of naira

| **World’s largest importer of US hard red and white winter Wheat** | **Wheat** | 636
| **World’s #2 Importer** | **Rice** | 356
| **Sugar** | 217
| **Fish** | 97

**CBN**

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**FAO world food price index**

**Demand drivers:** Signiﬁcant increase in demand

- Population growth; Cumulative growth in world population 1999 – 2019
- Measure: Millions of people

- Increase in standard of living: Per capita meat consumption in China (kg per person)

- Increased biofuel demand: % of US corn production used for biofuel

**Sources:**
- *Doreen’s Analysis, World Bank*  
- *FAO*** Earth Policy Institute
Nigeria's unemployment challenge

Nigeria's unemployment rate is spiraling upwards, growing at 11% per year. The youth of the nation are the most impacted, with a youth unemployment rate that is over 50%.

Nigeria's spiraling unemployment

Unemployment breakdown youth & region

Key takeaways

- Our unemployment rate is spiraling, driven by the wave of 4 Million young people entering the workforce every year with only a small fraction able to find formal employment.

- Agriculture has demonstrated an ability to solve this challenge, as can be seen by the fact that the breadbasket region i.e. "North Central", has the lowest unemployment rate in the country.

-His Excellency, President Goodluck E. Jonathan GCFR, President, Commander-in-Chief of the Armed Forces of the Federal Republic of Nigeria

* Nigeria's National Bureau of Statistics  
** Nigeria's Ministry of Education, World Bank
Agricultural transformation across the globe has led to dramatic reductions in poverty. Key takeaways:

- China, Vietnam, Brazil and Thailand have seen dramatic growth in their agricultural sectors over the last three decades.

- Over the same period they saw an even more dramatic decline in their level of poverty.

- Vietnam and China took 40% of their population out of poverty in 10 years, led by aggressive investment and growth of their agricultural sector.

- Investing in the agricultural sector also developed the rural communities that in turn significantly reduced rural-urban migration.

* Doreo’s Analysis, World Bank
Backward integrate into higher value added manufacturing
With growth in agro-processing industry, backward integrate into higher value added services and manufacturing of industrial equipment and products for the downstream industry.

Growth value added agro-processing sector
Leverage the foreign direct investment (FDI) and the economies of scale derived from an export-oriented large scale agricultural sector to provide inexpensive raw materials to stimulate investment in the agro-processing industry.

Export-oriented agricultural sector
- A rapid transition to an export-oriented agricultural economy diversifies the economy and increases foreign exchange reserves, stabilizing the exchange rate.
- This coupled with reduced inflation, drives macro-economic stability.
- Macro-economic stability will in turn significantly increase the level of foreign direct investment (FDI).

Import substitution agricultural development
Agricultural development with a focus on self-sufficiency via import substitution, lowers the cost of food, increases real wages and drives down inflation.

Team Analysis / DPEO Analysis

Thailand’s agricultural development enables it to have one of the lowest unemployment rates in the world at 1.2%

Leveraged agriculture to backward integrate into higher value-added manufacturing

<table>
<thead>
<tr>
<th>Year</th>
<th>Manufacturing</th>
<th>Agriculture</th>
</tr>
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<tbody>
<tr>
<td>1981</td>
<td>60</td>
<td>20</td>
</tr>
<tr>
<td>1990</td>
<td>50</td>
<td>10</td>
</tr>
<tr>
<td>2000</td>
<td>40</td>
<td>5</td>
</tr>
<tr>
<td>2010</td>
<td>30</td>
<td>2</td>
</tr>
</tbody>
</table>

Key takeaways
- Significant investment by the Thai government in the development of the agricultural sector catalyzes unprecedented growth in the manufacturing sector.
- This economic growth has enabled Thailand to have one of the lowest unemployment rates in the world today at 1.2%
Rapid Agricultural Transformation in Africa: Malawi

Malawi became self-sufficient in food production within one year by focusing on an agricultural transformation.

**Key drivers of success**

- In 2004, Malawi had its worst harvest in a decade.
- In 2005, the government implemented one of the most ambitious and successful assaults on hunger in African history.
- The transformation was led by the Malawian President.
- Launched a national input support program targeted at smallholder farmers.
- Maize production doubled in 2005 and tripled in 2006, enabling Malawi to export:
  - 400,000 metric tons to Zimbabwe
  - 10,000 metric tons of food aid

**Lessons for Nigeria**

1. Need for “Value chain co-ordinator”
   - Horticulture development authority (CDDA) tasked with setting and enforcing grading standards for the national production.

2. Infrastructure investments
   - Supported development of roads and increased flights to target export zones.

3. Private sector leadership
   - Key value chain participants took over controlling and executing growth agenda.
   - Sector controlled by private sector, with government interference except in regulation and certification.

4. Supportive fiscal policies
   - Lower duties on inputs, equipment etc.
   - Lower duties.

5. Market information systems available.

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Rapid Agricultural Transformation in Africa: Kenya

Private sector-driven marketing institutions drove Kenya to the #1 position in the global horticulture market.
Our Vision: We will grow Nigeria's agricultural sector

“Achieve a hunger-free Nigeria through an agricultural sector that drives income growth, accelerates achievement of food and nutritional security, generates employment and transforms Nigeria into a leading player in global food markets to grow wealth for millions of farmers.”

What we will start doing!

1. Execute an agricultural transformation agenda to support Mr. President’s Transformation Agenda
2. Focus on agriculture as a business
3. Utilize the transformation of the agricultural sector to create jobs, create wealth and ensure food security
4. Focus on value chains where Nigeria has comparative advantage
5. Develop strategic partnerships to stimulate investments to drive a market-led agricultural transformation
   - State and local governments
   - Inter-ministerial collaboration
   - Private sector
   - Farmer groups and civil society
6. Sharp focus on youth and women

What we will stop doing

1. End the era of treating agriculture as a development project
2. No more isolated projects without a strategic focus to drive agricultural growth and food security in a clear and measurable way.
3. No more big government crowding out the private sector
Transformation policies
Change the way we work in agriculture
- Fix fertilizer
- Fix marketing institutions
- Fix financial value chains
- Fix agricultural investment framework

Our fertilizer strategy
Stimulate a thriving private sector fertilizer industry, with government getting out of fertilizer procurement and distribution, supporting farmers through Growth Enhancement Support systems
Structure of Government distribution system versus private sector voucher distribution system

<table>
<thead>
<tr>
<th>Government Distributed</th>
<th>Private Sector Distributed</th>
<th>Key takeaways</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government distributed fertilizer support program</td>
<td>Private sector distributed fertilizer support system, utilizing Input Vouchers</td>
<td></td>
</tr>
<tr>
<td>Private Sector Fertilizer Supplier</td>
<td>Private sector sells fertilizer to farmers at market price &quot;minus&quot; the fertilizer voucher discount provided by government.</td>
<td></td>
</tr>
<tr>
<td>FG has manufacturer deliver to states per demand from state at 25% subsidy.</td>
<td>Government distribution system is inefficient and wastes government resources.</td>
<td></td>
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<tr>
<td>State &quot;distributes&quot; fertilizer to farmers occasionally adding their own subsidy.</td>
<td>Government distribution channels subsidize corruption.</td>
<td></td>
</tr>
<tr>
<td>Only 11% of fertilizer reaches the intended farmers.</td>
<td>This is a major issue and government must get out of fertilizer distribution.</td>
<td></td>
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</tbody>
</table>

Overview of the fertilizer voucher program
A proven efficient, effective and sustainable way to deliver government subsidies.

Taraba State's Experience: Government Distribution vs. Private Sector Voucher Program

<table>
<thead>
<tr>
<th>Reach of respective programs to intended beneficiaries</th>
<th>Key benefits of voucher system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure: % of farmers reached</td>
<td>Private Sector Voucher program reaches 8 times more farmers</td>
</tr>
<tr>
<td>Government</td>
<td>11%</td>
</tr>
<tr>
<td>Private Sector</td>
<td>94%</td>
</tr>
</tbody>
</table>

Private Sector Voucher program costs less than 50% to administer
- Due to cost sharing with private sector program costs less than 50% to run.
- In addition, in the voucher system farmers receive fertilizer 10% cheaper due to more efficient private sector distribution systems.

Private Sector Voucher program develops Agro-dealer networks
- As opposed to the Government Distribution system that crowds out the private sector, the voucher program encourages the development of a strong private sector.
Investment in increased production will be targeted for Twenty Million Farmers by 2020. Investment will generate 5X to 10X returns in increased production. Key takeaways:

- Phased approach with support to farmers reducing over 4 years.
- Estimated cost per year is 5,000 Naira (US$30)
- Expected benefit of program is up to 66,000 Naira per farmer (US$400)
- Total cost of program is approximately 40 Billion Naira (US$2.5 Billion)
- Total benefit of program is 4,800 Billion Naira (US$40 Billion) a 15 fold benefit versus cost.
- GES will leverage Mobile technology to achieve scale e.g. MPESA

Growth Enhancement Support Investment will be targeted at Twenty Million Farmers by 2020. Investment will generate 5X to 10X returns in increased production.
Development of Staple Crop Processing Zones (SCPZ)

Key takeaways

- Focus on attracting private sector agribusinesses to set up processing plants in zones of high food production, to process commodities into food products.
- The government will enable this by putting in place appropriate fiscal, investment and infrastructure policies for staple crop processing zones:
  - Tax breaks on import of agricultural processing equipment
  - Tax holidays for food processors that locate in these zones
  - Supportive infrastructure, especially complimentary investment by government in roads, logistics, storage facilities and power.

- Infrastructure would focus on power, irrigation, flood control, roads, rail, air etc.
- Staple Crop Processing Zones will link farmers in clusters to manufacturing plants.
- Develop Agricultural Investment Code, in partnership with Ministry of Finance and Ministry of Trade and Investment and CBN
- The location of Staple Crop Processing Zones will be dependent on a combination of State government support and an analysis of the comparative advantage of the region to produce the ideal commodity.
Support development of private sector driven, public sector enabled marketing corporations

Leading global examples of marketing corporations

Key drivers of success

- The scrapping of marketing boards during structural adjustment, without any institutions to replace them or play their functions, has left millions of farmers in a precarious situation: market access is a challenge, price uncertainties and volatility which leave them at the mercy of middle men.

- No developed country has such institutional abandonment of farmers. We will revamp the functions performed by the marketing boards, but be careful to ensure that we do not build non-viable or over-bureaucratic institutions that tax farmers like the old marketing boards:

  - They must be owned by agricultural value chains, run as private sector led (but government enabled) institutions and empower farmers and the value chain actors and generate value.

  - These new institutions will be called marketing corporations and will coordinate the production and/or export of target commodities. In addition, they will encourage investment into the sector from R&D to infrastructure and processing. Finally, they will stimulate the development of tailored financial services to grow the sector.
To revolutionize Nigeria’s agriculture, NIRSAL integrates agricultural value chains with agricultural financing.

Ministry of Agriculture and Rural Development

- Input producers
- Farmers
- Agro-dealers
- Agro-processors
- Industrial manufacturers
- Trade and exports

Agricultural value chain

Central Bank of Nigeria

- Loan product
- Distribution
- Loan origination
- Credit assessment
- Managing and pricing for risk
- Loan disbursement

Agricultural financing value chain

Infrastructure
Credit bureau
Policies
Extension services
Price guarantee boards

1 Includes working capital loans, fixed asset finance, trade finance.
How we will work with the state...

Engagement with the State Governments

- Develop investment framework with states
- Incentivize states to invest in agricultural development with co-investments from federal government.
- Partnership will be operated under four key principles:
  1. **Subsidiarity**: Working from the State level up
  2. **Partnership**: Working with states, private sector and civil society.
  3. **Investment**: Utilize investment methodology and framework.
  4. **Accountability**: There will be full transparency and accountability within the system.
Target commodity value chains by geopolitical zones

**North East**
- Cotton, Onion, Tomato and Sorghum
- + Rice & Cassava
- + Livestock & Fisheries

**South South**
- Oil Palm and Cocoa
- + Rice & Cassava
- + Livestock & Fisheries

**North West**
- Cotton, Onion, Tomato and Sorghum
- + Rice & Cassava
- + Livestock & Fisheries

**South East**
- Oil Palm and Cocoa
- + Rice & Cassava
- + Livestock & Fisheries

**North Central**
- Maize and Soybean
- + Rice & Cassava
- + Livestock & Fisheries

**South West**
- Oil Palm and Cocoa
- + Rice & Cassava
- + Livestock & Fisheries
Focus on two key value chains

**Parboiled Rice**
- Parboiling is a process of pre-cooking the rice during the manufacturing process.
- Requires significantly more equipment and energy costs as heat is used for pre-cooking and drying rice after pre-cooking.

**Milled Rice**
- Rice is harvested with high moisture levels, dried in processing plant to optimal moisture levels and milled.
- Processing is much simpler and cheaper.

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**Drivers**

- Nigeria's population growth
- Limited options for import with high volatility in global markets

**Limited options for import with high volatility in global markets**

- Excess production of major producers
- Rice as a percentage of a Nigerian's diet
- Highly volatile rice prices due to trade imbalances
Demand Side Targets
Consumer shift to high quality lower cost milled rice vs. parboiled rice

Parboiled Rice Demand Side Targets

<table>
<thead>
<tr>
<th>Year</th>
<th>Million Metric Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1.9</td>
</tr>
<tr>
<td>2012</td>
<td>2.0</td>
</tr>
<tr>
<td>2013</td>
<td>1.9</td>
</tr>
<tr>
<td>2014</td>
<td>1.7</td>
</tr>
<tr>
<td>2015</td>
<td>1.3</td>
</tr>
</tbody>
</table>

- Our expectation is that with the arrival of high quality lower cost milled rice, a significant portion of demand in the domestic rice market will shift from parboiled rice to milled rice.

Milled Rice Demand Side Targets

- Milled rice production will occur in well organized irrigated farm clusters.
- The level of organization will increase the quality and reduce the production costs enabling the new product to have a cost and quality advantage over parboiled rice.
- This cost and quality advantage will enable the product to rapidly gain market share in the domestic market.
- Promote Nigerian rice at state functions and in media.

Supply Side Targets – Parboiled Rice
Target aggregation of supply from less organized small holder farmers

Import Substitution of Parboiled (PB) Brown Rice For Local Processors

- Replace imported brown rice with locally produced brown rice by 2013.
- Incentivize the private sector to invest in large parboiling and dehusking facilities in regions of high current production e.g. Niger State, Cross River State etc.
- Partially finance incentives through increased import levy on brown rice.

Import Substitution of Parboiled (PB) Firn Rice With Local Production Facilities

- Imports of finished rice will be substituted stimulating private sector to invest in rice processing facilities in areas of current high production.
- Incentive can be partially financed through increased import levy on finished rice.
- Target locations will be in lowland rice growing regions.
Supply Side Targets - Milled Rice

Substitution of Parboiled Rice For Locally Milled Rice

Milled Rice Supply Options Large vs. Medium Nucleus Farms

Key Steps

Step 1: Rehabilitate Target Irrigation Programmes
- Utilizing labor intensive methods to rehabilitate target irrigation schemes that have existing reservoir systems and require only irrigation canals and drainage canals to be developed.

Step 2: Incentivize Investors to Invest in Nucleus Farms
- Leveraging investment in rehabilitating irrigation schemes, incentivize investors to develop nucleus farm estates;
- Already sent high level team to meet with potential investors in Kenya and Ghana.

Step 3: Replicate Nucleus Farm Model on Medium Scale
- Replicate model to rapidly target community level production and processing.

Inputs Required to Achieve Rice Production Targets

<table>
<thead>
<tr>
<th>Year</th>
<th>Land</th>
<th>Seeds</th>
<th>Fertilizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1000</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>2012</td>
<td>150</td>
<td>30</td>
<td>61</td>
</tr>
<tr>
<td>2013</td>
<td>205</td>
<td>182</td>
<td>81</td>
</tr>
<tr>
<td>2014</td>
<td>254</td>
<td>281</td>
<td>281</td>
</tr>
<tr>
<td>2015</td>
<td>300</td>
<td></td>
<td>281</td>
</tr>
</tbody>
</table>

- Milled rice production will be focused on well organized nucleus farms with small holder out grower farmers, in irrigated areas.
- Parboiled rice production will be focused on aggregating supply from small holder out grower farmers producing in lowland areas.
- Leverage the ECOWAS seed treaty that enables private sector seed companies to import seed from the West African region.
- Importation will be preferentially provided to companies that are demonstrating significant investments in local production of improved seed varieties.
- Nigeria currently has enough installed capacity to produce the required volume of fertilizer for the investment.
Demand and Supply Side Targets – High Quality Cassava Flour

**Demand Side Targets**
- Expected demand for HQCF in 2015 is estimated at 1.1 million MT.
- Processing capacity is expected to be sufficient by 2015.

**HQCF Supply Side Targets**
- Annual projected supply of tubers for HQCF measurements in thousands of metric tons.

**Starch Demand Side Targets**
- Nigeria already has very strong demand for starch that is being met primarily through importation of corn starch.
- Our expectation is to be self-sufficient in starch production by 2015.

**Starch Supply Side Targets**
- Due to the high water content of cassava, the conversion rate is approximately 25%.
- This low conversion rate leads to a very high volume of cassava required as input.
- Due to the high water content of cassava, the conversion rate is approximately 25%.
- This low conversion rate leads to a very high volume of cassava required as input.
**Demand and Supply Side Targets – Chips**

<table>
<thead>
<tr>
<th>Chips Demand Side Targets</th>
<th>Chips Supply Side Targets</th>
<th>HFCS Demand Side Targets</th>
<th>HFCS Supply Side Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Annual Projected Exports of Chips</strong></td>
<td><strong>Annual Projected Supply of Tubers For Chips</strong></td>
<td><strong>Annual Projected Demand for HFCS</strong></td>
<td><strong>Annual Projected Supply of Tubers For HFCS</strong></td>
</tr>
<tr>
<td>Year</td>
<td>Measure: Thousands of Metric Tons</td>
<td>Year</td>
<td>Measure: Thousands of Metric Tons</td>
</tr>
<tr>
<td>2011</td>
<td>300</td>
<td>2011</td>
<td>0</td>
</tr>
<tr>
<td>2012</td>
<td>180</td>
<td>2012</td>
<td>0</td>
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<tr>
<td>2013</td>
<td>200</td>
<td>2013</td>
<td>0</td>
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<tr>
<td>2014</td>
<td>250</td>
<td>2014</td>
<td>0</td>
</tr>
<tr>
<td>2015</td>
<td>500</td>
<td>2015</td>
<td>0</td>
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- The world market for Cassava chips is growing very fast at over 20% per annum.
- This growth is driven by strong demand from China for ethanol production.
- Nigeria expects to tap into this growing demand while simultaneously developing local production capabilities to feed our own projected ethanol production.

- Due to the high water content of cassava the conversion rate is approximately 25%.
- This low conversion rate leads to a very high volume of cassava required as input.

**Main Points**

- HFCS is targeted towards the soft drink and juice markets.
- The demand for HFCS assumes a 95% substitution of current sweeteners in the soft drink and juice markets.
- Our expectation is to be able to meet 100% of projected demand by 2015.
- Due to the high water content of cassava the conversion rate is approximately 20%.
- This low conversion rate leads to a very high volume of cassava required as input.
Inputs Required to Achieve Cassava Production Targets

Land | Improved Seed | Fertilizer

**Land**
Annual Land Cultivated
Measure: Thousands of Hectares

- Despite Cassava's relatively high yields of 25MT per Ha, significant volumes of land will be required to be brought into production.
- Cassava can be grown across the country and specific areas that have a particular competitive advantage will be targeted.

**Stems**
Annual Required Volume of Improved Stems
Measure: Millions of Stems

- A significant volume of improved planting materials will be required to meet the needs of the high growth industry.
- We will work to develop strategies in partnership with R&D centers and the private sector to ensure availability of these improved planting materials.

**Fertilizer**
Annual Required Volume of Fertilizer
Measure: Thousands of Metric Tons

- To attain best practice yields Cassava requires high levels of fertilizer application, over 200kg per Ha.
Reducing downside risks: Key policies for success

Agricultural Policies

1. Liberalize foundation seed policy to allow private sector to commercialize seeds

2. Eliminate government distribution of fertilizers and replace with private sector distribution

3. Move away from a flat fertilizer price subsidy to targeted support to small holder farmers

4. Incentives to engage young commercial farmers for farming as a business
Reducing downside risks: Key policies for success

**Agricultural Policies**

1. Create institutions to support the agricultural transformation agenda
   - Marketing Corporations, to replace marketing boards
   - Transform the Agricultural Research Council (ARCN) to a National Agricultural Transformation Agency like EMPARAPA that transformed Brazilian agriculture

2. Guaranteed minimum price for food crops

3. Revise the Land Use Act to enable easier access to land for investors in agriculture

4. Rapid expansion in irrigation facilities and revamping of existing ones

**Financial Service Policies**

1. Incentives for access of farmers to weather index insurance to adapt to climate change

2. Remove the current monopoly on agricultural insurance by the National Agricultural Insurance Company and liberalize to allow private sector insurance companies

**Industrial Policies**

Move gradually away from fertilizer consumption subsidies to support for local fertilizer manufacturing leveraging the gas industrialization policy (e.g., Nagajuna 1.4 mll MT plant)

**Market Development (Enabling Legislative Acts)**

1. 10% Cassava Flour substitution for bread wheat flour

2. Blending 10% ethanol with petrol.
Reducing downside risks: Key policies for success

Fiscal Policies

1. Zero tariffs (custom, excise and value added) for import of agricultural equipment and agro-processing equipment

2. Tax holidays for investors putting processing plants in staple crop processing zones

3. Increase levy on any commodities that Nigeria can produce (starch, sugar and wheat)

4. Current policy on import levy of 5% for brown rice and 30% for polished milled rice, and 5% on raw sugar and 10% on starches should be increased and revenue used to support domestic production

5. Supportive incentives for investors establishing blending plants for ethanol
What Mr. President can claim in four years and much more to come....

- Over 3.5 Million jobs within 5 value chain rice, cassava, sorghum, cocoa and cotton, with many more jobs to come...

- Over 300 Billion Naira (US$2 Billion) in additional income in the hands of Nigerian farmers

- Over 350 Billion Naira (US$2.2 Billion) Injected into the economy from rice self sufficiency

- Over 60 Billion Naira (US$380 Million) Injected into the economy from substituting 20% of bread wheat flour with cassava flour

- Enabled Nigeria to be food secure by increasing production of key food staples by 20 Million metric tons.
  - Rice: 2 Million metric ton
  - Cassava: 17 Million metric ton
  - Sorghum: 1 Million metric tons

### High Level Key Performance Indicators (KPI's)

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2015</th>
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<tbody>
<tr>
<td>Paddy High Quality Processed Rice Jobs</td>
<td>3.4 Million MT</td>
<td>7.4 Million MT</td>
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<tr>
<td>Cassava Tubers Yield Jobs</td>
<td>34 Million MT</td>
<td>51 Million MT</td>
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<tr>
<td>Sorghum Grain Yield Jobs</td>
<td>9.3 Million MT</td>
<td>10.3 Million MT</td>
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<tr>
<td>Cocoa Beans Yield Jobs</td>
<td>250,000 MT</td>
<td>500,000 MT</td>
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## High Level Key Performance Indicators (KPI’s)… Continued

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
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<tbody>
<tr>
<td><strong>Cotton</strong></td>
<td></td>
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</tr>
<tr>
<td>Cotton Lint</td>
<td>20,000 MT</td>
<td>140,000 MT</td>
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<tr>
<td>Yield</td>
<td>150 Kg/Ha</td>
<td>400 Kg/Ha</td>
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<tr>
<td>Jobs</td>
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<td><strong>Fertilizer</strong></td>
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<tr>
<td>Number of</td>
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<td>20,000,000</td>
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<tr>
<td>Farmers Reached</td>
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</tr>
<tr>
<td></td>
<td>20,000</td>
<td>125,000</td>
</tr>
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