Seed Sector Review Nigeria

Assessment report

25 October 2019

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100years
1918 — 2018

Outline

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1.Policy context, purpose, process and partners

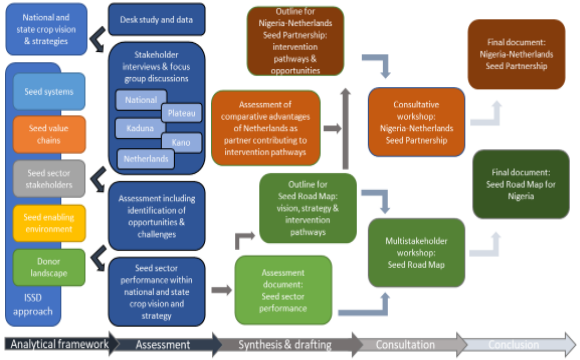
Policy context:

- Memorandum of Understanding (MoU) between the Ministries of Foreign Affairs of the Federal Government of Nigeria and the Government of the Netherlands
- They have agreed to explore collaboration in the development of Nigeria's seed sector:
  - Conduct a seed sector assessment
  - Support the development of a Seed Road Map, endorsed by the seed sector stakeholders
  - Develop a Nigeria-Netherlands Seed Partnership

Purpose:

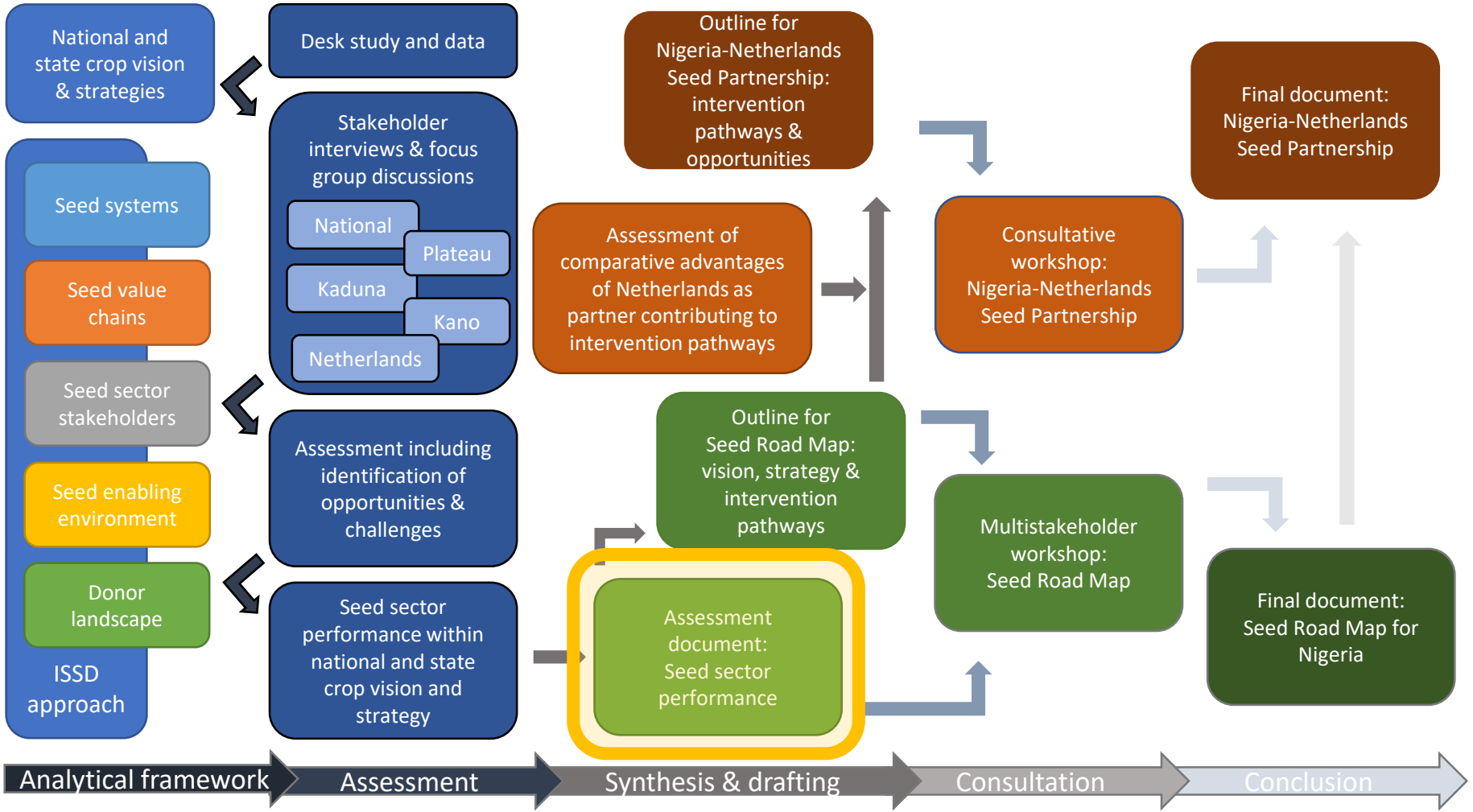
- The seed sector assessment serves as input to the development of the Seed Road Map

Process:



Partners conducting the assessment:

- Wageningen University & Research, Wageningen Centre for Development Innovation (WCDI)
- Sahel Consulting Agriculture & Nutrition
- National Agricultural Seeds Council (NASC)
- *Seed Entrepreneurs Association of Nigeria (SEEDAN) (provisional)*
- East-West Seed (EWS)
- Embassy of the Kingdom of the Netherlands (EKN)
- Netherlands Enterprise Agency (RVO)


National and state crop vision & strategies
Desk study and data
Stakeholder interviews & focus group discussions
National
Plateau
Kaduna
Kano
Netherlands
Seed systems
Seed value chains
Seed sector stakeholders
Seed enabling environment
Donor landscape
ISSD approach
Assessment including identification of opportunities & challenges
Seed sector performance within national and state crop vision and strategy
Assessment document: Seed sector performance
Outline for Nigeria-Netherlands Seed Partnership: intervention pathways & opportunities
Assessment of comparative advantages of Netherlands as partner contributing to intervention pathways
Outline for Seed Road Map: vision, strategy & intervention pathways
Consultative workshop: Nigeria-Netherlands Seed Partnership
Multistakeholder workshop: Seed Road Map
Final document: Nigeria-Netherlands Seed Partnership
Final document: Seed Road Map for Nigeria
Analytical framework
Assessment
Synthesis & drafting
Consultation
Conclusion

2. Assessment process and methodology

Methodology:

- A mixed methodology of focus group discussions, desk study and stakeholder interviews
- Triangulation of findings from different sources, using validated globally recognized benchmarking tools and match these with insights shaped by groups of key stakeholders

Focus group discussions (FGDs):

- Seed challenges differ between crops
- 7 FDGs around 4 crop groups, i.e. maize, legumes, root- and tuber crops, and bananas (RTBs) and vegetables
- 45 organisations were involved
- FDGs worked with one indicator crop; subsequently calculated the future seed demand to reach this ambition
- Challenges to fill the seed gap were discussed, and potential coping strategies identified
- FDGs reports contributed to crop profile documents
- Feedback from the experts was used to finalize crop profiles

Synthesis of information:

- Use of model for sector transformation to organize the challenges
- Challenges structured into 6 interlinked functions for sector transformation
- Differentiation between general and crop specific challenges
- Challenges transformed into a vision for each function, including individual ambitions for desired situation in terms of performance of specific topic within a function

Desk study and stakeholder interviews:

- Additional information on current seed sector performance collected through study of policy documents
- Seed sector performance indicators collected through desk review of Nigeria data in EBA2017, TASAI-Nigeria-2019, AtSI – West & Central Africa/2019
- Ongoing seed sector initiatives as supported by various donors mapped including crops, geographic focus and seed activities
- All information collected was verified by experts

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3. Contributing organizations in FGDs & expert consultations

Representatives of these organizations participated in the seven focus group discussions/ expert consultations, or were interviewed by members of the consultants team

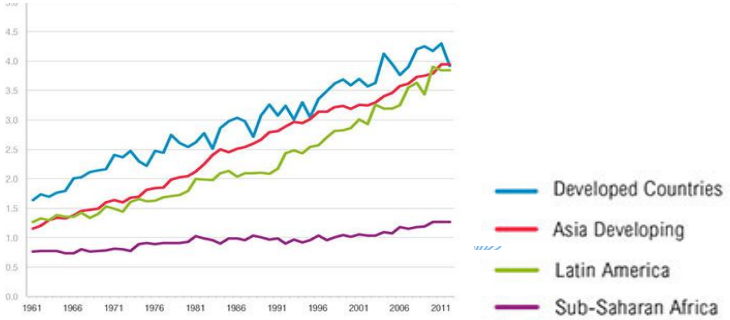
Agritropic Technisem; All Farmer Association of Nigeria; Da-Allgreen Seeds; FMARD Maize Value Chain Office; FMARD Root and Tubers Value Chain Office; Fruits and Vegies Global Ltd; IFDC/SNV 2SCALE Project; Institute of Agricultural Research, Ahmadu Bello University; International Centre for Agriculture in the Semi-Arid Tropics; International Institute for Tropical Agriculture; International Potato Center; Kaduna Agricultural Development Programme; NABC Seeds4Change Project; National Agricultural Quarantine Service; National Agricultural Seeds Council; National Horticultural Research Institute; National Root Crops Research Institute; Nigeria Agribusiness Group; Potato Farmers Association of Nigeria; Rahama Integrated Farms Ltd; Romarey Venture Nigeria Ltd; Seed Entrepreneurs Association of Nigeria; Sia Farms and Industries Ltd; Soybeans Farmers Association of Nigeria; TechniSeeds Ltd; Value Seeds Ltd; Vitae Seeds Nigeria Ltd; Yam Farmers Processors and Marketers Association of Nigeria

4.1 Seed sector transformation: introduction

The context:

- Experts attribute up to 50% of the yield gap in Sub-Saharan Africa (SSA) to limited use of quality seed and improved varieties
- Despite 50 years of massive investments in crop improvement and formal seed systems, >90% seed used by farmers in SSA is obtained informally
- Yield gap in Nigeria for example for maize and rainfed rice are more than 250%, this is due to limited use of quality seed of improved and hybrid varieties, complemented with limited use of fertilizers and good agronomic practices

Figure: Average cereal yields (mt)



The seed challenge:

- Enhance availability, access and use of quality seed is complex
  - Seed needs to be physically available, in sufficient quantity and of adequate viability at the right place and time
  - Seed needs to be accessible and affordable
  - Seed needs to be of a variety well-suited to the agro-ecological conditions and farmer/market demands
- Farmers access seed from several sources or seed systems, with each their own strengths and weaknesses
- Dissimilar seed systems require targeted interventions for enhancing their performance

Transforming a seed sector:

- Transformation requires systems' thinking, i.e. a holistic approach with complementary strategies
- It is important to take the future vision as point of departure, not today's problems

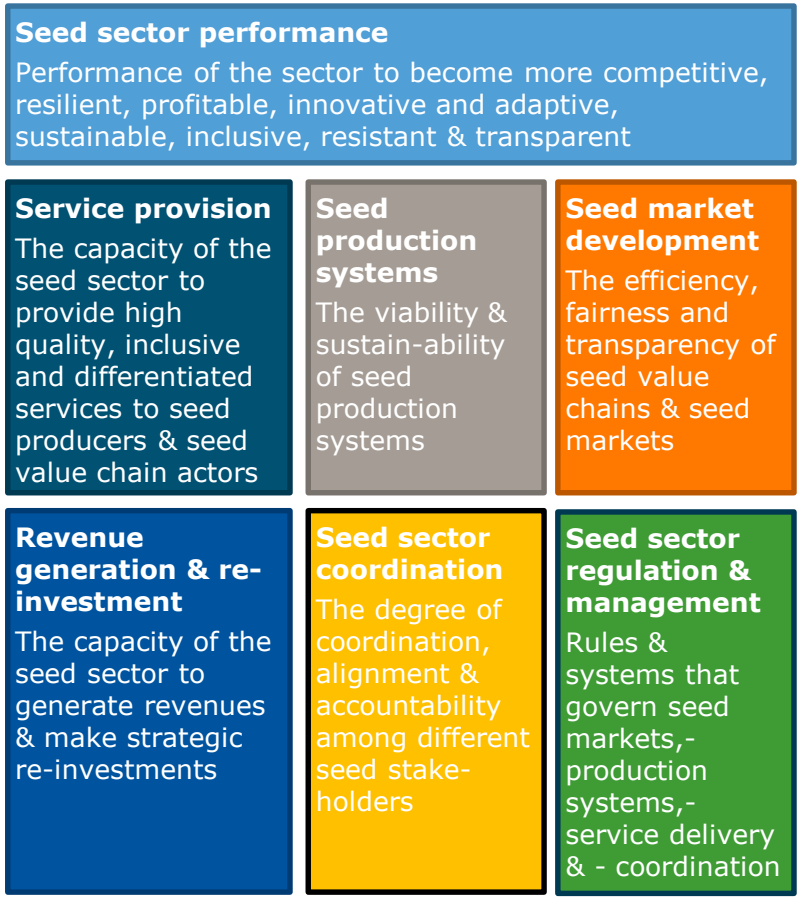
4.2 Seed sector transformation: introduction

A high performing sector is:

- *Competitive* in terms of price & quality
- *Resilient* to price volatility & climate variability
- *Profitable* by fair value capture & enabling re-investments
- *Innovative and adaptive* to market trends, in value addition & in product differentiation
- *Sustainable* in social, economic & environmental terms
- *Inclusive* to the vulnerable & their demands
- *Resistant* to rent seeking & elite capture
- *Transparent* within legal frameworks & in supply chains

A high performing seed sector functions:

- Beyond individual crop value chains
- With a strong production base, i.e. services, production & market
- With a strong governance & coordinated approach, i.e. re-investment, coordination & regulation
- Through six strategic and interlinked functions



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5.1 Seed sector: situational analysis

- The information contributing to the situational analysis of the current performance of the seed sector has been structured in the six functions for seed sector transformation
- The information is based on the synthesis of outcomes of seven crop-group based focus group discussions and individual expert consultations
- Information is complemented with that obtained through EBA/2017, TASAI-Nigeria report/2019), and AtSI-Western and Central Africa Report /2019

5.2 Seed sector: situational analysis (all crops)

Service provision

- Infrastructural and technical capacity for variety development and EGS at public research is limited
- A disconnect between research and farmers reduces variety adoption
- Constrained capacity and infrastructure of research organizations results in inefficient and complex variety release procedures
- Due to the limited capacity of research institutions, research results are not compelling and do not lead to significant economic gains at the commercial level
- Seed companies do not have access to financial products and services for their production & marketing operations
- Business support services to seed companies are not available
- Low extensionist/farmer ratio and limited involvement of seed companies in extension limit farmers access to seed related knowledge and information

Seed production systems

- The capacity of seed companies in production -, marketing -, and financial management is limited
- Seed companies and producers are constrained in their infrastructural capacity
- Seed companies do not have access to accurate industry/market information to inform proper production planning
- Structure and processes for EGS supply are constrained and hamper variety deployment and replacement
- EGS demand forecasting systems inform future EGS needs of companies are not available
- Predominance of institutional markets for several crops results in seed market inefficiencies and carryover seed
- The presence of non-genuine seed companies and traders hampers the development of the sector

5.3 Seed sector: situational analysis (all crops)

Seed market development

- Weak crop value chain structure and functioning combined with inefficient crop production practices result in farmers investing to a limited degree in quality seed of new and better performing varieties
- Instability in grain markets reduces farmers' willingness to invest in crop production, including the purchase of quality seed
- Farmers have limited awareness of quality seed and improved varieties
- Limited investment by seed companies in seed marketing and promotion reduces uptake by farmers
- Weak commercial seed distribution networks fail to reach farmers with adequate quantities of seed at the right quality and time
- Several agro-dealers are engaged in the marketing of fake seed
- Farmers and agro-dealers are not able to distinguish fake from quality seed
- NGO/government subsidies/distribution schemes distort farmers willingness to pay for quality seed
- Imbalanced opportunities for national and international seed companies
- These schemes distort the functioning of seed markets
- Farmers consider purchasing seed a risk, due to their limited trust in seed companies/agro-dealers

Revenue generation & re-investment

- Seed companies have a short term business perspective; they save & invest financial resources to a limited degree
- Given the sector's immature financial status, tailored soft loans, financial products and services are not available to seed companies and their operations
- Quality assurance services are depending on government and project budgets; they are not based on service-based revenues
- Relatively high costs for variety release & required breeder involvement constrain seed companies releasing varieties & therefore hamper competition
- Government/NGO and project subsidies distort revenue generation and sustainability of private companies
- Plant Variety Protection is not yet operational; private companies are reluctant to bring new improved varieties to the Nigerian market
- The zero-duty for agricultural inputs is not applicable for seed impacting seed prices

5.4 Seed sector: situational analysis (all crops)

Seed sector coordination

- The performance of the seed sector is hampered by the friction between public & private stakeholders' interests
- The structure of FMARD & its interventions are organized by crop value chains; seed sector development is cross crop value chain and as such lacks FMARD guidance
- FMARD has delegated oversight and coordination of the seed sector to NASC; this results in a complex aggregation, thus limited division and checks and balances, of distinct tasks in governance, regulation & implementation
- SEEDAN does not have chapters on commodities, regions, or types of seed entrepreneurs, this results in limited representation of specific demands; its governance structure needs advancement
- Sector coordination & governance are jeopardized by limited & unreliable data availability
- A structured seed sector platform, which includes public, private, civil society & knowledge stakeholders, is absent
- Limited coordination in seed sector results in donor and development organizations' individual interventions in specific crop value chains & thereby impact the sector in an uncoordinated fashion

Sector regulation & management

- Public investment in research, crop improvement & seed systems for food security crops is limited or not structural
- A focus in quality assurance of NASC on few crops impacts the quality of seed available in RTBs and vegetables
- ECOWAS policy on variety release is not implemented
- Limited enforcement of quality standards makes fake seed a rewarding business
- National seed companies cannot access the international market because NASC is not a member of major international seed bodies such as UPOV and OECD Seed Scheme
- Due to the weak partnership between NASC and other relevant government agencies such as Nigeria Customs Services and Nigerian Agricultural Quarantine Service, regulation of seed importation is poor
- Corruption at ports and borders constrains seed import
- Level playing field to various seed companies hampering competition and their license to operate
- After approval of the Plant Variety Protection Bill, appropriate systems needs to be put in place to attract foreign investment

6.1 Seed sector transformation: vision and ambitions

- The vision and ambitions have been structured in the six functions of seed sector transformation.
- The information is based on the inputs of the synthesis of seven crop-based focus group discussions & expert consultation
- The information is complemented with insights obtained from EBA2017, TASAI2019 and AtSI2019.
- The vision is elaborated for each function.
- The situational analysis has been instrumental in formulating the ambitions various topics within each function; specific ambitions for crop groups when appropriate are presented in subsequent slides.

6.2 Seed sector transformation: functions and ambitions

Service provision

The seed sector has the capacity to provide high quality, inclusive and differentiated services to seed producers & seed value chain actors

- Enhanced public capacity for variety development with functional research-market/farmer linkages
- Efficient and transparent variety release procedures are in place and implemented
- Enhanced public and private capacity for EGS supply
- Available business support services for seed companies
- Available financial products and services for seed companies and their operations
- Enhanced public and private extension services promoting farmers' use of quality seed of improved varieties
- Seed quality assurance system effective and sustainable in providing services to different seed producers, companies and agro-dealers

Seed production systems

Seed production systems are viable and sustainable

- Seed companies have access to accurate industry/market information to informer proper production planning
- Seed companies have successfully specialized in specific crops/crop groups
- Enhanced commercial and sustainable public and private structures and processes for EGS supply
- EGS demand forecasting system operational
- Enhanced seed company capacity in production -, marketing - and financial management
- Enhanced seed producers' and seed companies' infrastructural capacity
- Targets for seed production are based on farmer and market demand, they no longer reflect institutional demands (government, NGOs and projects)
- Non-genuine seed companies and traders are out-of-business

6.2 Seed sector transformation: functions and ambitions

Seed market development

Seed value chains and seed markets are efficient, fair & transparent

- Enhanced structure and functioning of crop value chains, result in increased farmers use of quality seed of improved varieties
- Increased farmers use of more optimal crop production practices including the use of quality seed of improved varieties
- Increased farmers' awareness of and willingness to pay for quality seed and improved varieties
- Seed companies invest in marketing and promotion
- Networks of seed companies and agro-dealers ensure delivery of adequate quantities of quality seed at the right time
- Reduced distortion of the functioning of seed markets due to reduced interventions by institutional buyers
- Reduced engagement of agro-dealers and seed companies in the marketing of fake seed and increased farmers' trust in agro-dealers and seed companies

Revenue generation & re-investment

The seed sector has the capacity to generate revenues & make strategic re-investments

- Enhanced mid- and long-term business perspective of companies and agro-dealers
- Sustainable financial structure of quality assurance based on service delivery and thereby more efficient and effective
- Available and tailored soft loans, financial products and services for seed companies, and seed production and marketing operations
- Reduced costs, efficiency and transparency in variety release
- Operational Plant Variety Protection
- Zero duty for imported seed similar to other agricultural inputs
- Reduced government, NGO and project subsidies and interventions in the seed market

6.3 Seed sector transformation: functions and ambitions

Seed sector coordination

High-degree of coordination, alignment & accountability among different seed stakeholders

- Increased availability & reliability of data on seed & seed business
- FMARD addresses seed aspects within its value chain structure and/or engages in cross-crop value chains, e.g. seed sector, policy guidance
- Enhanced structure & governance of the seed sector with distinct separation of institutional responsibilities for governance, regulation and implementation
- Established structured & functional seed sector platform
- Reduced friction between public & private stakeholders' interests in seed sector development
- Increased coordination & alignment among donor & development organizations in the seed sector
- Enhanced SEEDAN structure, functioning and governance, representing different regions, crops & types of seed businesses

Sector regulation & management

Rules & systems that govern seed markets, - production systems, - service delivery & - coordination are in place & enable the sector

- Food security policies & prices in the grain markets enable farmers' profitability & investment; they contribute to farmers increased use of inputs (including varieties) & make it worthwhile to invest in increasing productivity for food crops
- Enforcement of ECOWAS policy on variety release supports private sector investment
- Plant Variety Protection Bill is implemented supporting private sector investment
- Specific standards and protocols implemented for seed quality assurance of RTBs and vegetables
- NASC is member of international bodies (e.g. UPOV and OECD Seed Scheme) supporting seed export
- Efficient & transparent seed import conditions at ports and borders support seed business development
- Enhanced collaboration in service delivery by NASC, Nigeria Customs Services and Nigerian Agricultural Quarantine Service effectively facilitate seed import
- Enforcement of quality assurance & fake seed penalties restricts profitability of non-genuine seed companies & agro-dealers

7.1 Service provision: function and ambitions

Function:
The seed sector has the capacity to provide high quality, inclusive and differentiated services to seed producers & seed value chain actors

General:
- Enhanced public capacity for variety development with functional research-market/farmer linkages
- Efficient and transparent variety release procedures are in place and implemented
- Enhanced public and private capacity for EGS supply
- Available business support services for seed companies
- Available financial products and services for seed companies and their operations
- Enhanced public and private extension services promoting farmers' use of quality seed of improved varieties
- Seed quality assurance system effective and sustainable in providing services to different seed producers, companies and agro-dealers

Maize:
- Established and operational maize EGS company

Legumes, rice & small grains:
- Improved available legume varieties are resistant to key pests and diseases
- Public private partnerships for legume EGS production supply sufficient quantities of quality EGS to seed companies and seed producers

RTBs:
- Operational commercial EGS systems for yam, cassava and Irish and sweet potato
- Extension promotes the use of new improved varieties of yam, cassava, Irish and sweet potato

Vegetables:
- Increased capacity and commitment in variety development and local seed production of local vegetable crops such as okra, leafy vegetables and melon
- Increased efficiency and transparency in the implementation of the procedures for vegetable seed import
- Extension workers with skills on horticultural crops
- A quality assurance system tailored to horticultural crops

7.2 Seed production systems: function and ambitions

Function:
Seed production systems are viable and sustainable

General:
- Seed companies have access to accurate industry/market information to informer proper production planning
- Seed companies have successfully specialized in specific crops/crop groups
- Enhanced commercial and sustainable public and private structures and processes for EGS supply
- EGS demand forecasting system operational
- Enhanced seed company capacity in production -, marketing - and financial management
- Enhanced seed producers' and seed companies infrastructural capacity
- Targets for seed production are based on farmer and market demand, they no longer reflect institutional demands (government, NGOs and projects)
- Non-genuine seed companies and traders are out-of-business

Maize:
- Enhanced & more profitable business model for hybrid maize seed production and marketing

Legumes, rice & small grains:
- Increased, more efficient and sustainable linkages between community-based legume, rice and small grains seed production with research institutes
- Increased availability of central and local storage facilities for the marketing of quality legume seed

RTBs:
- Operational complementary business models of domestically produced & import-based seed potato value chains
- Increased number of companies specialized in quality RTB seed production and marketing
- Enhanced infrastructure of seed companies in the production and marketing of quality RTB seed

Vegetables:
- Increased specialization of vegetable seed companies & distributors
- Enhanced engagement in mutually beneficial business models for international companies & local distributors in the vegetable sector
- Reduced use of repackaging by seed companies/distributors allowing for stronger marketing & reliability in the vegetable seed supply

7.3 Seed market development: function and ambitions

Function:
Seed value chains and seed markets are efficient, fair & transparent

General:
- Enhanced structure and functioning of crop value chains, result in increased farmers use of quality seed of improved varieties
- Increased farmers use of more optimal crop production practices including the use of quality seed of improved varieties
- Increased farmers' awareness of and willingness to pay for quality seed and improved varieties
- Seed companies invest in marketing and promotion
- Networks of seed companies and agro-dealers ensure delivery of adequate quantities of quality seed at the right time
- Reduced distortion of the functioning of seed markets due to reduced interventions by institutional buyers
- Reduced engagement of agro-dealers and seed companies in the marketing of fake seed and increased farmers' trust in agro-dealers and seed companies

Maize:
- Maize grain value chains with more stable prices and increased profitability for farmers, which results in an increased demand for hybrid maize seed
- Increased farmers' awareness of farmers on the practices & advantages of growing hybrid maize

Legumes, rice & small grains:
- Developed cowpea grain aggregation centres that increase quality seed demand
- Increased farmers' awareness on legume varieties that are adapted to their agro-ecologies & market demands
- Established business oriented community based legume seed production schemes
- Increased number of private seed companies to include legumes in their crop portfolio

RTBs:
- More profitable and sustainable RTB production systems
- Increased farmers' awareness on RTB seed systems
- Promoted entrepreneurship in yam traditions & culture

Vegetables:
- Enhanced professionalization of vegetable production
- Increased availability of new vegetable varieties of international seed companies through local distributors

7.4 Revenue generation & reinvestment: function and ambitions

Function:
The seed sector has the capacity to generate revenues & make strategic re-investments

General:
- Enhanced mid- and long-term business perspective of companies and agro-dealers
- Sustainable financial structure of quality assurance based on service delivery and thereby more efficient and effective
- Available and tailored soft loans, financial products and services for seed companies, and seed production and marketing operations
- Reduced costs, efficiency and transparency in variety release
- Operational Plant Variety Protection
- Zero duty for imported seed similar to other agricultural inputs
- Reduced government, NGO and project subsidies and interventions in the seed market

Legumes, rice & small grains:
- Sustainable & economically viable public-private partnerships on legume EGS production & marketing that support the functioning of seed value chains for legume crops

RTBs:
- Complementary models for seed potato imports and local seed potato production supporting distinct potato markets developed and operational
- Increased specialization of private companies in RTB seed supply
- Increased investment in the infrastructure of private seed companies for RTB seed production and marketing

Vegetables:
- Increased professionalization of seed companies/ distributors in vegetable seed sales

7.5 Seed sector coordination: function and ambitions

Function:
High-degree of coordination, alignment & accountability among different seed stakeholders

General:
- Increased availability & reliability of data on seed & seed business
- FMARD addresses seed aspects within its value chain structure and/or engages in cross-crop value chains, e.g. seed sector, policy guidance
- Enhanced structure & governance of the seed sector with distinct separation of institutional responsibilities for governance, regulation and implementation
- Established structured & functional seed sector platform
- Reduced friction between public & private stakeholders' interests in seed sector development
- Increased coordination & alignment among donor & development organizations in the seed sector
- Enhanced SEEDAN structure, functioning and governance, representing different regions, crops & types of seed businesses

Vegetables:
- Enhanced promotion & strengthening of the horticultural sector including a more enabling environment through specific government strategy on horticulture

7.6 Sector regulation & management: function and ambitions

Function:
Rules & systems that govern seed markets, - production systems, - service delivery & - coordination are in place & enable the sector

General:
- Food security policies & prices in the grain markets enable farmers' profitability & investment; they contribute to farmers increased use of inputs (including varieties) & make it worthwhile to invest in increasing productivity for food crops
- Enforcement of ECOWAS policy on variety release supports private sector investment
- Plant Variety Protection Bill is implemented supporting private sector investment
- Specific standards and protocols implemented for seed quality assurance of RTBs and vegetables
- NASC is member of international bodies (e.g. UPOV and OECD Seed Scheme) supporting seed export
- Efficient & transparent seed import conditions at ports and borders support seed business development
- Enhanced collaboration in service delivery by NASC, Nigeria Customs Services and Nigerian Agricultural Quarantine Service effectively facilitate seed import
- Enforcement of quality assurance & fake seed penalties restricts profitability of non-genuine seed companies & agro-dealers

Maize:
- Reduced fake maize seed in the market through strategies for tackling counterfeiting

RTBs:
- Increased transparency & efficiency in quarantine & quality assurance operations for import of Irish seed potato
- Functional seed regulatory frameworks for RTBs that take into consideration specific requirements for RTB seed systems

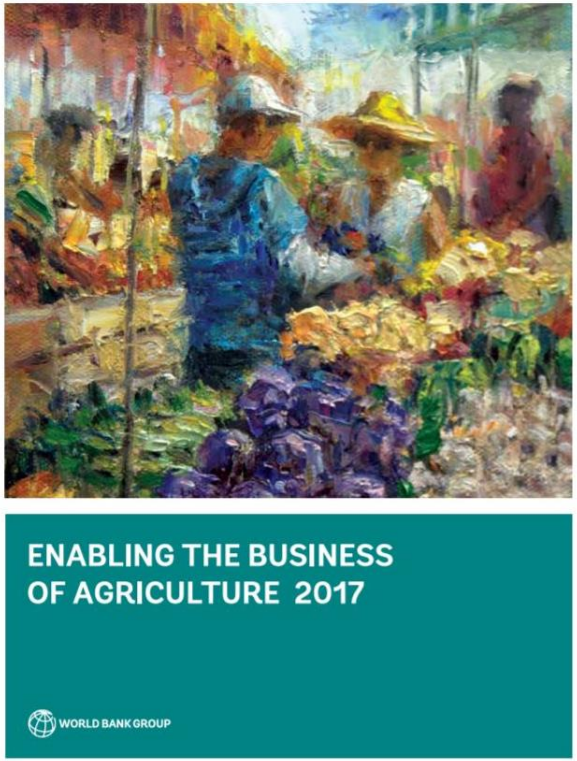
Vegetables:
- Increased cost-benefit ratio & efficiency for vegetable variety release
- Functional seed regulatory framework for horticultural crops that takes into account the specific requirement & demands of vegetable seed systems

8. Insights: Seed related policies

Topic & Policy	Key issues
Quality assurance & variety release: National Agricultural Seeds Council Act; 2019 (updated)	NASC act guides NASC governance and responsibilities, appointment of leadership and inspectors, seed registration and release, seed certification and control, seed production and processing (including EGS), and support to PVP and breeders' rights
Plant Variety Protection (PVP) 2019 (HB. 68) (in process)	The PVP is currently in process of approval in Parliament. Upon approval, there is a need operationalize it at institutional and regulatory level including operations and capacity development including DUS testing
Seed policy harmonization	NASC mandates local testing, registration, and certification of all varieties intended for sale to farmers in Nigeria, maintaining that recognition of varieties listed in the West Africa Seed Catalogue only apply to varieties imported for direct use on the importer's farm and not to seed intended for commercial sale to farmers. This is contrast with ECOWAS Seed Regulation which requires free movement of seeds in the region as soon as ECOWAS quality standards are met and establishes mutual recognition of certification based on ECOWAS standards.
Seed import	Applications for an import or export permit are made directly to the Plant Quarantine Service, accompanied by an approval letter from NASC

9.1a Insights: EBA2017 - Nigeria

- The Enabling the Business of Agriculture (EBA) project, as managed by the World Bank Group, measures laws & regulations that impact the business environment for agriculture
- The aim is to collect globally comparable data and indicators to enable countries, policy makers & other stakeholders to identify barriers to the growth of agriculture & agribusiness
- The latest EBA report (2017) presents data for 62 countries, across 12 topics, including the seed sector
- The EBA seed indicators aim to identify obstacles affecting variety release, PVP and seed certification, especially looking at the formal seed supply system
- Special focus is on whether certain procedures are in place, & how much time is needed & what costs are charged for passing the procedures
- For the seed sector indicator, Nigeria ranks number 42 of the 62 countries studied; as comparison, this is higher than Ghana (48), Niger (49), Benin (55), Cameroon (58), but lower than Côte d'Ivoire (30)
- https://eba.worldbank.org/en/data/exploreeconomies/nigeria/2017



9.1b Insights: EBA2017 - Nigeria

Topic	Description	Scores and indexes	Range	Scoring
General scoring & rank	Total score & rank as compared to other countries	Seed DFT score	(0-100)	48
		Seed rank	(1-62)	42
Plant breeding	• Existence, duration & terms of plant variety protection • Right to licence protected varieties & availability of information on protected varieties • Access to germplasm, breeder & foundation seed	Plant breeding index	(0-8)	3.0
Variety registration	• Legal requirements to register a new seed variety & information accessibility, including time and cost • Acceptance of testing data from foreign authorities • Variety release committee & availability of online variety catalogue listing registered varieties	Variety registration index	(0-8)	5.5
		Time to register a new variety	(days)	367
		Costs to register a new variety	(% income per capita)	198
Quality control	• Breeders' requirement to ensure the traceability of breeding materials • Publically available fee schedule for certification • Third-party accreditation or self-accreditation for certification activities • Labelling requirements and penalties for mislabelled seed containers	Seed quality control index	(0-12)	3.0

9.1c Insights: EBA2017 - Nigeria

Plant Breeding:

- No PVP or plant breeders' rights law in place in 2017; no system for PRB implementation in place yet
- Seed companies are legally allowed to produce breeder seed & foundation seed of public varieties for use in the domestic market
- Companies do not have access to germplasm in the national genebank
- Public research institutes licence public varieties to companies for seed production & sale in the domestic market
- Companies are not subject to government testing (other than phytosanitary testing) when importing seed for variety development
- Legal basis for plant breeding: National Agricultural Seeds Decree 1992

Variety registration:

- DUS testing data from other countries' authorities are not accepted
- A variety release committee is operational, with 12 governmental & 7 non-governmental representatives
- The variety release committee meets once per year
- Newly released varieties can be immediately commercialised after approval of the registration body
- A variety catalogue listing new varieties is available online; it does indicate the suitable agro-ecological zones for each variety
- The catalogue is updated biannually
- Legal basis for variety registration: National Agricultural Seeds Decree 1992

9.1d Insights: EBA2017 - Nigeria

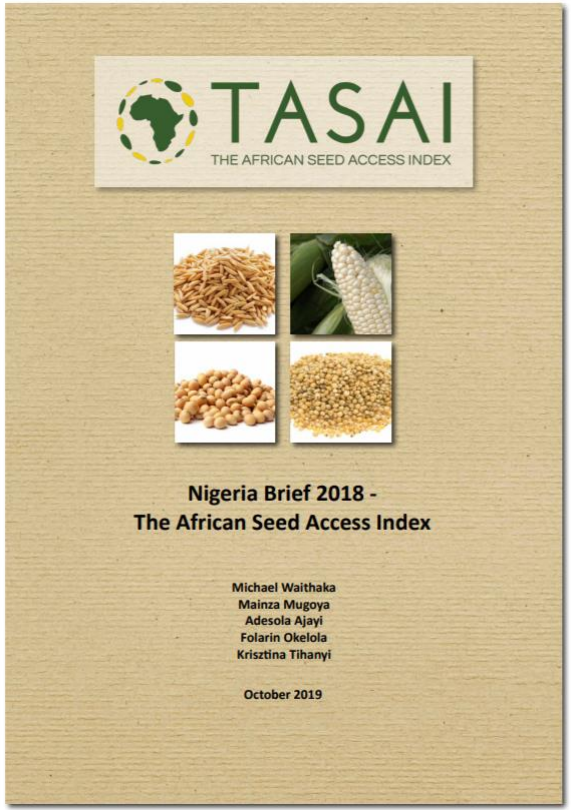
Seed Quality Control:

- No official fee schedule for seed certification carried out by the national authorities
- No law obliging plant breeders to ensure traceability of their materials
- No framework in the law for accreditation of third parties or private seed companies for implementing seed certification (field inspection, sampling, lab testing or labelling)
- The law does not require the national authority to do post-control testing of certified seed
- The law does provide penalties for fraudulent sales or mislabelled seed bags
- Seed quality control: National Agricultural Seeds Decree 1992

- The law does require labelling of seed containers for sale: with the following information:
    - Name and address of seed producer
    - Crop species
    - Class of seed
    - Net weight
    - Lot number
    - Minimum germination percentage
    - Year of production
    - Chemical treatment on seed
- The following information is not required on the seed container:
    - Certificate number
    - Minimum purity percentage
    - Repackaging or relabelling

9.2 Insights: TASAI2019 - Nigeria

- The African Seed Access Index (TASAI)
- Study for Nigeria conducted in 2018; published October 2019
- Evaluates the enabling environment necessary to build a vibrant formal seed sector
- Focus on four crops: maize, rice, soya bean & sorghum
- The study covers 20 indicators in five categories:
    - Research and Development
    - Industry Competitiveness
    - Seed Policy and Regulations
    - Institutional Support
    - Service to Smallholder Farmers
- Survey included 48 companies, further sources are documents & expert interviews
- Nigeria brief: https://tasai.org/wp-content/themes/tasai2016/img/tasai_nigeria_brief_2018_lr.pdf



9.2b Insights: TASAI2019 - Nigeria

A. Research and Development	General	Maize	Rice	Sorghum	Soybean
Number of active breeders	23	9 public; 1,5 private	3 public; 1 private	3 public; 0,5 private	4 public; 1 private
Number of varieties released in last 3 years	32	25 (16 IITA)	5 (all AfricaRice)	2 (all ICRISAT)	0
Availability of (basic) foundation seed		74% good	72% good	70% good	71% good
Average age of varieties sold		7 years	14 years	31 years	12 years
Number of varieties sold		31 varieties	10 varieties	7 varieties	11 varieties
B. Industry competitiveness					
Number of active crop seed companies	156; 106 incl. production	71	81	27	26
Market share of top 4 companies	Yes	63%	37%	65%	59%
Production Certified Seed (NASC)	*Yes*	*32*	*38*	*1,2*	*1,0*
Production Certified Seed (TASAI)	*Yes*	*27*	*53*	*2,8*	*2,5*
Marketing Certified Seed (TASAI)	*Yes*	*17*	*38*	*1,6*	*1,9*
Seed sales directly to farmers		*23%*	*28%*	*87%*	*52%*
Seed sales to agro-dealers		*27%*	*21%*	*5%*	*31%*
Seed sales to institutional market (Govt & NGOs)		*47%*	*5%*	*7%*	*17%*
Seeds to others		*3%*	*31%*	*0%*	*1%*
E. Service to smallholder farmers					
Concentration of rural agro-deal network	n.a.				
Availability of seed in small packages	9% among 4 top companies	11%	6%	27%	10%
Seed-to-grain price ratios at planting time	Avg. price hybrid maize seed $1.03 lowest in Africa (TASAI studies)	5.8 hybrids 5.0 OPV	3.3	6.7	2.9

9.2c Insights: TASAI2019 Nigeria

C. Seed policy and regulations	General	Industry perception
Length of variety release process	3,6 year	
Costs variety release process	*US$ 2,000-US$24,000*	*good (70%)*
Quality of seed policy framework		excellent (83%)
Quality of regulatory system		excellent (83%)
Adequacy of seed inspectors	50 inspectors	excellent (84%)
Efforts to stamp out fake seed	34 reports (high)	good (70%)
D. Institutional support		
Availability of extension services	7300 (7000 public) Ratio extensionist/farmer : 5-10k farmers	
Quality of national seed trade association		fair (59%)

9.2d Insights: TASAI Nigeria – other crops

	Legumes		RTB			
A. Research and Development	**Cowpea**	**Groundnut**	**Yam**	**Cassava**	**Sweet potato**	**Irish potato**
Number of active breeders	4	4	6	3	3	2
Number of varieties released in last 3 years	4	0	2	0	1	3
Availability of (basic) foundation seed	2 mt BS, 80 mt FS	3 mt BS, 60 mt FS	limited	800 bundles	21,000 bundles in 3 cycles (100vines/bundle)	3 ton
B. Industry competitiveness						
Number of active crop seed companies	8	12	5 (market seed in 2020)	8 w/ >5ha 150 w/1ha	Nil	2
E. Service to smallholder farmers						
Seed-to-grain price ratios at planting time	2:1	2:1	n/a	10-20% input costs	40% input cost	50% input cost

The information for other crops has been compiled based on the review of the NASC information (number of variety released) and expert consultations by the consultant's team

9.3a Insights: Access to Seeds Index Nigeria

- Regional Index
- The Access to Seeds Index measures & compares the efforts of the world's leading seed companies to enhance the productivity of smallholder farmers
- In 2019 the Access to Seeds Index presented four rankings and in-depth studies that evaluated the performance of global seed companies as well as the regional industry in South and Southeast Asia and sub-Saharan Africa, including West & Central Africa
- The index methodology is based on input from farmers, companies and policymakers, & was reviewed by dozens of experts from each region

- Two landscaping studies published in 2018 identified over 100 seed companies and 50 seed-producing cooperatives across 20 countries
- 23 leading seed companies were selected for the first Access to Seeds Index for Western & Central Africa
- The 17 companies headquartered in Africa are referred to as regional companies, four companies from Nigeria are included
- The six companies headquartered outside the continent are referred to as global companies

- https://www.accesstoseeds.org/index/western-central-africa/

9.3b Insights: Access to Seeds Index Nigeria

Country Report

- Unlike many countries in West Africa, the role of the private sector has been vital to the transition and growth of Nigeria's seed industry
- Private sector participation in breeding & variety release has led to an increase in its share of variety release in the country, which the public sector dominated until 2000
- The private sector now constitutes 13% of variety releases in the seed market, with the public seed sector constituting the remaining 87%
- 157 registered seed companies in Nigeria, with the majority producing fewer than 1,000 metric tons of seeds annually (source NASC)
- SEEDAN is the country's main private seed trading body, with approximately 67 registered members

- The public seed sector is run by the Federal Ministry of Agriculture and Rural Development (FMARD), in includes NASC & the Crop Varieties Registration and Release Committee (CVRRC)
- The CVRRC is responsible for varietal evaluation, release & registration in the national catalogue of registered and released varieties
- The national agricultural research institutes (NARIs) play a significant role in the agriculture sector
- NARIs, among others, produce foundation seed
- The Consultative Group on International Agricultural Research is an important player in Nigeria, with ongoing activities through the International Institute of Tropical Agriculture (IITA), The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), and AfricaRice

9.3c Insights: Access to Seeds Index Nigeria

Index company activities identified in Nigeria

Company	Crops in portfolio		Company activities in country					
Companies selected for the Access to Seeds Index	Field crops	Vegetables	Breeding location	Testing location	Seed production	Processing location	Sales	Extension services
Bayer	●	●					●	●
Bejo		●					●	
Charoen Pokphand	●	●					●	
Corteva Agriscience	●						●	
Da-Allgreen Seeds **	●	●		●	●	●	●	●
East African Seed	●	●					●	
East-West Seed		●		●			●	●
Enza Zaden		●					●	
GAWAL	●				●		●	
Maslaha Seeds **	●		●	●	● *	●	●	●
Monsanto	●	●		●			●	
NAFASO	●						●	
Nongwoo Bio		●					●	
Pop Vriend Seeds		●		●			●	
Premier Seed **	●	●	●	●	● *	●	●	●
Rijk Zwaan		●					●	
Sakata		●					●	
Seed Co	●	●		●	● *	●	●	●
Soprosa		●					●	
Syngenta ***	●	●	●				●	
Technisem		●		●			●	
Value Seeds **	●	●	●	●	● *	●	●	●

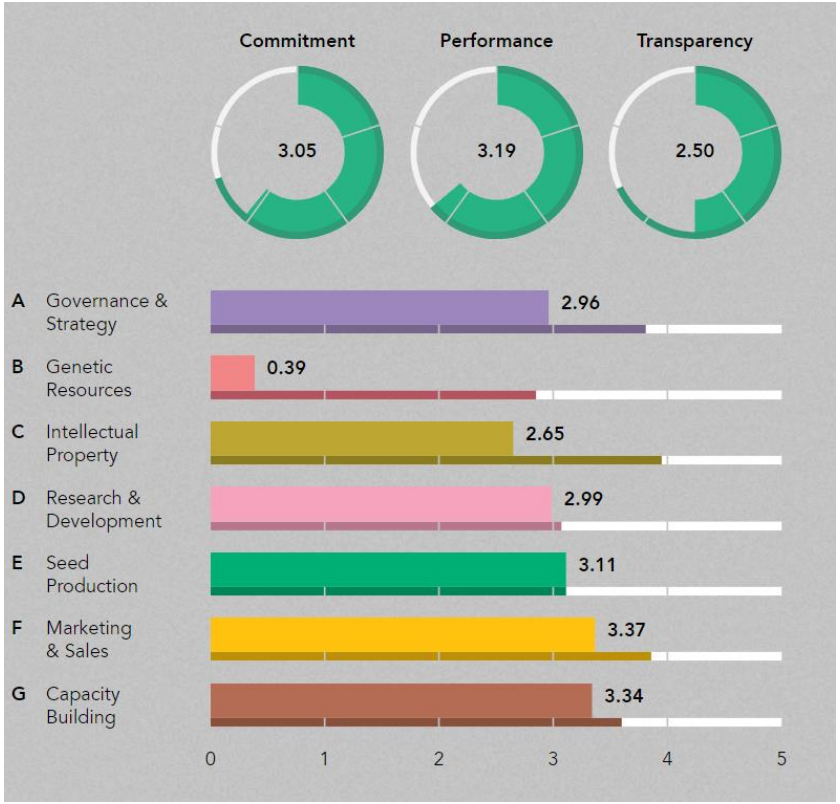
- There are 24 index companies in Nigeria—the highest number in the region
- Four companies are headquartered in Nigeria, four have breeding activities in the country, and 10 have testing locations
- Value Seeds ranks 1st out of 23 companies in the region; Maslaha 6th, Premier 11th, and Da-Algreen 12th
- Six companies have seed production activities in Nigeria, of which four involve smallholder farmers, while five companies have processing facilities in the country
- Of the 24 index companies, only nine accompany their sales activities with extension services
- Technisem and Value Seeds stand out with 30 technical staff members involved in extension services

9.3d Insights: Access to Seeds Index Nigeria

Value Seeds, Zaria (example)

- Rank 1st in 2017 out of 23 in the West & Central Africa Index
- Value Seeds Ltd (Value Seeds) is a field crop and vegetable seed company incorporated in 2009
- Grant-based support from Alliance for a Green Revolution in Africa in 2014 enabled the company to intensify its outreach to smallholder farmers and to develop 'value kits' for maize and rice, all-in-one input packages for farmers
- The company is active in Nigeria only
- The company's portfolio mainly consists of open-pollinated varieties, while offering hybrid varieties for a few crops, including maize
- Its main crops are maize, rice and soybean
- The company partners with multiple international and national organizations in research and development

Note that profiles of the other Nigerian companies can be accessed West and Central Africa report



10.1 Donor landscape

Donor	Programme title	Implementing organisations	Seed component	Crops	Geography
BMGF	Building an Economically Sustainable, Integrated Seed System for Cassava in Nigeria (BASICS)	CGIAR RTB with Context Network, Sahel, CRS, NRCRI, IITA, NASC, FERA	Strengthen commercial cassava seed system along value chain, including pre-basic, basic and commercial seed producers, develop a network of 130 community based seed enterprises	Cassava	Abia, Imo, Cross Rivers & Akwa Ibom states
BMGF	Yam Improvement for Incomes and Food Security in West Africa (YIFSWA II)	IITA, NRCRI, Context, Sahel, NASC, NACGRAP and private seed companies	Develop functional yam seed system	Yam	Nigeria & Ghana
BMGF/ AGRA	Concept - EGS seed company	AGRA, IITA, NASC and others	Development of a specialized company for the production of EGS for maize (inbred lines) and rice foundation seed	Maize, rice, optional for legumes	National
BMZ (Germany)	Nigeria Competitiveness Project (NiCOP)	GiZ/ACFI	Public private partnerships, fostering the use of quality seed of superior varieties in horticulture	Tomato, chilli pepper, ginger	Kano, Kaduna, Plateau, Ogun, Oyo, Lagos & Abia
BMZ (Germany)	Pro-poor Growth and Promotion of Employment in Nigeria Programme (SEDIN)	GiZ/ACFI	Support potato and cassava seed systems; set up and strengthen potato producer organizations are, within each dedicated seed producers are supported; support companies in potato seed import to boost productivity	Potato, Cassava, Rice	Federal Level, Niger, Ogun & Plateau
BMZ (Germany)	Green Innovation Centres for the Agriculture and Food Sector (GIAE)	GIZ/AFC, ADP, FMARD	Support community based seed systems for the potato (13 coops) and cassava; promotion through demo plots on quality seed and improved varieties;	Maize; potato; cassava	Kaduna, Kano, Asarawa, Benue, Cross-River, Plateau, Ogun & Oyo

10.2 Donor landscape

Donor	Programme title	Implementing organisations	Seed component	Crops	Geography
IFAD	Value Chain Support Programme (VCDP)	FMARD, IFAD	120 rice seed smallholder producers/entrepreneurs; including quality assurance through accredited extension officers; grain producers test seed modality; given limited demand yet in cassava produce, limited progress with cassava seed/stem production	Rice, cassava	Anambra, Benue, Ebonyi, Niger, Ogun, Taraba & Benue (6-9 FGAs/state); Kogi, Nassarawa & Enegu
ISDB/LLF	Kano State Agro-Pastoral Development Project	FMARD, NGO (tbd)	Seed supply within a larger value chain development context creating opportunities for professionalization of seed supply through seed companies and seed producer organizations, with options to move beyond institutional purchase of seed and distribution	Maize, wheat, rice, sorghum, cowpea, soybean, groundnut	44 LGAs in Kano State
JICA (Japan)	Coalition for African Rice Development (CARD)	AGRA, JICA, FMARD	Seed value chain development including breeder, foundation and certified seed production and marketing	rice	all rice growing states
RVO (Netherlands)	Seeds for Change (S4C)	NABC	In collaboration with international and local companies, promote the use of biological crop protection and hybrid vegetable seeds to improve yields and provide training on cultivation techniques for 5 vegetable crops; training is with 2 trial farms and multiple demonstration farms	Tomato, watermelon, onion, hot and sweet pepper, cabbage	Kano
RVO (Netherlands)	Transforming Nigeria's Vegetable Markets	RVO, Ahmadu Bello University, East-West Seed, FMARD	The project aims to achieve a significant productivity increase of the domestic vegetable sector by disseminating knowledge and introducing new varieties	Vegetables	Kano, Kaduna
USAID (USA)	Agri-Business project	CNFA	In its value chain and private sector orientation, the project has the potential to impact the seed sector for the relevant crops	rice, maize, soybean & cowpea	Kaduna, Niger, Kebbi, Benue, Delta, Ebonyi, & Cross River

10.3 Donor landscape

Donor	Programme title	Implementing organisations	Seed component	Crops	Geography
USAID (USA)/AGRA	PIATA systems and value chain subgrants	AGRA, subgrantees	Systems Subgrant: Advocacy and policy work to support the development of PVP/IP	rice, maize, soybean, cassava	Federal level, Kaduna and Kano
		AGRA, NASC, MPedigree & others	Systems Subgrant: NASC in quality assurance through the design and operationalisation of a tracking system to battle counterfeiting	maize	Federal level, relevant states
		AGRA, NASC, IITA, NARS, companies	Systems Subgrant: Commercial and sustainable supply of EGS in a partnership of	rice & maize	Federal level, relevant states
		AGRA, seed companies	Integrated Value Chain Development Component supports two seed companies through a grant in the production and marketing of qualities seed of hybrid maize and improved rice varieties	rice & maize	Kaduna, Niger
World Bank	Fadama III Additional Financing (FADAMAIII/AF)	FMARD	The project operates within few value chains through contract farming that includes arrangements for input supply (including seed). It strengthens the use of quality seed and fosters its demand creation. The project promotes community seed production among women and youth and links with seed companies.	rice, cassava, sorghum, horticulture	Anambra, Enugu, Kano, Kogi, Lagos & Niger