



# Crop Variety Release and Registration in Nigeria

## Baseline Assessment Report

# Table of Contents



- 1** Executive Summary
- 2** Project Mandate and Methodology
- 3** Crop Variety Registration and Release in Nigeria: Study Findings
- 4** Implications on Stakeholders and the Agriculture Sector
- 5** Next Steps
- 6** Appendix

# Executive Summary



Nigeria's crop variety registration and release system feature a range of actors across the public and private sectors who coordinate, nominate, and evaluate crop varieties for release. The process ensures that only high-performing and well-adapted varieties enter the seed system and become available for multiplication and distribution to farmers and food producers. It involves three mandatory trials: DUS on-station trials, VCU multi-location trials, and on-farm trials, all of which are conducted by the developing breeders and organizations, in collaboration with the mandated National Agricultural Research Institute (NARI).

The constrained financial and infrastructure capacity of public sector actors, coupled with a continued reliance on weak legacy processes and procedures, limits the system's performance. Compared to African and global peers, Nigeria's variety release system is characterized by longer duration, higher costs, and lower investment by private actors. The inability to release new varieties in a timely and cost-effective manner adversely affects the operations of seed companies, limits the number of varieties available to farmers and food producers, and increases the food system's vulnerability to climate shocks. Therefore, the constrained performance of the system limits the development and growth of the agricultural sector.

The National Seed Road Map (NSRM) recognizes these challenges and elaborates a Strategic Innovation Pathway (SIP) to increase efficiency and transparency in the variety release process and achieve a more realistic cost-benefit ratio for the system. The Collaborative Seed Programme (CSP) implements this SIP and undertakes a two-part baseline assessment to identify the causes and effects of the current variety release practices and identify system improvement innovations.

This report sets out the findings from the first phase of the assessment, focusing on the release system for maize, rice, cassava, and tomato value chains. It uses duration, cost, and the number of varieties released, as key baseline indicators.

# Executive Summary

This study finds that:

- Nigeria's crop variety registration and release process is one of the lengthiest in Africa, taking anything from 42 to 55 months to complete, with the mandatory trials accounting for more than 80% of the total duration.
- The cost of variety registration and release is as high as \$60,000 and varies by crop, with most expenses incurred during the mandatory trials.
- The developing breeders, organizations and companies are fully responsible for the costs of registration and release. Private seed companies and CGIAR centres incur higher costs compared to NARIs in the process. These stakeholders perceive this feature as creating inequality in the system, thus reducing the investment by private companies and global public good breeding programmes in the Nigerian seed sector.
- Maize accounts for over 50% of the 298 varieties released for the four focus crops in Nigeria, with rice, cassava, and tomato accounting for the remaining.
- Private sector involvement in the release of varieties is low as only 9% of all varieties released in Nigeria for the focus crops were developed by the private sector.
- Other issues such as the poor digitization of the process, capacity constraints of key actors to support the process, and regulations, are additional bottlenecks that contribute to the inefficiency in the process.

The second phase of this assessment identifies system improvement scenarios and recommends feasible innovations that the CSP will pilot for the focus crops.

# Executive Summary

The baseline values and programme targets of key outcome indicators for the focus crops are presented in the table below.

Baseline Indicators	Maize		Rice		Cassava		Tomato	
	Programme Target	Baseline Value	Programme Target	Baseline Value	Programme Target	Baseline Value	Programme Target	Baseline Value
<b>Duration of the process for variety release (months)</b>	36	42 – 43	36	42 – 43	36	54 – 55	36	42 – 43
<b>Average cost to conclude variety release (US\$)</b>	\$10,000	\$6,000 - \$15,000	\$15,000	\$40,000 - \$44,000	\$15,000	\$40,000 – \$60,000	\$10,000	\$50,000
<b>Number of varieties released per crop contributing to food and nutrition security per year</b>	9	7	3	1	3	1	3	0

## Notes:

- the variation in duration and cost between the four crops responds to specific characteristics of the crops such as duration, labour input during production, etc.
- The targets are based in the CSP targets, though for maize, rice and tomato, the innovations should lead to a reduction in duration of the process to 24 months.

# Table of Contents



1

Executive Summary

2

Project Mandate and Methodology

3

Crop Variety Registration and Release in Nigeria:  
Study Findings

4

Implications on Stakeholders and the Agriculture  
Sector

5

Next Steps

6

Appendix

# Project Mandate



The Collaborative Seed Programme (CSP) is an initiative between the Nigerian and Dutch seed sector stakeholders that aims to transform the Nigerian seed sector. Sahel Consulting Agriculture and Nutrition Ltd. was engaged by the programme to conduct a study on the crop variety registration and release process in Nigeria, focusing on four crops - Maize, Rice, Cassava, and Tomato.

The study was conducted under the [Variety Release Topic](#) in collaboration with the National Centre for Genetic Resources and Biotechnology (NACGRAB) and the Wageningen Centre for Development Innovation (WCDI). The study has four objectives under two phases.

## Phase 1 – Baseline Assessment

- Conduct a baseline assessment for three key indicators - the duration of the process for variety registration and release, the average cost to conclude variety registration and release, and the number of varieties released per focus crop in the last five years
- Identify bottlenecks, areas to increase transparency, reduce cost and increase accountability in the process

## Phase 2- System Improvement Proposals

- Identify system improvement scenarios, analyze different scenarios and identify feasible outcomes; and draft a proposal for four system innovation projects crops; and
- Identify areas in the crop variety registration and release process and procedures for digitalization and draft a proposal for investments

# Phase 1: Methodology

The team utilized a multi-pronged approach to implement this phase.

## Desk Research

- Reviewed documents, datasets, and reports related to the crop variety registration and release process in Nigeria to:
  - Identify the process in Nigeria, including the timeline for registration and release
  - Map the major stakeholders involved in the process
  - Identify the number of varieties released in Nigeria for the focus crops in the last five years
- Reviewed documents, datasets, and reports related to crop variety registration and release in other countries to identify best practices adaptable to the Nigerian context

## Field Research

- Developed discussion guides to facilitate stakeholder interviews
- Engaged stakeholders through phone calls, virtual and in-person meetings to obtain insights. Stakeholder groups contacted and engaged include:
  - Government Agencies
  - National and International Agricultural Research Institutes
  - Private Indigenous and International Seed Companies
  - Associations, and
  - Non-governmental organizations

## Data Analysis and Synthesis

- Analysed data and insights obtained during desk and field research
- Participated in a stakeholder workshop to validate insights obtained from desk and field research and fill existing information gaps

## Report Development and Submission

- Developed and submitted draft report to program leads
- Incorporated feedback obtained from program leads and submitted final report



# Table of Contents



**1**

Executive Summary

**2**

Project Mandate and Methodology

**3**

Crop Variety Registration and Release in Nigeria:  
Study Findings

**4**

Implications on Stakeholders and the Agriculture  
Sector

**5**

Next Steps

**6**

Appendix

# The Case for an Improved Variety Registration and Release System in Nigeria

An improved crop variety registration and release process in Nigeria has the potential to rebuild trust of actors in the system, promote private sector participation and investments, contribute positively to a resilient food system and ease variety trade across the region.

## Improving the efficiency of the variety release and registration process will:

### Trust in the System

- Rebuild trust of actors in the system, thereby promoting private sector participation and increasing investments in the development, multiplication and distribution of high-performing and well-adapted varieties to farmers and food producers in the country.

### Resilient Food Systems

- Contribute to building a resilient food systems by ensuring the availability of improved varieties, that are adaptable to environmental challenges such as adverse weather conditions, new pests and disease outbreaks. Thus, guaranteeing the production of sufficient healthy and nutritious food in the country regardless of environmental disruptions

### Open Trade of Varieties

- Improve regional trade as actors can register their varieties in Nigeria in a timely manner, to be commercialized across the ECOWAS region and vice versa thereby encouraging innovations, increasing productivity and creating opportunities for stakeholders in the region.



# Guiding Principles for an Efficient Crop Variety Registration and Release System

Based on international best practices and expert consultations, there are at least four guiding principles that ensures an efficient variety registration and release system.

## Non Bureaucratic

A non-bureaucratic system with a clear timeframe for the evaluation and release of varieties, to ensure that genetic gains from variety development can be timely transferred to farmers

## Transparent

A transparent review system with an independent Committee made up of a range of stakeholders, without a dominant interest group.

## Equal Treatment of Actors

A system that encourages the equal treatment and participation of actors including the private sector and stimulates investment in plant breeding and other sectors of the seed system

## Cost Effective

A system that is cost effective and financially sustainable for actors, to engage in the release of varieties for cultivation and use

### Sources:


1. Michael Turner, Zewdie Bishaw. (2016). A Review of Variety Release Procedures and Related Issues with Recommendations for Good Practice. Beirut, Lebanon: International Center for Agricultural Research in the Dry Areas (ICARDA)
2. Sahel Research 2021



# Crop Variety Registration and Release in Nigeria: Key Actors and their Roles

The crop variety registration and release system in Nigeria features a range of actors across the public and private sectors, with responsibilities ranging from the nomination of new varieties to the coordination of the system and the approval for release.

## Nomination of Varieties

 **National Agricultural Research Institutes (NARIs):** Research institutes with the national mandate to conduct agricultural research in Nigeria

 **Educations Institutions:** Federal universities of agriculture or conventional universities with faculties of agriculture

 **CGIAR Centres:** International agricultural research institutes that conduct agricultural research in Nigeria


 **Private Seed Companies:** Indigenous and international seed companies operating in Nigeria

 **Non-Governmental Organizations:** Independent organizations

**Role:** Responsible for variety development and submission of nominations for registration and release.\*

\* For varieties developed by organizations other than the NARIs, the organizations are required to coordinate with the NARI with the mandate for the crop under consideration, to evaluate their varieties before submission for nominations.


## Coordination

 **National Centre for Genetic Resources and Biotechnology (NACGRAB):** Agency under the supervision of the Federal Ministry of Science and Technology that is responsible for the coordination of the variety registration and release system.

### Role:

- Publishes the annual National Variety Release Catalogue
- Serves as the Secretariat of the Committees responsible for the approval of varieties and coordinates their activities
- Receives submissions of variety nominations from nominating organizations and provides them to the Committees for review

## Approval of Varieties for Registration and Release

 **National Crop Varieties and Livestock Breeds Registration and Release Committee (NCVLBRRC):** Committee established by the National Crop Varieties and Livestock Breeds Act in 1987, for the validation, registration, naming, and release of crop varieties and livestock breeds. Empowered by the Act to appoint Technical Sub-Committee members to support the variety release process

**Role:** Conducts final review of applications approved by the technical sub committee and approves varieties for registration and release

 **Technical Sub-Committee (Crops):** Committee established by the NCVLBRRC to support the variety release process

**Role:** Support the review and evaluation of nominations submitted and provide recommendations on approval of varieties to the NCVLBRRC

### Legend:

- **Public Sector Actors**
- **Public and Private Sector Actors**
- **Private and International Actors**

### Sources:

1. NACGRAB (2016), 'Guidelines for Registration and Release of New Crop Varieties in Nigeria'
2. Sahel Research 2021

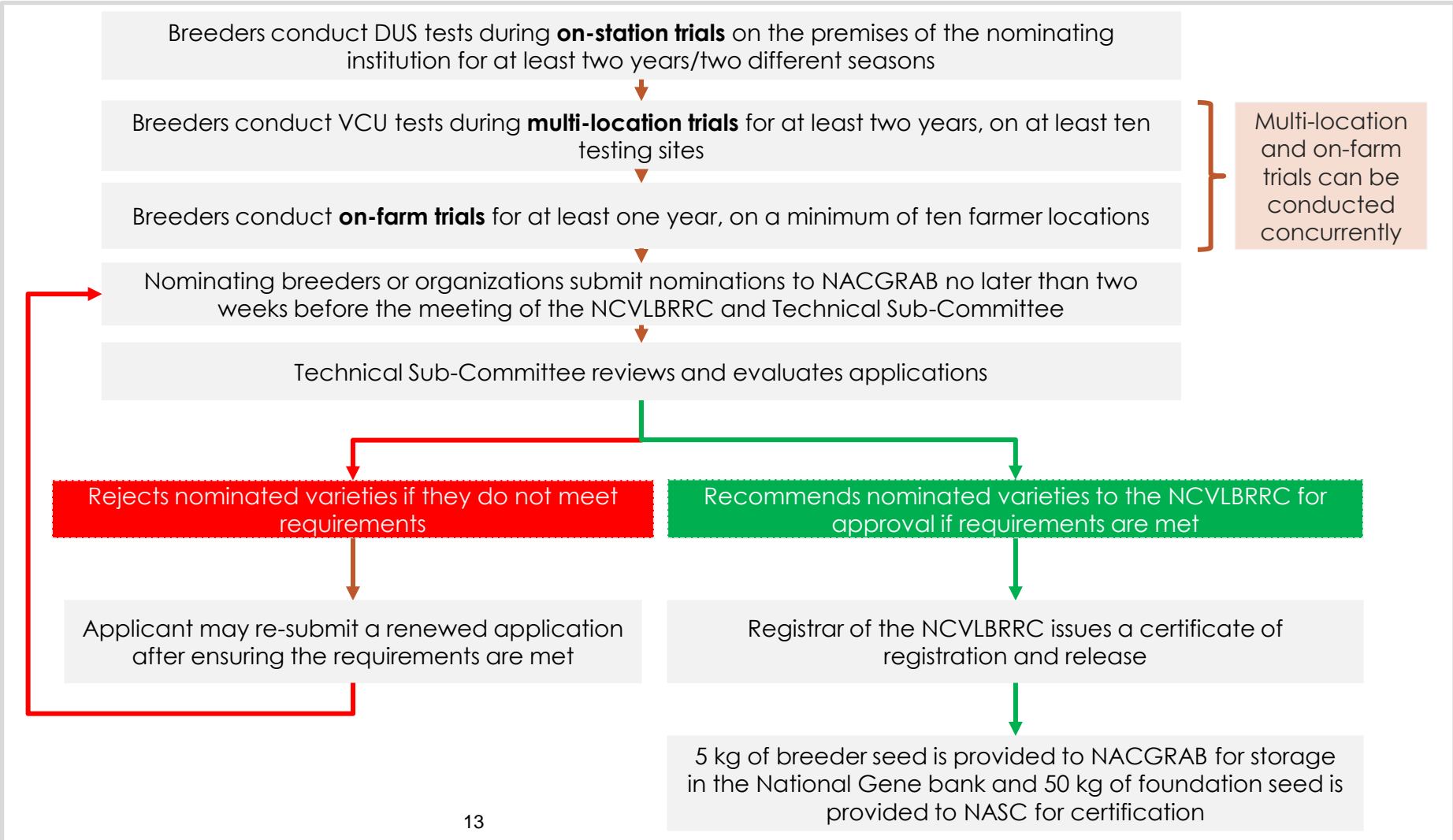
# Crop Variety Registration and Release in Nigeria: The Process

The crop variety registration and release process in Nigeria comprises of three mandatory trials - the on-station, multi-locational and on-farm trials - conducted before the submission of applications for approval.

**On-Station Trials/Distinctiveness, Uniformity, and Stability (DUS) Testing:** Varieties are tested to ensure that they are **distinct** from existing varieties in Nigeria, **uniform** in the expression of their characteristics at the same growth stages, and have **stable** genetic traits through generations.

**Multi-locational Trials/Value for Cultivation and Use (VCU) Testing:** Varieties are tested to understand their adaptation and stability across different environments; agronomic performance; reaction to pests and diseases; and resistance or tolerance to abiotic stresses.

**On Farm Trials:** Varieties are tested on farmers fields to obtain farmer opinion on their acceptability, superiority to existing varieties, and adaptability. State ADPs are required to support trials and during trials, representatives of the Technical Sub-Committee, including a breeder for the crop under trial, the Chairman of the Committee, representatives of NACGRAB and the National Agricultural Seed Council (NASC) conduct visits to select trial locations for observation.



Sources:  
1. NACGRAB (2016), 'Guidelines for Registration and Release of New Crop Varieties in Nigeria'  
2. Sahel Research (2021)

# Key Indicators



Three indicators were considered in the baseline assessment of the crop variety registration and release system in Nigeria.

1

The duration of the process for variety registration and release

2

The average cost to conclude variety registration and release

3

The number of varieties released per focus crop in the last five years, contributing to food and nutrition security

# Duration of the Crop Variety Registration and Release Process in Nigeria

Using the four focus crops of the study as a baseline, the duration of variety registration and release in Nigeria ranges from 42 – 55 months.

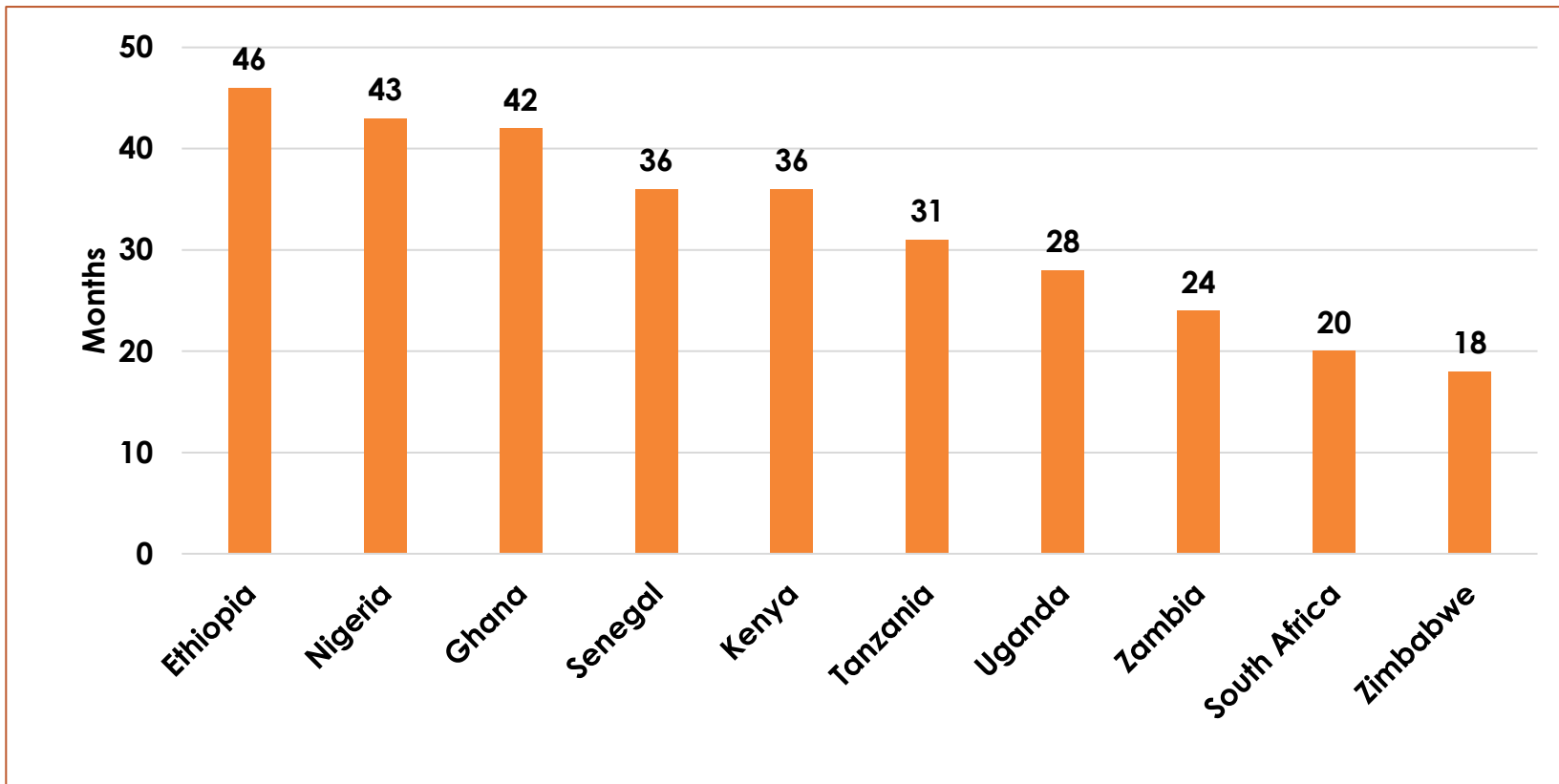
Stages	Description	Duration(Months)
<b>On-station Trials</b>	Conducted for at least 2 years/seasons at the premises of the developing institution	12 –24
<b>Multi-locational Trials</b>	Conducted on a minimum of 10 testing sites for 2 years or production cycles	24
<b>On-farm Trials</b>	Conducted for 1 year on a minimum of 10 farmer locations and may be conducted concurrently with the multi-location trials, in the second year of the multi-location trials	
<b>Submission of Nominations and Approval</b>	The NCVLBRRRC meetings for the review and approval of nominations are stated to hold twice a year, in June and December. The time between the conclusion of trials and approval of the nomination is estimated at 6 months based on the frequency of the meetings and TASA (2019) reports a period of 7 months between submission and approval.	6 - 7
<b>Total (months)</b>		<b>42 - 55</b>

While crops with shorter production cycles such as maize, rice and tomato can be released in about 42 months, the release of cassava varieties can last up to 55 months due to its longer production cycle. For instance, maize, rice and tomato can be produced in two seasons in a year, compared to one season for cassava. This has implications on the duration spent in conducting the trials.

# Comparison of the Duration of Variety Registration and Release Across Countries in Africa

Compared to other African countries, Nigeria has one of the longest durations of variety registration and release.

Average Duration of Variety Registration and Release Across Select Countries in Africa



Note: The African Seed Access Index (TASAI) (2019) reports the duration of the variety release process across the countries in the chart, using Maize, Rice, Sorghum and Soyabean as a baseline.

While the focus crops for this study are different, the data from TASAI allows for comparability of the duration across African countries.



# Comparison of the Variety Registration and Release Process Across Countries in Africa and Implications on the Duration

While the variety release process in Nigeria bears similarities to other African countries, there are key differences in the trial requirements which have implications on the duration.

Country	Average Duration	DUS Test		VCU Test		Concurrent DUS and VCU Tests	Responsibility for the Conduct of DUS and VCU Tests	On-farm Trials
		Required	Number of Seasons	Required	Number of Seasons			Required
<b>Nigeria</b>	<b>43</b>	<b>Yes</b>	<b>2</b>	<b>Yes</b>	<b>At least 2</b>	<b>No</b>	<b>Developing breeder or organization</b>	<b>Required</b>
<b>Ghana</b>	<b>42</b>	Yes	2	Yes	2	No	Developing breeder or organization	Required
<b>Kenya</b>	<b>36</b>	Yes	2	Yes, with exemptions for vegetables	2	Yes	Seed Certification Agency	Required
<b>Tanzania</b>	<b>31</b>	Yes	2	Yes	3	Yes	National Seed Authority	Required
<b>Zambia</b>	<b>24</b>	Yes	2	Yes	2	Yes	Seed Certification Agency/Authorized Private Inspectors	Required
<b>South Africa</b>	<b>20</b>	Yes	1	No	0	Yes	Seed Certification Agency	Not Required
<b>Zimbabwe</b>	<b>18</b>	Yes	1	Yes	2	Yes	DUS Testing: Seed Certification Agency VCU Testing: Developing breeder	Not required

In Kenya, vegetables are exempt from VCU tests, based on best practice, given the variability in the crops and diversity in consumer preferences.

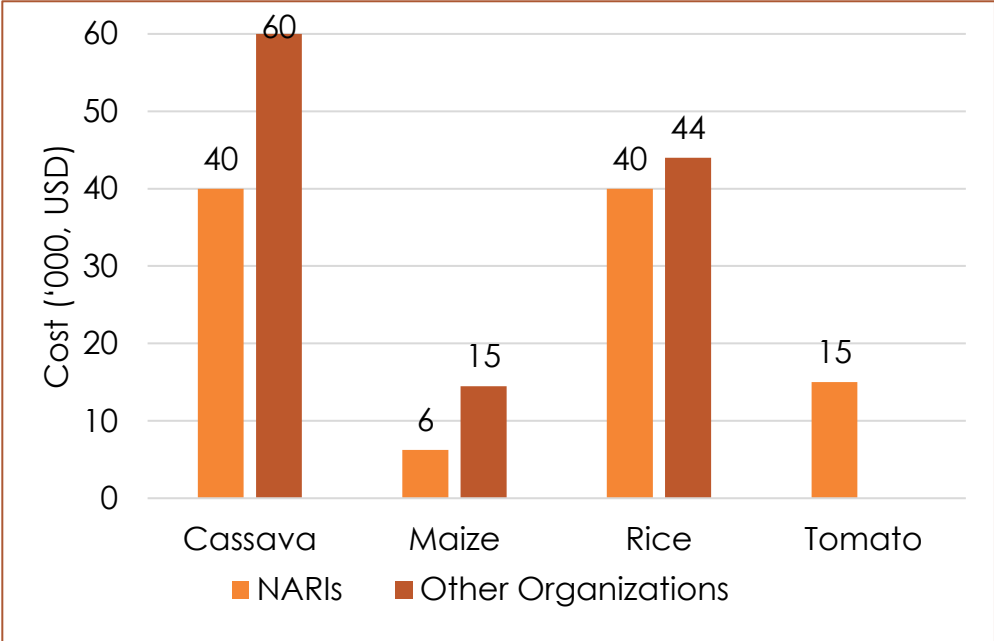
Some countries in East and South Africa allow the concurrent conduct of DUS and VCU tests which reduces the duration of the process in these countries.

In South Africa, the rationale for optional VCU testing is that market forces should determine the best varieties.

# Average Cost of the Crop Variety Registration and Release Process in Nigeria

The average cost of crop variety registration and release in Nigeria is as high as \$60,000, with majority of the costs incurred during trials.

**Average Cost of Variety Registration and Release in Nigeria for the Focus Crops**



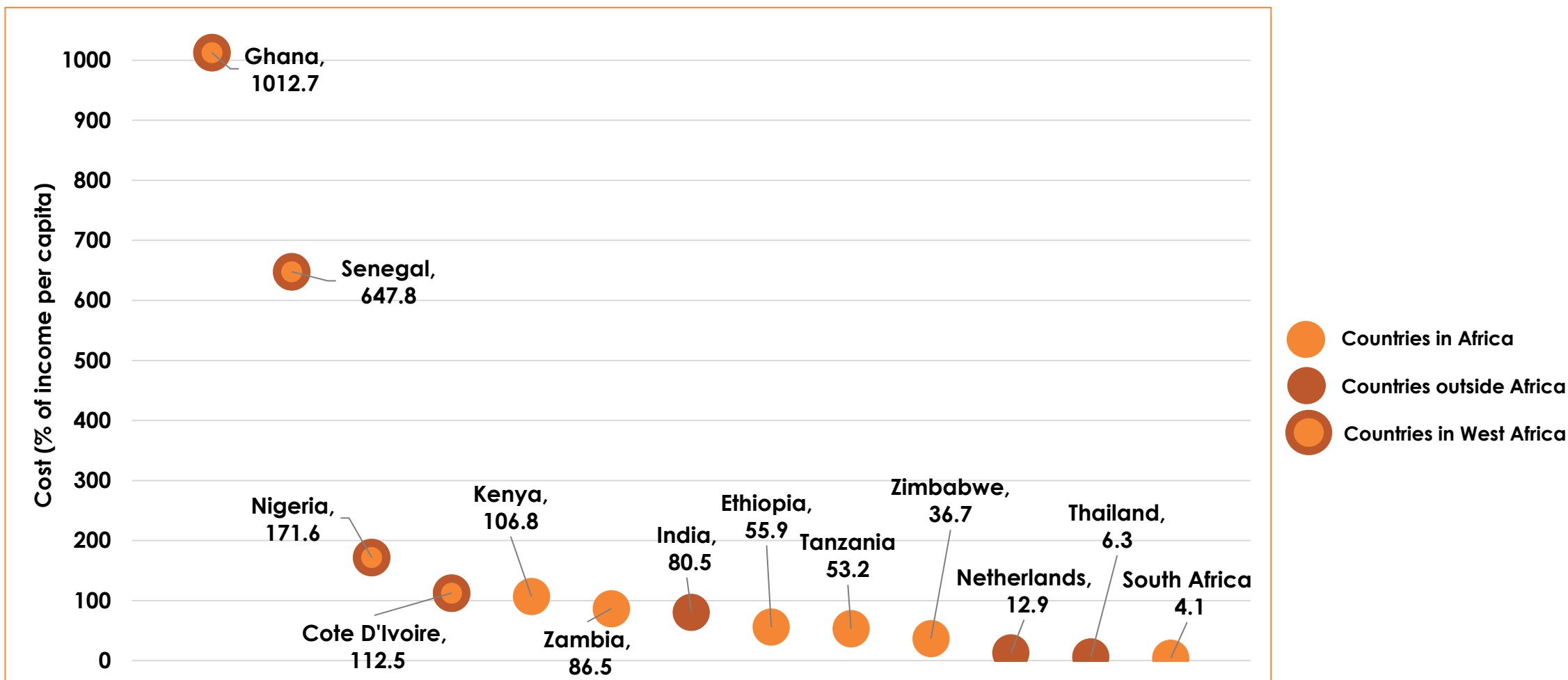
Using the focus crops of this study as a baseline, the cost of variety release in Nigeria is as high as \$60,000 and varies per crop.

## Key Findings

- **Cost Components:** Includes costs incurred in the conduct of mandatory trials, application submission requirements and obtaining certificates of registration and release.
- **Cost Drivers:** Includes personnel, accommodation, transportation and security costs incurred by nominating breeders or organizations in the conduct of mandatory trials.
- **Varying Costs:**
  - Nominating organizations are responsible for conducting trials and incur varying costs. In contrast, in Kenya, Zambia and Tanzania, DUS and VCU tests are conducted under National Performance Trials, at a fixed fee per variety, ensuring fixed and equal costs for actors.
  - Crops with longer production cycles such as cassava, have higher costs associated with trials compared to crops with shorter cycles, contributing to varying costs
- **Unequal Costs:**
  - Costs are selectively higher for nominating organizations such as private companies and CGIAR centres, than the NARIs, primarily due to the requirement for nominating organizations to collaborate with the coordinating NARI in the conduct of trials.
  - There are currently no application fees for the nomination of varieties, but plans are underway at NACGRAB to commence charging application fees at different costs for public and private organizations.

# Comparison of Costs of Crop Variety Registration and Release Across Countries

According to the World Bank (2019), the costs of variety registration and release in Nigeria as a percentage of income per capita, compared to select countries in Africa and Asia, is high.

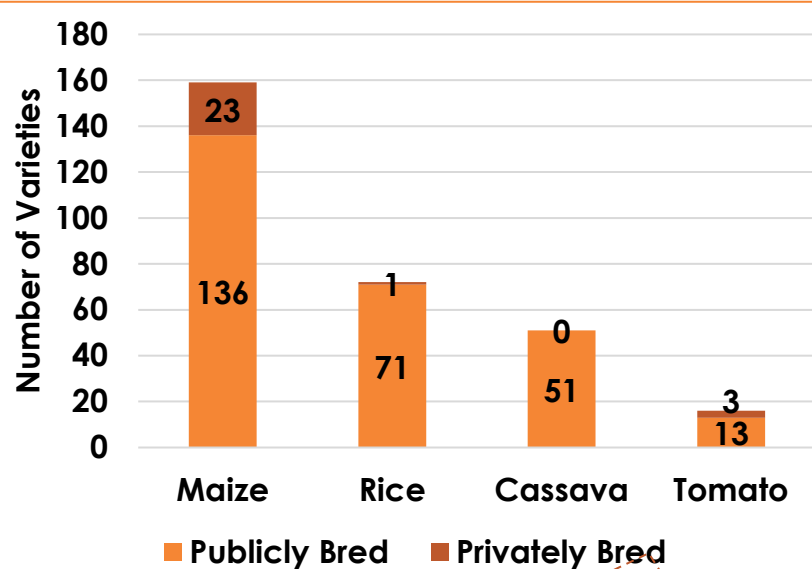


Data is based on the costs for the release of maize varieties in all countries.

# Total Number of Varieties Registered and Released for the Focus Crops

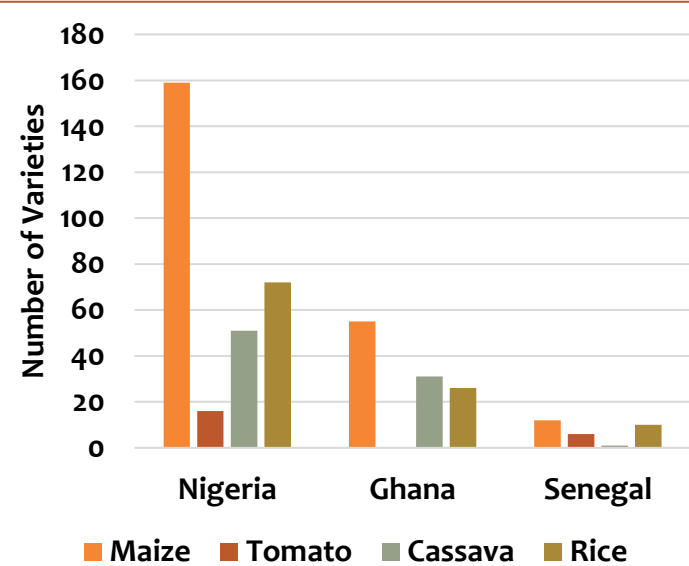
Compared to select countries in West Africa, Nigeria has released the highest number of varieties for the focus crops. However, a comparison with countries across Africa reveals a different trend.

Total Number of Varieties Released for the Focus Crops in Nigeria



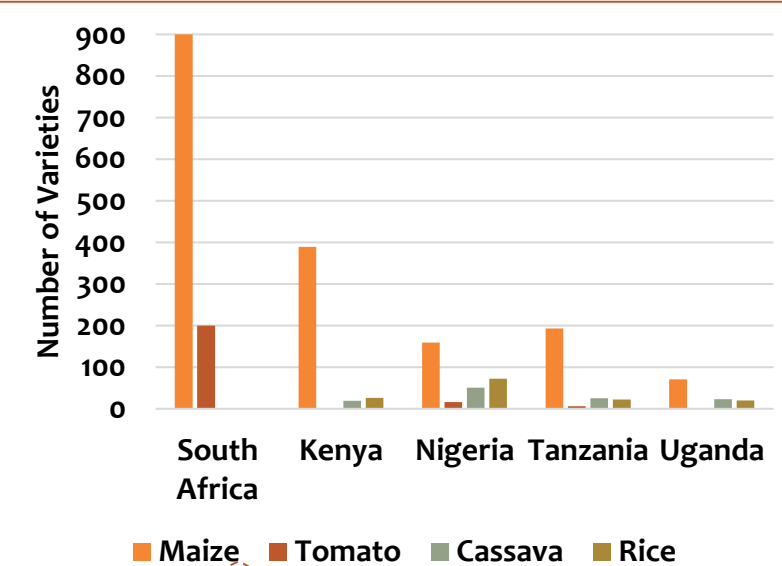
Private sector involvement in the release of varieties is low, at 9% across the focus crops.

Total Number of Varieties Registered for the Focus Crops in Nigeria and Select Countries in West Africa



Compared to ECOWAS countries such as Ghana and Senegal, Nigeria has released more varieties across all the focus crops.

Total Number of Varieties Registered for the Focus Crops in Nigeria and Select Countries in East and South Africa



- Compared to countries such as South Africa and Kenya, Nigeria has released the lowest number of varieties combined, for the focus crops
- Among select southern and Eastern African countries, Nigeria has released the second lowest amount of varieties for maize and tomato

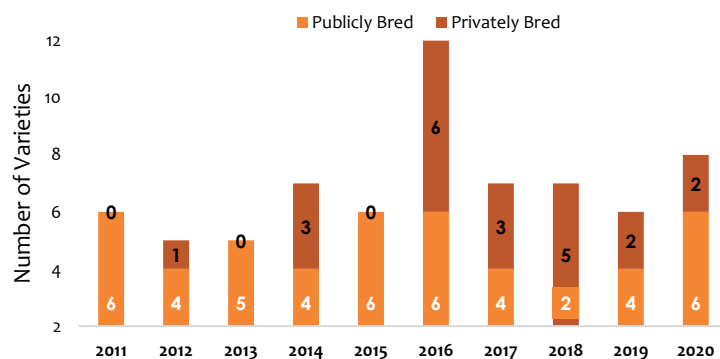
Sources:

- National Variety Release Catalogue, Nigeria (2019)
- National Crop Variety Release List, Kenya (2020)
- South Africa Varietal List (2016 – 2020)
- Tanzania Crop Variety List
- National Crop Variety Release Catalogue, Ghana (2019)
- Senegal Variety Catalogue

# Baseline Indicators: Maize

Of the focus crops, maize has the highest number of varieties released in Nigeria, with the duration of release at a minimum of 42 months, and costs as high as \$15,000.

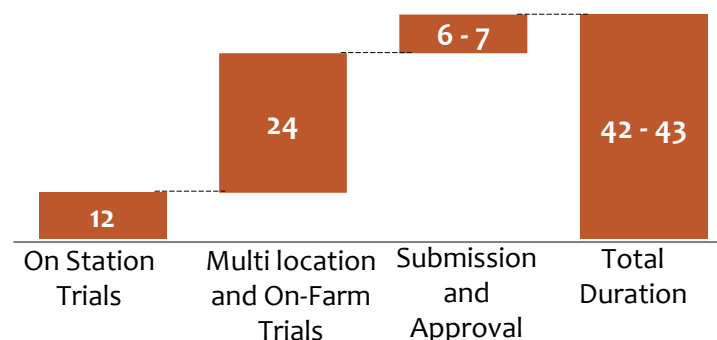
## Number of Maize Varieties Registered and Released In Nigeria (2011 -2020)



- **Consistent Release of Varieties:** New varieties have been released every year since 2011, by research institutes, indigenous and international private seed companies; and universities.
- **Higher Private Sector Involvement:** There is higher private sector involvement in the release of maize varieties, compared to other crops. Of the 69 maize varieties released since 2011, 22 or about 31% were released by the private sector.
- **Adoption of Varieties:** A range of varieties released have been adopted by farmers, based on the agro-ecological zones to which they are developed for.

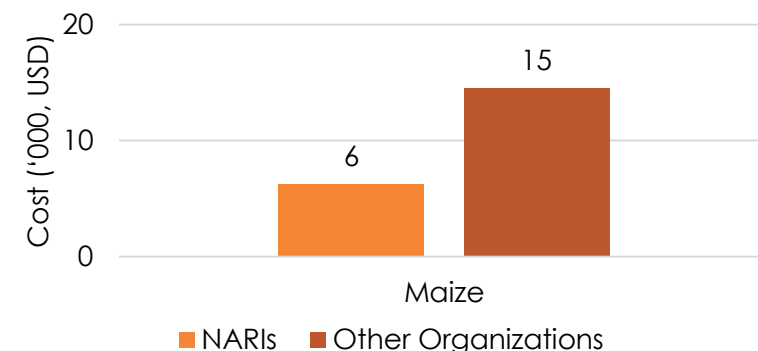
## Duration of Variety Registration and Release Process for Maize

Incremental duration of the variety release process, 'in months'



- **Conduct of Trials:** On-station trials, required to be conducted over 2 production seasons, can be completed under 12 months, due to the short production cycle of maize which lasts 3 – 4 months per season. Multi location and on farm trials are conducted under 24 months, if conducted concurrently. Otherwise, both trials could last 36 months.
- **Submission and Approval:** The NCVLBRRC meetings for the review and approval of nominations are stated to hold twice a year, in June and December. The time between the conclusion of the trials and the approval of the nomination is estimated at 6 months, based on the frequency of the meetings. TASA (2019) reports a period of 7 months between these activities.

## Cost of Registration and Release of a Maize Variety



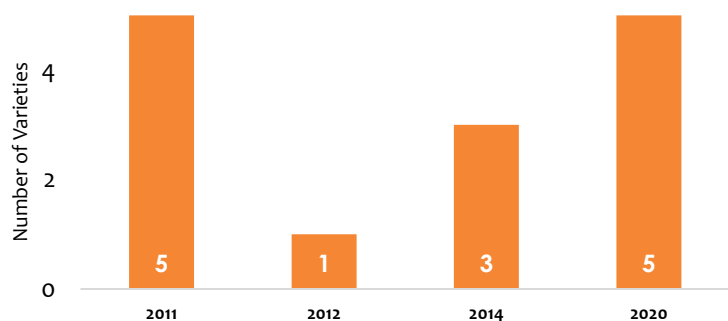
- **Unequal Costs for Nominating Organizations:** The average cost for NARIs to register and release a variety is about \$6,000 while other organizations such as private seed companies report spending up to \$15,000.



# Baseline Indicators: Cassava

Since 2011, fourteen cassava varieties have been released in Nigeria with the duration of crop release at a minimum of 54 months, and costs as high as \$60,000.

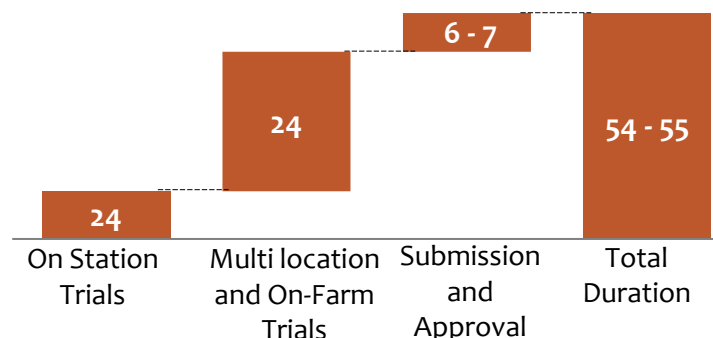
## Number of Cassava Varieties Registered and Released In Nigeria (2011 -2020)



- **Release of Varieties:** Since 2011, only research institutes have been able to release 14 cassava cultivars.
- **Lack of Private Sector Involvement:** There are no privately bred cassava varieties released in Nigeria
- **Adoption of Varieties:** The TME 419 variety, released in 2005 is still one of the most popular varieties cultivated among farmers. However, there is increased awareness for the adoption of other improved varieties.

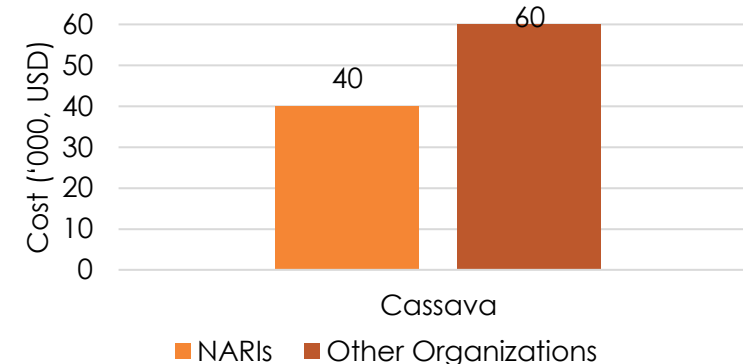
## Duration of Variety Registration and Release Process for Cassava

Incremental duration of the variety release process, 'in months'



- **Conduct of Trials:** Due to its long production cycle of 9 - 12 months, the on-station trials are conducted under 24 months. Multi locational and on farm trials are conducted in 24 months, if conducted concurrently. Otherwise, both trials could last 36 months.
- **Submission and Approval:** The NCVLBRRC meetings for the review and approval of nominations are stated to hold twice a year, in June and December. The time between the conclusion of the trials and the approval of the nomination is estimated at 6 months, based on the frequency of the meetings and TASA (2019) reports a period of 7 months between submission and approval

## Cost of Registration and Release of a Cassava Variety

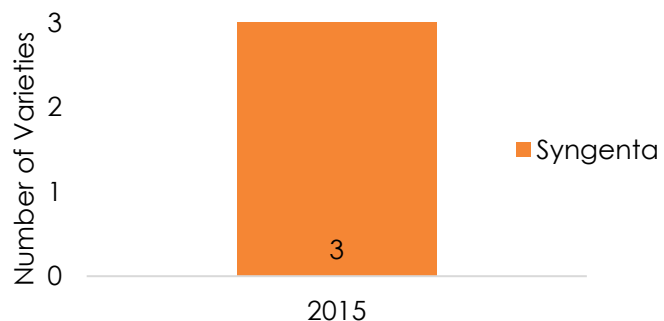


- **Unequal Costs for Nominating Organizations:** The average cost for the NARI to register and release a variety is about \$40,000 while other organizations such as CGIAR centers report spending higher, about \$60,000 to register and release a variety.

# Baseline Indicators: Tomato

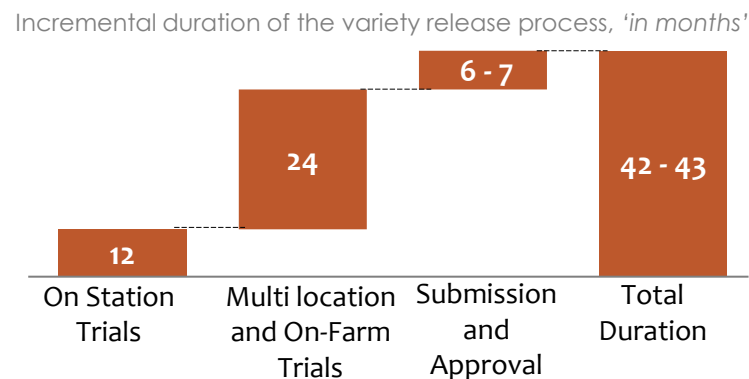
In the last ten years, only three tomato varieties have been released in Nigeria, with the duration of release at a minimum of 42 months and cost of release as high as \$15,000.

## Number of Tomato Varieties Registered and Released In Nigeria (2011 -2020)



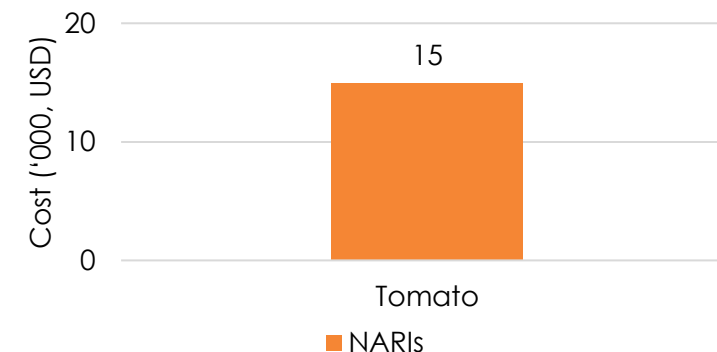
- **Low Number of Varieties Released:** Only 3 varieties have been released since 2011. According to stakeholders, this is largely due to capacity constraints in varietal development for the crop.
  - NIHORT has the mandate for all horticultural crops in Nigeria and while tomato is classified as a major vegetable crop, the institute faces funding, infrastructural and human resource constraints to support varietal development.
- **Low Private Sector Involvement:** Only 1 private multinational seed company, Syngenta Nigeria Limited, has released tomato varieties in Nigeria.

## Duration of Variety Release Process for Tomato



- **Conduct of Trials:** On-station trials, required to be conducted over 2 production seasons, can be completed under 12 months, due to the short production cycle of tomato which lasts 3 – 4 months per season. Multi location and on farm trials are conducted under 24 months, if conducted concurrently. Otherwise, both trials could last 36 months.
- **Submission and Approval:** The NCVLBRRC meetings for the review and approval of nominations are stated to hold twice a year, in June and December. The time between the conclusion of the trials and the approval of the nomination is estimated at 6 months, based on the frequency of the meetings and TASA (2019) reports a period of 7 months between submission and approval.

## Cost of Registration and Release of a Tomato Variety

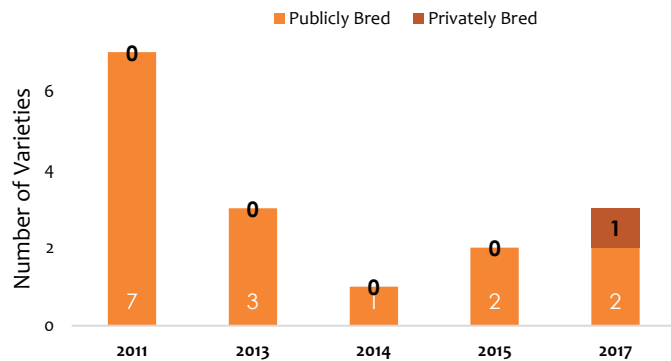


- **Costs for Nominating Organizations:** The cost for the NARI to register and release a variety is about \$15,000. Costs were not obtained from other organizations such as private seed companies.

# Baseline Indicators: Rice

Sixteen rice varieties have been released in Nigeria since 2011, with duration of release at a minimum of 42 months, and cost of release as high as \$44,000.

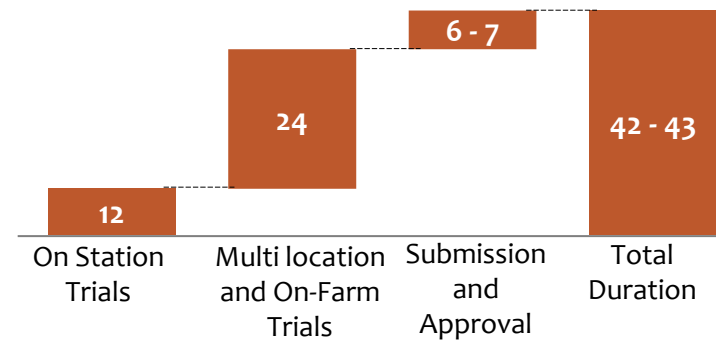
## Number of Rice Varieties Registered and Released in Nigeria (2011 -2020)



- **Release of Varieties:** 16 rice varieties have been released in the last 10 years by primarily, research institutes and universities.
- **Low Private Sector Involvement:** Only 1 rice variety has been released by a private seed company.
- **Adoption of Varieties:** Despite the availability of newer and improved varieties, the FARO 44 rice variety, introduced in 1991, remains one of the most popular among farmers.

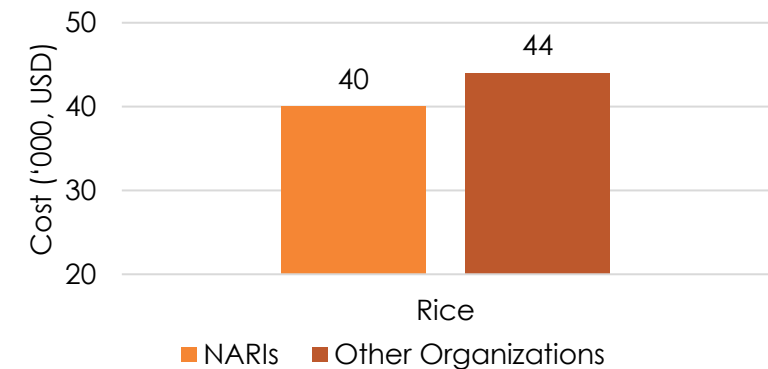
## Duration of Variety Release Process for Rice

Incremental duration of the variety release process, 'in months'



- **Conduct of Trials:** Due to the short production cycle of rice, which lasts 3–4 months per season, on-station trials, which are required to be completed over two production seasons, can be finished within 12 months. If conducted concurrently, multi-location and on-farm studies are completed in less than 24 months. Otherwise, both trials might take up to 36 months to complete.
- **Submission and Approval:** The NCVLBRRC meetings for the review and approval of nominations are stated to hold twice a year, in June and December. The time between the conclusion of the trials and the approval of the nomination is estimated at 6 months, based on the frequency of the meetings and TASA (2019) reports a period of 7 months between submission and approval

## Cost of Registration and Release of a Rice Variety



- **Unequal Costs for Nominating Organizations:** CGIAR centers report spending up to \$44,000 to register and release a variety. According to stakeholders, NARIs report spending about \$40,000 to register and release a variety.



# Areas of Satisfaction in the Variety Registration and Release System in Nigeria

Based on consultations with stakeholders in the landscape, there are four key areas of satisfaction in the current variety registration and release system in Nigeria.

## Existence of Plant Variety Protection (PVP)

- The PVP Act, which was passed in 2021, increases the trust of private indigenous and international seed companies in the process, allowing proprietary varieties to be introduced and released more easily.

## Concurrent On-farm and Multi-locational Trials

- The ability to conduct on-farm and multi-locational trials concurrently positively impacts the duration of the process as both trials can be concluded in two(2) years rather than three(3).

## Transparent Review by Committees

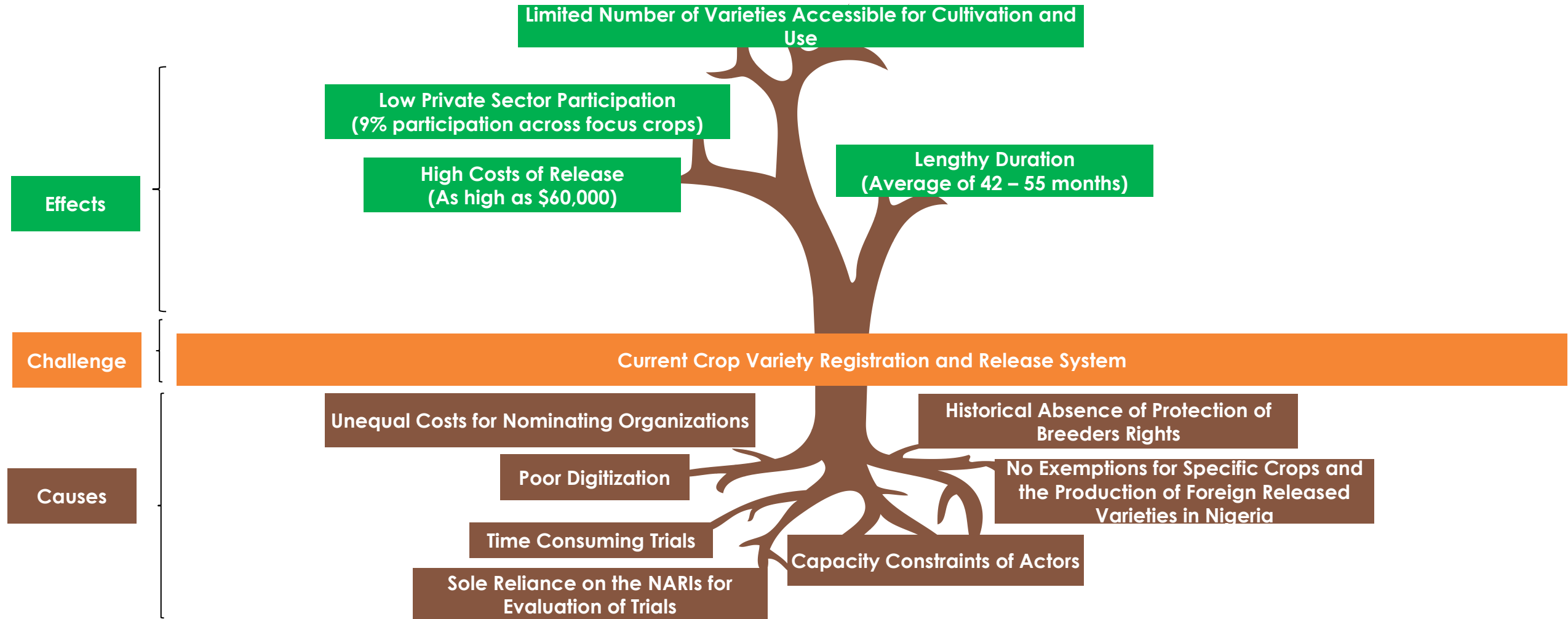
- The review and evaluation process by the Technical Sub-Committee is considered transparent as the nominating breeder or organization is present during the review and can provide clarification on the submissions as needed. In addition, the Committee ensures active participation of members in decision making.

## Composition of Committees

- The committees comprises of experts with the technical knowledge to undertake a thorough study and evaluation of nominations, to ensure the release of high-quality varieties in Nigeria.

# Bottlenecks in the Variety Registration and Release System in Nigeria

In Nigeria, there are a number of bottlenecks in the crop variety registration and release system, which have an impact on the duration, costs, availability of varieties for cultivation and use, and private sector engagement.



# Bottlenecks in the Variety Registration and Release System in Nigeria (Cont'd)

Several factors contribute to the lengthy duration, high cost, low number of varieties released and low private sector involvement in the crop variety registration and release system in Nigeria.

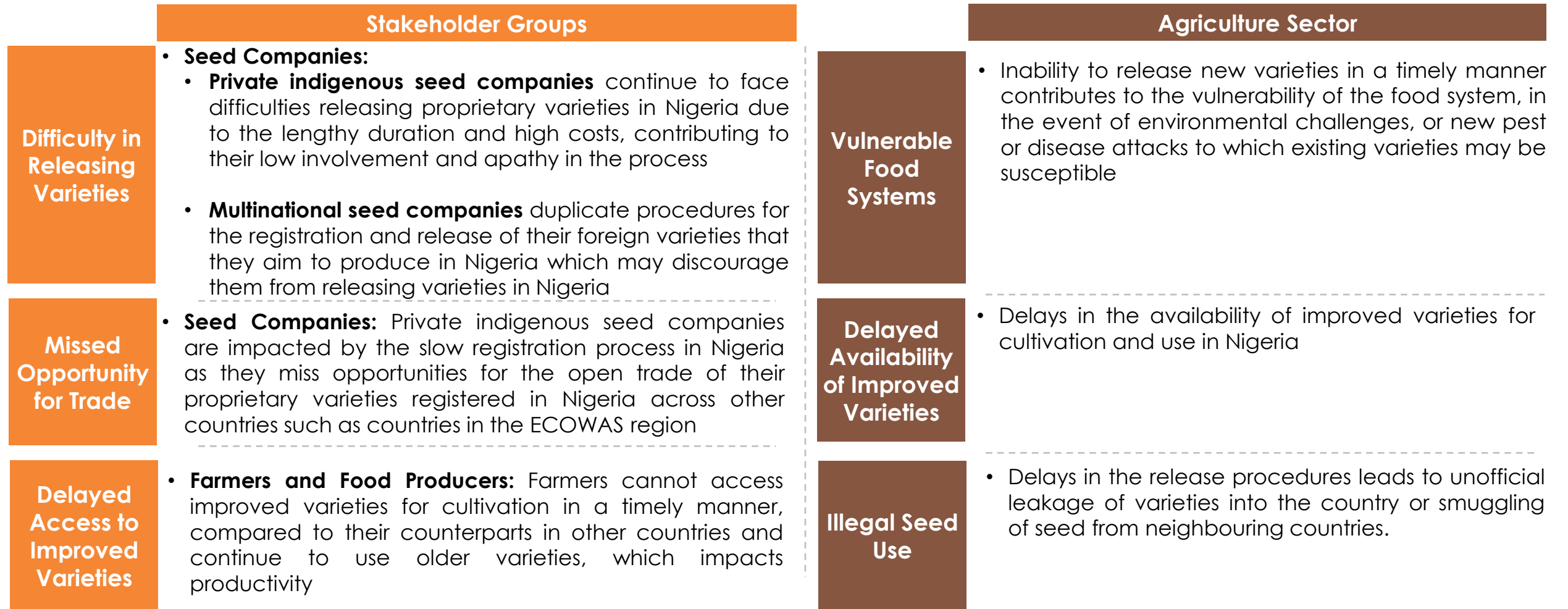
Effects	Lengthy Duration	Low Number of Varieties Registered and Released	High Costs	Low Private Sector Involvement
<p><b>Root Causes</b></p>	<p><b>Time Consuming Trials:</b> DUS and VCU tests are not conducted concurrently and both last for 3 years.</p>	<p><b>Capacity Constraints of the NARIs:</b> NARIs are limited by financial and infrastructural constraints, to support varietal development.</p>	<p><b>Unequal Costs for Nominating Organizations:</b></p> <ul style="list-style-type: none"> <li>No fixed costs for the conduct of trials and nominating organizations, besides the NARIs, incur higher costs in the conduct of trials which discourages the participation of the private sector.</li> <li>Discontinuation of National Coordinated Research Projects in which trials can be nationally coordinated at specific costs</li> </ul>	<p><b>Historical Absence of Protection of Breeders Rights:</b> Due to a lack of protection, private sector organizations were discouraged from participating until the Plant Variety Protection (PVP) Act was enacted in 2021.</p>
	<p><b>Capacity Constraints of Nominating Organizations:</b> High costs of conducting the required trials impacts the ability of stakeholders to conduct the trials in the shortest duration possible.</p>			
	<p><b>No Exemptions for vegetable Crops and for the local Production of Foreign Released Varieties:</b></p> <ul style="list-style-type: none"> <li>Foreign varieties released in other countries are required to undergo the same process of release in Nigeria and for the same duration before approval for production in Nigeria. Currently, varieties released in ECOWAS countries can be commercialized but not produced in Nigeria.</li> <li>No trial requirement exemptions for vegetable crops.</li> </ul>	<p><b>No Exemptions for Foreign Varieties:</b> Multi-national seed companies must duplicate entire procedures already conducted in other countries to enable production of their varieties in Nigeria.</p>		
	<p><b>Capacity Constraints of Committees:</b> Financial constraints of NACGRAB impacts the frequency of Committee meetings which may lead to a backlog in annual evaluation of submissions.</p>	<p><b>Poor Digitization of the Process:</b> No digital database that serves as a one-stop platform for data on varieties registered and released in Nigeria, including exhaustive information on their descriptors; Lack of digitization in application submission processes and Committee members receive hard copy application submissions for review for the first time during the meetings, causing delays during the meetings.</p>		
	<p><b>Sole Reliance on the NARIs:</b> Reliance on the NARIs due to the requirement for nominating organizations to collaborate with the coordinating NARIs to evaluate and submit their varieties impacts their submission of varieties for release. There are no other authorised bodies that nominating organizations can collaborate with to evaluate their varieties, particularly in cases where the NARIs may be constrained in their provision of support.</p>			

# Table of Contents

- 
- 1 Executive Summary
  - 2 Project Mandate and Methodology
  - 3 Crop Variety Registration and Release in Nigeria: Study Findings
  - 4 Implications on Stakeholders and the Agriculture Sector
  - 5 Next Steps
  - 6 Appendix

# Implications of the Current System on Key Stakeholders and the Agriculture Sector

The current bottlenecks in the crop variety registration and release system in Nigeria has implications on various stakeholder groups and the agriculture sector.



# Table of Contents

- 1** Executive Summary
- 2** Project Mandate and Methodology
- 3** Crop Variety Registration and Release in Nigeria: Study Findings
- 4** Implications on Stakeholders and the Agriculture Sector
- 5** Next Steps
- 6** Appendix

## Phase 2: System Improvement Scenarios and Digitization

The team will commence the second phase of the project, to identify system improvement opportunities, and processes for digitization to improve the efficiency of the variety release system in Nigeria.



# Table of Contents

- 
- 1** Executive Summary
  - 2** Project Mandate and Methodology
  - 3** Crop Variety Registration and Release in Nigeria: Study Findings
  - 4** Implications on Stakeholders and the Agriculture Sector
  - 5** Next Steps
  - 6** Appendix



# Crop Coordinating NARIs and their Mandates



	Research Institute	Year of Establishment	Location	Formal Mandate
1	Institute for Agricultural Research	1922	Zaria, Kaduna	Genetic improvement and development of production and utilization technologies for sorghum, maize, cowpea, groundnut, cotton, sunflower, and the improvement of the productivity of the entire crop-based farming system in the Northwest Zone of Nigeria
2	Institute of Agricultural Research and Training	1956	Ibadan, Oyo	Soil and water management research, genetic improvement of kenaf and jute, maize and legume crops, and improvement of the productivity of the entire farming system of the Southwest Zone of Nigeria
3	National Cereal Research Institute	1975	Badeggi, Niger	Genetic improvement and production of rice, soybean, benniseed, castor, acha and sugarcane and improvement of productivity of the entire farming system of the Central Zone
4	National Horticulture Research Institute	1975	Ibadan, Oyo	Research into genetic improvement, production, processing and utilization of fruits and vegetables, as well as ornamental plants
5	National Root Crop Research Institute	1976	Umudike, Abia	Genetic improvement of cassava, yam, cocoyam, Irish potato, sweet potato, and ginger and overall research in the improvement of the farming system of the Southeast Zone
6	Lake Chad Research Institute	1960	Maiduguri, Borno	Genetic improvement and development of production technologies for wheat, millet, and barley; the improvement of the productivity of the entire farming system in the Northeastern zone.
7	Nigerian Institute for Oil Palm Research	1939	Benin City, Edo	Research into genetic improvement, production and processing of oil palm, coconut tree, date palm, raffia palm and ornamental palms
8	Rubber Research Institute of Nigeria	1961	Benin City, Edo	Research into genetic improvement, production and processing of rubber and other lather producing plants
9	Cocoa Research Institute of Nigeria	1964	Ibadan, Oyo	Genetic improvement, production and local utilization research on cocoa, cashew, kola, coffee, and tea

# Duties and Composition of the NCVLBRRC

The NCVLBRRC is charged with the following duties:

- Receive and process applications for the registration, naming and release of old and new crop varieties, livestock breeds and fish strains;
- Officially release the list of superior crop varieties, livestock breeds and fish strains recommended by any Sub-Committee established for that purpose;
- Approve names for new crop varieties and breeds of livestock certified as new or distinct such that uniformity in nomenclature is ensured;
- Render essential information on the released varieties of crops, livestock breeds and fish strains, their outstanding characteristics, areas of adaptation and the location of foundation seeds or stocks of the released varieties and breeds;
- Ensure the maintenance of the National Register for all crop varieties, live- stock breeds and fish strains;
- Interact with National Organisations and Institutions concerned with large-scale seed, livestock, and fish production;
- Organise, in collaboration with NACGRAB, the maintenance and storage for posterity the germplasm of the registered crop varieties, livestock breeds and fish strains;
- Ensure that any imported crop variety or livestock breed into Nigeria which are required for general distribution and use shall pass through the same process as seeds of new crop varieties and livestock breeds developed by breeders in Nigeria; and
- Formulate policies on matters concerning the validation, registration, naming and release of new crop varieties and livestock breeds which are either introduced or developed in Nigeria.

## Composition

The NCVLBRRC comprises of the following:

- A Chairman who shall not be a person employed in the public service of the Federation or of a State, to be appointed by the President;
- The Director, Federal Department of Agriculture;
- The Director of Bio-resources technology, Federal Ministry of Science and Technology;
- The Director of NACGRAB, who serves as the Registrar of the Committee with the primary responsibility to enforce the National Crop Varieties and Livestock Breeds Act (Decree No 33 of 1987);
- The Director-General, National Agricultural Seed Council (NASC);
- The Chairman, Committee of Deans of Faculties of Agriculture in Nigerian Universities;
- The President, Genetic Society of Nigeria (GSN);
- Two experienced breeders appointed on their personal merit by the Minister charged with the responsibility for matters relating to science and technology;
- One large-scale crop farmer appointed on his personal merit by the Minister charged with the responsibility for matters relating to science and technology;
- Two General Managers representing two River Basin Development Authorities from different ecological areas in rotation appointed by the Minister charged with the responsibility for matters relating to science and technology.
- The Executive Secretary; Agricultural Research Council of Nigeria (ARCN); and
- The Director – General; National Biotechnology Development Agency (NABDA).

# Duties and Composition of the Technical Sub-Committee on Crops



The Technical Sub-Committee is charged with the general function of:

- Providing guidelines for the determination of superiority, homogeneity, distinctiveness, and stability of material to be released;
- Determining guidelines for the testing of new crop varieties and for describing them;
- Evolving a variety naming system and recommending names for new varieties to the National Crop Varieties and Livestock Breeds Registration and Release Committee;
- Recommending new varieties for release by the NCVLBRRRC for general cultivation in the country; and
- Nominating varieties into the National Accelerated Food Production Project and Research Institute for field testing in order to develop production package for the variety.

## Composition

The members of the technical sub-committee on crops include:

- All co-ordinators of National Co-ordinated Research Projects, one of whom shall be appointed by the Minister as chairman for a period of four years;
- The Director of NACGRAB;
- Co-ordinators of National Accelerated Food Production Projects and Research Institute;
- Two experienced breeders appointed on their personal merit by the Minister for a period of four years.

# Guidelines for Crop Variety Registration and Release in Nigeria

**1. Distinctiveness, Uniformity and Stability (DUS) Tests:** The DUS test is an internationally recognised procedure standardized mainly for plant variety protection. The test is used to assess novelty of new varieties and to gather information regarding the botanical description of new varieties. Crop varieties must pass the DUS test to be released in Nigeria.

- **Distinctiveness:** The new variety should be clearly distinguishable from any other existing varieties in Nigeria.
- **Uniformity:** The individual plant of the new variety should be sufficiently uniform at the same growth stages in the expression of their characteristic.
- **Stability:** The genetic traits of the new variety should be stable through generations.

In DUS test plots, candidate varieties are compared with similar existing varieties where agronomic characteristics such as, yield, maturity date and height, morphological characteristics such as, colour, shape, and size, physio-genetical characteristics such as tolerance to pests and diseases and general tolerance to biotic and abiotic stresses are evaluated following the International Union for the Protection of New Varieties of Plants (UPOV) guidelines.

**2. Value for Cultivation and Use (VCU) Tests:** Crop varieties to be registered in Nigeria must be beneficial to farming and industrial communities. The VCU tests are conducted to understand the:

- Adaptation and stability of the crop across varied environments,
- Agronomic performance of the crop,
- Reaction of the crop to pests and diseases,
- Resistance or tolerance of the crop to abiotic stresses, when compared with existing varieties.

3. The variety or its progeny is not detrimental to human or animal health and safety of the environment when grown and used as intended.

4. The variety name is not likely to be confused with the name of a variety that had previously been or currently being registered.

5. The variety name is not likely to offend the public.

6. The variety meets the standard for variety purity established by the International Seed Testing Association (ISTA) for a variety of that specie.

7. The variety was monitored by representatives of the Registrar and Technical Sub-Committee on crops during the on-farm trial.

8. The variety is officially nominated to the Technical Sub-Committee (Crops) for registration and release and defended by the developing scientist.

9. No false statement or misleading information is submitted in support of the nomination for variety registration and release.

# Requirement for the Submission of Applications

According to NACGRAB (2016), the following steps are the requirements for the submission of applications:

- A. Application and supporting documents must be in English, Nigeria official language.
- B. The guidelines stated below should be followed:
  - The document should be typed in double-space leaving a margin of 1-1.5cm on left hand side and 1.5cm on the right side on an A4 sized paper. Upper and lower margins should be 1.5cm
  - Font type should be Times New Roman, size 12.
  - Total length of the document excluding Tables, Figures and Pictures should not exceed five pages.
  - Title of the document should be in CAPS and centralized. This should be followed by Author(s) name(s) (surname first) and affiliations. Authors' titles should not be included.
  - Scientific names should be italicized.
  - Oxford English spelling should be used and consistency of spellings should be maintained throughout the manuscript.
  - The content of document should be structured as follows:
    - Introduction: This should deal with brief background information and objectives
    - Brief methodology for On-Station, Multi-Locational and On-Farm trials.
    - Justification for the nomination
    - Recommendations
    - References: Relevant both in text and references section.
    - Tables: It should be clear and simple (e.g. Author may present yearly multi-location trials separately). Current standards should be followed. Names and statistics on variety of reference should be highlighted or made bold.
    - Figures: Where necessary, all figures should be clearly presented.
    - Pictures: These should elucidate the characteristics of the variety.
  - Approved General and Specific descriptors should be attached for each variety.
- C. Applicant must submit 40 printed copies of the documents at least two weeks before the date of the meeting to:  
The Registrar, National Crop Varieties and Livestock Breeds Registration and Release Committee  
c /o National Centre for Genetic Resources and Biotechnology (NACGRAB)  
Moor Plantation, P.M.B 5382, Ibadan Nigeria.  
Tel: +2348034221101 or +2348065152346  
E-mail: varietyreleasenigeria@gmail.com

# Total Number of Varieties Released for the Focus Crops in Nigeria and Select Countries (2016 – 2020)

**Total Number of Varieties Released for the Focus Crops  
(2016 – 2020)**

	<b>Maize</b>	<b>Cassava</b>	<b>Rice</b>	<b>Tomato</b>	<b>Total</b>
<b>South Africa</b>	>195	-	-	32	<b>&gt; 227</b>
<b>Kenya</b>	99	9	8	0	<b>116</b>
<b>Tanzania</b>	70	5	3	0	<b>78</b>
<b>Nigeria</b>	<b>40</b>	<b>5</b>	<b>3</b>	<b>0</b>	<b>48</b>
<b>Ghana</b>	18	7	7	0	<b>32</b>

Sources:

1. National Variety Release Catalogue, NACGRAB (2019), Genetic Society of Nigeria
2. National Crop Variety Release List, Kenya (2020)
3. South Africa Variety List (2016 – 2020)
4. Tanzania Crop Variety Release List
5. National Crop Variety Release Catalogue, Ghana (2019)

# Total Number of Maize Varieties Released in Nigeria and Select Countries (2016 – 2020)

Country	Number of Maize Varieties Released Per Year					Total Number of Varieties Released from 2016 – 2020
	2016	2017	2018	2019	2020	
South Africa	>100	>75	>20	0	0	>195
Kenya	24	37	12	14	12	99
Tanzania	17	11	3	28	11	70
<b>Nigeria</b>	<b>12</b>	<b>7</b>	<b>7</b>	<b>6</b>	<b>8</b>	<b>40</b>
Ghana	1	0	0	17	0	18

Sources:

1. National Variety Release Catalogue, NACGRAB (2019)
2. National Crop Variety Release List, Kenya (2020)
3. South Africa Variety List (2016 – 2020)
4. Tanzania Crop Variety Release List
5. National Crop Variety Release Catalogue, Ghana (2019)
6. Sahel Stakeholder Interviews (2021)

# Total Number of Cassava Varieties Released in Nigeria and Select Countries (2016 – 2020)



Country	Number of Cassava Varieties Released Per Year					Total Number of Varieties Released from 2016 – 2020
	2016	2017	2018	2019	2020	
Kenya	3	5	0	0	1	9
Ghana	0	0	0	7	0	7
<b>Nigeria</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>5</b>
Tanzania	0	0	0	0	5	5
South Africa	0	0	0	0	0	0

Sources:

1. National Variety Release Catalogue, NACGRAB (2019)
2. National Crop Variety Release List, Kenya (2020)
3. South Africa Variety List (2016 – 2020)
4. Tanzania Crop Variety Release List
5. National Crop Variety Release Catalogue, Ghana (2019)
6. Sahel Stakeholder Interviews (2021)



# Total Number of Tomato Varieties Released in Nigeria and Select Countries (2016 – 2020)

Country	Number of Tomato Varieties Released Per Year					Total Number of Varieties Released from 2016 – 2020
	2016	2017	2018	2019	2020	
South Africa	9	23	0	0	0	32
Nigeria	0	0	0	0	0	0
Tanzania	0	0	0	0	0	0
Kenya	0	0	0	0	0	0
Ghana	0	0	0	0	0	0

Sources:

1. National Variety Release Catalogue, NACGRAB (2019)
2. National Crop Variety Release List, Kenya (2020)
3. South Africa Variety List (2016 – 2020)
4. Tanzania Crop Variety Release List
5. National Crop Variety Release Catalogue, Ghana (2019)
6. Sahel Stakeholder Interviews (2021)

# Total Number of Rice Varieties Released in Nigeria and Select Countries (2016 – 2020)

Country	Number of Rice Varieties Released Per Year					Total Number of Varieties Released from 2016 – 2020
	2016	2017	2018	2019	2020	
Kenya	0	0	8	0	0	8
Ghana	0	0	0	7	0	7
<b>Nigeria</b>	0	3	0	0	0	<b>3</b>
Tanzania	0	0	1	0	2	3
South Africa	0	0	0	0	0	0

Sources:

1. National Variety Release Catalogue, NACGRAB (2019)
2. National Crop Variety Release List, Kenya (2020)
3. South Africa Variety List (2016 – 2020)
4. Tanzania Crop Variety Release List
5. National Crop Variety Release Catalogue, Ghana (2019)
6. Sahel Stakeholder Interviews (2021)

# Acronyms



<b>CSP</b>	Collaborative Seed Programme
<b>DUS</b>	Distinctiveness, Uniformity and Stability
<b>ECOWAS</b>	Economic Community of West African States
<b>EKN</b>	Embassy of the Kingdom of the Netherlands
<b>FMARD</b>	Federal Ministry of Agriculture and Rural Development
<b>IAR</b>	Institute for Agricultural Research
<b>IAR&amp;T</b>	Institute of Agricultural Research and Training
<b>IITA</b>	International Institute of Tropical Agriculture
<b>NACGRAB</b>	National Centre for Genetic Resources and Biotechnology
<b>NASC</b>	National Agricultural Seed Council
<b>NCRI</b>	National Crops Research Institute
<b>NCVLBRRC</b>	National Crop Varieties and Livestock Breeds Registration and Release Committee
<b>NIHORT</b>	National Horticultural Research Institute
<b>NRCRI</b>	National Root Crops Research Institute
<b>NSRM</b>	National Seed Road Map
<b>PVP</b>	Plant Variety Protection
<b>SIP</b>	Strategic Innovation Pathway
<b>TASAI</b>	The African Seed Access Index
<b>UPOV</b>	International Union for the Protection of New Varieties of Plants
<b>VCU</b>	Value for Cultivation and Use
<b>WCDI</b>	Wageningen Centre for Development Innovation

# References

- Etten J., Manners J., Steinke R., Matthus J., Sousa, K. (2020), 'The Tricot Approach. Guide for large-scale Participatory Experiments', Rome: Alliance of Bioversity International and CIAT. Available at: <https://cgspace.cgiar.org/handle/10568/109942> (Accessed: 20 August 2021).
- Etten J., Sousa K., Aguilar A., Barrios M., Coto A., Dell'Acquad M., Fadda C., Gebrehawaryat Y., Gevel J., Gupta A., Kiros A., Madriz B., Mathur P, Mengistu D., Mercado L., Mohammed J., Paliwal A., Pe M., Quiros C., Rosas J., Sharma N., Singh S., Solanki I., and Steinke J. (2019), 'Crop Variety Management for Climate Adaptation Supported by Citizen Science', Available at: <https://www.pnas.org/content/116/10/4194> (Accessed: 20 August 2021).
- Federal Republic of Nigeria Official Gazette (2019), 'National Agricultural Seeds Council Act', Official Gazette (No. 142B), Available at: <https://seedcouncil.gov.ng/seed-act/> (Accessed: 20 August 2021).
- Kuhlmann K., Zhou Y., and Keating S., (2019), 'Seed Policy Harmonization in EAC and COMESA: The Case of Kenya' Available at: [https://www.syngentafoundation.org/sites/g/files/zhg576/f/seedpolicy\\_new\\_sfsa\\_case\\_study\\_of\\_kenya\\_september\\_2015\\_final\\_branded.pdf](https://www.syngentafoundation.org/sites/g/files/zhg576/f/seedpolicy_new_sfsa_case_study_of_kenya_september_2015_final_branded.pdf) (Accessed: 20 August 2021).
- Kuhlmann K., Zhou Y., and Keating S., (2019), 'Seed Policy Harmonization in SADC and COMESA: The Case of Zambia' Available at: [https://www.syngentafoundation.org/sites/g/files/zhg576/f/zambia\\_case\\_study\\_final\\_edit\\_8\\_march\\_2019\\_clean.pdf](https://www.syngentafoundation.org/sites/g/files/zhg576/f/zambia_case_study_final_edit_8_march_2019_clean.pdf) (Accessed: 20 August 2021).
- Kuhlmann K., Zhou Y., Naggayi A., and Lui H. (2018), 'Seed Policy Harmonization in ECOWAS: The Case of Nigeria', Available at: [https://www.syngentafoundation.org/sites/g/files/zhg576/f/seed\\_policy\\_harmonization\\_in\\_ecowas\\_the\\_case\\_of\\_nigeria\\_2019.pdf](https://www.syngentafoundation.org/sites/g/files/zhg576/f/seed_policy_harmonization_in_ecowas_the_case_of_nigeria_2019.pdf) (Accessed: 20 August 2021).
- Kuhlmann K, Zhou Y., and Nalinya A. (2021), 'Case Study on Regional Harmonization for Vegetable Crop Varieties', Available at: [http://www.syngentafoundation.org/sites/g/files/zhg576/f/2021/05/10/passta\\_vegetable\\_case\\_study\\_may\\_2021.pdf](http://www.syngentafoundation.org/sites/g/files/zhg576/f/2021/05/10/passta_vegetable_case_study_may_2021.pdf) (Accessed: 20 August 2021).
- Manners R., Abidin E., Acheremu K., Angudubo S., Arnaud E, Babu A., Carey E., Ellison J., Esuma W., Iragaba P., Kawuki R., Kulembeka H., Kwadwo A., Madriz B., Masumba E., Mendes T., Moyo M., Mtunda K., Muzhingi T., Nanyonjo A., Nduwumuremyi A., Nshimiyimana J., Nuwamanya E., Nyirahabimana H., Ortiz-Crespo B., Alfred O., Quiros C., Rukundo P., Sousa K., Sibomana M., Steinke J., Ssali R., Teeken B., Tufan H., Tumwengamire S., Tuyishime E., Ulzen J., and Etten J. (2021), 'A standardised framework for agile user testing of crop varieties based on experiences with cassava, potato, and sweet potato. *Frontiers in Sustainable Food Systems*' Available at: [www.frontiersin.org](http://www.frontiersin.org). (Accessed: 20 August 2021).
- Michael Turner, Zewdie Bishaw. 2016). A Review of Variety Release Procedures and Related Issues with Recommendations for Good Practice. Beirut, Lebanon: International Center for Agricultural Research in the Dry Areas (ICARDA)

# References (Cont'd)



- National Agricultural Seed Council, Seed Entrepreneurs Association of Nigeria, Wageningen University and Research, East West Seed, and Sahel Consulting (2020), 'National Seed Road Map for Nigeria', Available at: [https://seedcouncil.gov.ng/wp-content/uploads/2020/03/National-Seed-Road-Map\\_Nigeria-NASC-Adopted.pdf](https://seedcouncil.gov.ng/wp-content/uploads/2020/03/National-Seed-Road-Map_Nigeria-NASC-Adopted.pdf) (Accessed: 20 August 2021).
- National Centre for Genetic Resources and Biotechnology (2016), 'Guidelines for Registration and Release of New Crop Varieties in Nigeria', Available at: [https://www.seedportal.org.ng/admin/media/documents/Guidelines%20for%20Crop%20Varieties%20Registration%20\(2016\).pdf](https://www.seedportal.org.ng/admin/media/documents/Guidelines%20for%20Crop%20Varieties%20Registration%20(2016).pdf) (Accessed: 20 August 2021).
- National Centre for Genetic Resources and Biotechnology (2019), 'Crop Varieties Released and Registered in Nigeria' (Accessed: 20 August 2021).
- National Centre for Genetic Resources and Biotechnology, Ibadan and Federal Department of Agriculture, Abuja (2008), 'Country Report on the State of Plant Genetic Resources for Food and Agriculture' Available at: <http://www.fao.org/docrep/013/i1500e/nigeria.pdf> (Accessed: 20 August 2021).
- Sah R., Dass S., Kochhar S., Bhooshan N., Kumar A., and Joshi P. (2016), 'Fast-Track Breeding, Variety Release, Registration, and Intellectual Property Rights Mechanisms for the Seed Sector in Nepal', Available at: [https://www.researchgate.net/publication/308950414\\_Fast-Track\\_Breeding\\_Variety\\_Release\\_Registration\\_and\\_Intellectual\\_Property\\_Rights\\_Mechanisms\\_for\\_the\\_Seed\\_Sector\\_in\\_Nepal](https://www.researchgate.net/publication/308950414_Fast-Track_Breeding_Variety_Release_Registration_and_Intellectual_Property_Rights_Mechanisms_for_the_Seed_Sector_in_Nepal) (Accessed: 20 August 2021).
- Setimela P, Badu-Apraku B., and Mwangi W. (2010), 'Impediments to New Improved Maize Variety Testing and Release in Selected Countries in Sub-Saharan Africa', Available at: <https://cgspace.cgiar.org/handle/10568/90353> (Accessed: 20 August 2021).
- Variety Release Catalogue (2020), Kenya, Tanzania, South Africa
- Waithaka M., Mugoya M., Ajayi A., Okelola F., and Tihanyi K. (2019), 'Nigeria Brief 2018 - The African Seed Access Index', Available at: <https://tasai.org/reports/> (Accessed: 20 August 2021).
- World Bank (2019), 'Enabling the Business of Agriculture 2019', Available at: <https://eba.worldbank.org/> (Accessed: 20 August 2021).
- Zhou Y., and Kuhlmann K., (2015), 'Seed Policy Harmonization in SADC and COMESA: The Case of Zimbabwe' Available at: [https://www.syngentafoundation.org/sites/g/files/zhg576/f/seeds\\_policy\\_zimbabwe\\_case\\_study\\_sept15\\_0.pdf](https://www.syngentafoundation.org/sites/g/files/zhg576/f/seeds_policy_zimbabwe_case_study_sept15_0.pdf) (Accessed: 20 August 2021).

## For more information:

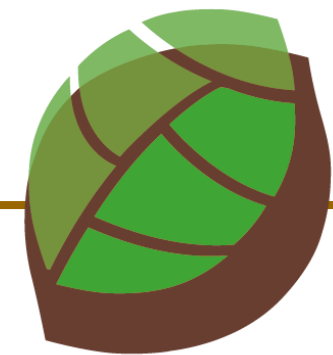
Chinedu Agbara  
CSP coordination  
Sahel Consulting  
[cagbara@sahelcp.com](mailto:cagbara@sahelcp.com)

Marja Thijssen  
CSP coordination  
Wageningen University & Research  
[marja.thijssen@wur.nl](mailto:marja.thijssen@wur.nl)

<https://csp-nigeria.org/>



The screenshot shows the website for the Collaborative Seed Programme (CSP) Nigeria-Netherlands. The header includes the logo and the tagline "Guiding seed sector transformation in Nigeria". The navigation menu contains links for ABOUT, NEWS, CSP TOPICS, LIBRARY, COVID-19, and CONTACT. A featured article titled "THE COLLABORATIVE SEED PROGRAMME" is displayed, with a sub-header "ISSD AFRICA WEBINAR 25 FEBRUARY: SEED POLICY DESIGN AND IMPLEMENTATION – LESSONS FROM WEST AFRICA". The article text states: "CSP brings together Nigerian and Dutch seed sector stakeholders to transform the Nigerian seed sector. CSP contributes to the vision of the National Seed Road Map (NSRM), driving the seed sector to become more competitive, resilient, profitable, innovative and adaptive, sustainable, inclusive, resistant and transparent. CSP contributes to the Nigeria-Netherlands Seed Partnership".



# COLLABORATIVE SEEDPROGRAMME

Nigeria-Netherlands

Contributing to the  
**Nigeria-Netherlands Seed Partnership**

Funded by:



Ministry of Foreign Affairs of the  
Netherlands