



2021 Access to Seeds Index Insights Report

April 2022

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1. Foreword

A good crop starts with quality seeds. However, sufficient access to quality seeds is still one of the many challenges smallholder farmers face in producing food essential to end hunger and malnutrition affecting about a billion people in the world.

In 2021, the Access to Seeds Index evaluated the efforts of 67 of the most influential seed companies to reach smallholder farmers in countries with high yield gaps and potential agricultural productivity. The 2021 Access to Seeds Index is published by the World Benchmarking Alliance (WBA) and is the third iteration since 2016. The index aims to provide a roadmap of where seed companies should improve their efforts to contribute to the UN Sustainable Development Goals (SDGs).

WBA has developed this insights report to build upon 2021 index company rankings, trends and activities to guide the 2022 engagements, our year of impact. The collaborative nature of the seed industry, as shown in this report, is a great indicator of successful engagement opportunities with the companies and stakeholders to hold the industry more accountable for the SDGs.

This report elaborates on the company's efforts across three regions of the Access to Seeds Index. It also summaries company activities at a country level with 55 index country profiles. To shine a light on the breath of the seed sector and its players, the report also looks into the role of seed-producing cooperatives in Western and Central Africa. In 2022, the index will look back on the index impact since its establishment to inform focus areas and our strategy for the next five years.

Please reach out to us for any questions or opportunities to connect.

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2. The 2021 Access to Seeds Index

2.1 Introduction

One of the biggest challenges now is to sufficiently feed more than 690 million hungry people with healthy and nutritious food. Climate change, the Covid-19 pandemic and local and global geopolitical instabilities have a destabilising impact on global food systems, accelerating hunger and malnutrition in low- medium-income countries. Furthermore, in just two decades, the world will have additional two billion people to feed. These numbers are estimated to increase greatly in countries with high food insecurity. Holding accountable key players is key to taking bold actions to increase food production and protect natural resources and the environment for present and future generations.

In 2017, the UN General Assembly declared [2019-2028 the Decade of Family Farming](#). Family farms covering smallholder farmers were identified as key to achieving the UN SDGs, specifically ensuring food security, ending hunger, eradicating poverty, conserving biodiversity and achieving environmental sustainability. However, by 2021 the [UN FAO report on Food Security and Nutrition](#) warned that the world is off track in achieving zero hunger by 2030. In 2021, [the UN Food systems Summit](#) and [COP26](#) put smallholder farmers at the center of transforming our food systems in the face of the changing climate. Including and prioritising the needs of small-scale farmers is a key step in improving the world's ability to feed more people with nutritious food and conserve the world's biodiversity.

Smallholder farmer needs are diverse and require locally tailored solutions. Access to key agricultural inputs, mainly quality seeds, is one of the primary and common needs of smallholder farmers. We can contribute to achieving food security and improved nutrition in the countries that need it the most by taking a regional approach to hold private seed companies accountable for smallholder farmer development. The private seed sector, which is at the heart of the UN SDGs, has to develop and implement clear, strong and ambitious goals and strategies for ensuring access to seeds for smallholder farmers in countries with the highest yield gaps for gains in agricultural productivity.

The [World Benchmarking Alliance's](#) Access to Seeds Index is uniquely positioned to provide the necessary transparency and a roadmap based on evidence. The index addresses gaps and identifies leading practices to push forward the performance of the seed industry and companies in the least developed countries. This insights report builds upon the results and outcomes of the 2021 Access to Seeds Index which assessed 67 seed companies in three regions: Western and Central Africa, Eastern and Southern Africa, and South and South-East Asia.

The UN SDGs focus on lasting impact, hence the need to assess how seed companies' operations, products, services and local investments affect people, communities and the planet. The third iteration of the index published in 2021 included key findings on the main trends, leading practices and notable conclusions tied to rankings and company scorecards. This insights report aims to provide a cross-regional understanding of industry trends and contributions to key issues by measurement area and 55 country profiles of company activities in the index countries. We also outline engagement opportunities and the next steps focused on impact of the index on the industry and stakeholders in 2022.

We invite all index stakeholders to reach out to [our team](#) or join one or more activities and become part of the conversation.



2.2 Access to Seeds Index journey

Since its establishment in 2012, the Access to Seeds Index has set out to increase transparency and accountability around the seed industry. The index also encourages the industry to enhance its contribution to the 2030 sustainable development agenda, mainly SDG2- Zero Hunger.

Three indexes have been published so far, in 2016, 2019 and the latest in 2021. By the second iteration of the index, it was clear that the index played a key role in proposing transparency in the seed industry. It also recognised and encouraged industry leadership to align with UN SDGs through the index rankings and a roadmap to develop clear access to seeds strategies focused on smallholder farmers.

In 2020, the Access to Seeds Index embarked on a new journey of integration into the World Benchmarking Alliance as a spotlight index for the Food and Agriculture Transformation. This transition linked the stand-alone index to a broader and relevant food system accountability mechanism. The WBA's Food and Agriculture Benchmark gives a broad insight into the 350 most influential companies across the food value chain.

WBA aims to empower consumers, investors, governments and civil society organizations by providing them with free and publicly available data that shows a company's SDG performance, which they can use when deciding where to allocate their investments or direct their policy and advocacy efforts.

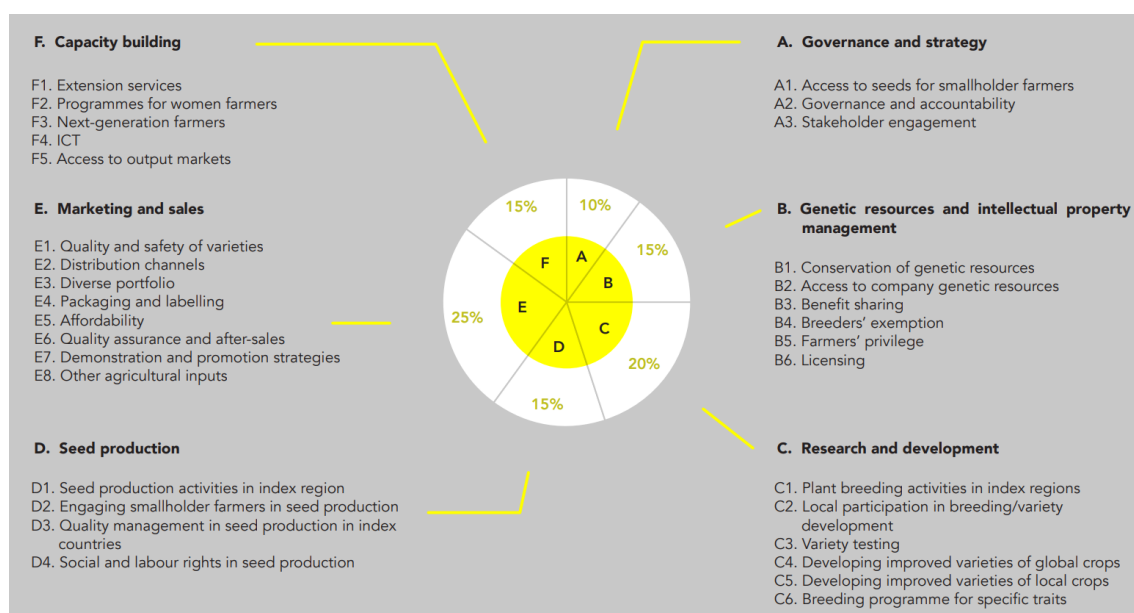
The Access to Seeds Index goals did not change, as it has continued to assess the seed industry at the start of the food value chain. In continuing to improve the accountability of the seed industry for improving access to seeds, in 2020 WBA reviewed and updated the [index methodology](#) to 32 indicators in six measurement areas, and a scope of 67 companies with activities in 55 countries. The index evaluates regional companies alongside global companies in three regions.

The index provides evidence of where companies can step up their efforts. It further provides leading practices for peer learning to improve the industry's contribution to hunger and malnutrition reduction while improving smallholder livelihoods in the face of changing climate and increasing global population.

The figure below shows the indicators within each of the six measurement areas considered crucial for increasing access to quality seeds of improved crop varieties for smallholder farmers in index regions.



FIGURE 1: 2021 ACCESS TO SEEDS INDEX SIX MEASUREMENT AREAS



2.3 The seed industry overview

The two previous Access to Seeds index publications shows that the seed industry is highly diverse and locally driven. In 2021, the index assessed globally active leaders alongside small and medium companies meeting the four selection criteria; 1) regional presence or a dominant position in one country; (2) physical presence and business activities in the region; (3) an integrated seed business model; and/or (4) peer recognition as a leading company.

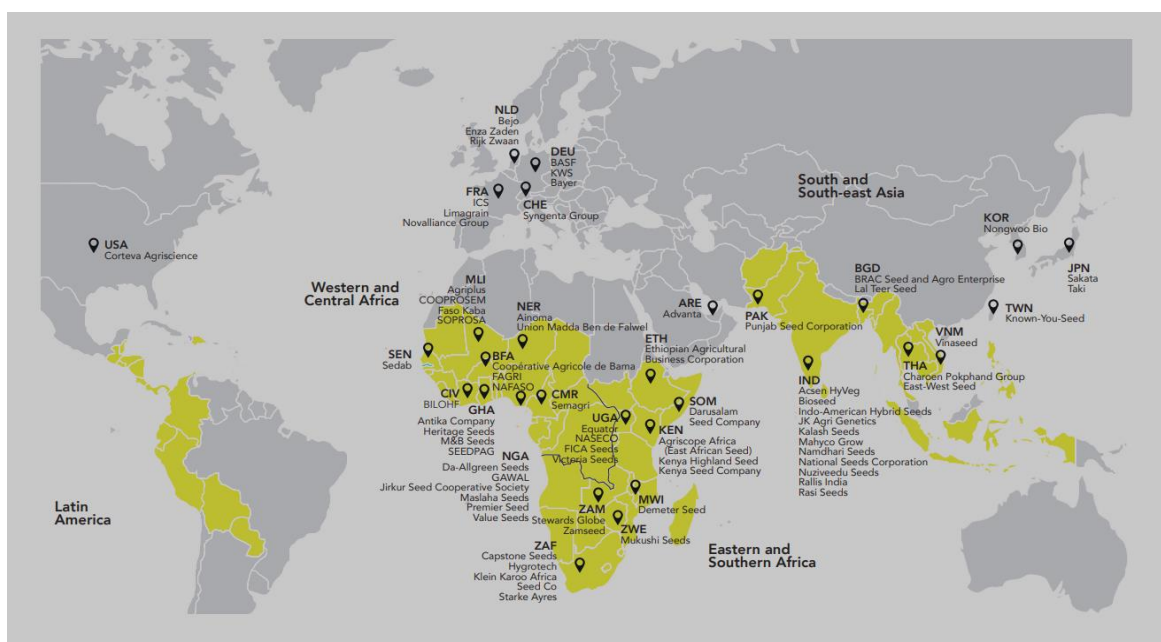
The 13 index global companies have more integrated businesses models with a significant marketing and sales footprint in all three regions. They are currently present across the regions, even in Western and Central Africa where in 2016 the index noted an absence. For example, the index leading global companies, East-West Seeds and Bayer, are widely present across the three regions, in 42 index countries and 41 index countries respectively.

Global companies also invest in extensive breeding programs, bringing their materials to the three index regions and investing in capacity building. However, they could invest more in seed production activities, which are dominated by regional companies, thereby contributing to advancing the local seed sector. Globally active companies set up and compete in the region with diverse crop portfolios mainly for global field crops and vegetables rather than local crops.

On the other hand, regional companies in Western and Central Africa and Eastern and Southern Africa mainly focus on sales and after-sales support such as extension services in the home market. In South and South-East Asia, regional companies are expanding their presence globally, such as India's JK Agri and Kalash Seeds' activities in Africa. Regional companies in Western and Central Africa are still in the early maturity level in comparison to Eastern and Southern Africa and South and South-East Asia investments in research and development, mainly owning their breeding programmes. However, collaboration with the national and international institutions and other companies facilitates more regional access to develop and offer diverse crop portfolios. These portfolios also include more local crops often missing in global company portfolios.



FIGURE 2: ACCESS TO SEEDS INDEX COMPANY HEADQUARTERS



Across the index countries, there is a clear complementary role of the presence of global and regional companies in reaching smallholder farmers with quality seeds. However, the industry reach in many index countries does not necessarily mean these practices maximise smallholder farmer success. The evaluation of these companies in the six measurement areas shows more evidence of where companies can improve and learn from leading practices.

2.4 Company presence and activities

Seed companies are active with sales in almost all index countries with diverse field crops and vegetables developed for climate change resilience.

The industry shows efforts in the expansive reach of their sales to almost all 55 index countries. However, the presence of the index companies remains unbalanced with many companies more concentrated in some countries than in others. For example, India, Thailand, Ghana, Nigeria, Kenya and South Africa have a vibrant market with more than six index companies present in each. On the contrary, no index company reported presence in Guinea-Bissau, and only one to two companies are present in Afghanistan, Eswatini and Laos.



The company presence imbalance also impacts the development of the local seed business and associated infrastructure facilities such as breeding, seed production and seed processing. Such company efforts remain concentrated in four to six countries in each region, hampering seed sector growth in other countries.

The industry crop portfolios are diverse for vegetables and field crops. But more efforts are needed in diversifying their portfolios with more pulses across the regions with special attention in South and South-East Asia. A key finding in breeding activities for improved varieties is that companies are prioritising traits for crops resistant to climate change across all three regions. Similar efforts should be targeted towards the local crops also known as orphan species, which are important for smallholder farmers and the market to increase access to nutritional food while boosting the local biodiversity. Only 25 of the 67 companies offer local and traditional crops such as the popular African eggplant, Amaranth, Mustard or Yard long beans in their portfolios.

Companies also report a wide presence for their sales supporting activities, but disclosure of evidence is still lacking for companies in Western and Central Africa. Across the regions, there is still a gap in programmes targeting the next generation and women smallholder farmers who play a crucial role in producing food today and in the future.

2.5 Country profiles

The index country profiles provide an overview of the presence and activities of index companies in 55 index countries across Western and Central Africa (22 countries), Eastern and Southern Africa (19 countries) and South and South-East Asia (14 countries).

These [country profiles](#) also summarise company's main crops, local investment activities and the enabling environment. See an example of the country profile on figure 3 below.

FIGURE 3: ACCESS TO SEEDS INDEX COUNTRY PROFILE EXAMPLE: INDIA



| | |
|---|---|
| Country | India |
| Region | South and South-East Asia |
| Development status | Lower middle-income country and territory |
| Employment in agriculture (% of total employment) | 43 |
| GM crop approval for cultivation | Cotton |
| ITPGRFA contracting party | Yes |
| Law on plant variety protection | Protection of Plant Varieties and Farmers' Rights Act 2001 |
| Participation in OECD seed schemes | Yes |
| Participation in trade blocs | SAARC |
| UPOV membership status | Initiated the procedure for acceding to the UPOV Convention |

Index company activities identified in India

| Company | Crops in portfolio | | Company activities in country | | | | | |
|--|--------------------|------------|-------------------------------|------------------|-----------------|---------------------|-------|--------------------|
| | Field crop | Vegetables | Breeding location | Testing location | Seed production | Processing location | Sales | Extension services |
| Companies selected for the Access to Seeds Index | | | | | | | | |
| Acscen HyVeg** | Yes | Yes | Yes | Yes | Yes* | Yes | Yes | Yes |
| Advanta | Yes | Yes | Yes | Yes | Yes* | Yes | Yes | Yes |
| BASF | | Yes | Yes | Yes | Yes* | Yes | Yes | Yes |
| Bayer | Yes | Yes | Yes | Yes | Yes* | Yes | Yes | Yes |
| Bejo | | Yes | Yes | | Yes | | Yes | |
| Bioseed** | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Charoen Pokphand Group | Yes | Yes | Yes | | Yes | Yes | Yes | |
| Corteva Agriscience | Yes | | Yes | Yes | Yes* | Yes | Yes | Yes |
| East-West Seed | | Yes | Yes | Yes | Yes* | Yes | Yes | Yes |
| Enza Zaden | | Yes | Yes | | Yes | | Yes | |
| Indo-American Hybrid Seeds** | Yes | Yes | Yes | | Yes | | Yes | |
| JK Agri Genetics** | Yes | Yes | Yes | Yes | Yes* | Yes | Yes | Yes |
| Kalash Seeds** | Yes | Yes | Yes | Yes | Yes* | Yes | Yes | Yes |
| Lal Teer Seed | Yes | Yes | Yes | | Yes* | | Yes | |
| Limagrain | Yes | Yes | Yes | Yes | Yes* | Yes | Yes | Yes |
| Mahyco Grow** | Yes | Yes | Yes | Yes | Yes* | Yes | Yes | Yes |
| Namdhari Seeds** | Yes | Yes | Yes | Yes | Yes* | Yes | Yes | Yes |
| National Seeds Corporation** | Yes | Yes | Yes | | Yes | | Yes | |
| Nongwoo Bio | | Yes | Yes | | Yes | | Yes | |
| Nuziveedu Seeds** | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Rallis India** | Yes | | Yes | Yes | Yes | | Yes | Yes |
| Rasi Seeds** | Yes | | Yes | Yes | Yes | Yes | Yes | Yes |
| Rijk Zwaan | | Yes | Yes | Yes | Yes* | | Yes | Yes |
| Sakata | | Yes | | Yes | | Yes | Yes | Yes |
| Syngenta Group | Yes | Yes | | | | Yes | Yes | Yes |
| Takii | | Yes | Yes | Yes | Yes* | Yes | Yes | Yes |

* Company involves smallholder farmers in seed production activities

** Companies headquartered in India

Other index companies are also active in the country. However, country specific information for these companies is not available in the public domain.

2.6 The 2021 Access to Seeds Index ranking

The company performance on the index indicates that the majority of the seed companies do not disclose their activities to bridge the gap with smallholder farmers needed to increase food production and income.

The 2021 Access to Seeds Index shows that only 21 leading companies among the three regions are scoring above 50% on all six measurement areas. The majority of companies score below 49%, with five companies in Western and Central Africa scoring zero. In Eastern and Southern Africa and South and South-East Asia, the lowest score is 3.3/100 and 5.7/100, respectively.



FIGURE 4: ACCESS TO SEEDS INDEX COMPANIES PER SCORE BANK (/100)

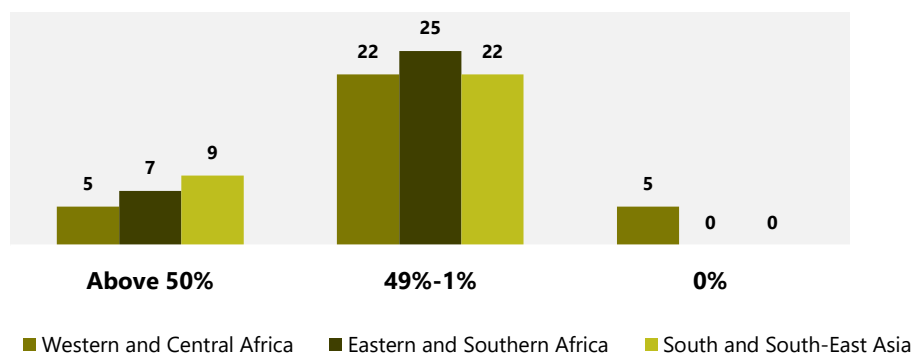


TABLE 1. TOP FIVE RANKING COMPANIES PER REGION

| Rank | Company | Region | HQ | Seed Revenue US\$ (FY?) | Score /100 |
|---|---------------------------------------|-----------------------------|----------------------|-------------------------|------------|
| 1 | Bayer | Western and Central Africa | Germany | 9,737,600 | 63.8 |
| 2 | East West Seed | Western and Central Africa | Thailand | 184,000,000 | 56.9 |
| 3 | Novalliance Group ¹ | Western and Central Africa | France* | 51,056,900 | 56.1 |
| 4 | Advanta | Western and Central Africa | United Arab Emirates | N/A | 55.0 |
| 5 | Value Seeds | Western and Central Africa | Nigeria | 1,982,800 | 54.3 |
| For more ranking of the Western and Central Africa Index, follow the link here . | | | | | |
| 1 | Bayer | Eastern and Southern Africa | Germany | 9,737,600 | 69.9 |
| 2 | Agriscopie Africa (East African Seed) | Eastern and Southern Africa | Kenya | 31,108,400 | 66.6 |
| 3 | East-West Seed | Eastern and Southern Africa | Thailand | 184,000,000 | 64.3 |
| 4 | Advanta | Eastern and Southern Africa | United Arab Emirates | N/A | 62.0 |
| 5 | Syngenta Group | Eastern and Southern Africa | Switzerland | 3,200,000,000 | 58.8 |
| For more ranking of the Eastern and Southern Africa Index, follow the link here . | | | | | |

¹ Novalliance Group is the France based parent company of four previous regional companies (Technisem, Tropicasem, Nankosem, Semagri). The group is active both Western and Central Africa and Eastern and Southern Africa index countries.



| | | | | | |
|---|----------------|---------------------------|----------------------|-------------|------|
| 1 | East-West Seed | South and South-East Asia | Thailand | 184,000,000 | 81.9 |
| 2 | Advanta | South and South-East Asia | United Arab Emirates | N/A | 77.2 |
| 3 | Bayer | South and South-East Asia | Germany | 9,737,600 | 76.1 |
| 4 | Mahyco Grow | South and South-East Asia | India | 88,560,100 | 71.7 |
| 5 | Acsen HyVeg | South and South-East Asia | India | 32,481,400 | 64.6 |

For more ranking of the South and South-East Asia Index, follow the link [here](#).

Ranking summary

The low performance of the majority of influential seed companies is concerning, especially in the decade of action to achieve SDG2 Zero Hunger.

The 2021 index ranking in all regions is topped by global companies mostly disclosing their access to seeds strategies, targets and related activities. In Western and Central Africa, the top five are made up of three global companies (Advanta, Bayer and East-West Seeds) and two regional companies (Novalliance Group and Value Seeds). Likewise in South and South-East Asia, the top five are three global companies (Advanta, Bayer and East West Seeds) and two regional companies (Mahyco Grow and Acsen HyVeg). In Eastern and Southern Africa only one regional company, Agriscope Africa (East African Seed) makes it to the top five alongside four global companies (Advanta, Bayer, East-West Seeds, and Syngenta).

In addition to the five global companies leading across the regions, Rijk Zwaan and Syngenta Group also rank in the top 10 across the three regions. These companies show efforts in almost all measurement areas in all three regions, but the majority (except Bayer) lack investments in seed production, mainly in Western and Central Africa. Although these companies have clear access to seeds strategies, their smallholder farmer target numbers are presented at global level without a regional target breakdown.

Another seven global companies (BASF, Bejo, Corteva Agriscience, Enza Zaden, Limagrain, Sakata and Takii) make the top 20 ranking in all three regions. KWS is the lowest-performing global company in all three regions due to a lack of transparency and disclosure. These companies have an opportunity and capacity to improve their performance across all measurement areas. An emphasis for global companies should be on seed production in Western and Central Africa where majority, except Limagrain, score is the lowest.

On the other hand, regional companies across all three regions show good performance mainly in capacity building, marketing and sales and seed production. Although a few regional companies show some efforts in governance and strategy, 40% (22) of regional companies in all three regions score below zero. Regional companies have a closer link to the farm gate with the advantage of local feedback and collaboration in developing and accessing quality seeds that fit smallholder farmer needs. However, low disclosure is the main challenge for regional companies impacting their score on the index.



Regional companies are encouraged to improve disclosure on their access to seeds strategies and activities to enrich evidence-based dialogues for the food systems transformation from the start of the food value chain.



2.7 Measurement area performance overview

Many companies disclose their access to seeds strategies for marketing and sales. Similar efforts can be made on other measurement areas important to align their business models to smallholder farmer success.

There is a clear and critical need for company leadership to be more accountable for their access to seeds strategies. A third of companies across the three regions score less than 50% in governance and strategy. There is limited disclosure among these companies, on access to seeds strategies and time-bound targets, oversight responsibility and stakeholder engagement.

Company performance on genetic resources and intellectual property management is strikingly low. Genetic resources are essential to safeguard biodiversity and ensure long-term food supply but companies' disclosure on efforts to support conservation and sharing benefits is low. Seed companies use intellectual protection (IP) as a return on their investments in R&D, however, IP protection, ranging from plant breeders' rights to patents, can restrict established practices in the seed industry, such as further breeding by other actors and on-farm seed saving. In all the regions, company disclosure and evidence are low, as 80% of companies scored below 50%.

The industry's efforts to develop crops that are resilient to climate change, pests and diseases, with nutritional value and local preference, are mainly reflected in their investments in research and development (R&D). 75% of companies in the scope of Western and Central Africa and Eastern and Southern Africa score below 50%. Investments are lagging in these regions compared to significant investments in South and South-East Asia with more advanced breeding programmes. Here, half of the companies in the region score above 50%. Across the three regions, there is a gap in local feedback loops especially with women, an opportunity to advance knowledge sharing and capacity building for local research. Slow efforts in the research and development of more resilient crops puts the world at risk of failing to end hunger and malnutrition in this decade.

In seed production, 27/67 companies score above 50% and regional companies still lead with more investment efforts in their regions. Global companies can increase their investments in seed production to increase the capacity, knowledge and income of many smallholder farmers involved, especially in Western and Central Africa. Overall, 31 out of 67 companies contract smallholder farmers in seed production activities. Others contract intermediary companies to help with seed production. Overall, only one company pays a living wage and the majority of companies lack evidence for setting effective systems to ensure social and labour rights in seed production.

Other areas of improvement across the regions are in marketing and sales and capacity building. Capacity building covers extension services, the use of ICT and market access, as well as developing activities that explicitly target women and next-generation farmers.

The 67 seed companies assessed in these measurement areas have a key role to advance the global and local seed sector important for smallholder farmers. It is important for seed companies to show efforts in developing clear access to seeds strategies, as set out in the six measurement areas, to increase food production and smallholder farmer livelihoods. Seed company leadership and boards must lead these efforts, with clear evidence to build upon from index leading companies. In Chapter three of this insights report you find more elaborate details on each of the measurement areas including key findings, cross-regional performance analysis and improvement opportunities, together with examples of leading practices.

2.8 Index publication

The [2021 Access to Seeds Index](#) was published by taking a regional approach. Thirty-two companies have been evaluated for [Western and Central Africa](#) and launched alongside the UN Food Systems Summit in September 2021. The index will share and present the regional key findings across the region in collaboration with regional organisations during this impact year.

To celebrate World Food Day in October the WBA hosted a virtual event to publish the results of 32 companies for [Eastern and Southern Africa](#). Key speakers from seed companies and other stakeholders such as the Africa Union's AfricaSeed and The Africa Access to Seeds Index (TASAI) were consistent on the role of local and international partnerships. They addressed the complexity in reaching the farm gate hence the need for the index indicators to guide the seed systems on their actions to contribute to food security. Key actions suggested include targeting women smallholder farmers in all seed activities, leveraging digital technology to ensure quality seeds and capacity building. The industry was challenged to envision a future of food surplus which also promotes smallholder farmers from subsistence farming to commercial farmers.

In November, the final regional index which evaluated 31 companies for [South and South-East Asia](#) was launched at The Asia Pacific Seed Association (APSA) annual technical session for the regional industry stakeholders and seed companies. APSA has shared positive feedback on the need of the



index results from regional industry stakeholders and opportunities to collaborate on more engagement activities specific to access to seeds topics in 2022.

The index results were further shared to reach a wider audience through media such as [African Farming and Food Processing](#), [Agriculture Today](#), [Far Eastern Agriculture](#), [Hindu Business Line](#), [Potato news today](#), [Farming First](#) and more. Leading companies also recognized their ranking achievements efforts on the index through social media and press releases which expands the index reach.

The index continues to share the findings with various stakeholders who are interested in the index data set for more details on indicator performance such as WBA Allies in the financial and investor sector or donor governments with seed development programs in developing countries.

The index team welcomes company feedback on the benchmarking process and expectations throughout 2022.

“The seeds system is extremely diverse and deals with a large number of stakeholders: governments, private sector and farmers. We need to address this diversity and look to the future in order to achieve SDG2.”

– Dr. Kouame Miezán, AfricaSeeds at the virtual launch of the Eastern and Southern Africa index

Join the WBA Alliance

Key stakeholders’ collaborating with the index companies hold power and influence needed to guide these companies to increase transparency and accountability on efforts to bridge the gaps with smallholder farmers in low-middle income countries.

To collaborate with the index to hold the seed industry accountable, WBA welcomes key industry stakeholders to join the [WBA Alliance](#). The Alliance is a collaborative community of 280+ multistakeholder organisations that are aligned with our ambition to inspire action in the Decade of Delivery.

WBA’s Allies represent organisations working at global, regional, and local levels to shape the private sector’s contributions to achieving the SDGs. Echoing the true spirit of SDG17 – Partnerships for the Goals, our Allies are committed to WBA’s mission, vision, and values, and believe in the power of benchmarks and cross-sector partnerships to drive systemic progress on the SDGs.



3. Measurement Area Key Findings

The 2021 Access to seeds index assessed 67 companies on their efforts to improve access to quality seeds of improved varieties for smallholder farmers in three regions: Western and Central Africa, Eastern and Southern Africa and South and South-East Asia. This report shows key findings from the index results including company performance on the six measurement areas on 32 indicators underlining access to quality seeds for smallholder farmers in developing countries.

3.1 Governance and Strategy

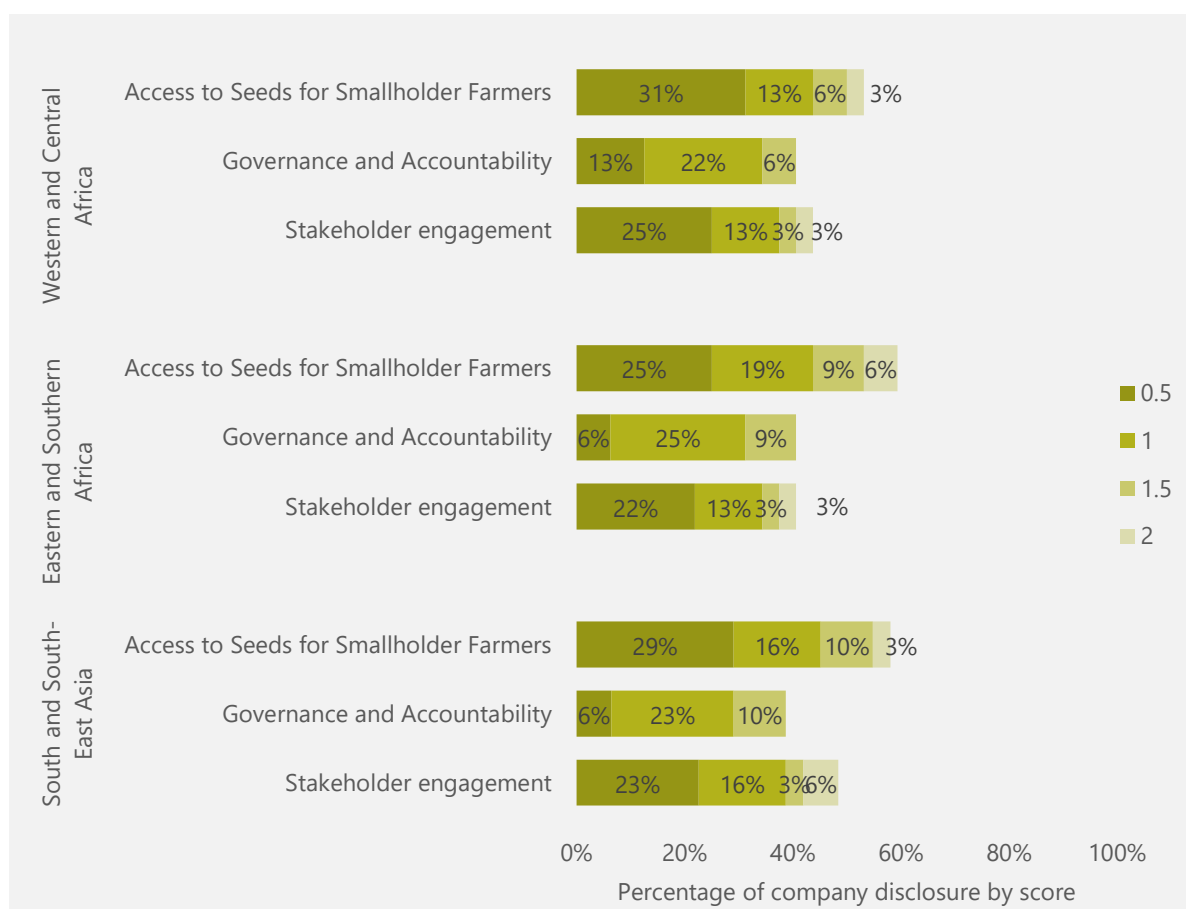
This measurement area evaluates whether companies have strategies in place to help improve smallholder farmers' access to seeds. It highlights the ways in which companies include smallholder farmers in their core business strategies, by assessing their governance structures and stakeholder engagement programmes.

Cross regional ranking summary

Company performance in governance and strategy is relatively similar across Western and Central Africa, Eastern and Southern Africa and South and South-East Asia. Twelve companies (38%) in Western and Central Africa score zero in the measurement area, disclosing no information on governance and strategy topics, as do ten companies (31%) in Eastern and Southern Africa and eight companies (26) in South and South-East Asia. Therefore, on average, approximately one-third of index companies in all regions have opportunities to disclose information on their access to seeds strategies, governance and oversight over those strategies and stakeholder engagement practices. In addition, approximately half of the companies in all three score below 50% in the measurement area. Common areas of limited disclosure among these companies are time-bound targets for access to seeds strategies, oversight responsibility for the company strategies and practices for identifying and selecting the most relevant stakeholders with whom to engage.



FIGURE 5: PERFORMANCE OF GOVERNANCE AND STRATEGY INDICATORS



Key finding 1: Beyond a few regional and global standouts, many companies can expand their access to seeds strategies and include time bound targets

While the information on access to seeds strategies is available for just over half of the companies in the index, strategies covering all six access to seeds measurement areas and including time-bound targets are few. Marketing and sales and capacity building are the measurement areas encompassed most frequently by companies’ access to seeds strategies with marketing and sales topics being the main focus of company time-bound targets.

Among the globally active companies assessed in all three regions, Bayer and East-West Seed stand out for their access to seeds strategies and inclusion of time-bound targets. Bayer’s strategy includes a focus on all measurement areas, with a time-bound target of reaching 100 million smallholder farmers worldwide by 2030. East-West Seed has created objectives for research and development and marketing and sales, in addition to setting a goal of reaching one million farmers globally through training programs over the next five years together with the East-West Seed Knowledge Transfer Foundation. Similarly, Advanta has established global time-bound targets for marketing and sales of reaching 40 million smallholder farmers by 2025, as well as objectives for research and development and capacity building for its operations in Eastern and Southern Africa and South and South-East Asia.



Additionally, all these three companies report on progress against their targets and conduct periodic reviews of their strategies, demonstrating leading practices in this area.

Among the regionally active companies, [Agriscopes Africa](#)'s access to seeds strategy covers five measurement area topics and includes time-bound targets for the breeding of hybrid varieties of tomato, sunflower, and sorghum, with an outline of specific strategic steps the company will take to achieve the objectives. Other companies that have set time-bound targets include [Value Seeds](#)' with a target of reaching ten million farmers in Nigeria by 2035 and [Victoria Seeds](#) with a time-bound target related to research and development, that of developing a new drought-tolerant hybrid maize variety on a five-year basis. [Mahyco Grow](#) leads its regional peers in South and South-East Asia with its formalized strategic goals, which include time-bound targets for research and development, marketing and sales, and seed production.

While marketing and sales are often a priority for companies, missing from the strategies of most of the regional and globally active companies, are objectives in the area of genetic resources and intellectual property management. While companies have varying priorities in the realm of ensuring access to seeds, a greater emphasis on diversifying company strategy to include more access to seeds topics is encouraged. Furthermore, the majority of companies in the index have opportunities to strengthen their governance practices through greater disclosure.

Key finding 2: Company accountability for the access to seeds strategy can be strengthened

Oversight and accountability for company access to seeds strategies is the indicator of most limited disclosure across the measurement area. While a few companies have assigned oversight responsibility for their strategies to their highest governance body, the majority of them do not have executive remuneration policies that are linked to their access to seeds objectives. Such practice is considered to strengthen accountability for progress towards access to seeds objectives, and it is a measure that other index companies are encouraged to implement.

Only 13 companies (40%) disclose information on their strategy oversight in Western and Central Africa and Eastern and Southern Africa, respectively, and only 12 companies (39%) in South and South-East Asia disclose information on this topic. Of those companies, seven global companies disclose that responsibility for their access to seeds strategies across all three regions is assigned to their highest governance bodies. In addition, two regional companies in Western and Central Africa ([Seed Co](#) and [Value Seeds](#)), four companies in Eastern and Southern Africa ([Agriscopes Africa](#), [Kenya Highland Seeds](#), [Seed Co](#), and [Victoria Seeds](#)), and four companies in South and South-East Asia ([Acsen HyVeg](#), [Kalash Seeds](#), [Lal Teer Seeds](#), and [Mahyco Grow](#)) disclose that responsibility for their access to seeds strategies lies with their highest governance bodies.

Many companies also have an opportunity to link their access to seeds targets to their executive or highest governance body remuneration policy, a leading practice for the index. Of the index companies, only [Bayer](#) and [East-West Seed](#) have established links between their access to seeds targets and remuneration policies. Bayer's management board's remuneration policy is linked to meeting its 2030 target of reaching 100 million smallholder farmers, and East-West Seed has designated a link between key performance indicators related to the company's access to seeds strategy and the performance-based compensation received by the company's CEO and managing board. With these industry-leading practices, both companies still have an opportunity to expand their time-bound targets to include other measurement areas and increase the breadth of targets linked to their remuneration policies.



Key finding 3: Companies engage with stakeholders throughout the region, but many can disclose more details of the engagement

As the seed industry involves a wide range of stakeholder groups, including public institutions, research institutions, and farmers themselves, the integration of these stakeholder perspectives into the work of seed companies is essential. A broader understanding of how stakeholders collaborate, exchange resources and offer consultation within the seed industry can come from company disclosure on their stakeholder engagement strategies.

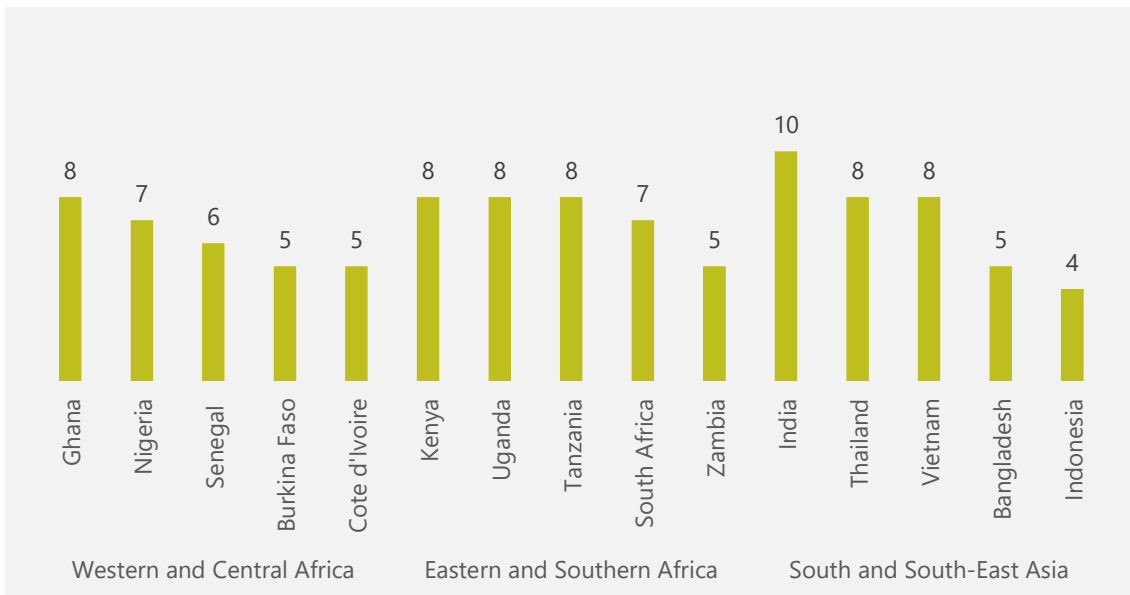
On stakeholder engagement, companies provide greatest disclosure in all three regions, as 24 companies (75%) in Western and Central Africa, 26 companies (81%) in Eastern and Southern Africa, and 25 companies (81%) in South and South-East Asia disclose the stakeholders with whom they engage. However, only [East-West Seed](#) in all three regions and [Mahyco Grow](#) in South and South-East Asia lead in disclosing their practices for identifying and selecting the most relevant stakeholders with whom to engage. The similarity of results across the three regions demonstrates that regionally diverse seed companies share both strengths and opportunities for greater disclosure.

East-West Seed is unique in its disclosure of its processes to identify and select stakeholders to engage with, which include conducting stakeholder mapping workshops and developing matrices of stakeholders and relevant topics for discussion. The company's stakeholder engagement activities include collaboration with agricultural universities such as the Federal University of Agriculture Abeokuta (FUNAAB) in Nigeria and Sokoine University of Agriculture in Tanzania, seed associations such as the African Seed Trade Association (AFSTA), the Philippines Seed Industry Association, and participating in multi-stakeholder forums such as multi-stakeholder forum Enabling Child and Human Rights with Seed Organisations (ECHO). Mahyco Grow also demonstrates exceptional processes for identifying and selecting stakeholders through a stakeholder mapping process and outlined objectives of the engagement.

Most index companies disclose which stakeholders they engage with, which include seed trade associations, non-governmental organisations (NGOs) and governmental organisations with very few disclosing information on the identification of the most relevant stakeholders, topics raised with stakeholders and the outcomes of engagement activities. [M&B Seeds](#) offers a leading example of disclosure on the topics raised and the outcomes of its stakeholder engagement. The company undertakes stakeholder engagement activities with organizations including Alliance for a Green Revolution in Africa (AGRA), the Seed Trade Association of Ghana (NASTAG), and NGOs such as Africare. The company's work with AGRA has covered seed production improvements, and the company's work with Africare has involved demonstration programs and farmer training. Through engagement with organizations such as the Federation of Seed Industry of India (FSII), Mahyco Grow raises topics related to research and development, marketing and sales and seed production, and integrates the outcomes of engagement into its access to seeds strategy.



FIGURE 6: TOP FIVE COUNTRIES PER REGION WITH HIGHEST NUMBER OF MEMBER COMPANIES OF NATIONAL TRADE ASSOCIATIONS



Alongside the Access to Seeds index, WBA's Food and Agriculture Benchmark assessed the performance of 350 of the most influential multinational food and agriculture companies along the entire food and agriculture value chain. Among other topics, it captured companies' overall commitment to sustainable development, including whether the company's highest governing board is responsible for leading its progress on sustainability targets, as well as its stakeholder engagement activities. Based on the performance of companies assessed in the Food and Agriculture Benchmark, a collection of leading company practices across various indicators in the governance and strategy measurement area such as sustainable development strategy and stakeholder engagement are available on our [website](#).

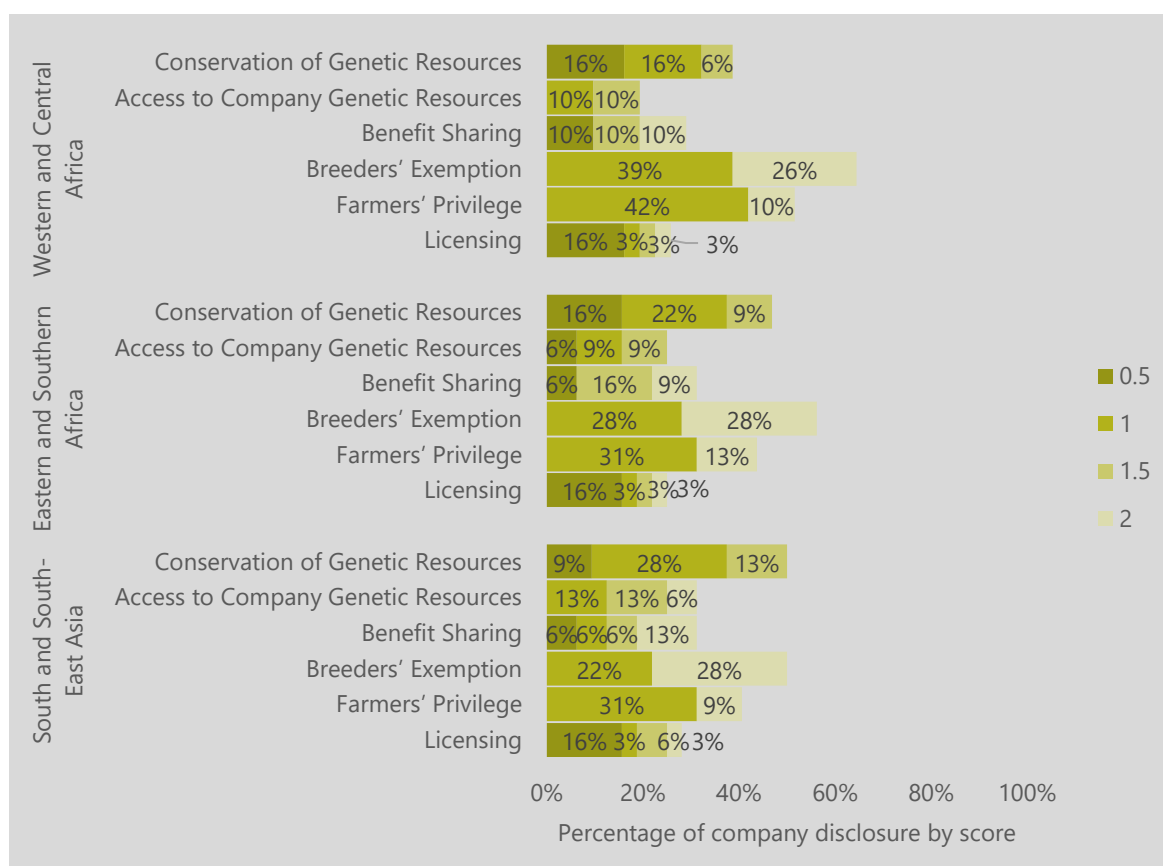
3.2 Genetic resources and intellectual property management

This measurement area seeks to clarify how companies support the conservation of genetic resources and how they share the benefits resulting from their use of publicly available genetic material. Seed companies use IP protection to generate a return on R&D investment. However, IP protection, ranging from plant breeders' rights to patents, can restrict established practices in the seed industry, such as further breeding by other actors and on-farm seed saving. Furthermore, because national seed laws and IP regulations differ, and many emerging economies still lack seed and/or IP laws, this measurement area also seeks to clarify and assess the positions of companies regarding IP in general. This includes their activities relating to patents and how companies provide access to their products in countries where regulations are still under development.

Cross regional ranking summary

Company performance was fairly consistent across Western and Central Africa, Eastern and Southern Africa and South and South-East Asia, with the majority of companies providing limited insight into their position and activities related to genetic resources and intellectual property management. Ten companies (31%) in Western and Central Africa score zero in the measurement area, disclosing no information on their position and activities related to genetic resources and intellectual property, as do twelve companies (38%) in Eastern and Southern Africa and ten companies (32%) in South and South-East Asia. Therefore, on average and similar to the governance and strategy area, approximately one-third of index companies (33%) in all regions have opportunities to disclose information on how they contribute to genetic resources and intellectual property management that support smallholder agriculture. In addition, an average of approximately 80% of companies in all three regions – 27 companies (84%) in Western and Central Africa, 27 companies (84%) in Eastern and Southern Africa and 24 companies (77%) in South and South-East Asia – score below 50% in the measurement area. Common areas of limited disclosure among these companies are evidence of activities to conserve the genetic diversity of crops in local seed systems and/or in situ conservation of local agrobiodiversity in index countries, benefit sharing and company positions on intellectual property management.

FIGURE 7: PERFORMANCE OF GENETIC RESOURCES AND INTELLECTUAL PROPERTY MANAGEMENT INDICATORS



Key finding 1: Globally active companies disclose more on their conservation efforts as compared to their regional peers

Globally active companies Advanta, Bayer, East-West Seed, Rijk Zwaan and Syngenta are the five top performers in all three regions (albeit in a slightly different order in each region), demonstrating activities to conserve a diverse set of crops and genetic resources that encompass all three regions to some degree. Regional companies demonstrate a lack of disclosure across all three regions, with only Seed Co and Novalliance Group in Western and Central Africa, Agriscope Africa, FICA Seeds and Seed Co in Eastern and Southern Africa and Acsen HyVeg, Mahyco Grow and JK Agri Genetics in South and South-East Asia scoring amongst the top 10 in their respective regions.

East-West Seed and Advanta are the only two companies to demonstrate leading practice in their conservation efforts. Advanta promotes agrobiodiversity and the preservation of genetic resources in the region through its collaboration with international gene banks such as World Vegetable Center and regional genebanks such as Gene Bank of Kenya (GBK) on the conservation of African indigenous vegetables and provides community gene banks such as the germplasm bank associated with National Bureau of Plant Genetic Resources (NBPGR) with access to its germplasm. In addition to conserving its own genetic material, East-West Seeds works with the World Vegetable Center and the local Laboratory of Genetics, Horticulture and Seed Science (GBioS) in Benin on germplasm exchange for research purposes and trial evaluation and has helped national genebank such as The National Plant Genetic Resources Laboratory (NPGRL) in reviving its old seed collection composed of local germplasm. Bayer, Rijk Zwaan, and Syngenta give evidence of providing assistance to public genebanks to conserve germplasm of crops grown in index countries, while the majority of the companies conserve their own genetic material in company genebanks. This is common practice for companies with their own breeding programmes, however, the majority of companies assessed in the region do not give evidence of their conservation efforts beyond this, demonstrating a lack of disclosure in the indicator or lack of investments in breeding programmes. Furthermore, activities to conserve the genetic diversity of crops in local seed systems and/or in situ conservation of local agrobiodiversity in index countries were lacking throughout all three regions.

Among the regional companies, FICA Seeds demonstrates leading practice in its conservation efforts. FICA discloses that it works with Breeders in Eastern Africa to spearhead the conservation of local varieties that may, for now, appear not to be of commercial value. Crops like groundnuts, millet, and some OPV maize varieties are maintained by FICA for conservation purposes over commercial benefits. Furthermore, the company supports Nature Uganda with the reviving of old germplasm collections, characterising accessions that have not yet been documented and conducting conservation-related research and training.

Key finding 2: Company positions on intellectual property protection issues lacks disclosure

Across the measurement area, company efforts towards intellectual property management such as the breeders' exemption, farmers' privilege and licensing see the most limited disclosure. Nine companies (29%) each in South and South-East Asia and eight companies (25%) disclose information on their position on breeders exemption with approximately half of the companies in each region scoring a zero on the indicator. Only 3 companies (9%) each in South and South-East Asia and Western and Central Africa disclose information on their position on farmers' privilege with more than half of the companies disclosing no information at all. Twenty-four companies (75%) in Western and Central Africa and Eastern and Southern Africa respectively score zero on the indicator on licensing, disclosing



no information on whether they have tailored or royalty-free licensing strategies, as do 22 companies (71%) in South and South-East Asia.

Breeders' exemption makes crop varieties protected by plant breeders' rights available for further breeding, although this access can be restricted through the use of contractual clauses. Globally active companies alongside Seed Co, Acsen HyVeg, JK Agri Genetics and Agriscope Africa provided evidence that they refrain from using contractual clauses or other provisions that limit the breeder's exemption and supported the breeders' exemption in PVP laws. Similarly, companies can also restrict the long-established farmers' privilege that allows on-farm seed saving, use, exchange, and, in some countries, sale of (non-branded) seed by smallholder farmers by the use of contractual clauses. While the majority of companies indicated that they do not use contracts or other mechanisms to prevent farm-saved seeds without providing any evidence, only five companies (Rijk Zwaan, Seed Co, Advanta, Acsen HyVeg and Agriscope Africa) gave sufficient evidence of this. While companies acknowledge the practice of saving seed, most encourage the farmers to purchase seed every season and educate them on the benefits of using quality seed of improved varieties such as increased yields and tolerance, and resistance to biotic and abiotic stress.

Tailored or royalty-free licensing strategies can improve access to patented varieties, traits, methods and technologies for national agricultural research institutes, local seed companies and NGOs, and as a result, promote the development of new varieties appropriate to the needs of smallholder farmers. Licensing, however, saw the weakest performance in the area of intellectual property, with the majority of the companies across the three regions disclosing no information at all. Syngenta offers royalty-free or lower price licensing of its material for the benefit of smallholder farmers in index countries through its e-licensing system TraitAbility, a facilitated licensing process that enables breeders, companies and public research institutes to access many of its important plant-related innovations, while Bayer grants access to technology for humanitarian purposes through its internal Stewardship Guiding Principle. For example, Bayer has licensed its maize lines on a royalty-free basis to the Water Efficient Maize for Africa project (WEMA), recently renamed the TELA project.

3.3 Research and development

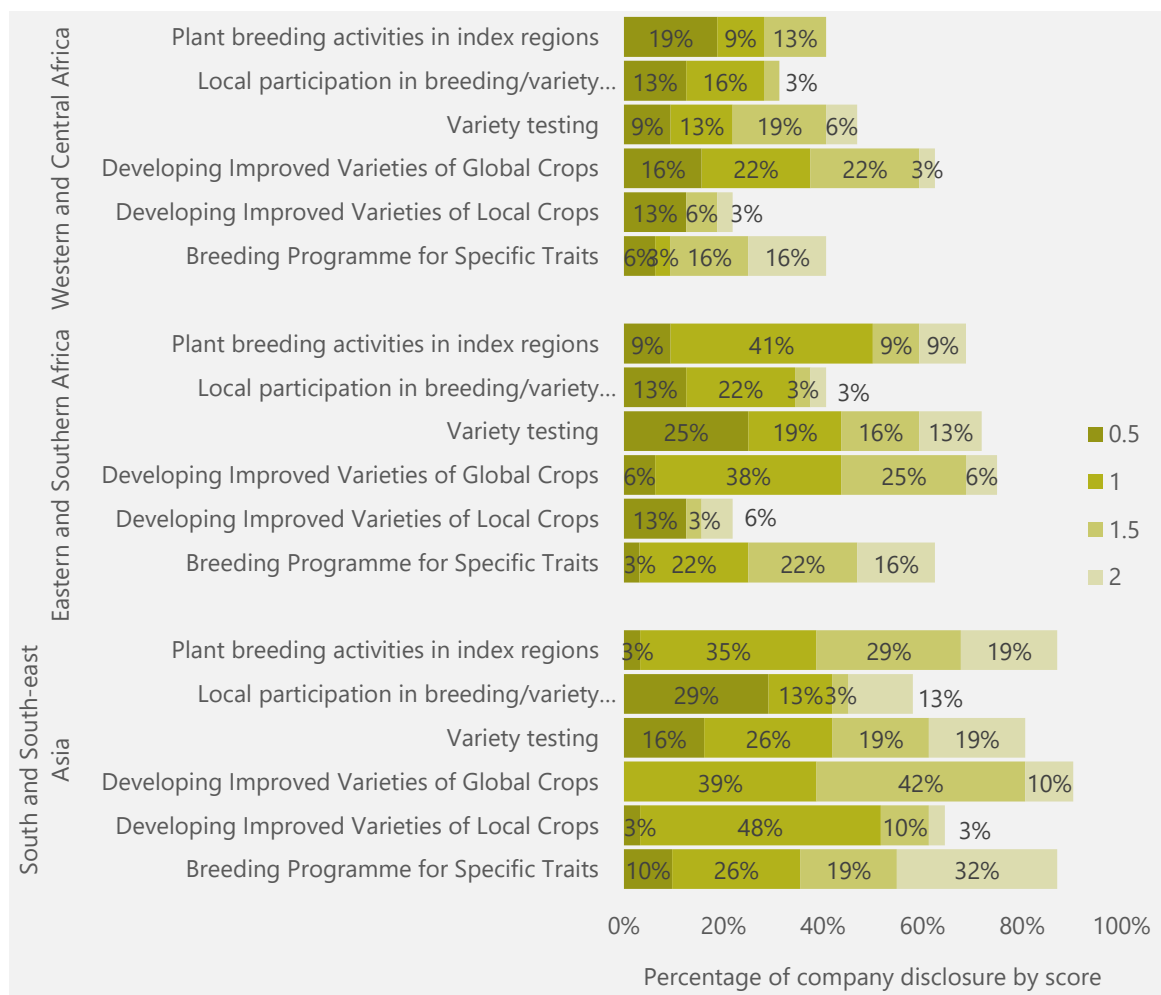
This measurement area focuses on companies' R&D efforts, including through partnerships with (local) research institutes. It especially relates to activities that consider local conditions in the index region and the key crops for farmers in the region. These activities include adapting global crops for local use, and breeding programmes for local crops to improve such characteristics as pest and disease resistance and climate resilience.



Cross regional ranking summary

Across the indexes for Western and Central Africa, Eastern and Southern Africa and South and South-East Asia, there are considerable differences in the size and scope of company breeding programmes. Companies based in South and South-East Asia demonstrate the strongest performance across the research and development measurement area and have the most advanced breeding programmes and make the most significant investments into their research and development activities. Twenty-eight companies (90%) in the South and South-East Asia index disclose information on their research and development activities, compared with 27 (84%) of the companies in Eastern and Southern Africa and 20 (63%) in Western and Central Africa. However, these disclosure rates are not reflected across all indicators and approximately 75% of companies in both Western and Central Africa and Eastern and Southern Africa achieve a score of under 50% across the measurement area. In comparison, more than 50% of companies in South and South-East Asia disclose some information for every indicator in research and development and 16 companies (52%) achieve a score of over 50%. Therefore, company disclosure can be directly linked with overall performance in the measurement area.

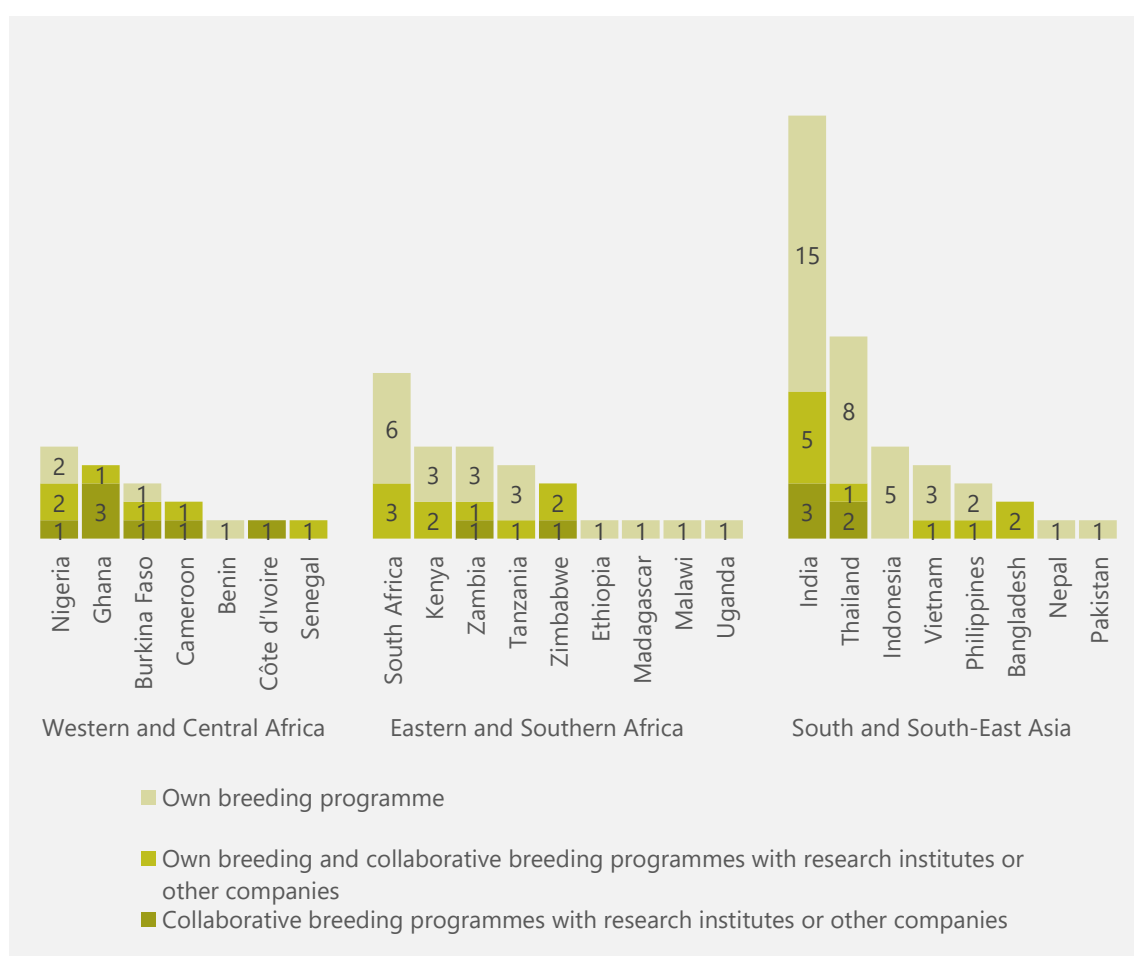
FIGURE 8: PERFORMANCE OF RESEARCH AND DEVELOPMENT INDICATORS



Key finding 1: Breeding programmes differ considerably in size and scope across all the three regions

While global companies are able to make significant investments in research and development and adopt advanced breeding technologies, smaller regional companies differ in terms of capacity and scale. Information on plant breeding activities is available for just over half of the companies in the WCA regional index, fifteen companies (50%) disclose no information at all in this area. Eastern and Southern Africa saw more companies with plant breeding activities than in Western and Central Africa. Of the thirty-two companies assessed, 22 (69%) have their own breeding programme or collaborative breeding activities while only ten companies (31%) disclose no information at all in the indicator. Company breeding programmes in South and South-East Asia are well-established. However, company performance across all the three regions lacks the capacity building of local research staff. While this could be due to a lack of disclosure more than an actual lack of action, companies can invest in building the capacity of local plant breeders thereby influencing the advancement of local research institutes and breeding companies through knowledge transfer.

FIGURE 9: BREEDING LOCATIONS AND TYPES OF BREEDING PROGRAMMES IN INDEX REGIONS



Companies in all three regions focus on collaborating with agricultural research institutes or other companies to access advanced genetic materials suitable for smallholder farmers in the region, although the level of detail disclosed on these collaborations is varied and, in most cases, companies could provide greater insight on these activities. Of the 15 companies that disclose information on their research activities in the Western and Central Africa region, ten (67%) disclose collaborating with agricultural research institutes such as the Institute of Environment and Agricultural Research (INERA),



AfricaRice, and the International Institute of Tropical Agriculture (IITA) on the development of a number of field crops and vegetables. While [Limagrain](#) does not have its own breeding programme in Western and Central Africa, through a partnership with Seed Co, the company collaborates on the development of field crops by donating its germplasm while Seed Co contributes with its local knowledge of smallholder farmers' preferences in the region. In Ghana and Cameroon, the company also works with public research institutes on breeding and variety development.

Regional companies [Novalliance Group](#) and [Seed Co](#) are the only two whose breeding programmes span multiple countries in the index region and both companies lead the measurement area along with [East-West Seed](#). While investments in breeding programmes remain limited in the region, globally active companies East-West Seed and Bayer demonstrate leading practices of investing in building the capacity of local research staff. East-West Seeds runs an 'Advanced Plant Breeding Program' at the East-West Seed Academy, through which it aims to advance the education and training of its breeders and researchers through skills development.

Together with Agriscope Africa and Bayer, Seed Co and Novalliance Group also feature among the top five with East-West Seed leading the pack in Eastern and Southern Africa. Out of the 32 companies assessed in the region, only four companies – Agriscope Africa, Bayer, East-West Seed, and Seed Co disclose efforts to invest in the capacity building of local research staff in the region. Regional company [Agriscope Africa](#) has its own breeding programme in Kenya, Uganda, and Tanzania it collaborates with agricultural training institutes and regional and international research institutions in these countries. Through its Excellence in Breeding Programme, the company offers further training opportunities which aim to improve the skills and knowledge of the company's breeding staff, a leading practice in the region.

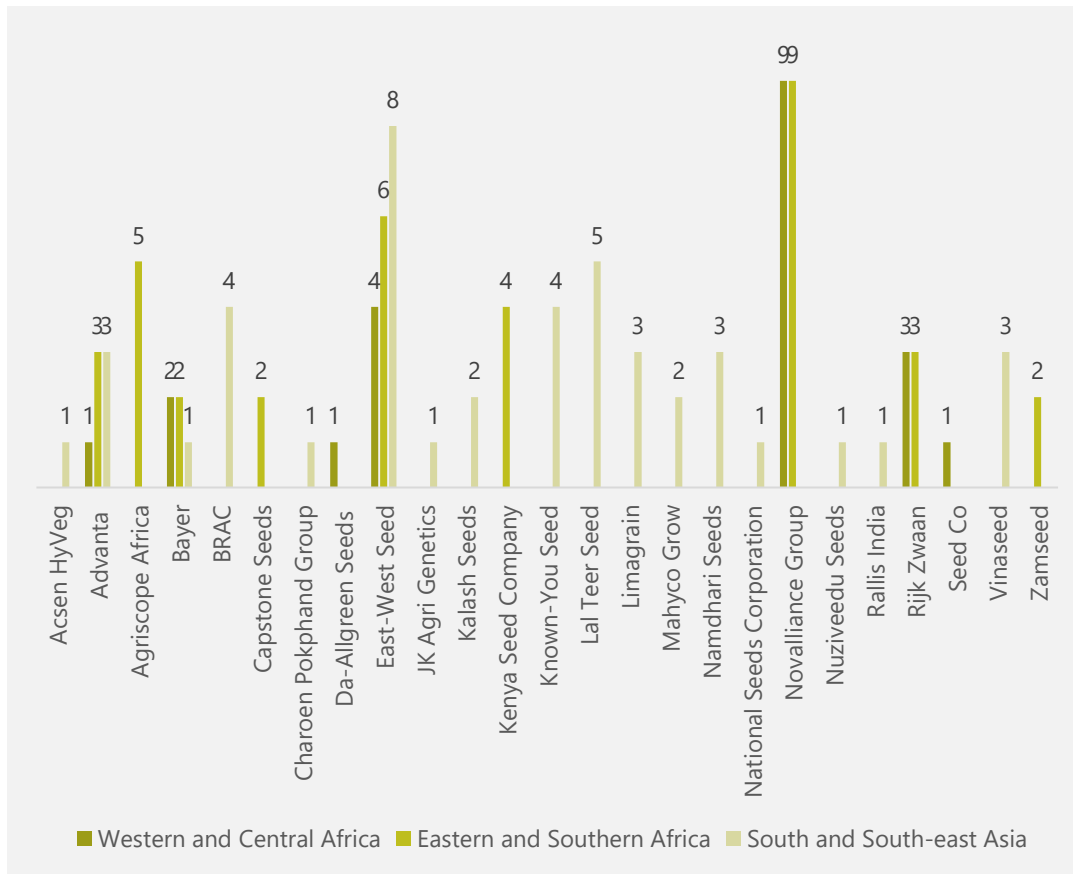
Company performance in South and South-East Asia shows that majority of companies have their own breeding programmes which often span multiple countries, as well as undertaking collaborative breeding activities with public research institutes. However, out of the 31 companies assessed in the region, only nine companies (29%) disclose efforts to invest in the capacity building of local research staff in the region. [Bayer](#), for example, together with Plant Breeders without Borders collaborate with Bogor University to empower farmers and agricultural students to develop their own varieties of Bambara groundnut and other Indonesian indigenous vegetables.

Key finding 2: Seed companies neglect the needs of indigenous communities by limited investments in local crops

The so-called neglected and underutilized species (NUS), sometimes referred to as orphan crops and which the index refers to as 'local crops', are present in the portfolio of only 25 (37%) of the 67 companies assessed in the 2021 Access to Seeds Index. Local crops are considered key in improving dietary diversity thereby having a huge potential to contribute to food and nutrition security in all three regions. Lack of investment from companies could be largely attributed to the fact that such crops remain largely specific to a given market. While only seven (22%) companies in Western and Central Africa and nine (28%) companies in Eastern and Southern Africa have local crops in the portfolio, 17 (54%) companies in South and South-East Asia indicate investing in local crops.



FIGURE 10: NUMBER OF LOCAL CROPS IN COMPANY PORTFOLIOS



The companies which have local crops in their portfolio usually have their own breeding activities for local crop varieties, while a few tend to source varieties from public research institutes or from other companies or sources. While amaranth and yardlong beans appear in the portfolio of companies in all three regions, African eggplant is popular in the portfolios of companies in Eastern and Southern Africa and Western and Central Africa and Mustard dominate the portfolio of companies in South and South-East Asia. In addition to these, local crops that are present in the portfolios of more than two companies include hairy nightshade and Ethiopian mustard in Eastern and Southern Africa and tinda and kangkong in South and South-East Asia.

East-West Seeds and Novalliance Group demonstrate leading practices in the region with most local crops in their own breeding programs. East West Seeds has an open-pollinated variety improvement program for some of the local crops in its portfolio and works with (international) gene banks such as the World Vegetable Center, the Centre for Genetic Resources (CGN) and the Laboratory of Genetics Horticulture and Seed Sciences (GBioS) to access local germplasm. Through its membership in the African Vegetable Breeding Consortium, Agriscope Africa gets access to the germplasm of local crops. To develop local crops and varieties that are suitable for the African market, Rijk Zwaan develops hybrid varieties for African local vegetables through the Afrisem breeding station in Arusha, Tanzania. Bayer works with the International Institute of Tropical Agriculture (IITA) in its Modern Breeding Project to improve crop productivity of local crops such as cassava and yam in Eastern and Southern Africa and Western and Central Africa.



In its recent [Rural Development Report 2021](#), the International Fund for Agricultural Development (IFAD) stresses the alarming rate at which these local crops are being lost and calls for changes to global food systems. Companies need to step up their investments in local crops due to the significant role they play in improving the diets and nutrition of indigenous communities while protecting biodiversity in the region.

FIGURE 11: OVERVIEW OF LOCAL CROPS AND THE SOURCE OF THESE CROPS IN WESTERN AND CENTRAL AFRICA

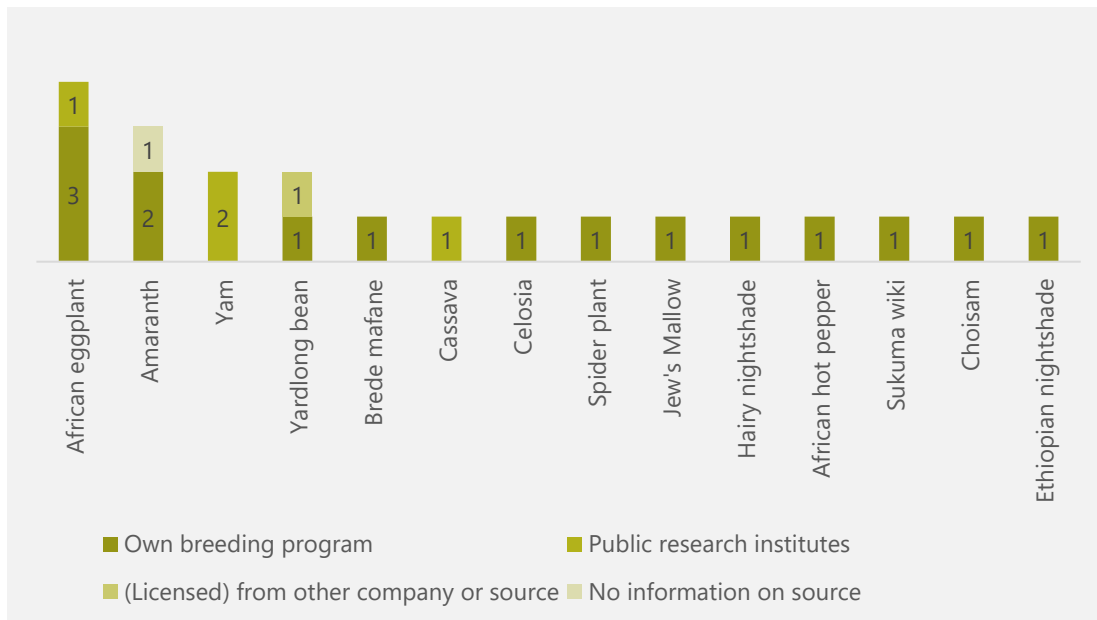


FIGURE 12: OVERVIEW OF LOCAL CROPS AND THE SOURCE OF THESE CROPS IN EASTERN AND SOUTHERN AFRICA

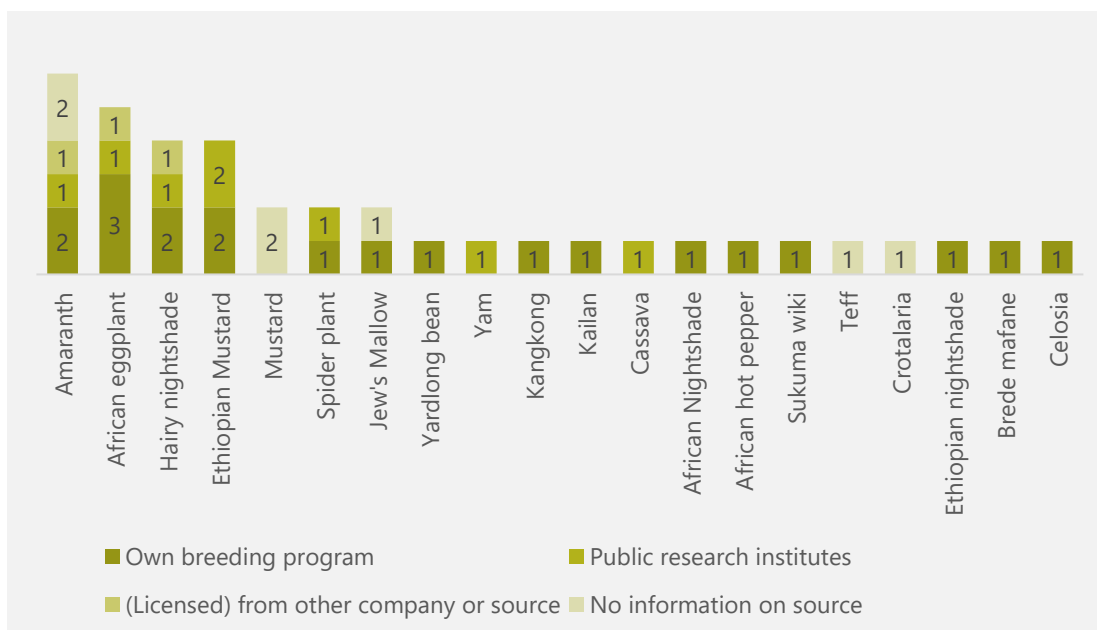
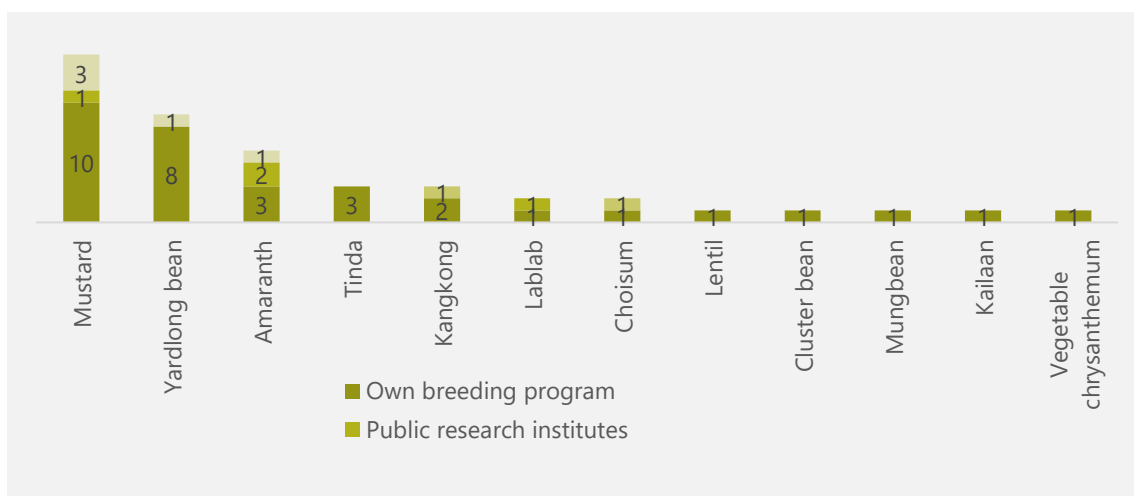


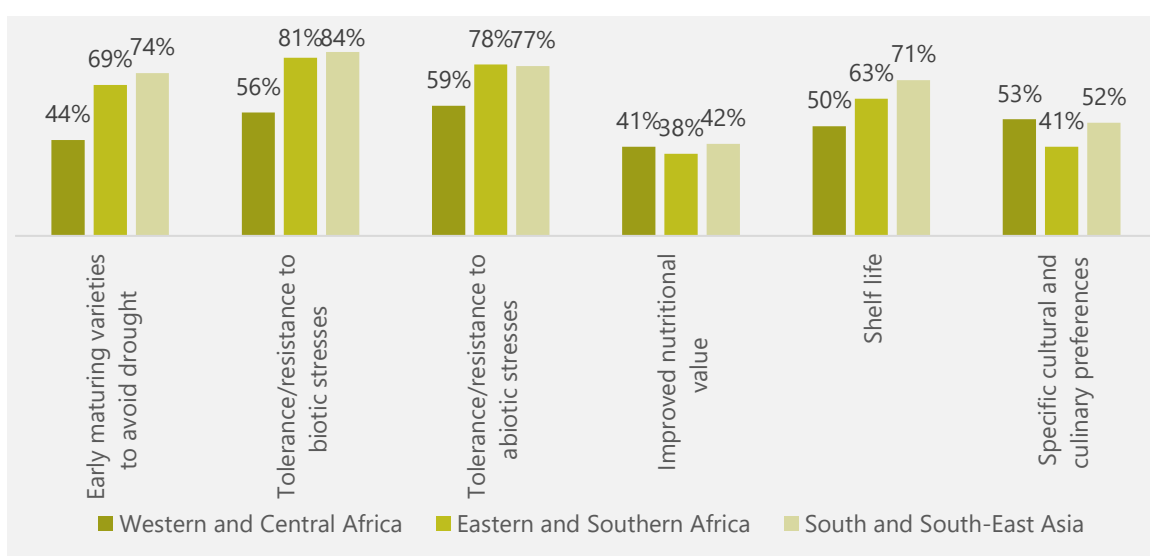
FIGURE 13: OVERVIEW OF LOCAL CROPS AND THE SOURCE OF THESE CROPS IN SOUTH AND SOUTH-EAST ASIA



Key finding 3: Climate change is driving trait development across all three regions

Dedicated plant breeding programmes targeting specific traits important to smallholder farmers are essential for different parts of the production and consumption chain. Overall, companies tend to focus on traits that are important for crop growth (i.e. early maturing and tolerance/resistance to abiotic and biotic stresses) while marketing their seeds to smallholder farmers in all three regions, followed by traits important for storage (i.e. shelf life). However, traits with relevance to consumption such as improved nutritional value and specific cultural and culinary preferences are not a high priority for the majority of the companies across the three regions with less than 50% of companies focusing on improving nutritional value in seeds and just about 50% of the companies working towards incorporating the cultural and culinary preferences of smallholder farmers in the region.

FIGURE 14: PERCENTAGE OF COMPANIES BREEDING FOR SPECIFIC TRAITS IMPORTANT FOR SMALLHOLDER FARMERS



In addition to having own breeding programmes to develop traits, the majority of the companies also collaborate with national and international research partners in different capacities, such as national agricultural research systems, the International Institute of Tropical Agriculture (IITA) and the International Maize and Wheat Improvement Center (CIMMYT) among others. Advanta, in partnership with HarvestPlus, launched biofortified maize rich in vitamin A in Zambia which was supported by the Ministry of Agriculture and various NGO organizations in Zambia and through field days, the company plans to promote the nutritional benefits of the crop. Syngenta, together with the Syngenta Foundation works with CIMMYT and national agricultural research systems of Indonesia, the Philippines and Vietnam to develop drought-tolerant maize for smallholder farmers in Asia. The drought-tolerant corn developed through this partnership was available to Indian smallholders since 2017 and several seed companies began producing and selling AAA Maize in 2019, thereby increasing its availability.

Resistance to regionally important pests and diseases is a key component of developing varieties suited to their local conditions and is a trait companies across all three regions are increasingly focusing on, however, a limited number of these disclose relevant information. In addition to six globally active (Bayer, Limagrain, Rijk Zwaan, East-West Seed, Advanta and Takii) and six regional companies (Acsen Hyveg, BRAC, JK Agri Genetics, Kalash Seeds, Lal Teer Seeds and Mahyco) in South and South-east Asia, four companies (Premier Seed, Seed Co, Value Seed and Novalliance Group) in Eastern and Southern Africa and only two companies (Agriscop Africa and Seed Co) disclose having breeding programmes responding to regionally important pests and diseases including black rot, fall armyworm (FAW), tomato yellow leaf curl virus (TYLCV) and maize lethal necrosis (MLN). [Bayer](#), for example, has developed Arize, a hybrid rice seed launched in 2018 in India which has been bred with resistance against Brown Plant Hopper and Bacterial Leaf Blight, which both have huge impacts on smallholder harvests. [Corteva Agriscience](#) works in collaboration with CIMMYT and KALRO (Kenya Agricultural and Livestock Research Organization) to jointly develop MLN-tolerant maize hybrids using Clustered Regularly Interspersed Short Palindromic Repeats (CRISPR) along with CRISPR-associated System (Cas) technology. [Novalliance Group](#) has a research laboratory in Cameroon that works on developing varieties with resistance to bacterial wilt, collaborating with specialists such as the French Agricultural Research Centre for International Development (CIRAD) for technical expertise.

3.4 Seed production

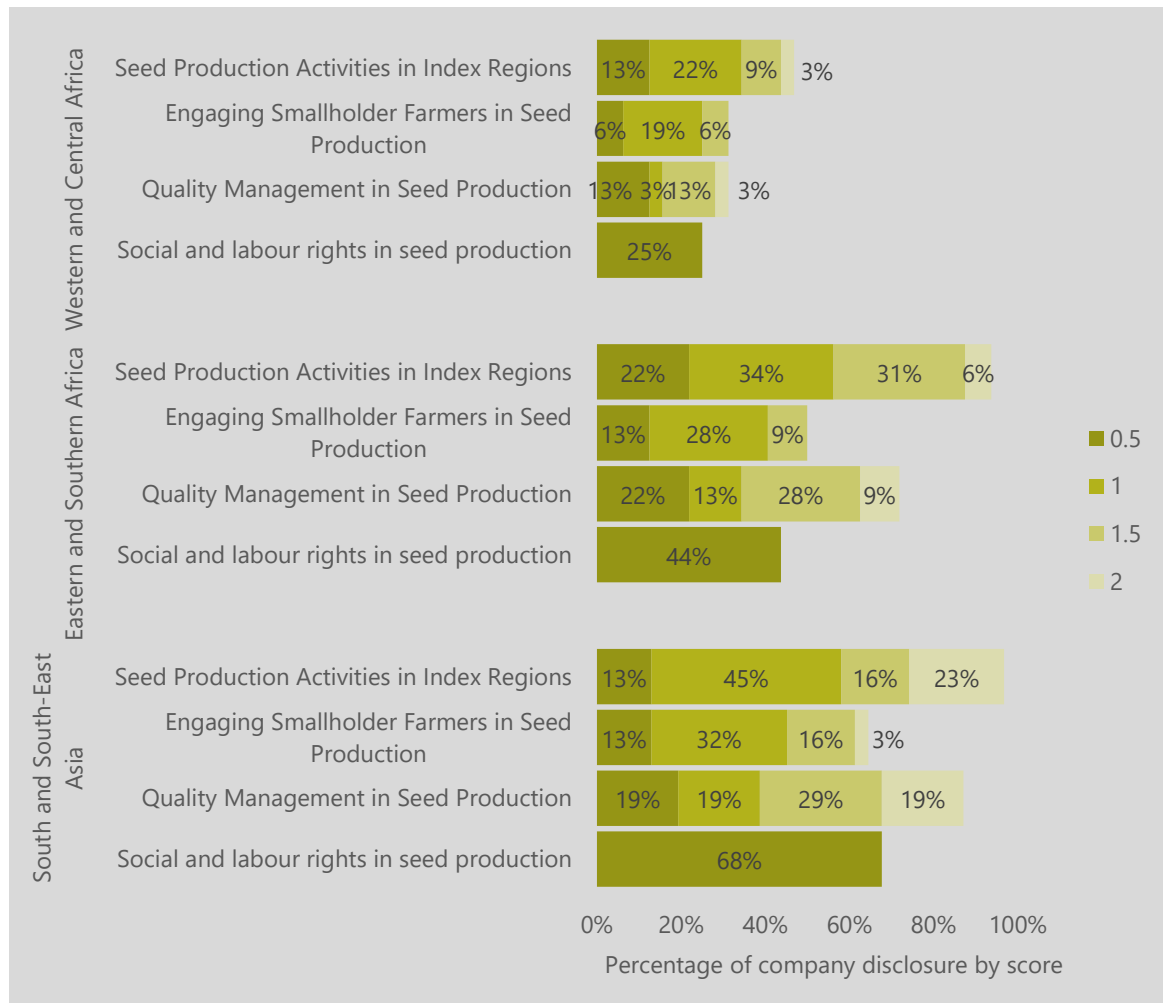
Through local seed production, companies can address the limited availability of quality seeds while advancing the local seed sector. This measurement area seeks to identify whether companies produce seeds locally and the extent to which smallholder farmers are involved in this process



Cross regional ranking summary

Company performance in seed production is variable across Western and Central Africa, Eastern and Southern Africa and South and South-East Asia. Seventeen companies (53%) in Western and Central Africa score zero in the measurement area, disclosing no information on the seed production activities. Almost all companies in the Eastern and Southern Africa and South and South-East Asia respectively disclose some information on seed production activities. In addition, only five companies (16%) in Western and Central Africa, nine companies (28%) in Eastern and Southern Africa and 12 companies (39%) in South and South-East Asia have a score of 50% and above. The difference in performance in seed production across the regional indexes is the difference in disclosure of activities as well as the lack of commitment to respecting social and labour rights in seed production. While 21 companies (68%) have commitments in places for respecting social and labour rights in seed production activities in South and South-East Asia, only 14 companies (44%) and 25 companies (25%) do so in Eastern and Southern Africa and Western and Central Africa respectively.

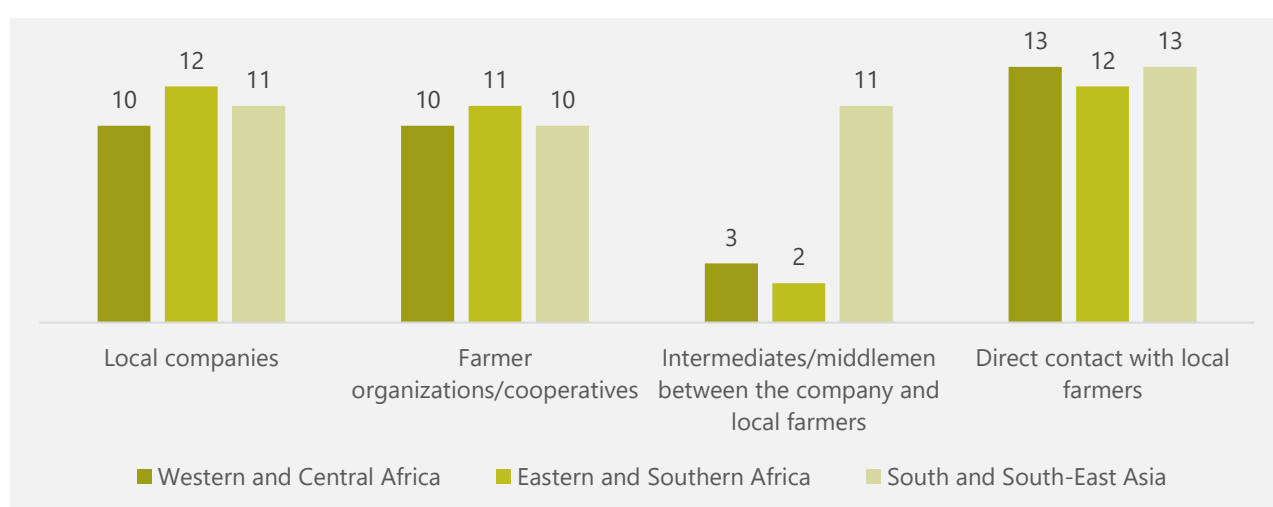
FIGURE 15: PERFORMANCE OF SEED PRODUCTION INDICATORS



Key finding 1: Companies work extensively with local players, however, none of them have holistic commitments to respect social and labour rights in their seed production activity

Seed companies can contribute to advancing local seed sectors in index countries by enabling smallholder farmers to produce seeds. Seed production locations are distributed across three index regions, with companies engaging or collaborating with local players, such as local companies, farmer organizations/cooperatives, and local farmers, and directly engaging with local farmers directly for seed production activities. While companies in South and South-East Asia work with intermediates/middlemen between the company and local farmers alongside other local players, companies in Western and Central Africa and Eastern and Southern Africa tend to work with local companies, farmer cooperatives or directly with the local farmers with only a few companies indicating to work with intermediates/middlemen.

FIGURE 16: COMPANY ENGAGEMENT WITH LOCAL PLAYERS FOR SEED PRODUCTION



Companies across all three regions do not disclose clear commitments to respect social and labour rights in its seed production activity. Overall, less than a quarter of the companies on average in all three regions demonstrate processes in place for respecting child labour and forced labour, as well as the health and safety of workers, and paying workers a living wage, all of these companies can build on these commitments by providing evidence of monitoring and verification processes, which includes verification the age of workers, not retaining the workers' personal documents, disclosing quantitative information on health and safety for its workers and paying a living wage to its workers both when seed production is carried out by the company itself or through an intermediate.

Globally active company [Bayer](#) reports extensively on social and labour rights across seed production, disclosing a zero tolerance for child labour in its human rights policy, modern slavery statement and supplier code of conduct and having health and safety standards in place as well as a policy prohibiting forced labour. Despite disclosing extensively on these issues, the company does not specify how its intermediaries monitor social and labour standards when carrying out seed production. In addition, none of the companies in the index discloses paying smallholder farmers a living wage, except for Bayer. Although the global company pays living wages to workers in every country where it has operations, it does not include dependents of workers in the definition of a living wage. Advanta has anti-child labour and anti-forced labour policies, however, the company lacks



disclosure on how it coordinates and regularly monitors these social standards when intermediaries carry out seed production, as well as disclosing how it monitors its health and safety standards.

Regional companies Novalliance Group and [Agriscopes Africa](#), which lead the measurement area in Western and Central Africa and Eastern and Southern Africa respectively, together with Mahyco Grow, Lal Teer Seed and Acscen Hyveg who feature among the top five scoring companies in the measurement area in South and South-East Asia, disclose having processes in place to eliminate child and forced labour, they offer limited disclosure of a consistent and coordinated system to monitoring how these standards are implemented across its seed production activities. Similarly, [Seed Co](#) discloses that all its suppliers are bound by the company codes of conduct which are aligned with the International Labour Organisation's conventions in relation to ethical trade. While the company discloses that its suppliers undergo regular social compliance checks conducted by independent auditors to ensure they meet the standards specified in the codes, the company provides limited evidence in support of this.

The food and agricultural sector is generally recognized as a high-risk sector for human rights abuses due to its long and sometimes opaque supply chains, potentially dangerous work, and large presence of vulnerable groups such as migrants, women, and young workers. As such, there is a need for companies to ensure they are aware of their human rights risks and act on them accordingly. Issues of child labour and non-payment of minimum wages are not new to the seed industry, yet the company performance suggests room for greater commitment and disclosure on respecting all the social and labour rights across seed production activities in the region. The payment of living wages can have a transformational effect on the lives of millions and can contribute to the eradication of other human rights abuses such as child labour, as increased income can allow families to send children to school.

The results of the Food and Agriculture Benchmark also show that companies are performing poorly on critical social issues. A collection of leading company practices across various indicators in the social inclusion measurement such as human rights, land rights, living wage and health and safety of vulnerable groups are available on our [website](#).

WBA also published a [Social Transformation Baseline Assessment](#) in January 2022, containing a more in-depth analyses of 1000 companies' across multiple sectors against the core social indicators.

3.5 Marketing and sales

This measurement area assesses how companies make quality seeds of improved varieties available and affordable to smallholder farmers and promote their use. This could include offering tailored packaging and building trusted distribution networks, as well as providing demonstration activities that promote their use.



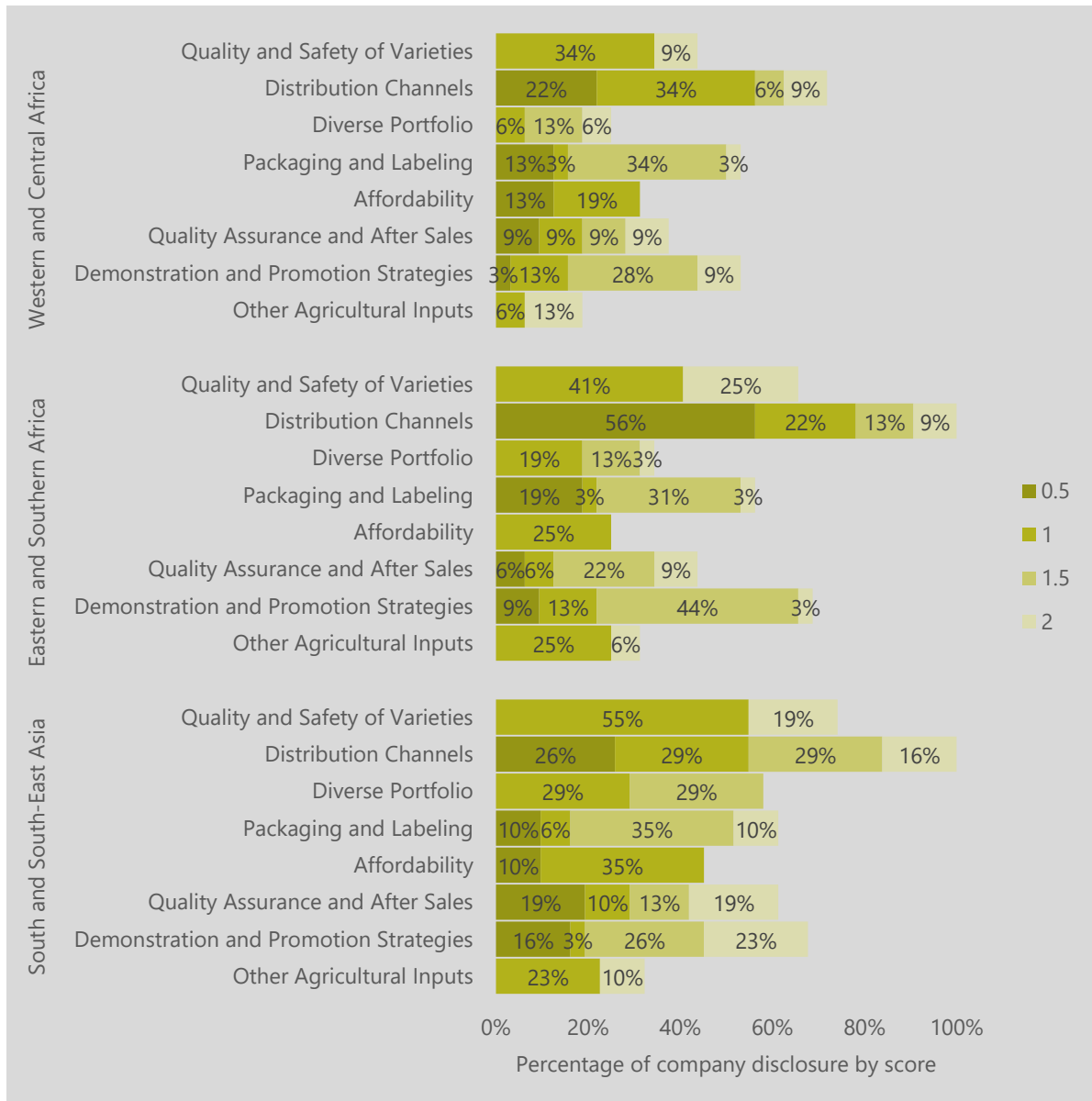
Cross regional ranking summary

Across the indexes for Western and Central Africa, Eastern and Southern Africa and South and South-East Asia, more companies disclose information on marketing and sales topics than on those of other measurement areas. All 32 companies in the Eastern and Southern Africa index and all 31 companies in the South and South-East Asia index disclose some information on marketing and sales topics, as well as 26 (81%) of the companies in the Western and Central Africa index. However, companies collectively perform better in the South and South-East Asia index, where 12 of the index companies (42%) have a score of 50% or higher in the measurement area, compared to the Eastern and Southern Africa and Western and Central Africa indexes, where nine companies (28%) and six companies (19%) respectively score above 50% in the measurement area.

One reason for the difference in performance in marketing and sales across the regional indexes is the difference in disclosure rates. Higher rates of disclosure in the measurement area were seen among companies in South and South-East Asia than in the other regions, as more than 50% of companies in South and South-East Asia disclose some information for every indicator in marketing and sales. Certain indicators had lower disclosure rates in Western and Central Africa and Eastern and Southern Africa, such as affordability programmes, on which only 44% of companies in Western and Central Africa and Eastern and Southern Africa, respectively, disclose information.



FIGURE 17: PERFORMANCE OF MARKETING AND SALES INDICATORS



Key finding 1: Companies have extensive distribution channels in the index regions, many can disclose their efforts to reach remote areas

A different pattern is seen in the servicing of remote areas among companies in the three regions. While there are higher numbers of companies present with sales activities in index countries in South and South-East Asia compared to Western and Central Africa and Eastern and Southern Africa, there are higher proportions of companies servicing remote areas in index countries in Western and Central Africa than in the other regions. In Western and Central Africa, the percentage of present companies with sales activities servicing remote areas in each country is more than 50% for all index countries except for Liberia and Equatorial Guinea where there are two or fewer companies present and no companies reporting servicing remote areas. No company is present with sales activities in Guinea-



Bissau, the only such country in all three regions. The high rates of companies servicing remote areas are not seen as consistently in South and South-East Asia, where the percentage of present companies servicing remote areas is only 50% in Nepal, Afghanistan, and Cambodia, which each has 10 or fewer companies present with sales activities. Likewise, in Eastern and Southern Africa, less than 50% of companies present with sales activities in South Africa, Botswana, Namibia and Lesotho report servicing remote areas. In all regions, greater disclosure on where and how companies service remote areas could offer a more complete picture of the geographical accessibility of seeds for smallholder farmers.

While companies disclose information on the number of index countries in which they reach remote areas, few companies provide detailed examples of how they reach remote areas. An exceptional company in this regard is [Value Seeds](#), which discloses various strategies for reaching remote areas in Nigeria, the only index country where it has sales. The company utilizes bikes as means of transportation to areas where road infrastructure is limited, as well as 'last-mile kiosks' located in remote villages. Through an established framework consisting of distributors, retailers, and cooperatives, Bayer reaches remote areas in Western and Central Africa. Furthermore, in collaboration with its development partners in the region, the company uses a network of village-based advisors and farmers' service centers to connect with the farmers in these areas in addition to having mobile stores in various geographies in the region. Leading performers in the measurement area for Eastern and Southern Africa such as East-West Seeds, Syngenta, Advanta, Agriscope Africa and Corteva Agriscience reach remote areas through avenues such as agro-dealers, agronomists, marketing agents, lead farmers, and collaboration with NGOs. In Bangladesh, BRAC utilizes rented shops and additional field staff on a seasonal basis to reach smallholder farmers in remote areas when the demand for seeds is high. With approximately 1800 distributors of field crop seeds and 2500 distributors of vegetable seeds, Mahyco Grow delivers seeds to remote areas throughout India as well.

FIGURE 18: COMPANY SALES AND SERVICING OF REMOTES AREAS IN WESTERN AND CENTRAL AFRICA

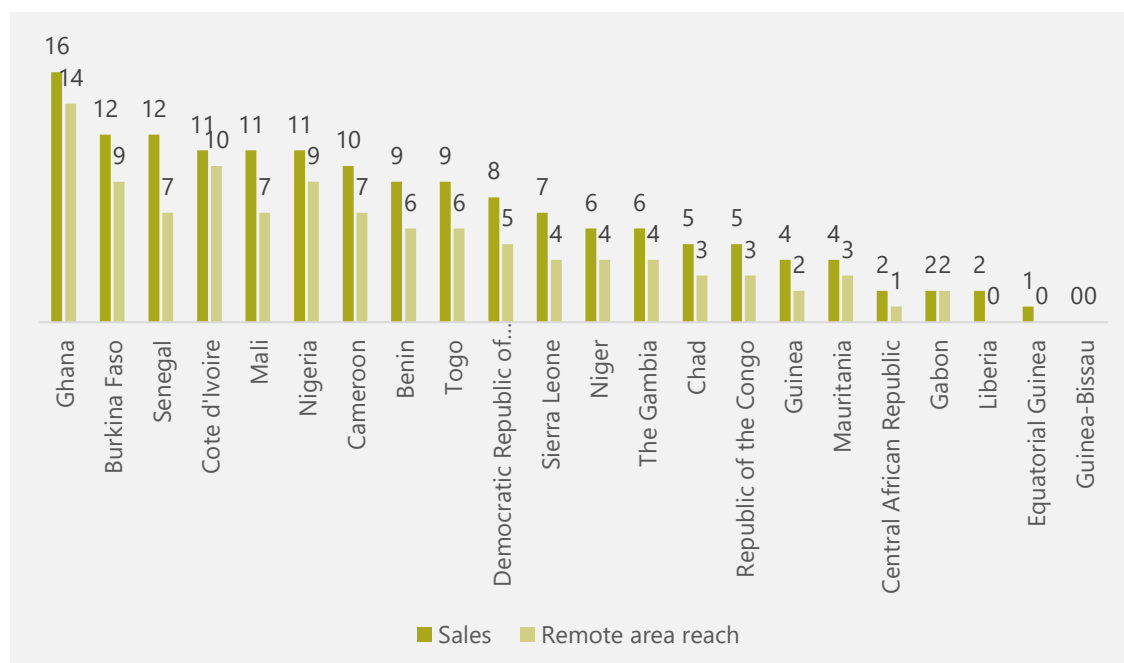


FIGURE 19: COMPANY SALES AND SERVICING OF REMOTES AREAS IN EASTERN AND SOUTHERN AFRICA

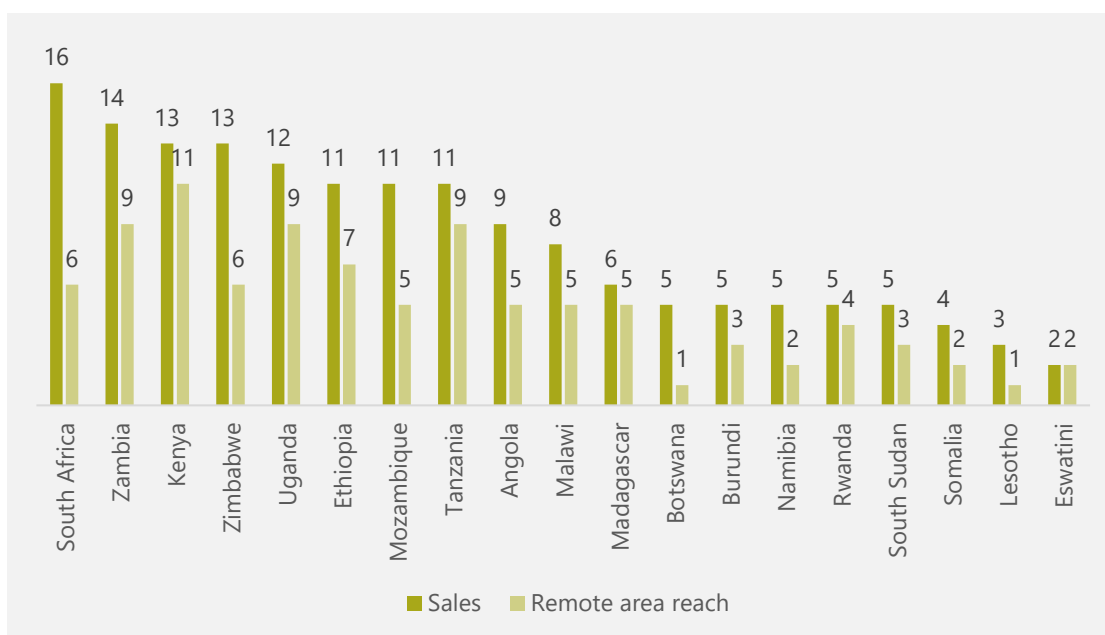


FIGURE 20: COMPANY SALES AND SERVICING OF REMOTES AREAS IN SOUTH AND SOUTH-EAST ASIA



Key finding 2: Companies can increase disclosure on prevention of the sale of counterfeit and expired seeds

A marketing and sales topic of particular discrepancy in disclosure among the regions is quality assurance systems. While 29 (94%) of companies in South and South-East Asia disclose some information on quality assurance and after-sales protocols, 24 (75%) of companies in Eastern and



Southern Africa and 19 (59%) of companies in Western and Central Africa disclose related information. Top performers in the indicator disclose information on all aspects considered within the methodology – quality assurance systems, distribution network monitoring, assurance that seeds are not sold beyond their shelf-life, programmes to prevent the distribution of counterfeit seeds and after-sales support programmes. Global companies Advanta, Syngenta Group and East-West Seed meet these criteria in all three regions, yet only one other company does so in Western and Central Africa (Novalliance Group) and Eastern and Southern Africa (Agriscopes Africa), whereas three other companies meet the criteria in South and South-East Asia (Acsen HyVeg, JK Agri Genetics, Lal Teer Seed). The majority of companies in the index, both global and regional, have opportunities to increase their disclosure on after-sales quality management systems and protocols, imperative for ensuring the availability of quality seeds.

East-West Seed monitors its distribution network by advising its dealers on seed storage conditions and uses holograms and unique sealing on its packaging to prevent counterfeiting. Agriscopes Africa, in partnership with regulatory bodies, has established a system of mobile codes on seed packages that allow farmers to verify the authenticity of the seeds. Companies also utilize package design features to inhibit counterfeiting, such as holograms and stickers used by East-West Seed to make its packaging difficult to reproduce. JK Agri Genetics monitors its distribution network through distributor visits and has a return policy for its distributors to ensure that seeds are not sold beyond their shelf life. To prevent the sale of counterfeit seeds, the company provides information to farmers on the detection of counterfeit packages and identification of aspects of the company's packaging to verify its validity. Furthermore, the company provides after-sales support through a grievance channel process to address claims filed by farmers.

Company disclosure on their anti-counterfeiting work is crucial to increase awareness of this issue and increase measures to prevent it. In addition to protocols for preventing counterfeiting of seeds, companies less frequently disclose protocols for monitoring their distribution channels and ensuring that seeds are not sold beyond their shelf life. These are additional areas where greater disclosure is encouraged among index companies to promote the delivery of safe, good quality and authentic seeds to smallholder farmers in the region.

Key finding 3: Companies display an array of demonstration and promotion strategies, with very few targeting women smallholders

Within the marketing and sales measurement area, the index companies as a collective perform best in the demonstration and promotion strategies indicator. However, companies in all three regions have opportunities to increase disclosure and efforts towards targeting women smallholder farmers through demonstration and promotion strategies. Only nine companies (28%) in Eastern and Southern Africa, seven companies (23%) in South and South-East Asia, and three companies (Advanta, Premier Seed, and Value Seeds) in Western and Central Africa provide detailed information on their programmes and strategies to specifically engage women, smallholder farmers. Companies in all three regions could increase disclosure on their efforts to include women smallholder farmers in demonstrations and promotions.

Popular demonstration strategies in the region include field days and crop demonstrations, and commonly employed promotion strategies include radio advertisements, television advertisements and social media campaigns. Globally active companies like Rijk Zwaan and Sakata report collaborating with local distributors and consultants to organize demonstration activities like field days and demonstration plots. Regional companies, such as Agriscopes Africa and FICA Seeds, disclose promoting their seeds through radio advertisements in local languages, print materials and Facebook



and WhatsApp groups while Premier Seed and Value Seeds demonstrate utilizing strategies such as demonstration plots and field days, as well as radio advertisements and social media promotions by Value Seeds. Victoria Seeds extensive demonstration and promotion activities in Uganda include magazine advertisements in local languages and 200 crop demonstrations annually.

Although companies have widespread disclosure of their demonstration and promotion strategies, only a few disclose detailed examples of efforts to specifically target women, smallholder farmers. [Advanta](#) has promoted its seeds among a women farmer association in Cote d'Ivoire and through women's associations in Kenya, South Africa, Tanzania and Zambia and [Value Seeds](#) has promoted its seeds among local women groups in Nigeria, holding demonstration programmes for women farmers as well. Agriscope Africa designs programmes for Chamas, or women's groups, where it promotes its seeds through offering women farmers lessons with the company's brand for use by the women while farming. Mahyco and AcSen Hyveg demonstrates that they involve women smallholder farmers in their demonstration and promotion strategy while Lal Teer and BRAC elaborate that they conduct home yard meetings ("Uthan Boithak") which facilitates easy participation of women smallholder farmers. Considering that only a few companies disclose examples of dedicated strategies to engage women smallholder farmers, greater inclusion of women smallholder farmers in demonstration and promotion programmes is a significant area where companies can focus their efforts.

3.6 Capacity building

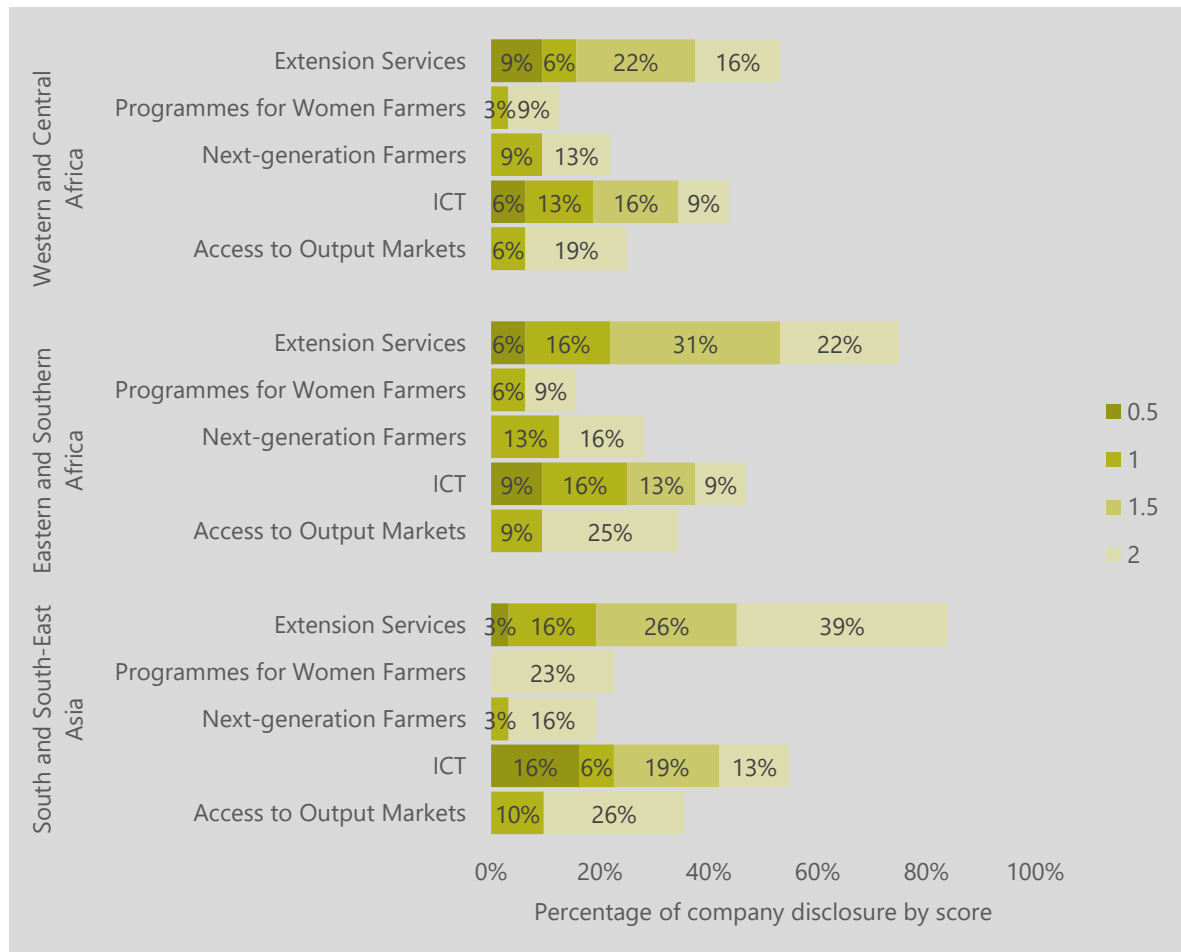
This measurement area focuses on how seed companies invest in local capacity building to ensure that farmers have the right knowledge and tools to realise the full potential of quality seeds of improved varieties. This area presents many opportunities for public-private partnerships.



Cross regional ranking summary

Company performance in capacity building is relatively similar across Western and Central Africa, Eastern and Southern Africa and South and South-East Asia with the top performers across all three regions performing consistently across all indicators. Bayer leads the measurement area in South and South-East Asia while regional companies Value Seeds and Agriscope Africa lead the area in Western and Central Africa and Eastern and Southern Africa respectively. Fourteen companies (44%) in Western and Central Africa score zero in the measurement area, disclosing no information on capacity building topics, as do seven companies (23%) in Eastern and Southern Africa and five companies (16%) in South and South-East Asia. On average, a large majority of companies (74%) in all three regions score below 50% in the measurement area. Common areas of limited disclosure among these companies are programmes for women farmers, next-generation farmers and activities aimed at improving smallholder farmer access to output markets.

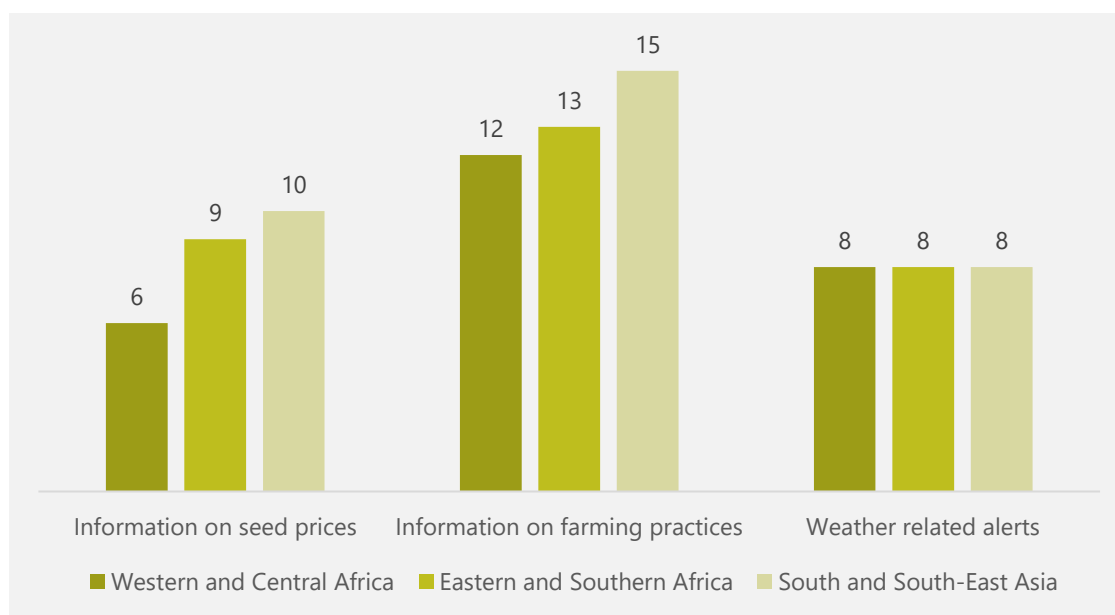
FIGURE 21: PERFORMANCE OF CAPACITY BUILDING INDICATORS



Key finding 1: Companies leverage ICT as a tool for building capacity and sharing knowledge with smallholder farmers

Companies use a wide array of Information and communication technology (ICT) tools to advance agricultural advisory services to smallholder farmers in all three regions. Sixteen companies (52%) in South and South-East Asia have ICT programmes in index countries that build the capacity of smallholder farmers by providing information about topics such as seed prices and farming practices, and weather-related alerts, as do 13 companies (41%) in Eastern and Southern Africa and 12 companies (38%) in Western and Central Africa. Providing information on farming practices to smallholder farmers is the most popular topic for companies across all three regions.

FIGURE 22: SERVICES PROVIDED BY COMPANIES USING ICT TOOLS



Companies use a wide array of digital tools to advance agricultural advisory services to smallholder farmers in all three regions. Sixteen companies (52%) in South and South-East Asia have ICT programmes in index countries that build the capacity of smallholder farmers by providing information about topics such as seed prices and farming practices, and weather-related alerts, as do 13 companies (41%) in Eastern and Southern Africa and 12 companies (38%) in Western and Central Africa. Providing information on farming practices to smallholder farmers is the most popular topic for companies across all three regions.

Globally active company [Bayer](#), through its FarmRise™ mobile application, provides real-time weather alerts, market information, and agronomic advice directly to smallholder farmers. Within the region, Bayer launched 'Bayer Learning Centres,' where it provided agronomic information such as crop system interventions and product information. The company states that more than 8,000 smallholder farmers attend the programmes organized in the learning centers at Bayer Pakistan, annually. Through its programme 'AgriFin Mobile' in Indonesia, Uganda, and Zimbabwe, the company provides a unified platform that offers smallholder farmers farming advice and financial services. In Western and Central Africa, the company partnered with the start-up myAgro to provide smallholders with an innovative prepaid system for agricultural products. Other leading companies in the measurement area such as Agriscope Africa, Advanta, Value Seed, Mahyco Grow and Lal Teer Seeds use mobile applications to provide farmers with product information, sales locations, and agronomic advice. For

example, the “Field Expert” mobile application used by [Advanta](#) helps farmers and technicians to make decisions on farming practices in addition to offering digital financial services. Agriscope Africa developed a mobile application named EASEED, which provides farmers with information on seed prices, farming practices, and weather-related alerts. The app also provides a link between farmers and product experts through a feature that allows farmers to reach out to experts through a chat. [Lal Teer Seed](#) launched a collaboration project called Geodata Based Information Services for Smallholder Farmers of Bangladesh (GEOBIS). The project includes an Android-based mobile application that features a system that enables farmers to ask questions, recommendations of seed varieties, geo-area information for crop monitoring, and crop diagnostics. A total of 881,000 farmers registered for the services provided by the project and 640,000 smallholder farmers were reached either directly or informed through online services.

Another popular tool for reaching smallholder farmers in the region is through the use of social media. Many globally active and regional companies use social media platforms such as Facebook, YouTube, and Instagram to provide smallholder farmers with advice, training, and education. In addition to using social media platforms, East-West Seed has a centralized digital platform “GrowHow” through which the company provides materials such as crop production guides adapted to specific country requirements in 33 languages. To ensure up-to-date recommendations are available, the company has an international Technical Working Group in close cooperation with Wageningen University and Research. The platform currently has 45,326 users. While companies use a variety of digital tools to reach smallholder farmers, many of these activities can be scaled up from one-off projects to mainstream services in more countries in the index region in order to expand reach in more remote areas and connect with more smallholder farmers virtually.

Key finding 2: Programmes targeted specifically towards women and next-generation farmers are still lacking in all the regions

Despite companies providing capacity building activities and improving their reach through extension services, programmes targeted towards women and next-generation farmers are rarely included in education and training activities in most companies across all three regions. Women and youth farmers, who make up a big proportion of smallholder farmers in these regions, face considerable challenges in agricultural development due to a lack of training and access to other crucial resources. Nonetheless, many businesses are still unaware of the necessity for specific programmes aimed at this particular stakeholder group. While companies outline providing training and education to all farmers in the region, many of whom include women and youth farmers, there is a lack of programmes specifically targeted towards them thereby falling behind significantly in addressing the specific demands of this target group.

Only three companies (9%) each in Western and Central Africa and Eastern and Southern Africa and seven companies (23%) in South and South-East Asia have activities aimed at engaging women farmers (specifically targeted at women or programmes in which more than 50% of the participants were women) in the index region and provides examples or evidence and tracks the number of farmers reached. [Value Seeds](#) has implemented various programmes aimed at training women smallholder farmers. For example, in collaboration with the Partnership to Engage Reform and Learn (PERL), they supplied 5000 maize value kits to women in Nigeria and reached a total of 50,000 smallholder women. [Agriscope Africa](#) provides extension services to women farmers through groups called Chamas, where farmers receive tailor-made materials, with agronomic advice. The company has reached 2.3 million women smallholders in the region through these programmes. [East-West Seeds](#) has made significant efforts to increase women's participation in its training programmes in the past few years. In 2020, it approached 65,000 women smallholders in South and South-East Asia to



participate in training, and women made up around half of the participants across index countries. Cambodia had the highest share of women participants, at 70% for technical training events with the Cambodia Horticulture Advancing Income and Nutrition (CHAIN) project, and in the Philippines, the percentage of women reached was also over half, with 60% of smallholder farmers reached through training being women.

Companies also lack programmes to engage next-generation farmers in agriculture and organise tailored programmes for this target group. Only four companies (13%) in Western and Central Africa and 5 companies (16%) each in Eastern and Southern Africa and South and South-East Asia have activities aimed at engaging next-generation farmers into agriculture in the index region and tracks number of next-generation farmers reached. Together with its distributor Holland Greentech, [Rijk Zwaan](#) collaborates with the Kwadaso Agricultural College in Ghana to train students in agricultural skills and create jobs in the horticultural sector. In addition, the company specifically targets youths and students in their projects in Benin and Côte d'Ivoire. The company has engaged 3,500 next-generation farmers in Western and Central Africa. Through the use of digital tools and youth influencers, East-West Seed has increased the participation of next-generation farmers in training in South and South-East Asia. The company has initiatives for young farmers in Thailand, Myanmar and the Philippines. For instance, In Myanmar, through the VegCap project, the company trained over 3,800 agricultural students. Across the region, a total of 89,538 next-generation farmers were reached by the company.



4. Seed Producing Cooperatives

Seed Producing Cooperatives are key players in efforts to increase access to seeds for smallholder farmers in Western and Central Africa. However, they still lack capacity and evidence to be evaluated against private companies.

The [2019 Access to Seeds Index Synthesis Report](#) describes the seed industry as a highly diverse and locally driven long tail. Key industry players include a small group of global leaders and a long tail of small and medium national and regional companies. It also highlights key local players such as seed producing cooperatives increasing access to quality seeds in Western and Central Africa .

Cooperatives were not included in the 2019 Access to Seeds Index. Their business models were defined as too narrow relative to private seed companies. However, during the 2020 index scope review process, regional stakeholders and experts suggested to evaluate a small group of advanced seed producing cooperative in the 2021 assessment. The goal was to understand if seed producing cooperatives can be assessed against private companies, show leading practices among their company peers and gaps to improve as key players in the formal seed sector.

The 2021 Access to Seeds Index set out to scope five advanced seed-producing cooperatives from Western and Central Africa. These cooperatives were selected based on input from local partners in the region. The survey focused on the assessment of measurement areas relevant to cooperatives main activities such seed production, marketing and sales and capacity building.

A lack of disclosure in the public domain and digital connectivity due to cooperative's remote nature impacted the data collection process during the Covid-19 pandemic. Only two cooperatives responded to the offline questionnaire but lacked evidence and details important to evaluate efforts on relevant index indicators. The index decided to make this assessment a case study sharing learnings from the scoping and consultation reports of five cooperatives.

Seed producing cooperatives are rising in Western and Central Africa with clear governance structure and strong national and international partnerships. However, they lack evidence to compare their efforts with private seed companies in the region. Cooperative need capacity and connectivity for quality data collection and disclosure to show their impact.



4.1 Case Study

Seed producing cooperatives contribute to smallholder farmer adoption of improved seed varieties in Western and Central Africa.

Seed-producing cooperatives play an important role particularly in Western and Central Africa seed sector introducing and making improved varieties available for smallholder farmers. The five seed producing cooperatives in this case study; Coopérative Pour La Promotion De la Filière Semence Du Mandé (COOPROSEM), Cooperative Agricole de Bama, Jirkur Seed Cooperative Society, SEEDPAG, and Union Madda Ben de Falwel are recognised by the legal status of cooperatives formalised in seed laws. Although seed producing cooperative have a relatively limited reach and capacity compared to companies, formal recognition in the seed system gives them equal opportunity as seed companies to play key role in increasing access to quality seeds in local communities.

Geographically, these cooperatives are situated in remote rural areas in of Burkina Faso, Ghana, Mali, Niger and Nigeria where access to digital technology (internet) is low or lacking hence low disclosure and participation in the benchmarking process. This case study is informed directly by three cooperatives and regional focal points at West and Central African Council for Agricultural Research and Development (CORAF) who conducted a scoping consultation in the selection of these cooperatives.

This case study shines a light on the efforts of these seed producing cooperatives in providing access to seeds to farmers. These cooperatives do not have their own breeding activities but collaborate with other companies and research institutions. Overall, the cooperatives show organised leadership with strong partnerships and collaboration that that earned them a formal key player in the supply of quality seeds.

FIGURE 23: LIST OF FIVE SEED-PRODUCING COOPERATIVES IN WESTERN AND CENTRAL AFRICA

| | Cooperative | Country | Founded | Crop portfolio | Members (#) | Smallholder reach | Seed Revenue (FY20) |
|---|---------------------------------|--------------|---------|--|-------------|-------------------|---------------------|
| 1 | COOPROSEM | Mali | 2016 | Maize, Sorghum Rice Millet Groundnut | 98 | <650 | N/A |
| 2 | Cooperative Agricole de Bama | Burkina Faso | 2001 | Rice Maize | 1000 | 290 | 54,000,000 (CFA) |
| 3 | Jirkur Seed Cooperative Society | Nigeria | 2007 | Rice Maize Soya Bean Cowpea, Groundnut | 200 | 5,000 | N/A |
| 3 | SEEDPAG | Ghana | 2009 | Maize Rice Sorghum Soyabean Cowpea Groundnut Common Bean Cassava Sweet potato | <200 | <200,000 | N/A |



| | | | | | | | |
|---|---------------------------|-------|------|---|-------|-------|------------------|
| 5 | Union Madda Ben de Falwel | Niger | 2000 | Dry beans, Ground nut Millet Cowpea | 3,167 | 7,000 | 48,000,000 (CFA) |
|---|---------------------------|-------|------|---|-------|-------|------------------|

4.1.1 Governance

The five seed producing cooperative recognised by the formal seed system have defined leadership structures and strong partnership with national and international stakeholders. These cooperatives were established by the local needs for partnerships that fill gaps in sustainable supply of quality seeds in rural remote areas.

COOPROSEM initiated by local individual testers in Mali villages led by a president with technical staff is recognised by Organization for the Harmonization of Business Law in Africa (OHADA). Coopérative Agricole de Bama in Burkina Faso is formally recognized by the national seed authorities and led by nine board of trustees elected every three years. In Nigeria, Jirkur Seed Cooperative is led by four directors and four extension staff and officially registered with the Borno State Ministry of Cooperatives, National Agricultural Seed Council and the Corporate Affairs Commission.

Seed Producers Association of Ghana (SEEDPAG) comprises of small and registered seed producers formally recognised by the National Variety Release and Registration Committee (NVRRC) and National Seed Trade Association of Ghana (NASTAG) where the president of the cooperative sits. Niger’s Union Madda Ben de Falwel is led by an executive board, elected for a two-year term and is a member of the MORIBEN federation which is a national umbrella.

4.1.2 Research and development

These cooperatives often focus on producing crops missing in company portfolios that are important for local food security, such as pulses and local crops. These cooperatives do not have their breeding programmes, but they collaborate with international and national agricultural research institutes and regional companies, to select, test and introduce new seed varieties.

The main crops are maize, rice, millet, sorghum and pulses such as soya bean and cowpea. Cooperatives also offer local crops such as cassava important in the region. Although, the cooperatives have limited disclosure on the type of seeds they produce, two cooperatives show production of both OPVs and hybrid seeds. Through the research institutes they breed for important traits such biotic and abiotic stress, nutritional value, and draught resistance. These cooperatives support the increase of smallholders’ adoption of improved varieties in the region.

FIGURE 24: SEED COOPERATIVES SOURCE OF BREEDERS AND FOUNDATION SEEDS

| Rank | Seed producing cooperative | Location | Source for breeders and foundation seeds |
|------|------------------------------|---------------------|--|
| 1 | COPROSEM | Mali | <ul style="list-style-type: none"> International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) |
| 2 | Cooperative Agricole de Bama | Burkina Faso, Houet | <ul style="list-style-type: none"> Burkina Faso’s Environmental Institute for Agricultural Research (INERA) CGIAR’s AfricaRice |



| | | | |
|---|---------------------------------|---------|--|
| | | | <ul style="list-style-type: none"> • NAFASO (company) |
| 3 | Jirkur Seed Cooperative Society | Nigeria | <ul style="list-style-type: none"> • Institute for Agriculture • National Agricultural Seed Council (NASC) |
| 4 | SEEDPAG | Ghana | <ul style="list-style-type: none"> • Grains and Legumes Development Board of the Ministry of Food and Agriculture • Council for Scientific and Industrial Research-Crops Research Institute (CSIR-CRI) • CSIR-Savanna Agricultural Research Institute |
| 5 | Union Madda Ben de Falwel | Niger | <ul style="list-style-type: none"> • International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) |

4.1.3 Marketing and sales

To reach the local and regional market, most of the cooperatives invest in partnerships with companies and national organisations to sell their certified quality seeds. The seed packaging is tailored for smallholder farmer needs. They also invest in community radios and TV to market their seeds and programs.

COPROSEM works with FASO Kaba, Myagro and MALIMARK to sell certifies seeds on the local and regional market. Cooperative Agricole de Bama seeds reaches the regional market through NAFASO, a private seed company with a regional presence. In Nigeria, the National agricultural seed council certifies and approves Jirkur Seed Cooperative Society for local farmers.

SEEDPAG's seeds are certified seeds by the Ghana Seed Inspection Division of the Plant Protection and Regulatory Services Directorate at the Ministry of Food and Agriculture. SEEDPAG has strong ties with The Ghana Agricultural Association Business and Information Centre, Ghana Agri-Input Dealers Association and CROPLIFE to sell their seeds. Union Madda Ben de Falwel works with the national research center (Système national de recherche agricole (NARS) for seed certification. Union Madda Ben de Falwel is partnership with three seed companies Alhéri de Doutchi, Husa'a de Dosso and Ainoma de Tillabéri for seed multiplication contracts and sales in the country.

4.1.4 Capacity building

Seed producing cooperatives also receive capacity building for the research staff and members through partnerships with research and national institutes and other companies.

The Association of Professional Farmer Organizations trains and advice COOPROSEM members on seed production activities. Jirkur Seed Cooperative Society in Borno State, Nigeria besieged by insecurity from Boko Haram get support the Alliance for a Green Revolution in Africa (AGRA) and Borno State Agricultural Development program (BOSADP) for extension staff and storage. Cooperative Agricole de Bama gets technical support from INERA and NAFASO. Further Bama members receives training from visiting students and other regional seed producers.



Seed cooperatives are instrumental for reaching smallholders in remote areas and need more capacity to scale and deepen their impact.

The five seed cooperatives reach more than 35,000 farmers in the region with quality seeds of improved varieties in rural remote areas unreached by many seed companies. These seed producing cooperatives show a great contribution to increase access to seeds for smallholder farmers.

As key local players in increasing access to quality seeds, cooperatives need connectivity and capacity to expand and disclose their impact in the local and global food systems.



5. Industry partnerships

Partnerships are essential for companies' activities and investments in developing countries. To make more impact, the industry needs a strategic focus.

On the governance and strategy measurement area key findings, the index shows that company's highest disclosure is which stakeholder they engage. However, companies disclose is lower on how they identify the most relevant stakeholders, discussion topics and outcomes. These partnerships range from financial institutions, private foundations, research, non-profit/non-government organisations and governments supporting activities to increasing food security in low- and middle-income economies. An accountability push from key stakeholders in the seed industry is necessary for the industry to be more strategic towards access to quality seeds and enable peer learning through disclosure.

Regional and global financial institutions such as the Asian Development Bank, African Development Bank and the World Bank fund activities such as extensions services targeting women and the youth in agriculture, feasibility studies for seeds, insurance and other financial solutions for smallholders. These institutions also support initiatives promoting nutrient rich crops, but this is an opportunity for many companies to improve their breeding programs to ensure nutrition security in more developing countries.

More key stakeholder to hold the seed industry more accountable on disclosure and efforts are government donors such as Agence Française de Développement (AFD)/ Proparco, The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ), Japan International Cooperation Agency (JICA), USAID, the Netherlands Enterprise Agency (RVO) as well as the Dutch's SeedNL. These donors are in partnerships with index companies for research and capacity development for high-quality and climate adaptive crops, access to other farm inputs, equipment, or crop protection products, technology and finance.

Companies also collaborate with private foundations, but the Bill & Melinda Gates Foundation stands out for most partnership directly and indirectly such as through AGRA in Africa. However, disclosure on the engagement outcomes is lacking especially for regional companies that are important in food insecure countries.

Most of the seed companies work closely with national research institutions and/or CGIAR research institutes i.e., International Rice Research Institute (IRRI), World Vegetable Centre, International Maize and Wheat Improvement Center (CIMMYT), International Center for Tropical Agriculture (CIAT) and International Institute of Tropical Agriculture (IITA) for breeding technologies, farming practices and seed delivery systems for increased food production. Both regional and global companies show a certain level of disclosure and evidence in the outcomes of these engagements but there is room for improvement to tackle climate related challenges, reduce malnutrition and incorporate local preferences and knowledge in the crop science and technology.

Other key players in increasing smallholder farmers productivity in the index regions are the UN Food and Agriculture organisation and national governments to supply quality seeds to vulnerable farmers at the farmgate. Although many companies show established distribution channels there is still lack of evidence to reach rural remote areas. Companies also work with national seed associations and



councils at a national level, however on average companies report membership in five countries per region. Companies also mention partnerships with regional and international trade associations (AFSTA, APSA and ISF) for seed trade policies and advocacy but lack sufficient evidence on engagement topics and outcomes.

Companies across the regions show efforts in collaboration and disclosure in stakeholder activities with NGOs such as International Fund for Agricultural Development (IFAD), World Vision, Care, Fair Planet, Cultivating New Frontiers in Agriculture (CNFA), Winrock International, Enabling Child and Human Rights with Seed Organisations (ECHO), Growing Hope Globally, BAIF, ACIDI/VOCA, Land O'Lakes International, Farm Africa, Musika (Zambia), Agricultural Development Trust Baramati (India), One Acre Fund (Kenya) and many more. These are key partners important to hold the industry to more impact through disclosure and evidence of their efforts across the measurement areas.

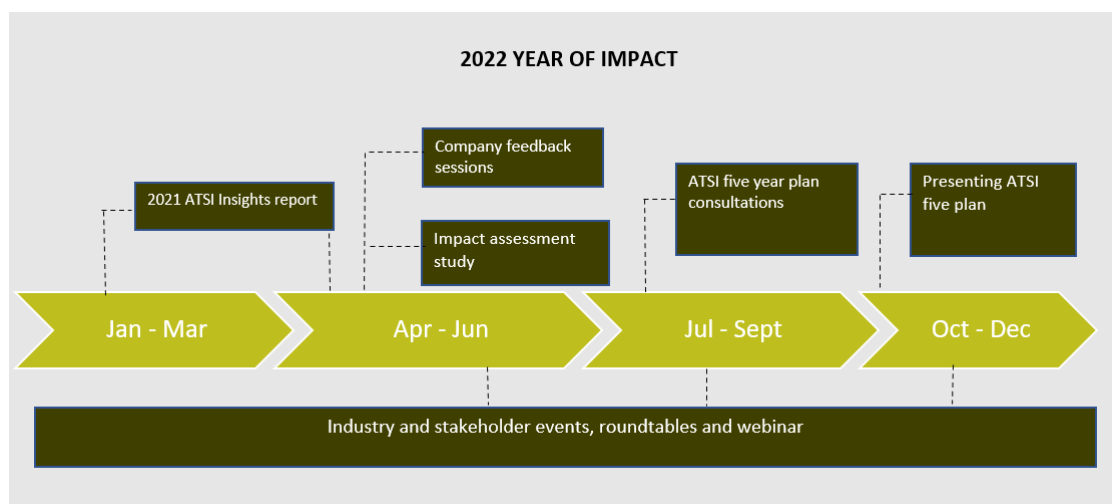
It is important to leverage the collaborative nature of the seed industry into holding the industry more accountable in transforming the food systems. The seed sector is at the start of the food value chain with a unique and essential role in increasing food productivity. The WBA's Access to Seeds Index methodology provides companies with a roadmap to align with business models to the UN SDGs. By doing so, companies can accelerate their efforts in increasing smallholder farmer productivity and income in this decade of action.



6. What's next?

The Access to Seeds published in 2021 is followed by a year of impact. During the impact year the index focus is engagement to socialise the index results, understanding the impact of the index since 2016 and developing a five-year strategy.

FIGURE 25: ACCESS TO SEEDS INDEX 2022 TIMELINE



6.1 2022: Year of impact

In 2022, the Access to Seeds Index will continue to socialise the index outcomes with allies, companies and other key stakeholders important in the transformation of food systems for food security, nutrition and ending hunger.

6.1.1 Company engagement

During the impact year, we aim to build a community of practice through peer-to-peer learning sessions on different important index topics such as governance and strategy, biodiversity conservation, enabling the local seed business environment and partnerships. The index is planning engagement activities such as roundtables, webinars and individual discussions. The index will invite companies to the sessions important to learn from leading practices and leadership in aligning company business and operations for smallholder farmer success.

In addition, the index will invite seed companies to feedback one-to-one sessions and webinars. Company feedback will cover the benchmarking process, expectations and engagement collaboration opportunities.

6.1.2 Other stakeholder engagement

In 2022, the index plans to engage with national seed councils, regional and international seed associations (ISF, AFSTA, APSA and Plantum/SeedNL) for index results use, consultations and event participation on important seed topics. Our objective is to ensure and increase local and global



industry decision makers to use the index methodology to sharpen the focus of their actions to reach smallholder farmers in developing countries.

We will work closely with National Seed Councils and donor governments with seed programs in the index countries, to share the index findings showing leading practices and gaps mainly at a country level. We will work alongside other key national and regional stakeholders interested in contributing to evidence base dialogues for policy and regulation to enable robust local seed businesses.

Further, the index plans to engage and expand the WBA alliance targeting allies in support of food security, the eradication of hunger and malnutrition in low- and middle-income countries. Our engagement efforts will focus on disseminating index results to influential and relevant players in research, investment, academia, civil society, public policy and NGOs including farmer organisations.

Farmer organisations are important stakeholders the index aims to strengthen collaboration within the impact year. In all the index activities we plan to raise smallholder farmer voices to ensure that the index is bridging the gap with seed companies and other stakeholders important for farmer development.

Our overarching engagement goal is to set the index as a key reference to deliver evidence on where and how the private seed industry can contribute the achievement of the UN SDGs (SDG2-Zero Hunger) in this decade of action. The index will share these engagements outcomes and commitments through multistakeholder roundtable, impact assessment studies and the future of the index.

6.1.3 Impact assessment study

The 2021 Access to Seeds Index is the third iteration published since the first Access to Seeds Index, published in 2016. The 2019 index showed that although smallholder farmers in index regions continue to lack access to quality seeds, the improved performance of companies indicates the industry's growing recognition of and more responsive approach toward this significant client group.

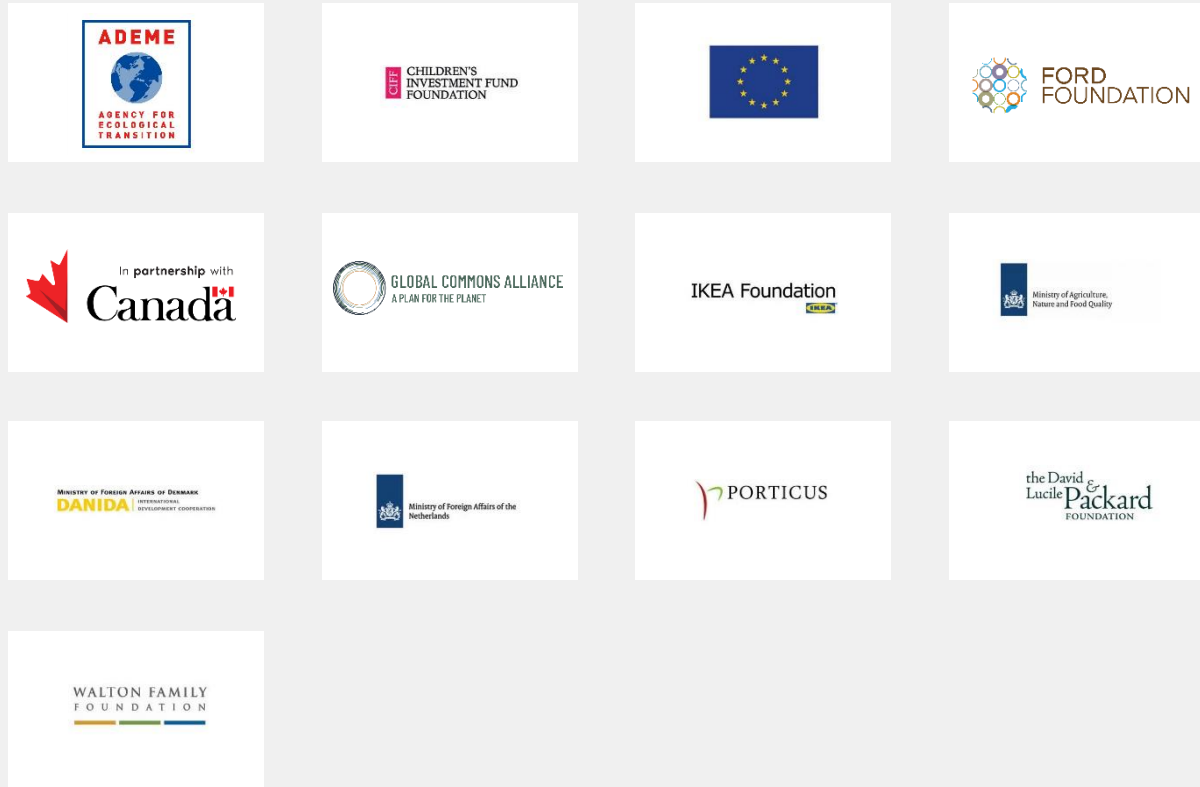
In 2021 index was measured according to a revised – and smaller – set of indicators than in 2016 and 2019. The 2021 index shows an active and broadly present industry in index countries with improvement in areas such as research and development, marketing and sales and capacity building across the three regions. Leading index companies such as Advanta and [Bayer](#), report using the index to guide their access to seeds strategies. However, for a long tail of companies, performance is lower due to reduced company disclosure as compared to 2019.

In the coming months, the index will undertake a study to assess the role of the benchmark throughout its three iterations and how it influenced its stakeholders. It aims to help us better understand the impact of the benchmark. The outcomes of this study will guide our conversations, also with stakeholders, on the future of the index and the benchmark strategy for the coming years.

6.1.4 Five-year plan

In 2022, the Access to Seeds Index will work towards presenting a five-year plan embedding the index metrics into the wider WBA transformation goals for 2000 most influential companies in the world. Together with WBA's Food and Agriculture Benchmark, the index will invite interested stakeholders for consultation on important drivers to improve smallholder farmer productivity and resilience including but also beyond the seed industry.





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