



Integrating Nigeria's Agricultural & Financial Value Chains: The Role of NIRRSAL

Central Bank of Nigeria: Nigeria Incentive Based Risk Sharing
for Agricultural Lending (NIRRSAL)



November 16, 2011



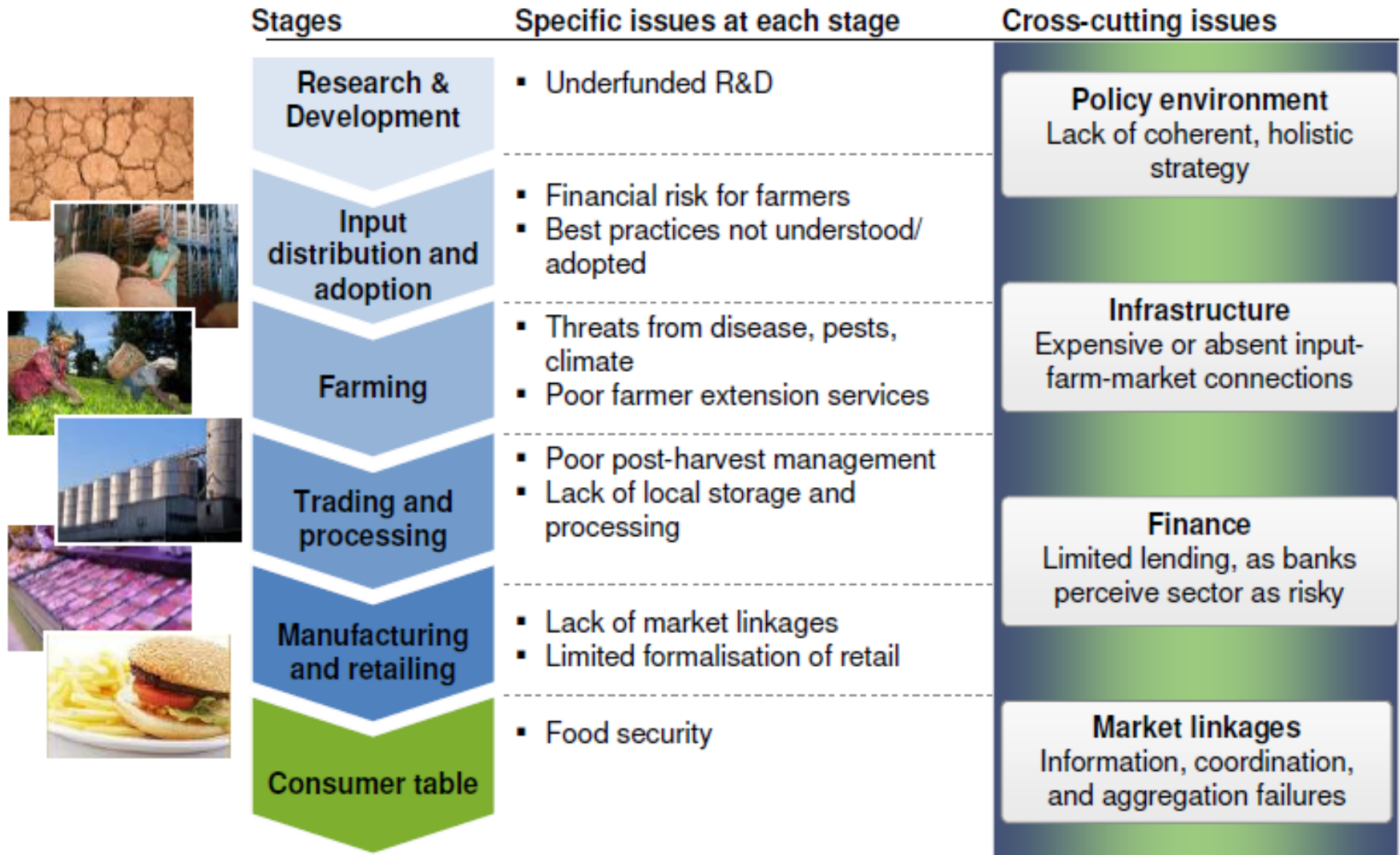
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- **Overview of Nigeria's agricultural landscape**
- NIRSAL program design and enablers
- Summary insights across pilot crops
- Policy requirements for agricultural transformation

Overview of Agriculture in Nigeria

- 1. The agriculture sector is central to Nigeria's economy**, accounting for 42 percent of GDP and providing 60 percent of employment. Agriculture is a major source of employment growth: Between 2001-2007 it accounted for 51 percent of job creation in Nigeria
- 2. Since the 1960s, Nigeria has lost a dominant position in exports** of key crops such as cocoa, groundnuts, ground nut oil and palm oil. In the 1960s, Nigeria had over 60% of global palm oil exports, 30% of global ground nut exports, 20-30% of global ground nut oil exports, and 15 % of global cocoa exports. By the 2000s, Nigeria global share of exports of each of these crops was 5% or less
- 3. Today, Nigeria is a net importer of agricultural produce**, with imports totalling NGN 630 bn. Large import food products include wheat (NGN 165 bn), fish (NGN 105 bn), rice (NGN 75 bn), and sugar (NGN 60 bn). Total food import bill of USD 4.2 billion annually
- 4. Nigeria's agriculture sector has enormous potential** – with an opportunity to grow output by 160%, from USD 99 billion today to USD 256 billion by 2030. This growth potential comes from potential to increase yields to 80-100% of benchmark countries; increase acreage by 14 m ha new agricultural land, approximately 38% of Nigeria's unused arable land of 36.9m ha; and shift 20% of production to higher value crops'
- 5. Nigeria faces a large and growing global agricultural market** – Rising commodity prices, growing demand for food, and opportunities in bio-fuel all present significant opportunities for Nigeria. For example, global cereal demand will grow by between 31% and 150% by 2050 depending on the region, and global commodity prices are in their second major spike in three years. Agriculture can become the main driver for more equitable income growth, compared to oil and gas sector

Major Challenges hindering Nigerian Agriculture



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NIRSAL will de-risk the agricultural financing value chains

Key gaps in agricultural financing value chain

Impact of NIRSAL

1 Low lending

- Agricultural lending accounts for only 1.4%¹ of total lending, and has declined since 2006
- High performing developing countries, such as Brazil, Mali, Burkina Faso, lend over 10% to agriculture as % of total loans

2 Limited bank capability

- Banks have limited understanding of agriculture, perceive risk to be higher than it is
- Agriculture credit assessment process is poor

3 Low financial literacy

- Only 21% of population is banked
- 63% of unbanked cite no access to banking as key constraint
- 34% cite no access to banking as key constraint

4 Low levels of loan distribution

- Insufficient infrastructure linking banks to agricultural zones
- Limited bank footprint in agricultural areas

5 Insufficient insurance

- Only 500,000 of Nigeria's agricultural producers have access to insurance
- Nigerian Agricultural Insurance Corporation (NAIC), is sole legally mandated supplier of agricultural insurance

- **Lower banks high perceived risk** of the agricultural sector via risk sharing mechanism
- **Build business case for banks** to lend to agricultural sector versus other sectors

- **Provide technical assistance** to banks on agricultural credit cycle
- **Improve banks' understanding** of agricultural value chain

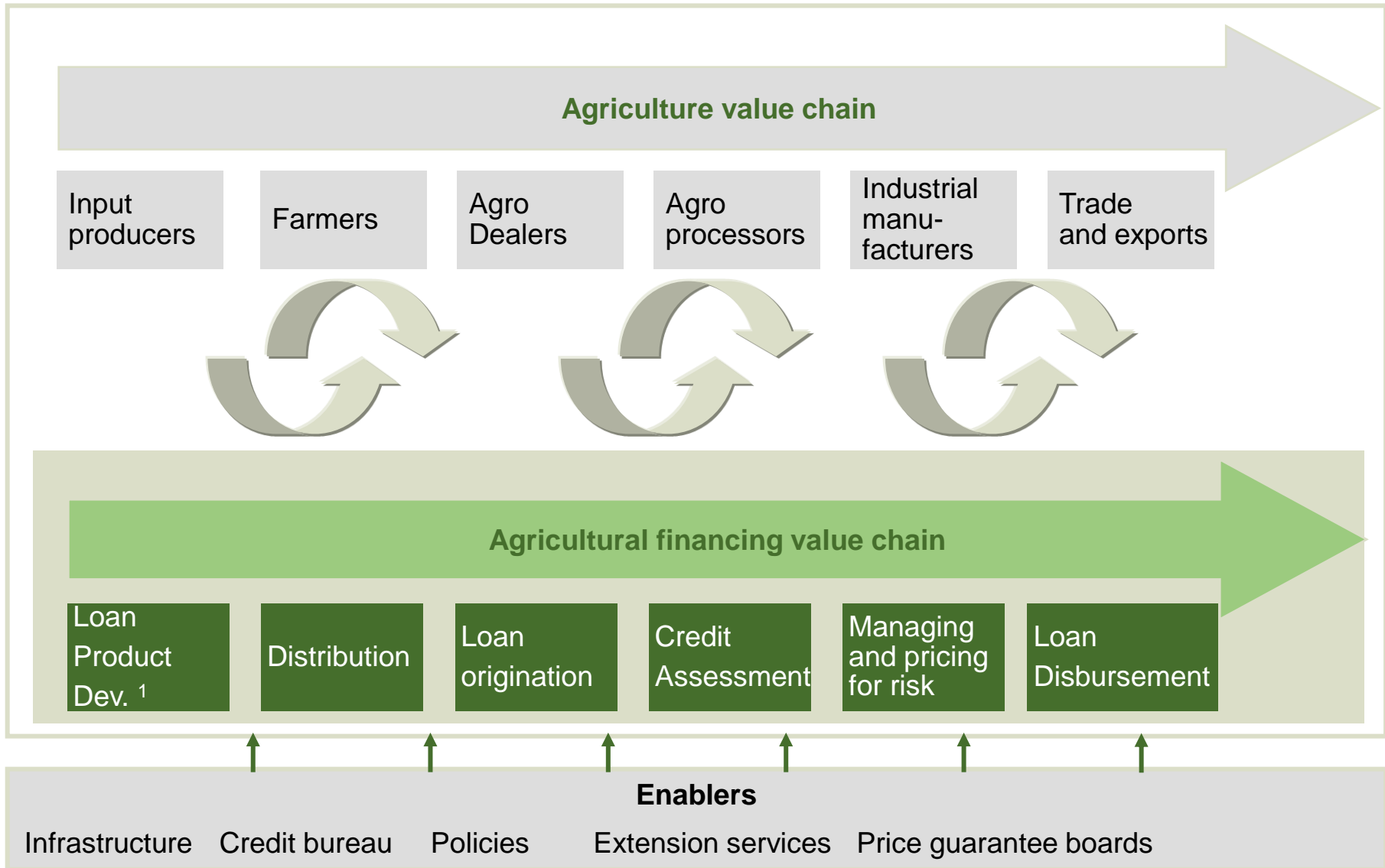
- **Provide technical assistance** to farmers via "black belt" training methodology
- **Improve credit worthiness** of perspective borrowers

- **Construct institutional arrangements** between banks and agricultural champions to organize values chains
- **Incentivize banks to further engage in infrastructure projects** that will increase access

- **Improve quality of products and coverage** that NAIC offers
- **Liberalize insurance market**, allow private players to enter to spur competition and lower prices

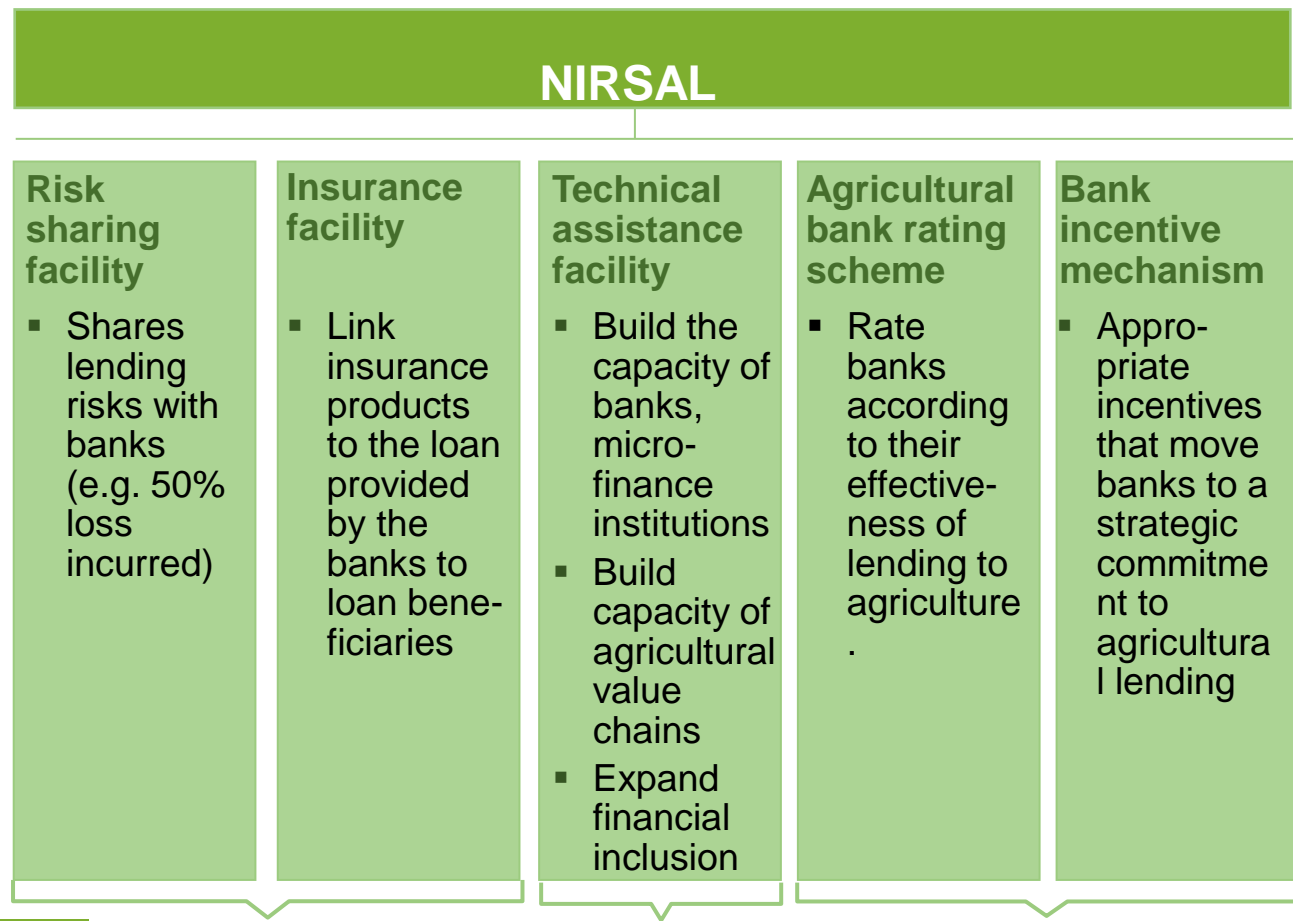
¹ As at Dec. 2010

NIRSAL integrates end-to-end agriculture value chains with agricultural financing value chains



¹ Includes working capital loans; fixed asset finance; trade finance

NIRSAL's five pillars are designed to “de-risk” the agriculture value chain, build long-term capacity and institutionalise agri-lending incentives



NIRSAL value propositions

De-risk agriculture finance value chain

Build long-term capacity

Institutionalise incentives for agriculture lending

Risk Sharing: NIRSAL will share risks with banks ranging from 30% (overall) to 80% of first loss (up to 12.5%), depending on the segment



Segment	Risk sharing mechanism	Share of loss taken by Fund (%)	Rationale
Farmers	<ul style="list-style-type: none"> First Loss (up to 12.5%¹) 	80	<ul style="list-style-type: none"> Use a portfolio approach (first loss is an example of portfolio approach), which is suited to a segment comprised of many small loan exposures Use first loss⁴ covering banks in majority of cases on this segment where they are risk averse Cover only 80% in order to ensure that banks have some skin in the game for the first losses as well
Large	<ul style="list-style-type: none"> Deal-based² 	50	<ul style="list-style-type: none"> Use "deal based" approach because of lower volumes of loans to process for these segments Lower risk sharing required (30%-50%) because of lower perceived risk by banks, as these are typically banked customers for which the banks have existing relationship In bankers' workshop, bankers congregated around risk sharing of 40-60%
Agri-Business	<ul style="list-style-type: none"> Deal-based² 	50	
Logistics	<ul style="list-style-type: none"> Deal-based² 	30	
Agri-Business	<ul style="list-style-type: none"> Deal-based² 	30	

¹ Based on an expected loss of 10%

² Guarantee is provided on a single on single deals. Eligibility criteria are pre-defined by Fund. Banks certify alignment to Fund criteria when disbursing loan under guarantee. Fund does not process files upfront, but only if loss disbursement is required.

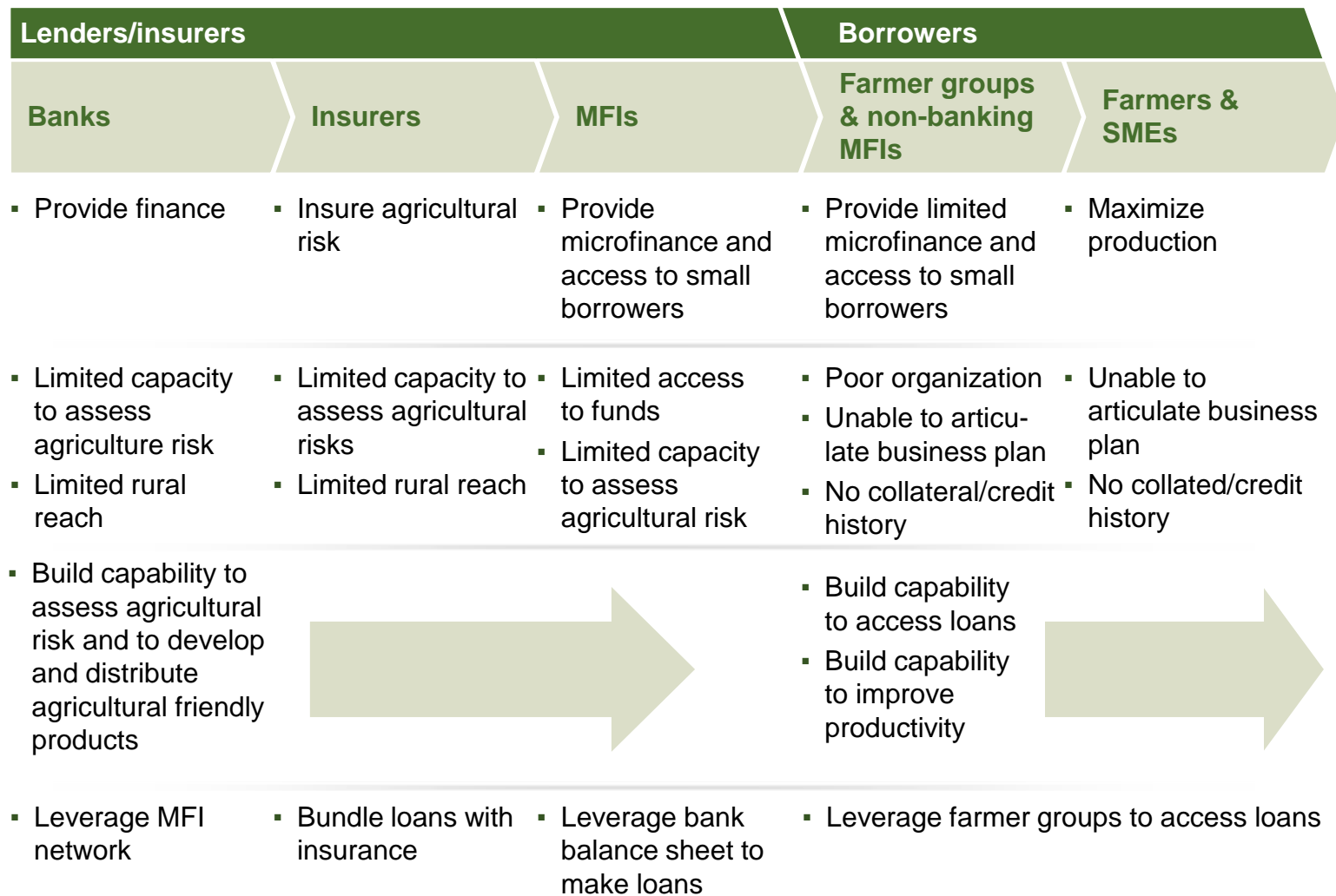
³ Loss claims are subsidiary meaning that they can only be made after the bank has proven it has run the full recovery (including judicial steps) on the bad loan

⁴ Cut-off of 12.5% > EL

NIRSAL's 5 pillars – Insurance

- 1. The insurance facility is aimed towards reducing risk costs and improving lending** by providing farmers with a substitute for collateral. The recommendations are:
 - **Overhaul the Nigeria Agricultural Insurance Corporation (NAIC)**, the country's de facto agricultural insurance monopoly.
 - **Open the agricultural insurance industry to the private sector in the long term.** Opening the market will introduce much-needed competition, dynamism and innovation.
 - **Pilot and scale weather index insurance.** Weather index insurance works as follows: in return for a premium (~ 10 percent of the sum insured) farmers receive a payout if rainfall is outside pre-defined payout bands. Based on historical data, insurance companies set these bands according to the likelihood of rainfall and which levels they can profitably insure against.
 - **Encourage the growth of other insurance products.** NAIC provides coverage for flooding, drought, pests, disease, storage, transit and processing. Banks want broader risk coverage (e.g., smaller fluctuations in weather, life insurance) and better terms, (e.g., lower premium costs). NIRSAL will finance a small challenge grant to incentivise insurers to develop such products.
 - **Set up a joint committee – the Consortium for Agricultural Insurance in Nigeria** – between banks and insurance companies. The Consortium's role will be to foster improved cooperation between the sectors.
- 2. Insurance will cost USD 72 million per year to support insurance for 3.8 million producers.** This financial support covers the difference between the actuarial premium (10%), and borrowers' willingness to pay (5%). For insurance to be sustainable beyond 2020, NIRSAL will require financial support from its partners: USD 55 million from the Ministry of Finance/DFIs, USD 14 million from State governments.

TA will improve the function of the agricultural financial value chain through building capability for lending and borrowing and encouraging linkages along the value chain



NIRSAL's 5 pillars – Bank Rating

- 1. The holistic bank rating scheme rates banks based on their agricultural lending and social impact.**
- 2. The mechanism will measure lending and social outcomes:** lending (80 percent) and its social impact (20 percent) based on NIRSAL's goals. This weighting reflects the fact that while banks cannot be held accountable for the social impact of their lending, they can make loans that are more likely to have social impact.
- 3. The metrics for lending outcomes and their weights are:**
 1. % growth in agricultural lending (20%)
 2. absolute growth in agricultural lending (20%)
 3. % of lending to underserved segments e.g. small pooled farmers, SMEs (20%)
 4. Non-performing loans as % of book (20%)
 5. % staff with TA certification (20%)
- 4. The metrics for social outcomes and their weights are:**
 1. Increased social inclusion (33 percent):
 2. Use of loans to farmers for yield-improving agricultural inputs (33 percent)
 3. Increased borrower income (33 percent):
- 5. To foster competition and continuous improvement,** scores are calculated based on how far each bank sits from the level of the top-performing bank. To guard against mediocrity, the CBN will set a minimum acceptable metric threshold.
- 6. The holistic rating mechanism will collect lending and social impact data twice a year,** at six-month intervals. Banks have a 12-month grace period to react to their first two sets of scores before incentives are granted.
- 7. Ensuring transparency throughout the data collection and scoring process is critical to establishing its credibility.** To this end, NIRSAL will ensure the following: 1) Issue transparent guidelines on definitions and scoring methodology: 2) Independently audit scores 3) Publicly and clearly communicate scores and their implication

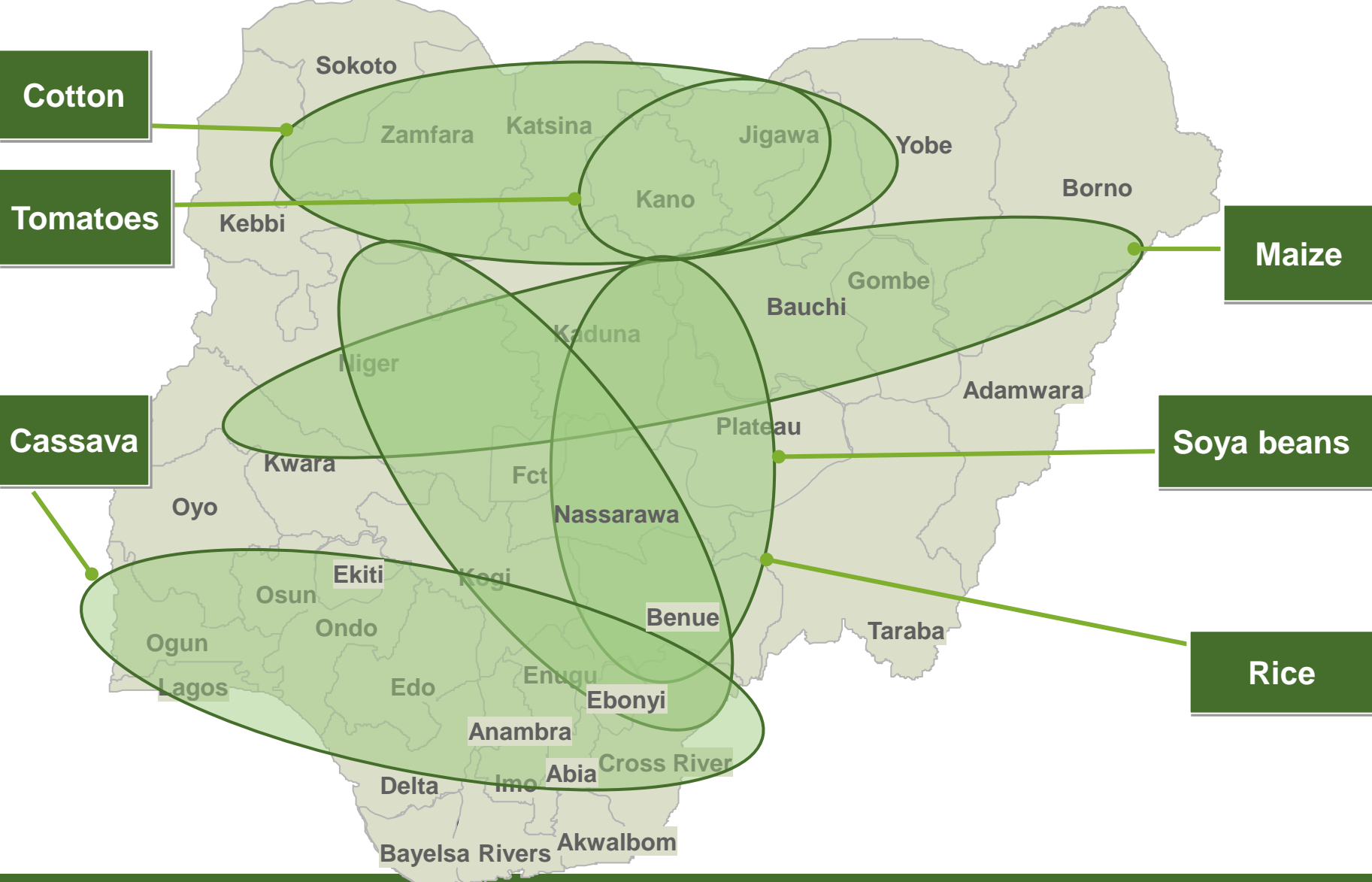
NIRSAL's 5 pillars – Bank Incentives

1. **This pillar** offers banks **additional incentives to lend to agriculture**.
2. **The mechanism will be governed by the following principles:**
 - Incentives will be **awarded objectively** on the basis of the holistic rating mechanism.
 - Incentives will **focus on “carrots” not “sticks”**; abuse of NIRSAL will result in exclusion from the Fund.
 - Incentives will be given in terms of **financial support for initiatives that support agricultural lending**; and in the form of **non-monetary prizes**
 - Incentives will be **based on banks' scores** in the holistic rating mechanism.
 - Awarding of incentives will be **announced publicly** to ensure transparency.
3. **To foster competition among the top ten banks**, the awards are made on a sliding scale. The top prize – “Agriculture Bank of the Year” – is USD 3.25 million. When a bank wins an award, it must submit **a proposal within three months on how it will invest in building its agricultural lending capabilities**. Proposals are reviewed and approved by an independent panel and eligible types of investment include:
 - Branch expansion to rural areas within a high-potential value chain (up to 50 percent of total cost);
 - Establishing IT platforms that support agricultural lending;
 - Agricultural credit risk scoring models;
 - Platforms for distributing loans using technology such as mobile phone.
4. Investment must cover a tangible fixed asset or intellectual property investment designed to help the bank significantly increase its agricultural lending capability. The most innovative ideas will receive a non-cash award for “Innovation in Agricultural Lending”. Financial support will be capped at the total value of the award and at 50 percent of the value of the investment.
5. In 2013, the Central Bank of Nigeria would undertake a formal evaluation of the incentive pillar

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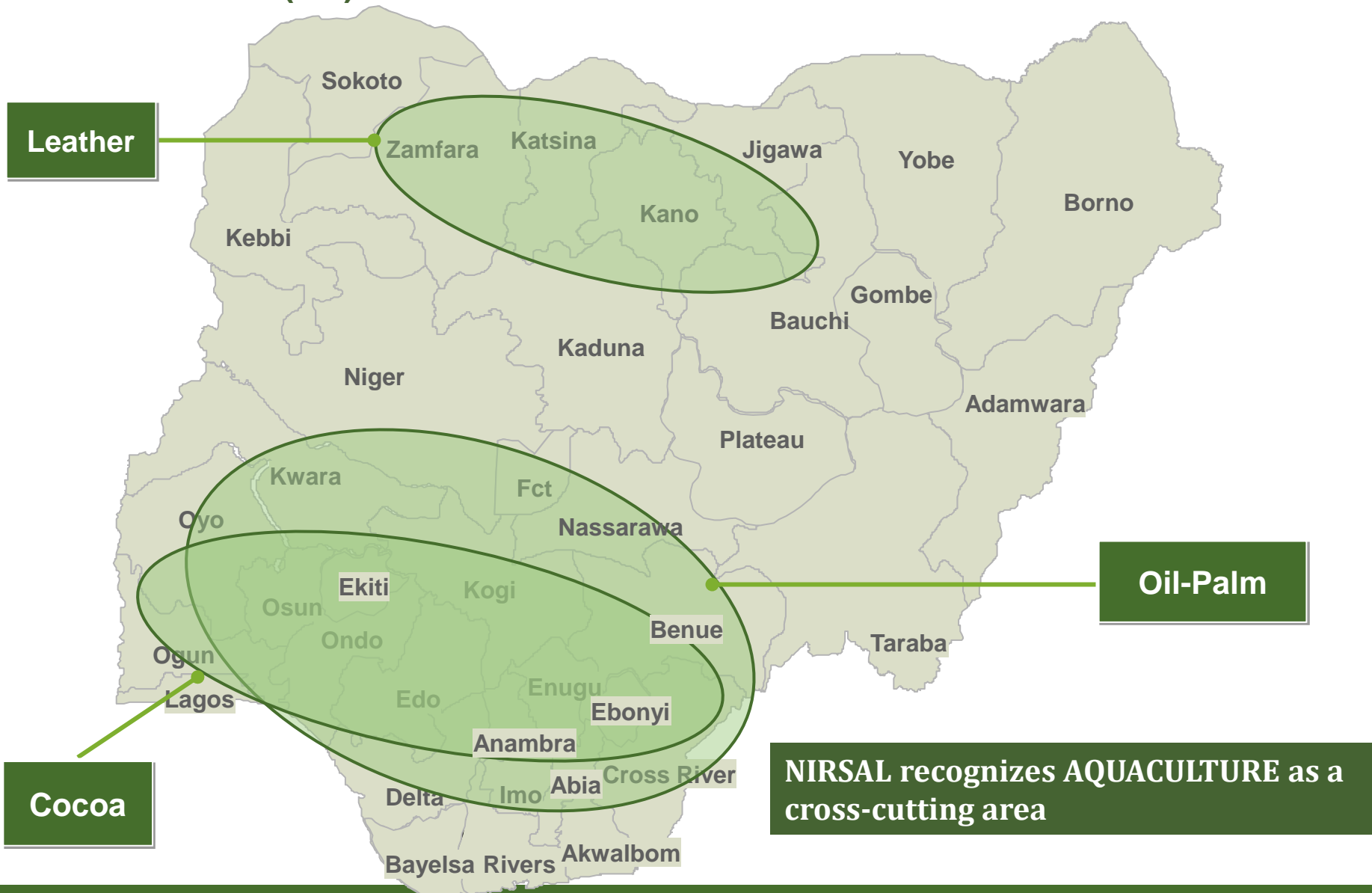
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NIRSAL has identified ten high-potential breadbaskets in which to pilot investments - (1/2)



SOURCE: Monitor; USAID; WB; IFDC; IFAD; team analysis

NIRSAL has identified ten high-potential breadbaskets in which to pilot investments - (2/2)



Example: Tomato - Boosting Production and Creating Domestic Paste Processing Capacity

- **Opportunity Description**

- Nigeria is a major consumer of tomato paste; although 20%-30% of paste consumed in Nigeria is “produced” domestically, ~25%-50% of the inputs for this domestic paste is double-concentrated paste imported from China
- Many domestic players are already involved in the latter half of this equation (re-processing, packaging, and marketing double concentrate combined with other inputs); however, the market for domestically produced double concentrate remains underserved
- At industrial-scale production levels and with enforcement of existing import tariffs, Nigerian double concentrate sold to domestic or West African processors / re-packagers can be price-competitive with Chinese imports
- The investment could be used as a platform on which to expand into further value-added processing activities (i.e., re-packaging, marketing) following several years of successful operation

- **Market Size**

- The size of the Nigerian market for tomato paste is approximately 200,000t p.a., with proximity to a broader West African market of 300,000-400,000t p.a.

- **Competitive Intensity**

- Imports of double concentrate from China make up 55,000t of the domestic tomato paste market
- Currently the only domestic producer of double concentrate within Nigeria is Ciao

- **Target Customers**

- Nigerian tomato paste processors / re-packagers including Vital, Gino, Tastitone, Derica, Olam, Chi, and Dangote

- **Investment Return Potential & Start-Up Costs**

- With a start-up cost of about \$3.9m, a 75,000t tomato processing project has a projected IRR of 20% and a payback period of ~4 years

- **Policy Issues, Entry Barriers and Key Risks**

- Insufficient certified seeds available to farmers, hence supply chain inefficient from inception
- Entry barriers incl. ensuring supply from smallholder / commercial farming, intra- and inter-state transport infrastructure, and ensuring demand from end-users; risks include import duties, competitor growth, and crop viability

Example: Cassava: Boosting Production to Provide Feedstock

● Opportunity Description

- Nigeria is the world's largest cassava producer, but currently only processes about 11% of its production and loses 20%–30% of all cassava output to wastage
- By processing cassava, first into chips and later into more advanced pellets, cassava becomes a more tradable commodity, which can be sold on the global market as an input into industrial animal feed and for energy production
- Currently Nigeria processes only 3.3mt of cassava — about 2.2% of national production — into chips through small-scale factories which lack the means to export to key markets
- Nigeria also has significant starch and glucose capacity but all are underutilized due to insufficient cassava volumes

● Market Size

- The global market for cassava chips and pellets is estimated to be ~ NGN150 bn (\$1 bn) and grew at 20% p.a. since 2006 in dollar terms
- The Nigerian market for starch/glucose is estimated at NGN18.0 – NGN30.0bn serving mostly the food and related industries

● Competitive Intensity

- Thailand (with 55% of market share), Vietnam, and Indonesia have established a strong presence in the global cassava chip / pellet market and benefit from their close proximity to China and South Korea, the world's largest importers

● Target Customers

- China and Korea, the major global importers of processed cassava for chips, and Nigerian **FMCGs** for starch/glucose

● Investment Return Potential and Start-Up Costs

- A 115,000t cassava input mill could break even after 4.5 years, achieving an NPV of ~ NGN46.95 mn and an IRR of 19% with ~ NGN525.0 mn start-up costs

● Policy Issues, Entry Barriers and Key Risks

- Insufficient high yield cuttings available to farmers who are poorly organized, hence supply chain inefficient from start
- Rural road infrastructure poor and requires significant upgrade but states cannot afford; need DFRRRI type solution
- Need support of new marketing corporation to enforce standards for cassava exports and drive certification

NIRSAL will take an active role in helping organize and coordinate value chains

- NIRSAL will also work closely with the **federal MDAs to tackle key issues related to inputs e.g. seeds, fertilizers, etc** in order to ensure that the increased food production the proposed industrialization elements rely on comes to pass
- NIRSAL will provide technical assistance to help **organize farmers into cooperative groups** that can act as recipients of working capital for crop production, and a partner to processors seeking stable, price competitive feedstock supplies
- NIRSAL will work with private sector participants in crop value chains **to create where appropriate “crop marketing corporations”** / guardian angel entities to drive marketing, branding and coordination across the value chain
- NIRSAL will **work with state governments, federal MDAs, and select 3rd parties to tackle specific infrastructure blockages in the value chain** e.g. transportation on railroad, rural roads to link production to markets, irrigation to allow for multiple harvests, etc.



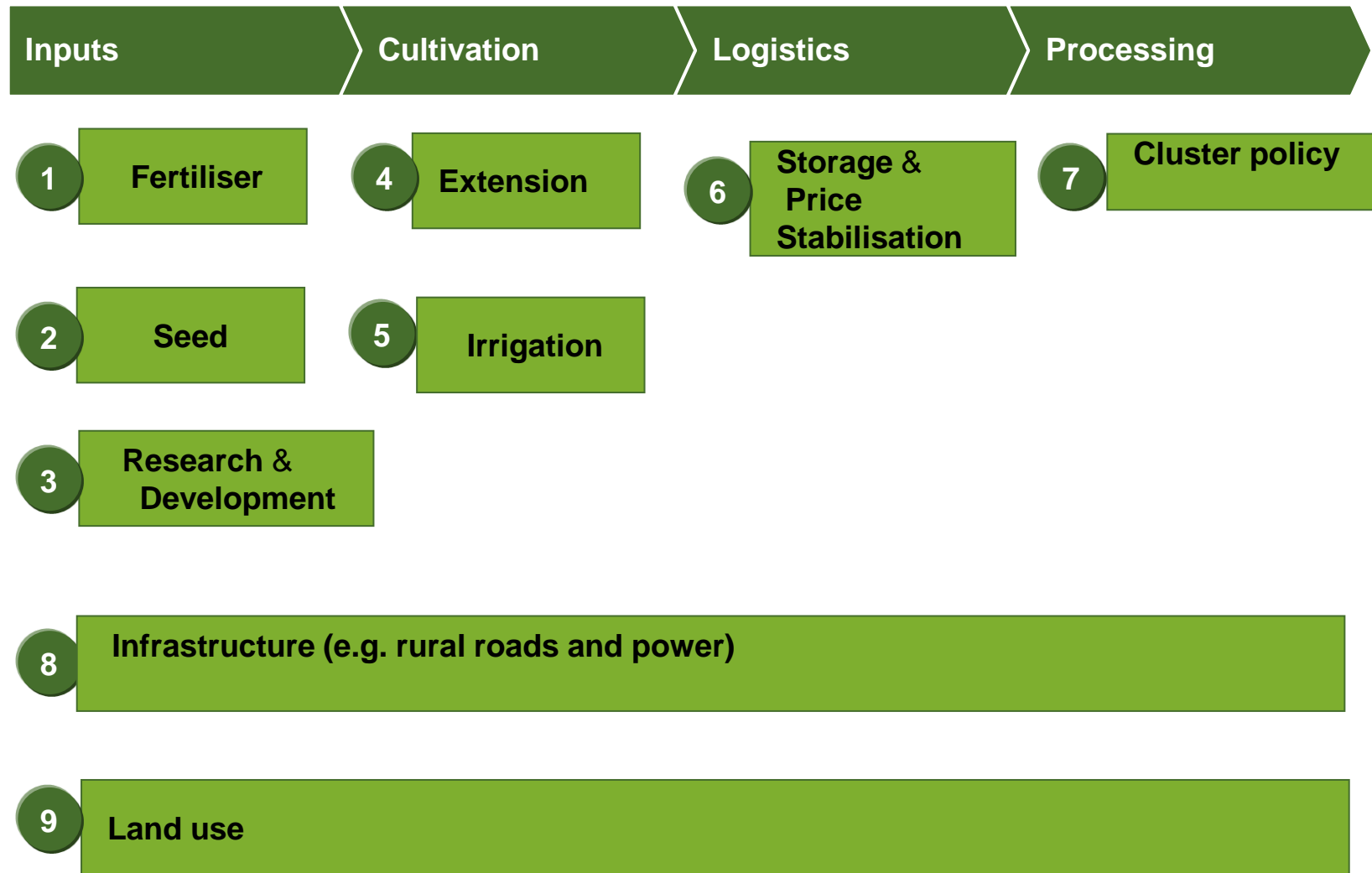
The intent of these efforts to strengthen the value chain is to ensure that lending and related activities occurs on a prudent platform

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Key policy requirements to achieve agricultural transformation



Key policies, challenges and fixes required (1/3) for NIRSAL to succeed

Challenges with current policy

Key policy fixes required

1 Fertilizer

- Fertilizer subsidies are a major drain on the nation's treasury
- Government crowding out the private sector
- Very poor quality of fertilizers plus adulteration; no regulatory and quality control system

- Get government out of procurement, and let private sector do procurement and distribution
- Provide targeted subsidies that will promote local manufacturing
- Put in place fertilizer quality regulatory framework

2 Seed

- Limited private sector involvement crippling innovation and viability of private sector seed companies
- Limited awareness and use of improved seeds; poor distribution channels; poor seed quality; adulteration
- Severe lack of access to finance by seed companies

- Liberalize foundation seed production policy; encourage increased private sector involvement
- Strengthen seed certification and regulatory system to assure quality seeds
- Provide access to financing for seed companies
- Introduce adaptive technologies to close the seed yield and quality gaps

3 Research & Development

- Lack of funding
- Research output deemed of low quality
- Little linkage research and delivery

- Establish Agricultural Value Chain Research Development Fund
- Establish agricultural research transformation agency
- Harmonize the roles of existing intuitions of Research and Development

Key policies, challenges and fixes required (2/3) for NIRSAL to succeed

Challenges with current policy

4 Extension

- Low extension worker to farmer
- Policy implementation and quality of extension workers vary by state
- Slow rate of information to farmers and insufficient feedbacks to direct research agenda

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- Public investment in the silos displaces the private sector capacity in storage

- The enablers for an agricultural commodity exchange not in place

-
- Limited progress in locating factories near feedstock due to competing superior infrastructure

- Insufficient enforcement of tariff policies undermines capacity of domestically produced alternatives to compete

5 Storage & Price Stabilization

6 Cluster Policy

Cluster Policy

Key policy fixes required

- Increase the budget for agricultural extension
- Train agro-dealers and select farmers to offer basic advice on fertilizer and seed usage
- Create new conditions of service for agricultural extension workers for better attraction

-
- Build enablers for agricultural commodity exchange, (e.g. market information systems, farm level storage capacity, grades/standards)
 - FMA&RD to commission a gap analysis study on silos and warehouse in Nigeria to determine the storage potential of the country.

-
- Pursue the bread-basket strategy, focusing on the policies that will enable firms to compete.

- Introduce more incentives for agro-processors.

- Provide enabling infrastructure policies for the breadbaskets of NIRSAL

Key policies, challenges and fixes required (3/3)

Challenges with current policy

Key policy fixes required

7 Land use

- No cohesive policy today
- Land Use Act of 1979 silent on designation of land for specific types of usage
- Perpetuates fragmentation of land, instead of consolidation

8 Marketing boards

- High price volatility of agricultural commodities
- Inefficient market for provision of supplies to farmers
- No reliable market information system for price discovery

9 Insurance

- Absence of competition and innovation in the provision of agricultural insurance
- Absence of weather index insurance
- Agricultural insurance is quite expensive

- Reform Land Use Act
- Streamline and make transparent process of obtaining and designating land titles
- Specify patterns and types of land use across the country according to soil fertility
- Up-scale finance, trading exchange and cede control of Abuja Commodity Exchange (ASCE) to CBN.
- FMA&RD to mandatorily patronize ASCE under its strategic grains reserve programme to enable ASCE improve its liquidity.
- Set up Public-Private Crop Marketing corporations to coordinate marketing roles
- Explore new protocol options/review Nigeria foreign trade agreements necessary for improved marketing
- Repeal NAIC's Act to open up the subsector to other commercial insurance companies
- Need for State and Federal Government to continue to provide premium subsidy on agricultural insurance
- Capital base of NAIC should be beefed up to reflect present economic realities

NIRSAL is a game-changer for agricultural lending in Nigeria, for 6 reasons

6 reasons why NIRSAL is a “game-changer”

More structured lending

“From”

- Banks perform “open platform” lending

“To”

- Lending with assistance from NIRSAL’s technical assistance, risk sharing, insurance and incentive pillars

To more structured value chains

- Banks lend directly to unstructured value chains

- End-to-end agriculture value chains identified and prioritised under NIRSAL

New approaches to lending to small holders

- Limited lending to small holders

- Increased lending to small holders through dedicated “pooling” mechanisms e.g. supply chain financing, MFIs, Co-ops etc

Lower transactions costs for banks

- No “guardian angel”, so transactions costs of lending high

- Dedicated liaison linking banks with agricultural value chain

Lower risk costs for banks

- Banks face full risk of lending to agriculture

- Banks face less risk – due to risk sharing facility, and insurance pillar

Increased capability to lend to agriculture

- Limited capability of banks to lend to agriculture

- Significantly improved due to agricultural-lending specific strategy, organisation, systems etc

Imperatives for fixing Nigeria's agricultural financing value chains

Must Do	Process Owner
<p>1. Deregulate the agricultural insurance industry. Amend Part 3, Section 13 of the NAIC's Decree 37 of 1993</p> <p>(a) Provide shared infrastructure (b) Allow private insurance companies to play along with NAIC and ICEED (c) Pave way for innovations (d) Up-scale competition, and (e) Increase outreach among agricultural producers.</p> <p>2. Liberalize the procurement and distribution of fertilizer and seeds to Nigerian farmers</p> <ul style="list-style-type: none"> ○ Scale up the Voucher Program for fertilizer ○ Remove fertilizer import licensing, monitor and evaluate fertilizer subsidy ○ Review Sections 2(1)h, 17(1) & 23(1) of the National Agricultural Seed Decree No.72 of 1992 ○ Boost seed production, provide the right seeds, encourage processing and marketing. 	<ul style="list-style-type: none"> ■ Ministry of Finance ■ Ministry of Agriculture ■ Min. of Justice, NAICOM ■ Central Bank of Nigeria ■ Ministry of Agriculture ■ State Governments
<p>3. Review unfavourable trade laws and market policies/Institutional arrangements</p> <ul style="list-style-type: none"> ○ Introduce new trade tariffs/incentives that link the country's broken agricultural value chains. <p>4. Reposition Abuja Securities & Commodity Exchange (ASCE)</p> <p>(a) Cede the control of ASCE to the CBN for improved performance. (b) Inject more funds to ASCE (c) Ministry of Agriculture & the CBN to partner on ASCE's re-structuring (d) Ensure that FMA&RD and other government institutions patronize ASCE.</p>	<ul style="list-style-type: none"> ■ Ministry of Finance ■ Ministry of Trade & Investment ■ NIPC, CBN, ■ National Assembly ■ Ministry of Agriculture ■ State Governments ■ Min. of Justice, CBN
<p>5. Repeal Decree No. 20 of 1977 and its 1993 Amended Version of the Agricultural Credit Guarantee Scheme Fund (ACGSF) to give way for its decomposition under the NIRSAL and for increased outreach, effectiveness and farmers access to credit.</p>	<ul style="list-style-type: none"> ■ Ministry of Agriculture ■ Central Bank of Nigeria ■ National Assembly ■ Ministry of Finance ■ Ministry of Justice
<p>6. Pass a Legislation on NIRSAL - CBN & FMA&RD to introduce a NIRSAL Bill</p> <p>(a) To ensure that NIRSAL becomes the spin around/template of Nigeria's new agricultural policy (b) To ensure consistency/business continuity for NIRSAL and agricultural development</p> <p>7. Provide guaranteed produce minimum price for farmers</p>	<ul style="list-style-type: none"> ■ Central Bank of Nigeria ■ Ministry of Agriculture ■ Ministry of Agriculture