



Findings of Check-Back Mechanism for Regionally-Registered Varieties

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Acronyms

AfCFTA	African Continental Free Trade Area
AFSTA	African Seed Trade Association
ASARECA	Association for Strengthening Agricultural Research in Eastern and Central Africa
CGIAR	International Agricultural Research Center
COMESA	COMESA Seed Harmonization Implementation Plan
COMESA	Common Market for Eastern and Southern Africa
CORAF	Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricoles
DUS	Distinctness, uniformity, and stability
EAC	East African Community
ECAPAPA	Eastern and Central Africa Programme for Agricultural Policy
ECOWAS	Economic Community of West African States
HSRS	Harmonised Seed Regulatory System
KEPHIS	Kenya Health Inspectorate Service
NARS	National Agricultural Research Institute
NML	New Markets Lab
NPT	National performance trials
NSA	National Seed Association
PASTTA	Partnership for Seed Technology Transfer in Africa
REC	Regional Economic Community
SADC	Southern African Development Community
UPOV	Union for the Protection of New Varieties
VCU	Value for cultivation and use
VIN	Variety Identification Number
WASC	West African Seed Committee
WECARD	West and Central African Council for Agricultural Research and Development

Executive Summary

This check-back mechanism for regionally registered varieties was developed by the New Markets Lab (NML), in collaboration with the Syngenta Foundation for Sustainable Agriculture (SFSA) under SFSA's Seeds2B initiative and the Partnership for Seed Technology Transfer in Africa (PASTTA). In line with PASTTA objectives, the check-back process was designed to evaluate the implementation of regional seed registration in a way that can better deliver improved seed varieties to farmers. The report builds on previous assessments of regional seed systems done by NML and SFSA under PASTTA, including tools like the 2019 Manual on Regional Seed Regulations in the Southern Africa Development Community (SADC) (SADC Manual), and the 2020 Manual on Regional Seed Regulations in the Common Market for Eastern and Southern Africa (COMESA) (COMESA Manual). This check-back mechanism was presented and validated during the African Seed Trade Association (AFSTA) Congress in March 2022.

The check-back process described in this report was developed through stakeholder consultations and assessment of progress under harmonized seed laws of different regional trade blocks, namely, COMESA, SADC, the East African Community (EAC), and the Economic Community of West African States (ECOWAS). Stakeholder consultations were used to evaluate the experiences of seed companies and public sector stakeholders in registering and trading registered varieties at the regional level within the regional trade blocks. The report focuses on the practical implications of seed regulatory frameworks on national and regional seed markets, along with recommendations to streamline the regional seed registration process.

Within sub-Saharan Africa, only ECOWAS, COMESA and SADC have regional variety catalogues, and all three regional economic communities (RECs) have developed rules on the criteria and process of regional variety registration. Each of these regional catalogues operates differently and focuses on particular priority crops. Within sub-Saharan Africa, ECOWAS has the most varieties in its catalogue, with the combined three versions of the West African Regional Catalogue of Plant Species and Varieties having a total of 1807 varieties, compared with 91 varieties in the SADC Variety Catalogue and 80 in COMESA's current Plant Variety Catalogue. Public sector varieties also appear in the West African Regional Catalogue of Plant Species and Varieties, which is a notable difference from the SADC and COMESA catalogues, where seed companies are the only current registrants. Varieties registered in the national catalogues qualify for registration at the regional level, which might explain the large number of registered varieties in the West African catalogue, since public research institutions are highly involved in varietal breeding in West Africa in comparison to seed companies. Some varieties were reportedly

rejected for registration in ECOWAS, however, due to inconsistencies in evaluation testing with respect to international rules and standards, even though these varieties appear in the national catalogues.

Registration in regional catalogues means that varieties should be traded freely within all the countries in the respective regional blocs. Despite the regional seed rules on variety release and registration, however, stakeholder consultations revealed numerous implementation challenges in practice. Some countries are yet to fully align their national seed laws with the regional seed framework; with implementation gaps existing even where rules are aligned on paper. All the RECs require that evaluation data be transmitted to the regional institutions by the National Seed Authorities (NSAs). During consultations and at the validation meeting, stakeholders reported significant delays, expenses, and bureaucracies in this process, associated with limited institutional resources and capacities in some countries. Stakeholders noted that some countries were unable to conduct evaluation tests in accordance with international standards as required by the seed rules in the different RECs, which creates challenges in regional variety registration.

There were also reports of limited coordination between national and regional institutions involved in variety registration, which further delays the process of sharing relevant evaluation data and information. Some stakeholders expressed concern with the high registration and annual maintenance fees required under COMESA. Failure to pay the COMESA's maintenance fees has reportedly resulted in deregistration of varieties and their removal from the COMESA Plant Variety Catalogue. In SADC, significant processing delays have been reported due to institutional incapacities, even where relevant information has been shared by the national seed authorities (NSAs). In ECOWAS, stakeholders complained that the regional catalogue is in French without English options, which makes access to the catalogue difficult for some stakeholders in the region.

Some stakeholders also expressed concern with regional registration of varieties with similar genetic traits but different names. This is especially the case where parent material is shared by international research centres (CGIAR) with NARS and private seed companies in different countries. Many of the public sector stakeholders who expressed interest in registering their varieties in the regional variety catalogues were unfamiliar with regional variety registration rules, especially in SADC and COMESA where the rules are more complex.

Based on these observations, this check-back mechanism report identifies the following recommendations to address legal gaps and implementation challenges gathered from the legal assessment and stakeholder consultations:

- Conduct capacity building workshops involving key stakeholders to increase familiarity with relevant criteria and processes, and follow up on these discussions to evaluate progress and address issues as they arise;
- More widely disseminate legal tools on regional variety registration, including the SADC and COMESA Manuals previously developed under PASTTA;
- Adopt registration of variety identification numbers (VIN) to trace varieties developed using CGIAR and NARS genetic material and avoid duplication of varieties on the regional catalogue;
- Build capacity among NSAs to align their national systems with regional seed rules, including conducting evaluation testing in accordance with international standards
- Improve communication between NSAs and regional bodies to facilitate regional registration and trade;
- Incorporate notations in regional variety catalogues that show the year of registration and maintain archived version of all regional variety catalogues online, even when projects stop and start, in order to provide a consistent record of progress with regional variety registration; and
- Encourage creation of regional data bases for evaluation test results in SADC and COMESA, which could be aligned with country databases so that once an application is filed regionally, it can be processed without requiring significant action by the NSAs.

I. Background

Under Seeds2B, SFSA and its partner NML have been monitoring the progress of regional seed catalogues since their inception. This check-back mechanism was created to evaluate progress and setbacks with regional seed registration, with the ultimate goals of better delivering improved seed varieties to farmers. The check-back process described in this report can be updated periodically in order to better capture trends and pressing challenges.

The report was based on consultations to analyze seed company experiences in registering and trading registered varieties at the regional level within different regional trade blocks, namely, COMESA, SADC, and ECOWAS. The report contains an assessment of the practical implications of seed regulatory frameworks on national and regional seed markets, along with recommendations to streamline the regional seed registration process. Consultations for the check-back mechanism were conducted from January 2021 to December 2021, both virtually and in person when possible.

- In total, over 35 stakeholders were consulted, including seed companies (local and multinational), national and international public research institutions, national and regional seed regulatory institutions, and seed trade associations.
- Due to COVID-19, a number of stakeholder consultations were conducted virtually; others were conducted in person during the African Seed Trade Association (AFSTA) Congress in September 2021 and in Nairobi, Kenya in September 2021, Addis Ababa, Ethiopia in September and October 2021, and Dodoma, Tanzania in December 2021.
- Over the course of 2021, NML leveraged other projects with partners like COMESA and AFSTA to monitor progress with the regional seed catalogues and seed harmonization more broadly.
- Consultations were based on a set of two questionnaires, one for the public sector and another for private sector stakeholders, structured around stakeholder experiences on variety registration in regional seed catalogues and impact on regional trade.
 - The private sector questionnaire examined seed company interests, challenges, and general experiences in the process of registering varieties in regional variety catalogues, along with ease in trading the registered varieties in the respective regional blocks.
 - The public sector questionnaire focused on the role national regulatory systems and institutions play in the regional variety registration process, including harmonizing national laws, collaboration with regional institutions during registration of varieties onto the regional catalogues, enforcement of regional rules on cross border movement of regionally registered varieties seed.
- The findings in this report were validated in a workshop on regional variety registration during the AFSTA Congress in Djerba, Tunisia in March 2022. During the workshop, feedback on the report was collected from key stakeholders, including regional seed authorities under ECOWAS and COMESA, national seed regulators, and seed companies.

II. Regional Variety Registration Systems and Catalogues

African RECs have developed or are in the process of developing harmonized seed rules aimed at easing cross border seed trade within the respective regional blocks. These have proceeded at different paces within the different regions.

- COMESA’s main instrument is the 2014 COMESA Harmonized Seed Trade Regulations (“COMESA Seed Regulations”).¹
- SADC’s regional seed regulatory system dates back to 2008 and is focused around the SADC Harmonised Seed Regulatory System (“SADC HSRS”).²
- ECOWAS rules also date back to 2008, with the main instruments the Harmonized Rules Governing Quality Control, Certification and Marketing of Plant Seeds and Seedlings in ECOWAS Region (“ECOWAS Seed Regulation”)³ and the Procedure Manual for Variety Registration in the National Catalogue for Crop Species and Varieties in West African Countries of 2008.
- The EAC is a relative newcomer to regional seed regulation, although the EAC has been operating under a system established by the Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) and the Eastern and Central Africa Programme for Agricultural Policy (ECAPAPA) Agreement (ASARECA/ECAPAPA Agreement).⁴ The EAC Seed and Plant Varieties Bill was developed in 2019 and is currently in draft form awaiting approval by the EAC Council of Ministers.

Many Countries within sub-Saharan Africa are Member States of at least one of these RECs (See Figure 1 below). When a country is a member of more than one REC, compliance with regional variety registration rules becomes more complicated. This complexity will be exacerbated as larger trading blocs are implemented, both through the Tripartite Free Trade Area among COMESA, the EAC, and SADC and through the African Continental Free Trade Area (AfCFTA).

Within the RECs, only COMESA, SADC and ECOWAS have rules on regional variety registration, and all three maintain regional variety catalogues. Overall, the effective implementation of these frameworks and ultimate benefit to the key stakeholders in the

¹ Official Gazette of the Common Market For Eastern and Southern Africa (COMESA), Vol. 20 No. 1, March 31, 2015, 29, <http://www.comesa.int/wp-content/uploads/2016/06/Vol-20-No.1-March-2015.pdf>.

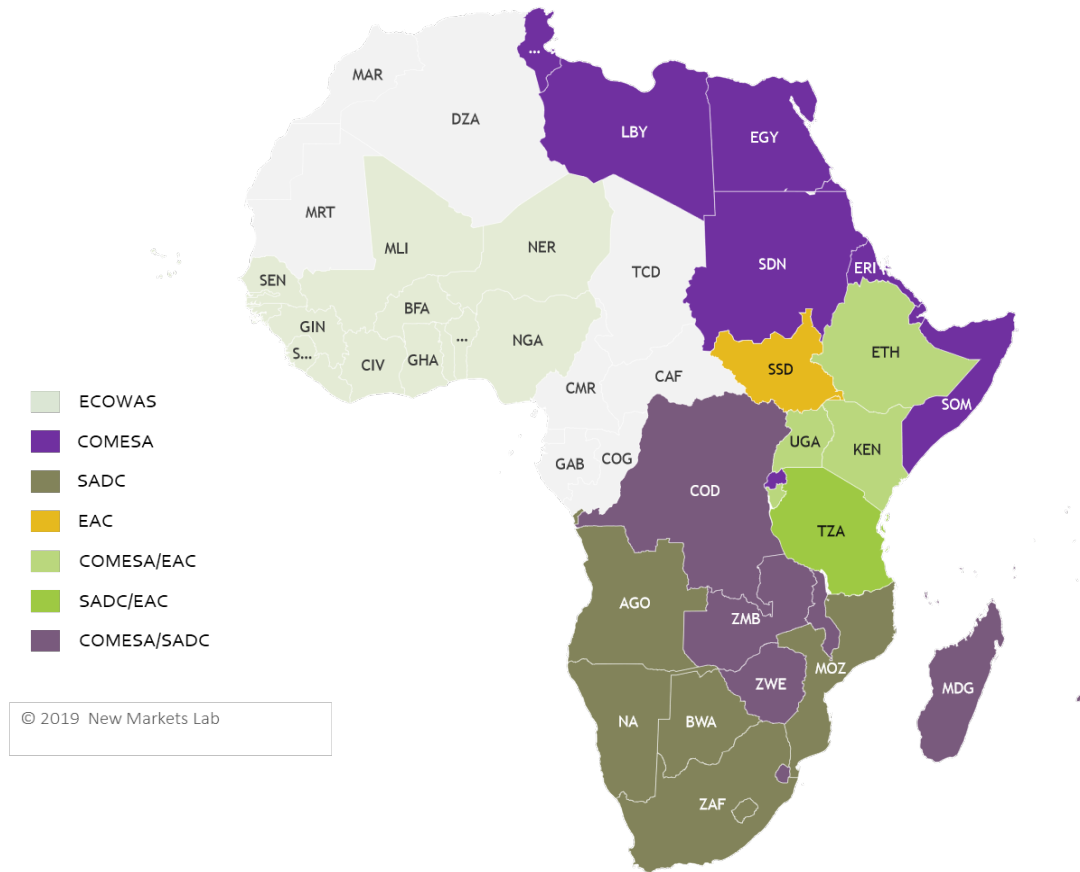
² Memorandum of Understanding on the Harmonization of Seed Regulations in the Southern African Development Community (MoU), 2008.

³ ECOWAS Regulation C/REG.4/05/2008 on Harmonization of the Rules Governing Quality Control, Certification and Marketing of Plant Seeds and Seedlings in ECOWAS Region. May 2008.

⁴ Association for Strengthening Agricultural Research in Eastern and Central Africa (ASARECA) and the Eastern and Central Africa Programme for Agricultural Policy (ECAPAPA) Agreement, Monograph Series No. 4.

respective regions requires further action at the national level, as well as mutual recognition of rules and regulatory systems between countries.

Figure 1: Sub-Saharan Africa Countries' Membership in ECOWAS, SADC, COMESA, and the EAC



The length and flexibilities in the variety registration process within the different RECs depend upon the applicable harmonized seed rules (see Table 1 below with a comparison of regional variety release and registration requirements in ECOWAS, SADC, EAC, and COMESA).

Table 1: Comparison of Regional Variety Release and Registration Requirements in Western, Eastern and Southern Africa

ECOWAS Seed Regulation	SADC HSRS	EAC Seed Bill	COMESA Seed Trade Regulations
New Variety			
<ul style="list-style-type: none"> •The length of the DUS and VCU tests depends on the crop in question. <p>All priority crops subject to a minimum of:</p> <ul style="list-style-type: none"> •Two seasons DUS •Two seasons VCU <p>Except tomato and Onion which are exempted from mandatory VCU.</p>	<ul style="list-style-type: none"> •Released in two countries •DUS One Season •VCU in each of two SADC Member States <p>Variety Released in one Member State to be released in a Second Member State</p> <ul style="list-style-type: none"> •DUS One Season •VCU Two Seasons •Procedure not streamlined as in other RECs 	<ul style="list-style-type: none"> •DUS Two Seasons •NPT Two Seasons <p>Variety Already Released in one Partner State and Seeking Release in a Second Partner State</p> <ul style="list-style-type: none"> •DUS One Season •VCU One Season 	<ul style="list-style-type: none"> •DUS Two Seasons •VCU/NPT Two Seasons <p>Variety Already Released in one Member State and Seeking Release in a Second Member State</p> <ul style="list-style-type: none"> •VCU/NPT One Season
<p>ECOWAS Registered Varieties</p> <ul style="list-style-type: none"> •Not to be tested 	<p>Variety Released in two Member States prior to SADC Variety Catalogue</p> <ul style="list-style-type: none"> •Entrance in the SADC Catalogue upon submission of DUS/VCU 	<p>Variety Released in two Partner States</p> <ul style="list-style-type: none"> •Automatic release in third Partner State 	<p>Variety released in two Member States prior to COMESA Variety Catalogue</p> <ul style="list-style-type: none"> •Entrance in the COMESA Variety Catalogue upon submission of DUS/VCU
<p>Fees</p> <ul style="list-style-type: none"> • No fees. 	<p>Fees</p> <ul style="list-style-type: none"> •Registration Fee (TBD) •Annual Fee (TBD) 	<p>Fees</p> <ul style="list-style-type: none"> •Not established yet 	<p>Fees</p> <ul style="list-style-type: none"> •Registration Fee \$350 •Annual Fee \$200

COMESA, SADC and ECOWAS describe the procedures for registration of varieties in regional seed catalogues under respective harmonized seed rules. In principle, once a variety is registered in a regional seed catalogue, it can be freely traded in the regional block in which the registration has occurred.

All RECs have some common elements. For example, common to all the RECs is the requirement of variety evaluation at the national level for:

- Distinctness, uniformity, and stability of a variety in accordance with the guidelines of the Union for the Protection of New Varieties (UPOV); and
- Value for cultivation and use (VCU) or national performance trials (NPT)

Once a variety meets prescribed criteria and the application for its registration is accepted, it is included in the respective regional seed catalogue. Within sub-Saharan Africa, only COMESA, SADC, and ECOWAS have regional seed catalogues, all of which focus on particular priority crops. Despite many similarities, these three RECs and their regional variety catalogues all have some notable differences as well, which are noted in the sub-sections that follow.

A. Process for Variety Registration in COMESA and Overview of COMESA Variety Catalogue

In COMESA, the COMESA Seed Trade Harmonization Regulations describe the application process for registration of varieties in the COMESA Variety Catalogue,⁵ although other practical steps are included on the COMESA Variety Catalogue website.⁶ Figure 2 below summarizes the Application Process for Registration in the COMESA Variety Catalogue.

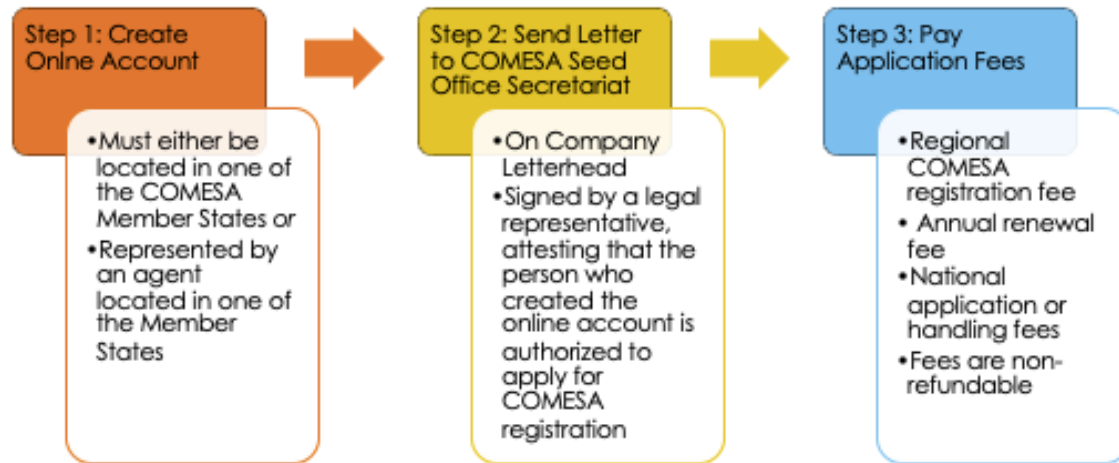
The following are among the most notable features of the COMESA system, several of which have had a particular impact on company experiences with the COMESA catalogue:

- COMESA charges a registration fee and an annual renewal fee. The renewal fee is particularly important, as keeping a variety in the COMESA catalogue is contingent upon its payment. This has been a significant contributing factor to fluctuation in the total number of varieties registered and the diversity of varieties registered in COMESA.
- The COMESA catalogue is maintained by the COMESA Seed Harmonization Implementation Plan (COMSHIP), which has an institutional home within the COMESA Secretariat. This has allowed for more consistent maintenance of the COMESA Variety Catalogue, in contrast to the experience in SADC. This has also allowed for more consistent data on the performance of the COMESA variety catalogue, although there has been more significant fluctuation from year-to-year as noted. However, because in COMESA, applications are initiated with COMSHIP, which then coordinates with the NSAs to provide data, some challenges have also arisen as discussed in Section III.

⁵ Source: New Markets Lab, Manual on Regional Seed Regulations in the Common Market for Eastern and Southern Africa (COMESA), Syngenta Foundation for Sustainable Agriculture under the Seeds2B Initiative and Partnerships for Seed Technology Transfer in Africa (PASTTA), February 2019, (based on the COMESA Seed Trade Harmonization Regulations, (2014)). (Hereafter, COMESA Manual)

⁶ “Filing an Application,” COMESA Variety Catalogue, December 2021. Available at: <https://varietycatalogue.comesa.int/web/fillinghelp>.

Figure 2: Markets Lab Regulatory Systems Map for the Application Process for Registration in the COMESA Variety Catalogue⁷



Source: New Markets Lab, Manual on Regional Seed Regulations in the Common Market for Eastern and Southern Africa (COMESA), Syngenta Foundation for Sustainable Agriculture under the Seeds2B Initiative and Partnerships for Seed Technology Transfer in Africa (PASTTA), February 2019, (based on the COMESA Seed Trade Harmonization Regulations, (2014)).

COMESA has twelve priority crops, namely, common bean, maize, rice, groundnut, cotton, wheat, sunflower, sorghum, soybean, pearl millet, cassava, and Irish potato. As of March 1, 2022, the COMESA Secretariat reported that a total of 90 varieties from 15 seed companies were currently registered in the COMESA Variety Catalogue; however, the online catalogue shows a lower number (80 varieties). COMESA confirmed during validation of the report at the regional variety registration workshop that varieties that do not appear in the online version of the Catalogue have been removed due to the failure of registrants to pay the annual maintenance fees. The COMESA Variety Catalogue is available online.⁸

Currently, all registrants are seed companies, although some have registered publicly-bred varieties. Maize is the most prominent variety, further highlighting its significance in the region.

As of December 2021, 56 registered varieties appeared in the COMESA Variety Catalogue, with a composition as follows (Figure 3).

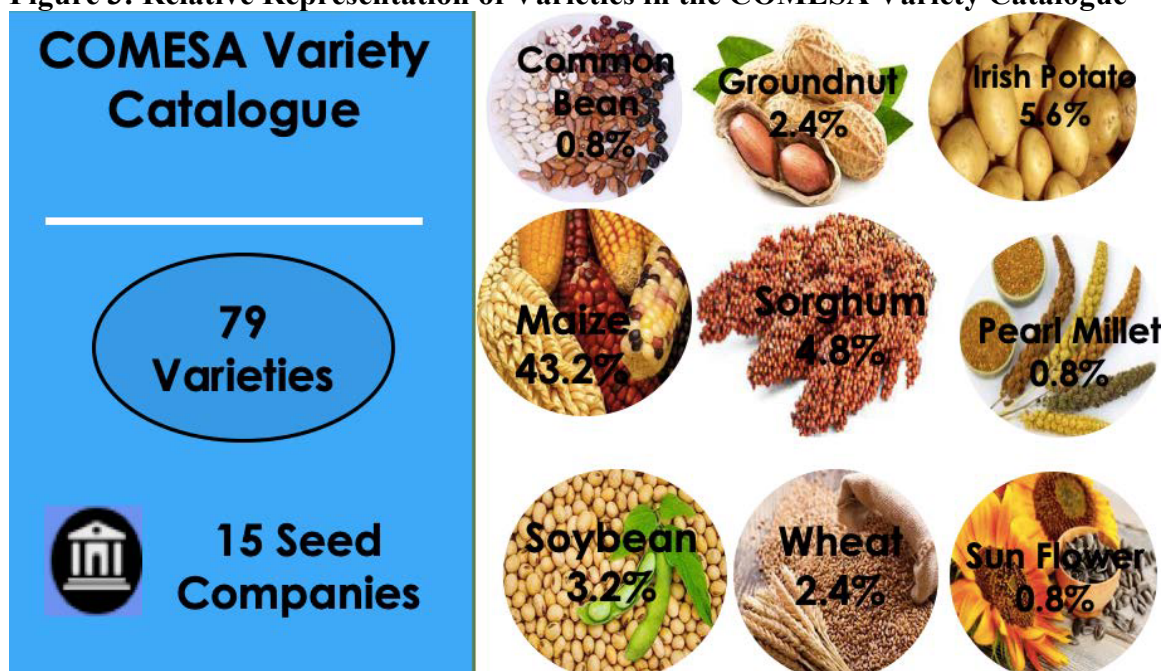
- 54 maize varieties
- 1 common bean variety
- 4 soybean varieties

⁷ COMESA Manual.

⁸ See, <https://varietycatalogue.comesa.int/varietycatalogue>.

- 3 groundnut varieties
- 1 sunflower variety
- 6 sorghum varieties
- 1 pearl millet variety
- 3 wheat varieties
- 7 Irish potato varieties

Figure 3: Relative Representation of Varieties in the COMESA Variety Catalogue



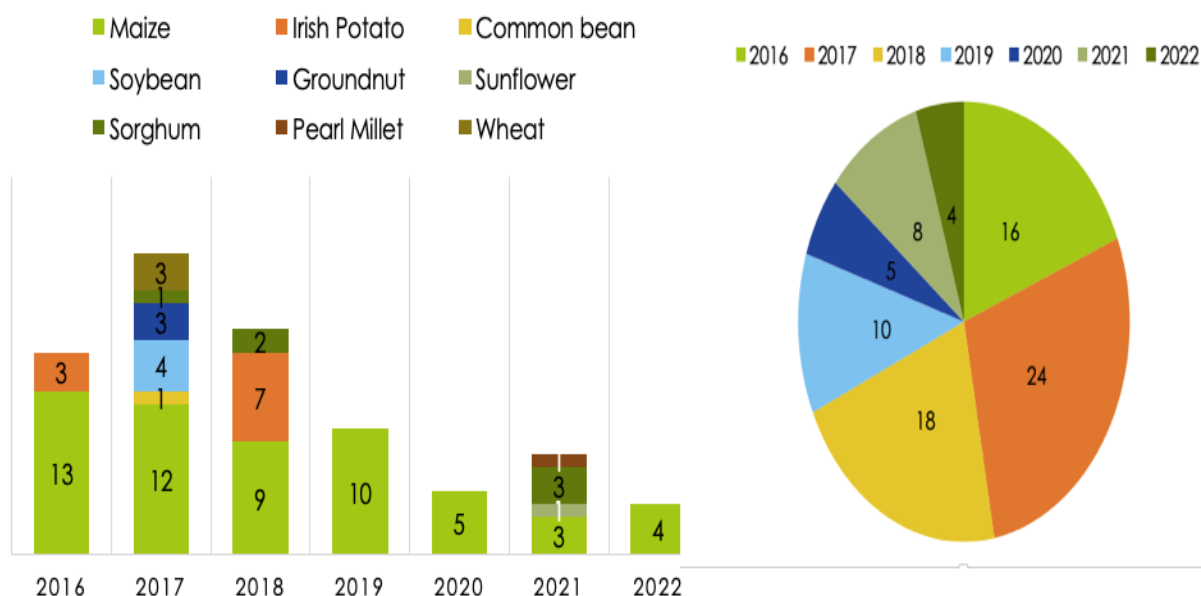
Source: New Markets Lab, 2022. Adapted from the COMESA Variety Catalogue, March 2022.

The fluctuations in the COMESA Variety Catalogue have been notable and make it difficult to gain a full picture of how many varieties can be traded within the COMESA market. Figure 4 shows the total new varieties registered by crop per year.

- In 2016, 13 maize and 3 Irish potato varieties were registered in the COMESA Variety Catalogue. Of these, only 11 maize varieties are still included in the Catalogue.
- In 2017, 1 common bean, 3 groundnut, 12 maize, 1 sorghum, 4 soybean, and 3 wheat varieties were registered in 2017. The sorghum variety is no longer on the Catalogue.
- In 2018, 7 Irish potato and 9 maize varieties were registered in the catalogue. Of these, only 5 maize and 2 Irish potato varieties are still in the Catalogue.
- In 2019, 10 maize and 2 sorghum varieties were registered in COMESA. Only 4 maize varieties remain in the catalogue.

- In 2020, 5 maize varieties were registered.
- In 2021, 3 maize, 1 sunflower, 1 pearl millet, and 3 sorghum varieties were registered.
- In 2022, 4 maize varieties were registered.

Figure 4: Annual and Total Registrations Per Crop Variety in the COMESA Variety Catalogue as of December 2021

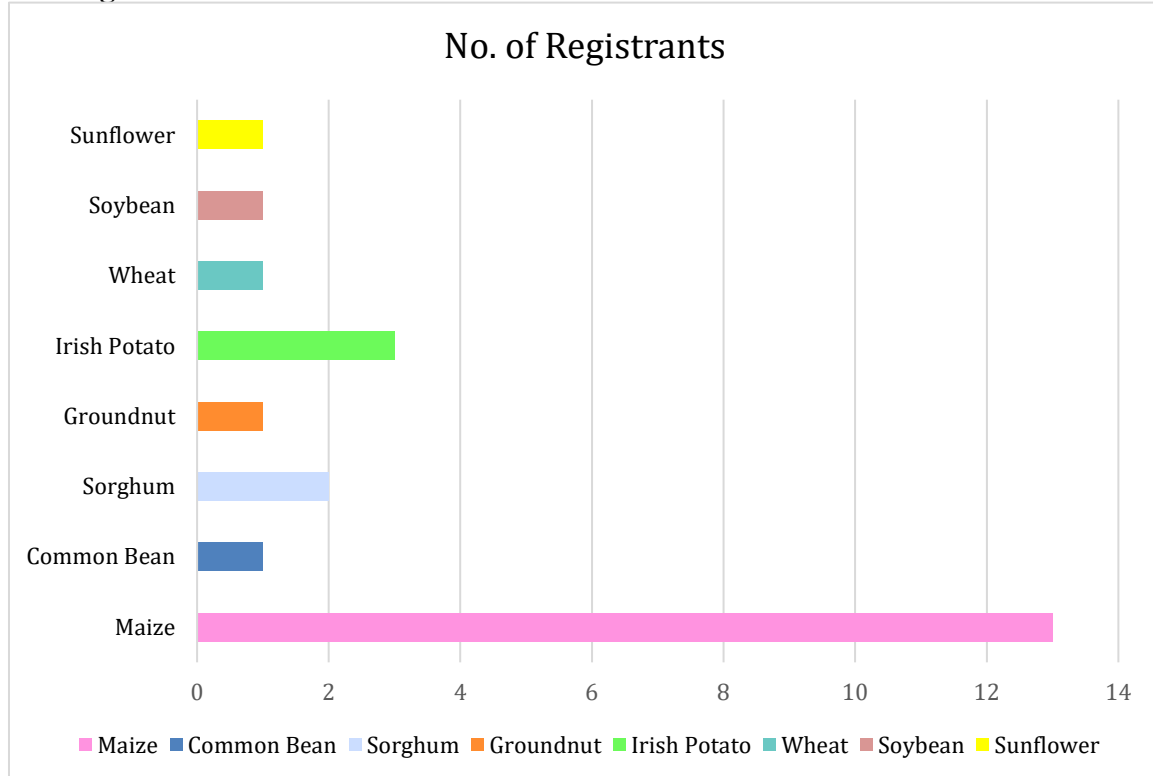


Source: New Markets Lab, 2021. Adapted from the COMESA Variety Catalogue, 2021.

The number of registrants has fluctuated in COMESA as well:

- As of 2021, 8 companies have active registrations for maize, a decrease from 10 in 2019.
- Only one registrant appeared for groundnut, reduced from 5 in 2019.
- Three companies had active registrations for sorghum, an increase from one in 2019.
- In 2019, the National Crop Resources Research Institute in Uganda registered the first publicly-bred and registered variety in the COMESA Variety Catalogue. In 2022, three more varieties have been registered by a joint partnership of one regional and one international agricultural research center.

Figure 5: Number of Registrants Per Crop Variety in the COMESA Variety Catalogue as of December 2021



Source: New Markets Lab, 2021. Adapted from the COMESA Variety Catalogue, 2021.

B. Process for Variety Registration in SADC and Overview of SADC Seed Variety Catalogue

Within SADC, the Technical Agreements on Harmonization of Seed Regulations in the SADC Region set out the procedure for registration of varieties in the SADC Seed Variety Catalogue.⁹ Figure 6 depicts the application process for registration in the SADC Variety Catalogue.

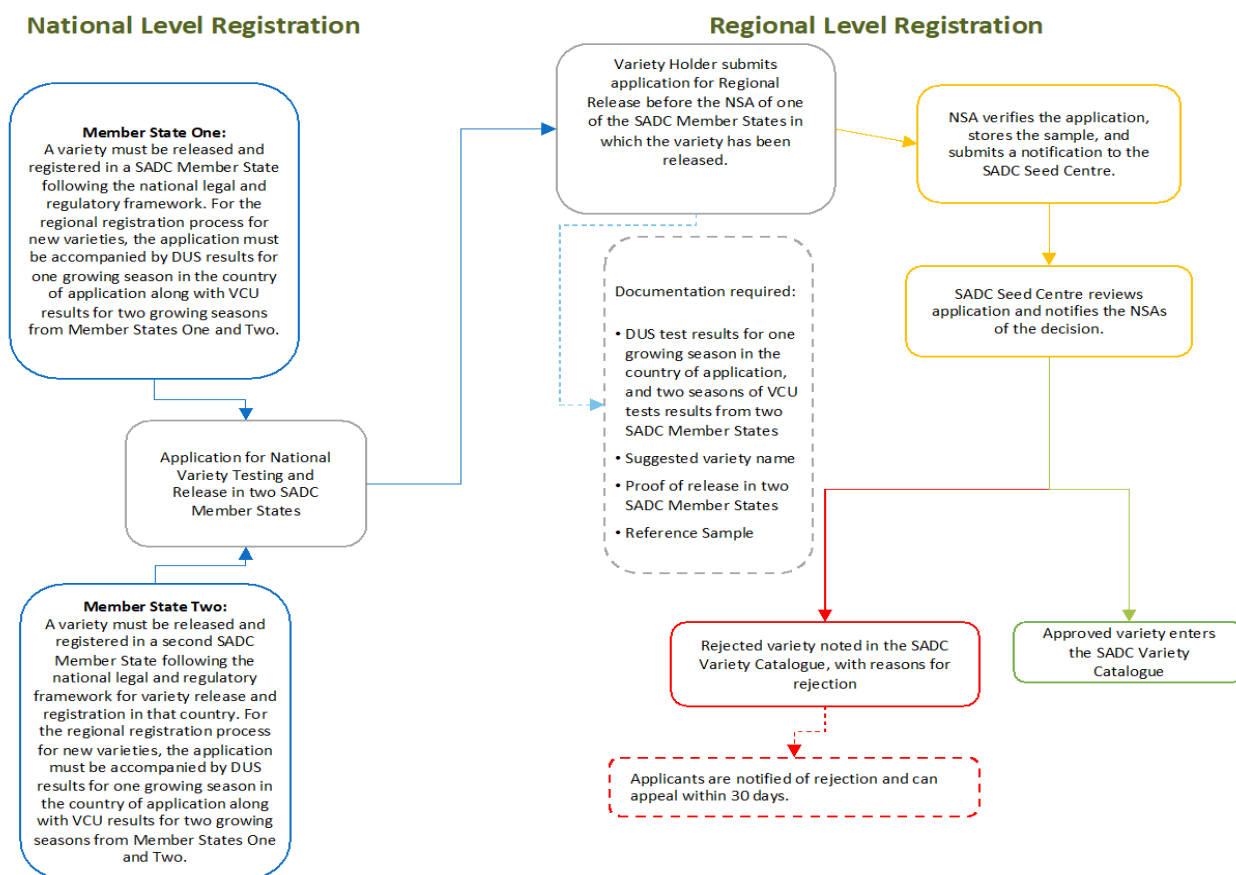
The following are among the most notable features of the COMESA system, several of which have had a particular impact on company experiences with the COMESA catalogue:

- Unlike COMESA, SADC currently does not require an initial registration fee or a renewal fee for entries in the SADC Seed Variety Catalogue. This has made it relatively easier for applicants to register varieties in SADC, as evidenced by the relatively higher number of registered varieties.

⁹ New Markets Lab, Manual on Regional Seed Regulations in the Southern Africa Development Community (COMESA), Syngenta Foundation for Sustainable Agriculture under the Seeds2B Initiative and Partnerships for Seed Technology Transfer in Africa (PASTTA), February 2020. (Hereafter, SADC Manual).

- In SADC, the SADC Seed Center was established as a separate, project-funded entity to manage the SADC Seed Variety Catalogue. The SADC Seed Center website and Seed Variety Catalogue is sometimes unavailable online, in part because of ending in project funding.¹⁰ For instance, between November 2021 and February 2022, the website was unavailable. This is not the first time the SADC Seed Variety Catalogue has been removed due to a change in project funding. However, by the time of updating this report, the Seed Variety Catalogue was back online.¹¹
- In SADC, applications for entry in the regional catalogue are initiated at the NSA level, which has resulted in more streamlined process, as reported by some stakeholders.

Figure 6: New Markets Lab Regulatory Systems Map of Application Process for Registration in the SADC Variety Catalogue



¹⁰ See, Feed the Future Southern Africa Seed Trade Project (Seed Trade Project), available at: <https://www.dai.com/our-work/projects/southern-africa-feed-future-southern-africa-seed-trade-project>.

¹¹ SADC Seed Variety Catalogue, available at: <https://www.sadcseedcentre.com/sadc-seed-varieties/sadc-seed-variety-catalogue/>

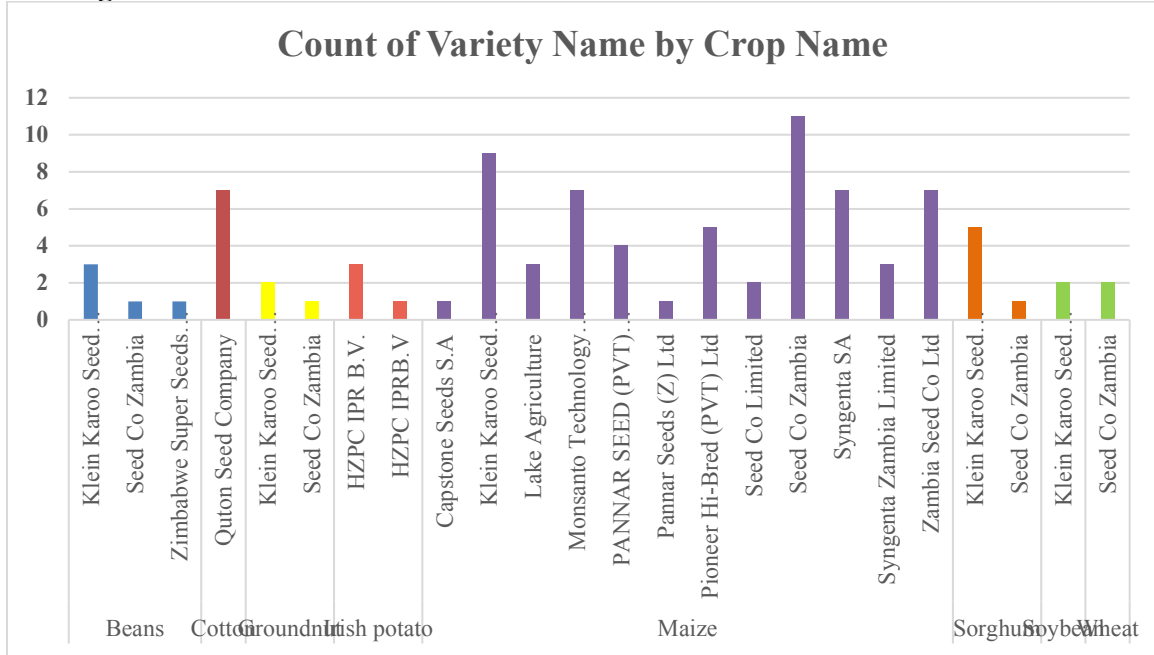
Source: New Markets Lab, Manual on Regional Seed Regulations in the Southern Africa Development Community (SADC), Syngenta Foundation for Sustainable Agriculture under the Seeds2B Initiative and Partnerships for Seed Technology Transfer in Africa (PASTTA), February 2019. (Hereafter, SADC Manual).

As of December 2021, there were 91 varieties in the SADC Seed Variety Catalogue encompassing eight crops as follows:¹²

- 5 common bean varieties
- 7 cotton varieties
- 3 groundnut varieties
- 4 Irish potato varieties
- 62 maize varieties
- 6 sorghum varieties
- 2 soybean varieties
- 2 wheat varieties.

Similar to COMESA, all SADC registrants for the currently registered varieties are seed companies (see Figure 7 below), although some have registered publicly-bred varieties.

Figure 7: Number of Crop Variety Per Registrant in the SADC Seed Variety Catalogue as of December 2021



¹² USAID, Largest Single Jump of Improved Seed Varieties on Regional Catalog, Wednesday, October 7, 2020. Available at: <https://www.usaid.gov/southern-africa-regional/news/largest-single-jump-improved-seed-varieties-regional-catalog>.

Figure 8 below shows the relative representation across the different crops based on available data: maize, cotton, sorghum, common bean, Irish potato, groundnut, wheat, and soybean.

Figure 8: Representation of Varieties in the SADC Seed Variety Catalogue



Source: New Markets Lab, 2021. Adapted from available data, including 2019 version of SADC Seed Variety Catalogue.

Overall, the number of varieties and diversity of crops registered on the SADC Variety Catalogue has increased since the catalogue was launched in 2016. A total of 28 varieties were reportedly registered in the SADC Variety Catalogue in just the second quarter of 2020 alone.¹³

Because the online SADC Variety Catalogue does not record year of registration, it is difficult to conduct year-by-year comparisons. Recording year of registration and maintaining an archived copy of the catalogue, even when a project is concluded, would be of significant benefit to the region and regional seed regulatory efforts overall.

¹³ USAID, Largest Single Jump of Improved Seed Varieties on Regional Catalog, Wednesday, October 7, 2020. Available at: <https://www.usaid.gov/southern-africa-regional/news/largest-single-jump-improved-seed-varieties-regional-catalog>.

C. Process for Variety Registration in ECOWAS and Overview of West African Catalogue of Plant Species and Varieties

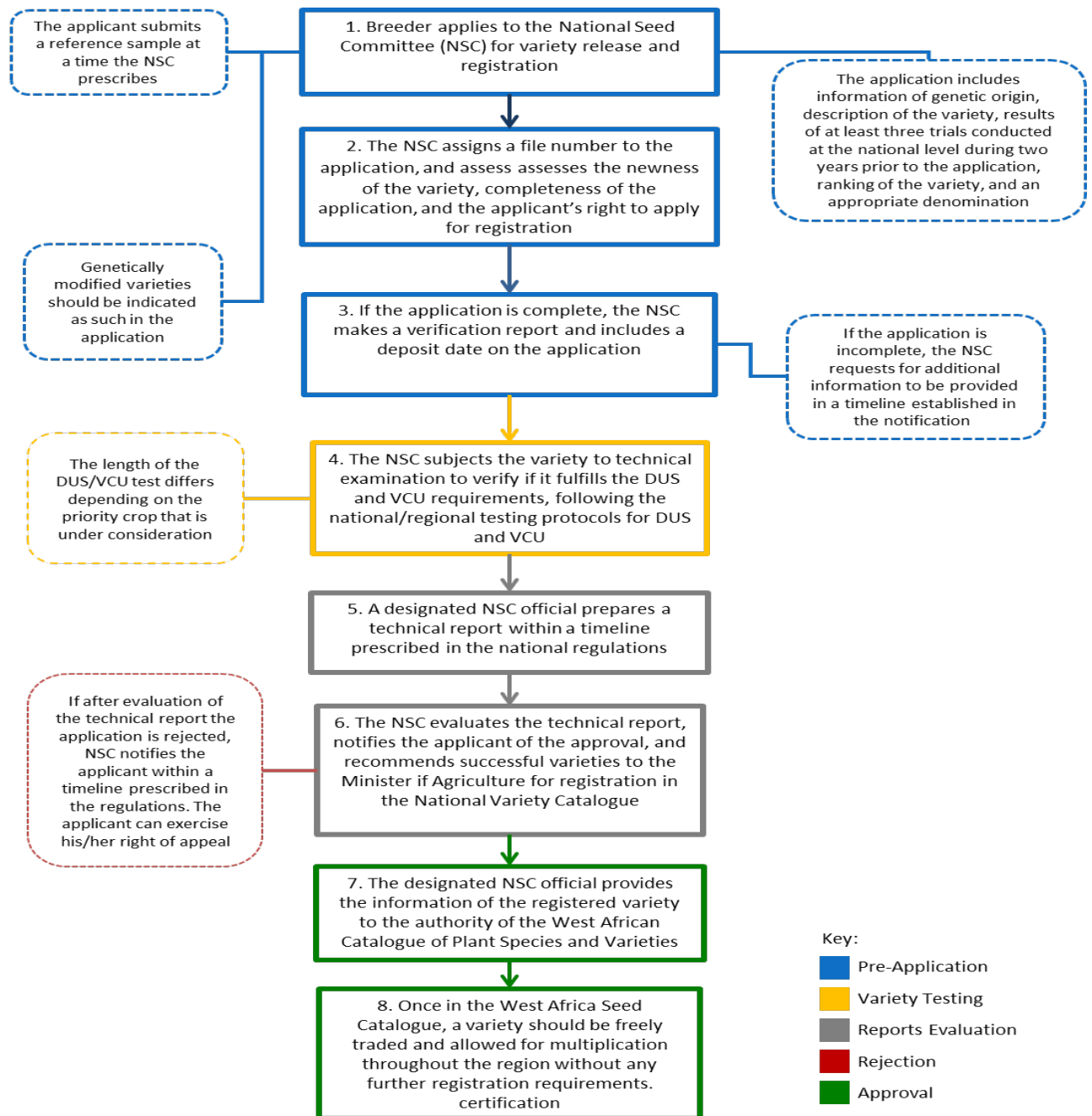
The process for registration of varieties in the West African Regional Catalogue of Plant Species and Varieties, based on the 2008 ECOWAS Procedure Manual for Variety Registration in the National Catalogue for Crop Specifics and Varieties in West African Countries and ECOWAS Procedure Manual (See Figure 9), is significantly different than the processes in COMESA and SADC.

The following are among the most notable features of the ECOWAS system, several of which have had a particular impact on company experiences with the ECOWAS catalogue:

- The ECOWAS catalogue works differently than the COMESA and SADC catalogues, and entry is not based on variety registration and release in two member states. In contrast, varieties registered in the national variety registers of ECOWAS member countries qualify for registration in the West African Regional Catalogue of Plant Species and Varieties; therefore, this catalogue has the most varieties in sub-Saharan Africa. Not all varieties on national variety registers are accepted for registration at the regional level, however, and varieties that do not meet DUS standards have reportedly been rejected. This explains why there are fewer varieties in the West African Regional Catalogue of Plant Species and Varieties than the combined number of those in the national variety registers.
- Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricoles (CORAF) is the technical arm in charge of implementing ECOWAS' agricultural policies, and the West African Regional Seed and Seedling Committee under CORAF is responsible for registration of varieties in the West African Regional Catalogue of Plant Species and Varieties.¹⁴
- The catalog is often reviewed and revised by the West African Regional Seed and Seedling Committee. Unlike under SADC and COMESA, 80 percent of the varieties registered in the West African Regional Catalogue of Plant Species and Varieties are public sector varieties.

¹⁴ The Conseil Ouest et Centre Africain pour la Recherche et le Développement Agricoles/West and Central African Council for Agricultural Research and Development (CORAF/WECARD), Action Plan, West African Seed Committee (WASC/COASem-CRSU), ECOWAS 2015, Dakar, Senegal. Available at: https://issuu.com/coraf/docs/plan_d_action_coasem_anglais_sitewe.

Figure 9: New Markets Lab Regulatory Systems Map for the Variety Release and Registration Process in ECOWAS



Source: New Markets Lab, 2019. Nigeria Guidebook on Regulatory Aspects of Dissemination of Public Varieties, Syngenta Foundation for Sustainable Agriculture under the Seeds2B Initiative and Partnerships for Seed Technology Transfer in Africa (PASTTA), February 2020.

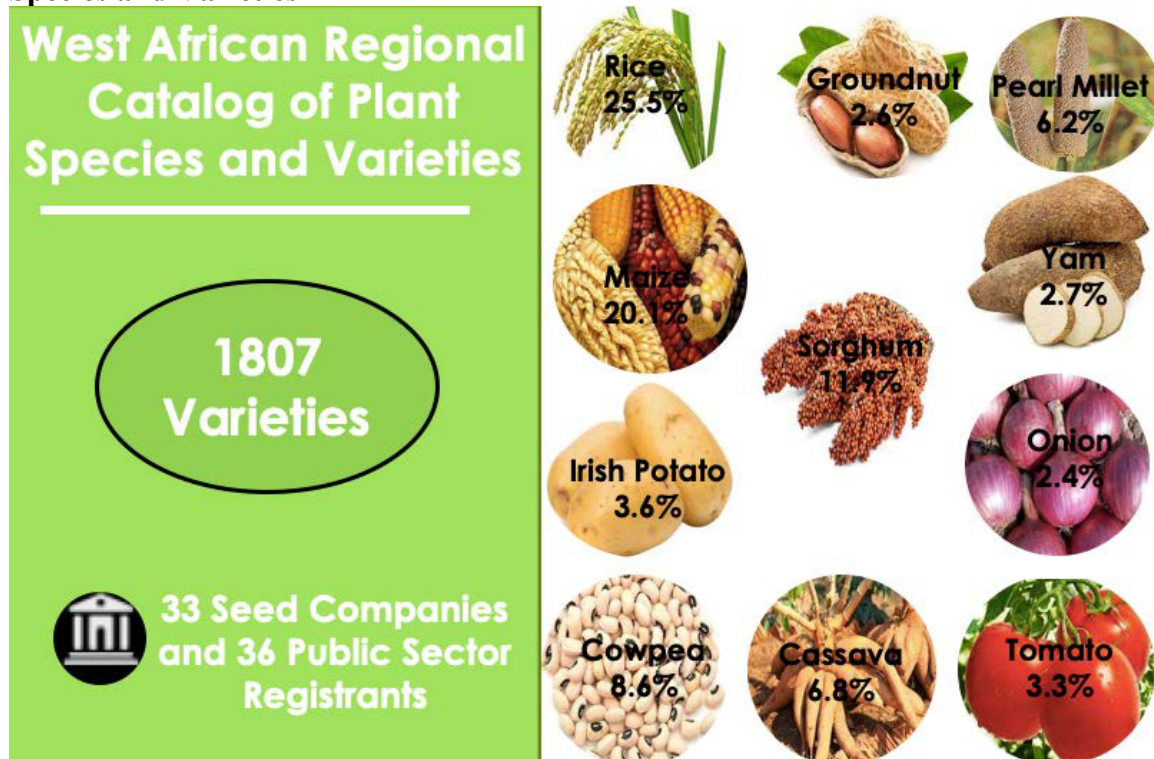
ECOWAS has eleven focus priority crops, namely groundnut, sorghum, pearl millet, rice, maize, cassava, Irish potato, yam, onion, tomato, and cowpea. CORAF is also considering increasing the diversity of ECOWAS priority crops to include more varieties that are of economic and food security importance in the region, that is, wheat, sesame, soybean, sunflower, cotton, sweet potato, okra, local eggplant, and pepper.¹⁵

The ECOWAS West African Regional Catalogue of Plant Species and Varieties has the most registered varieties in sub-Saharan Africa. 1496 varieties were registered in 2016, 135 in 2018, and 176 in 2021, adding up to a total of 1807 varieties registered between 2016 and December 2021 (See Figure 10 for the relative weight of different crops). The first catalogue had the most varieties, because it was a compilation of all national variety lists. The subsequent catalogue versions record additions to the national variety lists. Stakeholder consultations also revealed that CORAF has become more stringent on compliance, especially with the DUS requirements, with subsequent versions of the catalogue. Varieties that do not comply have reportedly been rejected for registration in the regional catalogue. Based on available data, the West African catalogue also appears to be relatively more diverse (see Figure 10 below):

- 362 maize varieties
- 459 rice varieties
- 216 sorghum varieties
- 111 pearl millet varieties
- 162 groundnut varieties
- 155 cowpea varieties
- 123 cassava varieties
- 65 Irish potato varieties
- 48 yam varieties
- 60 Tomato
- 43 Onion

¹⁵ Id.

Figure 10: Representation of Varieties in the West African Regional Catalog of Plant Species and Varieties

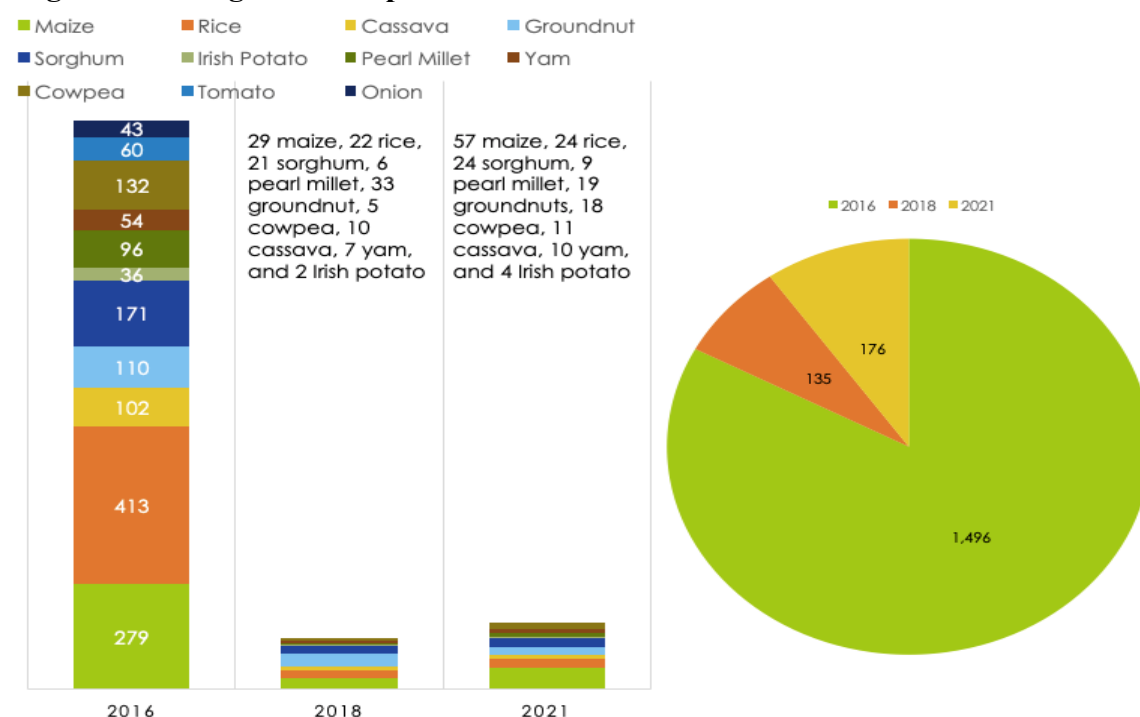


Source: New Markets Lab, 2021. Adapted from the West African Regional Catalog of Plant Species and Varieties, 2021.

The ECOWAS catalog populated slowly at first, but the total number of varieties registered has risen significantly since 2016 (See Figure 11). The catalogue has three versions, with the first released in 2016, the second in 2018, and the third in 2021:

- In 2016, 279 maize, 413 rice, 171 sorghum, 96 pearl millet, 110 groundnut, 132 cowpea, 102 cassava, 54 yam, 36 Irish potato, 60 tomato, and 43 onion varieties were registered in the ECOWAS catalog.
- In 2018, 29 maize, 22 rice, 21 sorghum, 6 pearl millet, 33 groundnut, 5 cowpea, 10 cassava, 7 yam, and 2 Irish potato varieties were registered.
- In 2021, 57 maize, 24 rice, 24 sorghum, 9 pearl millet, 19 groundnuts, 18 cowpea, 11 cassava, 10 yam, and 4 Irish potato varieties were registered.

Figure 11: Annual and Total Registration Per Crop Variety in the West African Regional Catalog of Plant Species and Varieties



Source: New Markets Lab, 2021. Adapted from the West African Regional Catalog of Plant Species and Varieties, 2021.

Unlike under COMESA and SADC, where all the currently registered varieties are by seed companies, the unique nature of rules on varietal registration under ECOWAS make it easier for public sector national and international research institutions to register varieties. As of December 2021, over 80 percent of the varieties registered in the West African catalogue were by public research institutions.

III. Comparison of Regional Variety Catalogues

A comparative analysis of the regional variety catalogues allows for assessment of the effectiveness in implementation of regional seed rules in the different RECs and highlights best practices that could be adopted. Among the three RECs with regional catalogues, the variety registration and release criteria and application process in ECOWAS was reported to be the shortest and best understood by stakeholders. This partly explains why the ECOWAS West African Regional Catalog of Plant Species and Varieties has the most registered varieties as compared with SADC and COMESA.

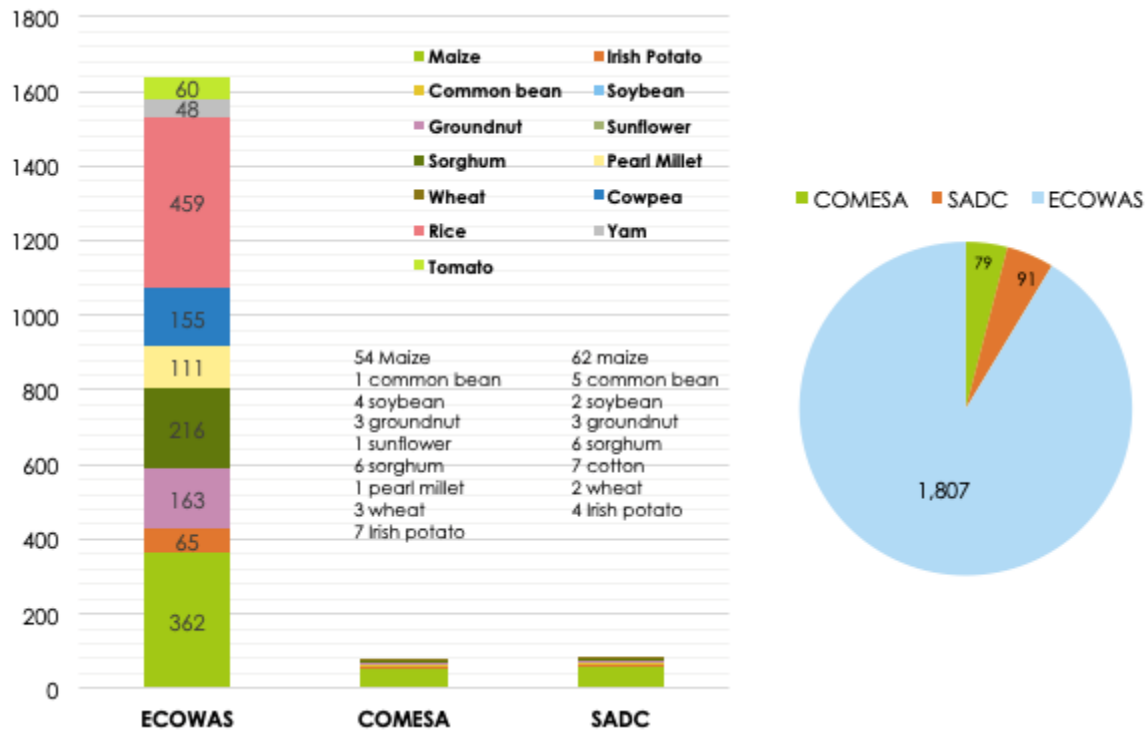
Stakeholders noted that since applications for variety registration within SADC are initiated at the country level with NSAs, the process is relatively simple and streamlined. This partly explains why SADC Seed Variety Catalogue has the second most registered varieties in sub-Saharan Africa, although industry experience and market size are likely factors as well. Delays have, however, been reported at the SADC Seed Center level, mostly due to limited capacity and resources at the regional level and on account of the start-and-stop nature of the SADC Seed Center.

The COMESA variety registration and release system was reported to generally be “user friendly.”¹⁶ Stakeholders noted that delays only happen at the national level with NSAs’ submission of evaluation data results to COMESA. Otherwise, once the data is submitted, COMESA quickly processes the application. However, the current number of registered varieties in the COMESA Variety Catalogue is the least among other RECs, reportedly due to failure of some registrants to pay annual maintenance fees, which results in deregistration of some varieties. Figure 12 below shows a comparison of the crop type, number and total varieties registered in COMESA, SADC, and ECOWAS.

Within all the three RECs, there is diversity across registered crops. However, maize varieties represent the most significant component of all three regional variety catalogues, consistent with maize’s role as a staple crop in many countries within sub-Saharan Africa and its commercial significance and central role in food security. As highlighted in Section II (C), the West African catalog is relatively more diverse, with maize representing a smaller overall percentage of varieties.

¹⁶ COMESA Manual.

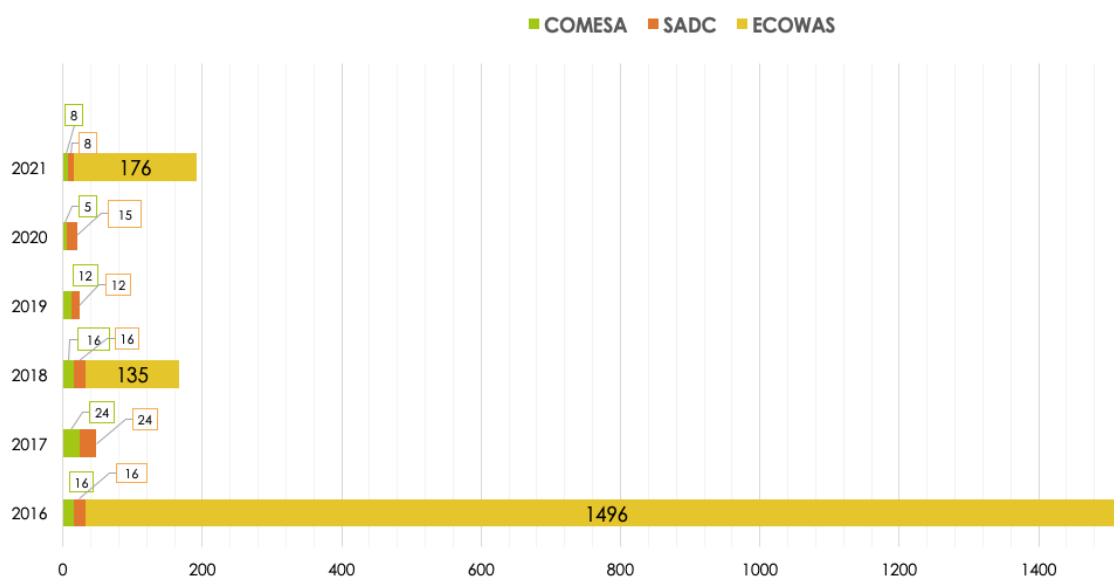
Figure 12: Comparison of the Crop Type, Number and Total Varieties Registered in COMESA, SADC, and ECOWAS



Source: New Markets Lab, 2021. Adopted from COMESA Variety Catalogue 2021, SADC Seed Variety Catalogue, 2019, and the West African Regional Catalog of Plant Species and Varieties, 2021.

Over the years, the number of varieties registered in all three RECs has fluctuated. Some stakeholders noted that this has partly been due to national and regional institutional delays and capacity gaps. Others noted that there have been significant challenges with cross-border trade of seed registered in the regional catalogues, which somehow defeats the objective of regional registration of varieties.

Figure 13: Number of Varieties Registered Per Year in COMESA, SADC, and ECOWAS



Source: New Markets Lab, 2021. Developed based on available data, including COMESA Variety Catalogue 2021, SADC Seed Variety Catalogue, 2019 and 2020 and 2021 reports, and the West African Regional Catalog of Plant Species and Varieties, 2021.

IV. Stakeholder Experiences and Key Findings

Stakeholder consultations revealed challenges with the regional variety registration processes and applications, as well as issues navigating the regional variety catalogues. Challenges are classified below into constraints at the national and regional levels and stakeholder knowledge gaps.

A. Constraints at the National Level

- Stakeholder consultations revealed that a number of national systems are yet to fully align their seed legal and regulatory frameworks with the regional seed rules. Even where national seed rules are aligned with regional systems on paper, implementation tends to be complicated in practice, which affects registration in regional seed catalogues.
- Some countries were reported to have limited capacity to conduct DUS tests that meet international standards as required under the RECs. This affects registration of varieties in the regional catalogues. In ECOWAS, for instance, while a variety registered at the national level qualifies for entry in the regional catalogue, stakeholders noted that the majority of varieties are not registered due to failure meeting DUS and international standards. In Ethiopia, stakeholders noted the absence of DUS protocols, which has

effectively kept DUS tests from being conducted in practice even though they are required by law.

- Seed companies reported significant delays by some NSAs in transmitting evaluation data reports to the regional seed authorities, especially in SADC and COMESA. In COMESA, once a registrant lodges an application, COMESA reaches out to the respective NSA for the seed company to have that NSA send the relevant data. For most NSAs, however, sharing data is not their priority, and lack of resources and capacity exacerbate the challenge.
- Obtaining data from most governments was reported to be tedious, expensive, and bureaucratic. One seed company revealed that it wanted to register eight varieties on the COMESA Variety Catalogue but faced considerable challenges when Uganda's NSA was requested to submit the data. The company noted that it had been referred to different officers, who either claimed they were not responsible or did not respond at all. Delays at the national level for pending registrations under COMESA were reported to last from 7-8 months.
- Companies also complained that some NSAs, like the Kenya Health Inspectorate Service (KEPHIS), still require the seed company to pay for submission of data at the regional level, even though the company already paid for the evaluation tests.

B. Regional Level Constraints

- Stakeholders interested in registering varieties in the COMESA Variety Catalogue were concerned about the cost of registration and maintenance of variety registrations. Registration costs \$350 and maintenance of registration carries an annual fee of \$200. Most stakeholders expressed that this is quite expensive and tends to exclude smaller seed companies. The maintenance costs were of particular concern, because about 18 seed companies have lost their registration in the COMESA Variety Catalogue due to their failure to pay the renewal fee.
- Seed companies noted considerable delays in processing applications within SADC, due to limited resource and capacity constraints. The other limitation noted during development of this report was that the SADC Seed Centre website, which hosts the SADC Seed Variety Catalogue, was not operational (this is not the first time the SADC Seed Variety Catalogue has been removed from the public domain). The lack of public access to the SADC Seed Variety Catalogue is not just a practical challenge, it is a transparency issue that makes it very difficult for stakeholders to know which varieties have been approved for regional trade.

- In ECOWAS, stakeholders complained that the regional catalogue is in French without English options for Anglophone countries. This makes access to the catalogue difficult for some stakeholders in the region.
- In all three RECs, stakeholders noted that there was very minimal cooperation between the national and regional regulatory institutions, yet close cooperation is necessary in order to make the process of variety registration functional.
- Some stakeholders expressed concern with privacy of the data in the national and proposed regional databases, while some companies opined that regional filings will not give rise to privacy issues, because DUS and NPT data is just information descriptive of the variety and not samples of the variety itself or its parental material.

C. Knowledge Gaps

- Some stakeholders expressed concern over the registration of varieties with the same or similar genetic or parent material but with different variety names. This is the case when members of the CGIAR share the same genetic material with NARS or seed companies in different countries. Varieties developed from such parent material may have similar traits yet carry different names, making it hard to trace their genetic background. A number of issues can arise when varieties with common genetic composition but different names end up being registered in the regional catalogues.
- Among public sector stakeholders, many expressed a greater interest in registering their varieties in the regional variety catalogues; however, many were unfamiliar with regional variety registration rules in other regions, especially in SADC and COMESA where the rules are more complex. One CGIAR Center mentioned, for instance, that it was interested in registering its varieties in the COMESA and SADC catalogues but was unaware of the process for doing so. Currently, only the ECOWAS catalogue contains public varieties. Public varieties were previously registered in the COMESA Variety Catalogue by seed companies, although these varieties no longer appear in the current version of the COMESA catalogue.

V. Recommendations

The following table contains recommendations developed to address gaps and implementation challenges identified based on the legal analysis of regional seed frameworks and stakeholder consultations. The implementation of the proposed recommendations will highly depend on the coordination among national and regional level institutions, and the support of the private sector and development partners.

Table 2: Recommendations

Challenge	Proposed Recommendation
National Level Constraints	<ul style="list-style-type: none"> • Build capacity among NSAs to align their national systems with regional seed rules, including conducting DUS testing in accordance with UPOV standards • Improve communication between NSAs and regional bodies to facilitate regional registration and trade
Regional Level Constraints	<ul style="list-style-type: none"> • Support stakeholder proposal for the creation of regional data bases for DUS and NPT results in SADC and COMESA. RECs could enforce this and align it with country databases so that once an application is filed, it can be processed at the regional level without requiring significant action by the NSAs. • Improve capacity at national level to establish databases with DUS and NPT results, which could improve coordination at the regional level. • Improve coordination between RECs and NSAs, including directly contacting them for evaluation results of candidate varieties when a submission has been delayed. • Incorporate notations in regional variety catalogues that show the year of registration and maintain archived version of all regional variety catalogues online, even when projects stop and start, in order to provide a consistent record of progress with regional variety registration.
Knowledge gaps in variety release and registration procedures in the different RECs	<ul style="list-style-type: none"> • Conduct capacity building workshops involving key stakeholders to increase familiarity with relevant criteria and processes and follow up to determine • Disseminate legal tools on regional variety registration, including the SADC and COMESA Manuals previously developed under PASTTA. • Support COMESA’s application of VIN to trace varieties developed using CGIAR and NARS genetic material and avoid duplication of varieties on the regional catalogue. This approach could be adopted in SADC and ECOWAS as well.

