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This report emerged out of a consultative process guided by Wageningen University & Research (WUR) in collaboration with Sahel Consulting and the Seed Entrepreneurs Association of Nigeria (SEEDAN). It is a product of the Collaborative Seed Programme (CSP) and more particularly from the topic Seed Company Marketing and Promotion (SCMP) team.









The assessment of Nigerian seed entrepreneurs is a collaborative activity within CSP. The partnership brings together Nigerian and Dutch seed sector stakeholders, including WUR, with the aim to enhance the performance of the Nigerian seed sector.

CSP contributes to the vision of the National Seed Road Map (NSRM) of Nigeria, being that the seed sector becomes more competitive, resilient, profitable, innovative and adaptive, sustainable, inclusive, resistant, and transparent. The CSP focuses on eight topics drawn from 22 strategic innovation pathways of the NSRM. This report has been financed by Ministry of Foreign Affairs of the Netherlands Government through the Embassy of the Kingdom of the Netherlands in Abuja.















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Report WCDI-24-344

Photo cover: A Nigerian seed entrepreneur in his maize field, Sahel Consulting

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List of abbreviations and acronyms

 BMC **Business Model Canvas**

CSP Collaborative Seed Programme

EGS Early Generation Seed

NARI National Agricultural Research Institutes NASC National Agricultural Seed Council NGO Non-Governmental Organization

NSRM National Seed Roadmap

SEEDAN Seed Entrepreneurs Association of Nigeria

SIP Strategic Innovation Pathway

WCDI Wageningen Centre for Development Innovation

Wageningen University & Research WUR

Summary

The National Seed Roadmap for Nigeria, a strategic policy document developed in 2020 for seed sector stakeholders, identifies achievements and challenges. The document proposes ambitions and innovation pathways instrumental to realize those ambitions and ultimately attain a newly defined vision for the seed sector. The challenges documented in the roadmap adversely affect Nigerian seed entrepreneurs in their operations. The capacity of seed entrepreneurs in production, marketing and financial management has been identified as one of the challenges.

The Collaborative Seed Programme (CSP), partnership between Nigerian and Dutch stakeholders in the seed sector aims to contribute to the transformation of the Nigerian seed sector. It is guided by the above mentioned National Seed Road Map. The CSP aims through one of its topics to enhance the capacity of Nigerian seed entrepreneurs. Part of this topic is to foster and strengthen Business-to-Business (B2B) relationships between Nigerian and Dutch seed entrepreneurs. The CSP is in a position to support both Nigerian and Dutch entrepreneurs in identifying compatible partners. Supporting to this process of matchmaking, CSP has assessed Nigerian seed entrepreneurs to gain insights into their functioning and operation. First concerned Nigerian seed entrepreneurs gain insights on the capacities, strengths and weaknesses. Secondly, it informs the CSP, the Seed Entrepreneurs Association of Nigeria (SEEDAN) and other partners in the programme, on the capacities, those entrepreneurs. Thirdly, it informs both Nigerian and international seed companies in processes of matchmaking and establishing B2B relationships.

To facilitate these processes of private sector development and B2B matchmaking, CSP conducted a seed entrepreneur assessment. The assessment had the following objectives: 1) Raise awareness among seed entrepreneurs on their capabilities in operations and functioning; 2) Inform seed sector stakeholders on the capabilities and the functioning of seed entrepreneurs and advise them on the type of capacities to be strengthened; and 3) Create B2B opportunities by sharing insights among Nigerian and Dutch seed entrepreneurs. In total, 23 seed entrepreneurs participated the assessment, of which 16 are involved in both seed production and commercialisation, and seven are seed traders. The team conducting the assessment used a series of eligibility criteria for the selection of participating entrepreneurs.

The assessment used a scoring method with seven success factors based on business development and tailored to seed company management. The report presents a characterization of Nigerian seed entrepreneurs following the seven success factors illustrated in Figure 1. Considering the limited resources,

time and capacity available to the assessment, the team focused on characterizing the entrepreneurs and their operations rather than assessing their performance. As a result, the team encourages international seed companies interested in entering the Nigerian market or looking for new partners to engage in direct conversations with the seed entrepreneurs, this study serving as a basis to start such conversations.

The assessment reveals that selected seed entrepreneurs involved in seed production and commercialisation deal with a larger crop portfolio than seed traders who oftentimes focus on the commercialisation of seed of vegetable crops. This category of entrepreneurs mainly concentrates on



Figure 1. Seven success factors used characterizing Nigerian seed entrepreneurs

cereals and legumes, which are relevant for food security and thereby offer larger market opportunities that include seed tenders. All selected seed entrepreneurs present fair to satisfactory assessment of their seed business operations and functioning. For five out of seven success factors, the category of seed traders scored higher than the seed entrepreneurs involved in seed production. This group only scored higher for the success factor 'seed operations'; seed traders present overall lower revenues given a smaller market, thus less revenues, for vegetable seed, including the sales of relatively expensive seed of hybrid varieties. Seed traders scored higher particularly in the success factors 'structured commercial orientation', 'strategically connected' and 'long-term vision'. These observations are explained by the fact that seed traders demonstrated a better product and price segmentation, relatively better connections with international seed companies and other private sector stakeholders in the agricultural sector. In total, ten seed entrepreneurs, among which five are seed traders, out of 23 engage in partnerships with international seed companies. All are related to the commercialisation of seed for vegetable crops. For all other success factors, the team did not observe differences in scoring for success factors between the two categories of seed entrepreneurs.

The last section of the current report concentrates on the challenges voiced by seed entrepreneurs during face-to-face interviews. To address these challenges, we have linked them to those mentioned in the National Seed Roadmap for Nigeria. The assessment allows the team to pinpoint relevant strategic innovation pathways and suggest potential interventions aimed at overcoming the identified obstacles. Ten out of fifteen highlighted challenges are related to seed production and market development. These challenges include inadequate access to essential production resources (early generation seed, agro-inputs, equipment, and infrastructure), poor stakeholder organization, unfair practices in seed markets, and limited market development. Additionally, limited access to suitable financial products emerged as a significant barrier to the operations of seed entrepreneurs. Regulatory aspects are also recognized creating hurdles to seed entrepreneurs in their performance, these challenges encompassing various aspects not only relevant to the seed sector but to the broader Nigerian economy. These challenges include the enforcement of policies failing to address the needs of the sector, inconsistency in policies driving the seed sector, poor monitoring and evaluation of policies, high costs associated with seed business activities, and weak government support. These hurdles affect almost all activities in the seed value chain including variety release, seed production, quality assurance and marketing, as well as seed import and export.

1 Introduction

The existence of seed entrepreneurs able to guarantee the access to quality seed of improved and preferred varieties at affordable price is crucial for the Nigerian seed sector. One of the topics of the Collaborative Seed Programme (CSP) is support private sector development in Nigeria; it does so to contribute achieving development outcomes including improved sustainable income, food security and nutrition of rural households in Nigeria. Seed plays a crucial role in this envisioned impact, therefore the goal of CSP is to improve farmers' access and use of quality seed of new, improved varieties to sustainably increase agricultural productivity. In this context, CSP recognizes that the great diversity of farmers access seed through different systems for different crops. In that regard, a significant share of farmers obtain seed through seed entrepreneurs, including entrepreneurs involved in seed production and commercialisation or seed traders (agro-dealers). The success of these entrepreneurs necessitates a customer-oriented approach and dependable business partnerships, complemented by a supportive business environment. Seed trade associations contribute significantly to fostering such an environment. In light of this, CSP carried out an assessment of Nigerian seed entrepreneurs in May 2024.

The objectives of this assessment are threefold:

1) Raise awareness among seed entrepreneurs on their capabilities in operations and functioning

The assessment gives Nigerian entrepreneurs information and feedback on their operations and management, highlighting areas of good performance and defining the areas of improvement. The recommendations from the assessment provides insights into strategic decision-making to ensure they improve their operations and build their competitive advantage.

2) Inform seed sector stakeholders on the capabilities and the functioning of seed entrepreneurs and advise them on the type of capacities to be strengthened

The assessment will provide CSP partners and industry stakeholders with up-to-date information about the functioning of seed entrepreneurs. It will highlight the gaps and challenges of the seed companies and provide recommendations to strengthen the private sector stakeholders for a thriving and high-performing seed sector in Nigeria.

3) Create B2B opportunities by sharing insights among Nigerian and Dutch seed entrepreneurs

The assessment will provide the Dutch (and other international) seed companies with insights that would serve as a basis for their scoping for strategic and client-oriented partners. More specifically, the assessment will take into consideration key information and performance indicators, crucial for the international companies, to facilitate long term partnerships. On the other hand, for the Nigerian seed entrepreneurs, the results of the assessment will allow them to professionally self-profile. This also facilitates the process of creating linkages and matchmaking with international seed companies.

Results of analyses and categorization of 2 Nigerian seed entrepreneurs

2.1 Selection of participating entrepreneurs

CSP, nor the Seed Entrepreneurs Association of Nigeria (SEEDAN), nor combined, have the capacity to assess the functioning of all seed entrepreneurs in Nigeria. CSP, centralizing its support to seed entrepreneurs around seed company promotion and marketing in the states of Kano and Kaduna states for arable and vegetable crops as well as Jos for Irish potato, decided to focus on the same areas for this assessment. The latter was open to both seed entrepreneurs involved in seed production and commercialisation and seed traders (agro-dealers) only involved in seed commercialisation. Eventually, this assessment includes seed entrepreneurs dealing with seed of cereals and leguminous crops taking into account their relevance food security in Nigeria as well as seed of horticultural crops (vegetables and Irish potatoes) having in mind the objectives of creating linkages and matchmaking with Dutch and international seed companies.

The methodology used for this assessment is detailed in Annex 1. In this paragraph, only the selection process is summarized. Following a promotional period and application process, a pre-selection was conducted using a questionnaire designed to collect vital information about the operations of Nigerian seed entrepreneurs. Annex 2 contains the list of all seed entrepreneurs who completed the questionnaire. Firstly, eligibility criteria were applied to come up with a list of pre-selected entrepreneurs. Secondly, a final selection of seed entrepreneurs participating in the assessment was made using the same questionnaire as the information source. This new phase utilized a scoring method based on performance indicators grouped into success factors, as outlined in Annex 3. The selection proposal was eventually discussed within the CSP team to verify and confirm the selection. Ultimately, the assessment includes 23 seed entrepreneurs (Table 1), with 16 involved in seed production and commercialisation, and seven operating as seed traders (engaged only in seed commercialisation).

Table 1. List of the selected Nigerian seed entrepreneurs participating in the assessment

#	Name of entrepreneur	Nature
1	ABC HIGHLAND SEED NIGERIA LIMITED	Entrepreneur involved in both seed production and commercialisation
2	BOOM SEEDS LIMITED	Entrepreneur involved in both seed production and commercialisation
3	DA ALLGREEN SEEDS NIGERIA LIMITED	Entrepreneur involved in both seed production and commercialisation
4	JORDAN AGRO SERVICES LIMITED	Entrepreneur involved in both seed production and commercialisation
5	JOY SEEDS LIMITED	Entrepreneur involved in both seed production and commercialisation
6	LIFTED AGRO LIMITED	Entrepreneur involved in both seed production and commercialisation
7	MASROTUN GLOBAL AGRO ALLIED LIMITED	Entrepreneur involved in both seed production and commercialisation
8	NAGARI SEEDS NIGERIA LIMITED	Entrepreneur involved in both seed production and commercialisation
9	ROMAREY VENTURES NIGERIA LIMITED	Entrepreneur involved in both seed production and commercialisation
10	SALAMUN KMHRM SEEDS	Entrepreneur involved in both seed production and commercialisation
11	SAMUDA COMMUNICATIONS	Entrepreneur involved in both seed production and commercialisation
12	SAVANNAH SEEDS AND LIVESTOCK LIMITED	Entrepreneur involved in both seed production and commercialisation
13	TECNI SEEDS	Entrepreneur involved in both seed production and commercialisation
14	THE SEED PROJECT CO LIMITED	Entrepreneur involved in both seed production and commercialisation
15	TUKUNYAR GWARI SEEDS NIGERIA LIMITED	Entrepreneur involved in both seed production and commercialisation
16	VALUE SEEDS LIMITED	Entrepreneur involved in both seed production and commercialisation
17	AFRI AGRI PRODUCTS LTD.	Seed trader
18	FARMGATE INITIATIVE	Seed trader
19	GONAN DANKAKA AGRO ALLIED SERVICES	Seed trader
	LIMITED	
20	ISAH AGRO-SEEDS AND CHEMICAL COMPANY	Seed trader
21	ONIDA AQUACULTURE	Seed trader
22	ROYAL BLUE CONTRACTORS NIGERIA LIMITED	Seed trader
23	SEEDFORTH AGRO	Seed trader

2.2 Characterization of entrepreneurs

Categories of entrepreneurs and crop portfolio

Table 2 presents the list of crops for which the selected entrepreneurs produce or trade seed. Several observations can be made:

- Many entrepreneurs involved in seed production and commercialisation maintain a diverse crop portfolio (cereals, legumes, vegetables)
- All seed traders deal with vegetables, while only two also market seed of cereals and legumes.
- All seed entrepreneurs engaged in vegetable seed production and/or commercialisation work with a wide variety of vegetable crops in their portfolios
- Two entrepreneurs work with potato.

Table 2.List of crops and activities of Nigerian seed entrepreneurs

Seed entrepreneur	Crops																							
	Maize		Rice		Sorghi	um	Millet		Soybe	an	Cowpe	ea	Groun	dnut	Sesam	ie	Tomat	0	Onion		Other vegeta	ables	Potato	
	Р	С	Р	С	Р	С	Р	С	Р	С	Р	С	Р	С	Р	С	Р	С	Р	С	P	С	Р	С
Seed entrepreneur i	nvolved	l in see	d prod	uction a	and con	nmerci	alisatio	n	-	-	=	-	-	_	_	_	_		_	_	_	_	_	
ABC HIGHLAND SEED NIGERIA LIMITED																								
BOOM SEEDS LIMITED																								
DA ALLGREEN SEEDS NIGERIA LIMITED																								
JORDAN AGRO SERVICES LIMITED																								
JOY SEEDS LIMITED																								
LIFTED AGRO LIMITED																								
MASROTUN GLOBAL AGRO ALLIED LIMITED																								
NAGARI SEEDS NIGERIA LIMITED																								
ROMAREY VENTURES NIGERIA LIMITED																								
SALAMUN KMHRM SEEDS																								
SAMUDA COMMUNICATIONS																								

P=Production, C=Commercialisation

Seed entrepreneur	Crops																							
	Maize		Rice		Sorgh	um	Millet		Soybe	ean	Cowpe	ea	Groun	dnut	Sesam	ie	Tomat	0	Onion		Other vegeta	bles	Potato)
	Р	С	Р	С	Р	С	P	С	P	С	P	С	Р	С	P	С	Р	С	Р	С	Р	С	Р	С
Seed entrepreneur i	nvolved	l in seed	d produ	uction	and con	nmerci	alisatio	n																
SAVANNAH SEEDS AND LIVESTOCK LIMITED																								
TECNI SEEDS																								
THE SEED PROJECT																								
TUKUNYAR GWARI SEEDS NIGERIA LIMITED																								
VALUE SEEDS LIMITED																								
Seed traders				_	_	_	-	_	_	_	_	_	_	_	_				_		_	_	_	
AFRI AGRI PRODUCTS LTD.																								
FARMGATE INITIATIVE																								
GONAN DANKAKA AGRO ALLIED SERVICES LIMITED																								
ISAH AGRO-SEEDS AND CHEMICAL COMPANY																								
ONIDA AQUACULTURE																								
ROYAL BLUE CONTRACTORS NIGERIA LIMITED																								
SEEDFORTH AGRO																								

P=Production, C=Commercialisation

2.2.2 Type of partners

The international partners of Nigerian seed entrepreneurs have been identified and are presented in Table 3. The data reveals that ten out of 23 Nigerian seed entrepreneurs are connected with international seed companies. Apart from Dutch seed companies, these entrepreneurs have created connections with Italian, French and South African seed companies. All these connections are related to the import of vegetable seed.

Conversations with these entrepreneurs have revealed their eagerness to benefit from more business-tobusiness opportunities to establish connections with international seed companies.

Table 3. List of the Nigerian seed entrepreneurs and their private seed partners

Nigerian seed entrepreneur	Seed private partner	Crops concerned
Seed entrepreneur involved in seed production and	d commercialisation	
ABC HIGHLAND SEED NIGERIA LIMITED	SEMENTI GIANFRANCO FUSCELLO	Vegetables
BOOM SEEDS LIMITED		
DA ALLGREEN SEEDS NIGERIA LIMITED		
JORDAN AGRO SERVICES LIMITED	SEMENTI GIANFRANCO FUSCELLO	Vegetables
JOY SEEDS LIMITED	TECHNISEM	Vegetables
LIFTED AGRO LIMITED	SEMENTI GIANFRANCO FUSCELLO	Vegetables
MASROTUN GLOBAL AGRO ALLIED LIMITED		
NAGARI SEEDS NIGERIA LIMITED		
ROMAREY VENTURES NIGERIA LIMITED		
SALAMUN KMHRM SEEDS		
SAMUDA COMMUNICATIONS		
SAVANNAH SEEDS AND LIVESTOCK LIMITED		
TECNI SEEDS		
THE SEED PROJECT CO LIMITED		
TUKUNYAR GWARI SEEDS NIGERIA LIMITED		
VALUE SEEDS LIMITED	STARKE AYRES	Vegetables
Seed traders	-	
AFRI AGRI PRODUCTS LTD.	ENZA ZADEN	Vegetables
FARMGATE INITIATIVE		
GONAN DANKAKA AGRO ALLIED SERVICES LIMITED		
ISAH AGRO-SEEDS AND CHEMICAL COMPANY	GRIFFATON	Vegetables
13AH AGRO-SELDS AND CHEMICAL COMPANY	BAYER	Vegetables
ONIDA AQUACULTURE	HAZERA	Vegetables
ROYAL BLUE CONTRACTORS NIGERIA LIMITED	EAST-WEST SEED	Vegetables
SEEDFORTH AGRO	RIJK ZWAAN	Vegetables

2.3 Characterization

To characterize Nigerian seed entrepreneurs' operations, face-to-face interviews were organized with the selected entrepreneurs. A methodology involving key performance indicators grouped into success factors was developed to assign scores to seed entrepreneurs for each success factor. Annex 3 provides details on the scoring method using key performance indicators grouped into success factors. To maintain confidentiality, the actual scores are not presented in this report. Instead, a color-coding system has been employed to visually represent the evaluated performance of seed entrepreneurs for each success factor. Table 4 presents the performance assessment of seed entrepreneurs involved in seed production and commercialisation while Table 5 presents the performance assessment of seed traders. In the following sections, data from the key performance indicators is presented and completed by data obtained from faceto-face interviews with the seed entrepreneurs.

A custom-made confidential report has been prepared for each individual entrepreneur, detailing a characterization of their respective businesses based on the information collected through an online survey and a face-to-face interview (see Annex 1 for the methodology). The report features a tailored seed business vision sheet and presents a comparative analysis of each entrepreneur's operations relative to their peers'

average. Eventually, general recommendations are provided to support the entrepreneurs in improving their overall business operations. International seed companies are encouraged to reach out to the respective seed entrepreneur for this report, as it offers valuable insights into their business operations.

It is essential to acknowledge that the resources and capacities allocated for this study did not allow the CSP team to conduct a thorough and accurate assessment of the performance of Nigerian seed entrepreneurs. This study, according to the methodology used, therefore proposes a characterization of seed entrepreneurs and their operations rather than an assessment of their performance. Therefore, it is essential that readers exercise caution and understanding when interpreting the findings presented in this report. It would be useful to consult additional data, engage in conversations with other key stakeholders in the seed sector and also directly with seed entrepreneurs to obtain a more complete picture of their operations and capacities.

2.3.1 Seed operations

On average, seed traders present overall lower revenues from seed sales due to a smaller market for seed of vegetable crops, including the sales of relatively expensive seed of hybrid varieties for smallholder farmers, which use is not yet rooted in farmers' mindset. Seed entrepreneurs involved in seed production and commercialisation mainly concentrate on cereals and legumes, which are significant for food security and offer larger market opportunities, as well as being targeted by seed tenders. Overall, considering the two categories of seed entrepreneurs, only two entrepreneurs did not produce or commercialize hybrid varieties. If seed traders focused on one crop group, they are often involved in the commercialisation of other agroinputs and the provision of services representing a large share of their revenues. 20 out 22 entrepreneurs have seed sales accounting for over half of their total revenue. Only two seed traders, also commercializing other agro-inputs, presented seed sales that contributed to less than half of their total revenues.

Seed entrepreneurs are attentive to seed quality assurance involving inspectors from the National Agricultural Seed Council (NASC) at different stages from production to processing, packaging and repackaging at distributors and by adopting good practices for inventory management. Six entrepreneurs do not have the SEEDCODEX (seed authentication tag for tracking and tracing seed source), although some of them were in the process of obtaining it from NASC.

The payment method by customers (farmers and distributors) vary among the seed entrepreneurs from "payment before delivery" to credit with sometimes a mix of methods depending on the capacity of the customers. All seed entrepreneurs had difficulties in evaluating their market due to the limited amount of information generated in the seed sector as well as the unstructured nature of the market.

2.3.2 Structured commercial orientation

Seed entrepreneurs typically conduct market studies, but their methods for forecasting seed sales vary. Some entrepreneurs forecast for the upcoming season (six entrepreneurs), others for the next year (nine entrepreneurs), and some for a three to five-year period (seven entrepreneurs). Limited information generation and sharing within the seed sector leads entrepreneurs to concentrate on their own intelligence, focusing on preferred varieties in their portfolio and in the targeted markets. Consequently, seed demand estimation is usually based on an estimated percentage increase in production compared to previous seasons.

Seed entrepreneurs engaged in production and commercialization face a range of challenges that affect their production activities. Several factors impede the consistent adherence to seed production plans. These factors include security concerns, limited access to both internal and external financing, climate change, and weather events such as droughts or floods. Additionally, seed entrepreneurs face challenges when working with outgrowers, who may sometimes lack the technical skills necessary for producing quality seed. Outgrowers are also regularly accused of "side-selling" a portion of their production to other buyers in the agricultural sector, such as processors or other seed entrepreneurs, due to the higher prices offered. This

issue persists even when contract agreements have been signed. Furthermore, seed entrepreneurs may encounter cash flow difficulties when it comes to buying back seed from outgrowers at the end of the season.

Most of the seed entrepreneurs interviewed sell their seed in different types of packages, from large volumes for their distributors or reserved for institutional markets to small volumes adapted to smallholder farmers' financial capacities (less than or equal to 2,000 g for cereals or 10 g for vegetables). Nonetheless, product and price segmentation is not always clear and more particularly for seed entrepreneurs involved in seed production and commercialisation. This is partly due to the limited portfolio of varieties sold, farmers' limited awareness of available varieties, the risks associated with poor seed sales fed by high seed recycling rate and a limited customer segmentation. Seed pricing is mainly based on aligning with competitors' prices for similar products and on the costs related to seed production and logistics, to which is generally added a profit margin ranging from 20 to 50% of the associated costs. Discounts are given based on two primary factors: first, the volume of purchases, larger buyers are entitled to larger discounts, and second, for marketing purposes, to reward the loyalty of existing customers or attract new ones. The practice of offering discounts is prevalent among entrepreneurs.

The share of seed tenders in total revenue from seed sales is above 50% for nine of the interviewed seed entrepreneurs (above 50% for six entrepreneurs and between 25% and 50% for three entrepreneurs). These seed tenders mostly concern food security crops including cereals (maize and rice) and legumes (soybean, cowpea) and so the seed entrepreneurs involved in production and commercialisation.

2.3.3 Transparent and reliable information exchange with customers

Practices for transparent and reliable information exchange with customers is considered fair. Most of the seed entrepreneurs have organized in 2023 at least five demonstration plots for variety introduction and promotion. All seed entrepreneurs participate in seed fairs and engage in customers relationship activities such as providing technical services, communication ensuring satisfaction with the sold products and conducting marketing actions. It is important to note the growing importance of social medias for promotion and sales of seed. A disparity exists in the investments and efforts directed towards seed promotion among seed entrepreneurs, without a clear division between the two seed entrepreneurs categories. However, some seed traders have received support from their international seed company partner, whereas others, particularly those involved in seed production and commercialization, have invested fewer resources in marketing and promotional activities up until now. While seed entrepreneurs maintain that greater involvement from the Nigerian government is essential for establishing a well-organized and thriving seed market, it is crucial for these entrepreneurs to prioritize investing in their promotional strategies. This will not only contribute to their business growth but also help create a more robust seed market, even in the case of limited government intervention.

If most of the seed entrepreneurs handle customers' complaints formally or informally, only eight have in place standard operation protocols (SOP) from whom only six have documented SOP and inventory complaints.

2.3.4 Strategically connected

Half of the seed entrepreneurs faced challenges accessing quality early generation seed (EGS) of improved, preferred and adapted varieties in the required quantities. To secure their EGS procurement, some entrepreneurs have formalized relationships with public EGS producers and suppliers (e.g. Institute for Agricultural Research, International Institute of Tropical Agriculture) through contractual agreements.

If some seed entrepreneurs are active in many states of the country, six market seed in three or four states and one in less than two states of Nigeria. Half of the seed entrepreneurs have experience in seed imports. However, unfavorable policies and difficulties in accessing FOREX discourage businesses to engage more in seed import and export. Nevertheless, they wish to benefit from more business-to-business opportunities. Seed traders are better connected with international seed companies, although this conclusion is biased

considering the number of selected seed traders and entrepreneurs involved in seed production and commercialization.

2.3.5 Technically well-equipped

The majority of seed entrepreneurs demonstrate satisfactory performance in the area of technical expertise, as they offer technical support to client farmers and provide training opportunities for their staff. However, most entrepreneurs acknowledge the need for additional capacity building initiatives in seed production, processing, and business management. To access adequate services, entrepreneurs often depend on programs, development agencies, and NGOs.

Generally, seed entrepreneurs miss proper equipment for seed production and storage and have difficulties in accessing qualified labor and professional outgrowers for seed production. They often cite these challenges as factors that contribute to the financial risks associated with their businesses, as well as the constraints they face in expanding their operations. Access to proper equipment was often associated with a difficult access to adequate sources of finance.

Eventually, poor infrastructures represent a challenge for seed entrepreneurs as seed and other planting materials get damaged through transportation, particularly tubers. Potato production and commercialisation is often seen as a difficult business as seed entrepreneurs do not have access to adequate production and storage facilities.

2.3.6 Responsible financial management

Although the methodology indicates that seed businesses have responsible financial management, it is important to consider seed entrepreneurs' reports of difficulties in accessing appropriate financing, cash flow challenges, and the inherent risks associated with seed business. These factors impact their overall financial sustainability. Only four seed entrepreneurs are not audited by a registered accounting firm. A majority was able to present the most important documents for accounting management (cash flow, income statement and balance sheet) and works with clear yearly budgets. Financial equity among these businesses is strong, with only two having equity below 67%.

The confidentiality of such information and the limited capacity of the team to precisely assess the financial viability of a business did not allow to openly conclude on the financial health of these entrepreneurs. Instead, this success factor strives to highlight the main practices around financial management.

2.3.7 Long-term vision

Only a small number of seed entrepreneurs have formed long-term partnerships within the agricultural sector. However, the quality of information gathered did not allow to clearly map out the collaborations of seed entrepreneurs in the agricultural market.

While many seed entrepreneurs claim to have developed business plans, few were able to present them during interviews. It is assumed that few entrepreneurs have well-defined visions and goals, likely due to a combination of factors including insufficient seed business management expertise, but also many external factors affecting activities throughout the seed value chain. This includes, based on the seed entrepreneurs' testimonies such as limited information generation and sharing in the seed sector, market distortions, enforcement of policies failing to address the needs of the industry, inconsistency in policies driving the seed sector, poor monitoring and evaluation of policies, high costs associated with seed business activities, and weak government support.

2.3.8 Conclusion on the overall performance of seed entrepreneurs

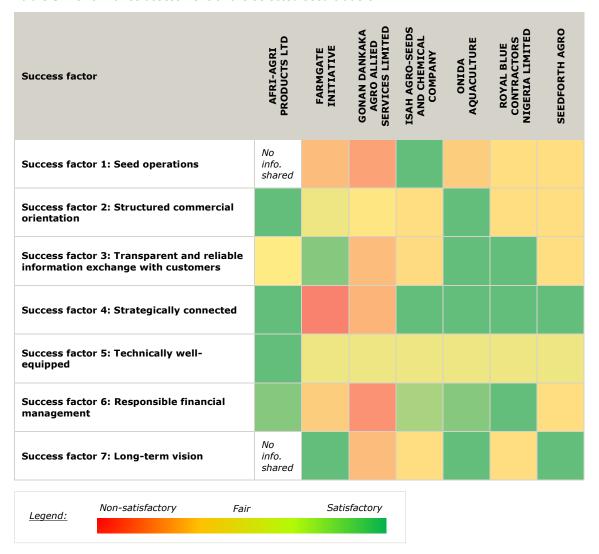
Looking at tables 4 and 5, so based on the methodology used, seed entrepreneurs present fair to satisfactory performance for most success factors. This must be nuanced with our selection process aiming to identify the most compatible partners and so selecting the most appropriate candidates for this study and on the reliance on the honesty of the seed entrepreneurs to provide truthful information.

For five out of seven success factors, seed traders scored higher than seed entrepreneurs involved in seed production, who, on average, only scored higher in the success factor 1) Seed operations. This is mostly explained by lower revenues from seed sales due to a smaller market for seed of vegetable crops, including the sales of relatively expensive seed of hybrid varieties for smallholder farmers. Seed traders scored particularly higher than seed entrepreneurs involved in production for the success factors 2) Structured commercial orientation, 4) Strategically connected and 7) Long-term vision. This explained by the fact that seed traders present a more clear product and price segmentation and seed packages adapted to smallholder farmers (success factor 2) Structured commercial orientation), their relative better connection with international seed companies (success factor 4) Strategically connected) and their engagement in long-term partnerships with private sector businesses in the broader agricultural sector (success factor 7) Long-term vision). For all other success factors, no significant difference was observed between the two categories of seed entrepreneurs.

Table 4. Performance assessment of the selected seed entrepreneurs involved in seed production and commercialisation

Success factor	ABC HIGHLAND SEED NIGERIA LIMITED	BOOM SEEDS LIMITED	DA ALLGREEN SEEDS NIGERIA LIMITED	JORDAN AGRO SERVICES LIMITED	JOY SEEDS LIMITED	LIFTED AGRO LIMITED	MASROTUN GLOBAL AGRO ALLIED LIMITED	NAGARI SEEDS NIGERIA LIMITED	ROMAREY VENTURES NIGERIA LIMITED	SALAMUN KMHRM SEEDS	SAMUDA	SAVANNAH SEEDS AND LIVESTOCK LIMITED	TECNI SEEDS	THE SEED PROJECT CO LIMITED	TUKUNYAR GWARI SEEDS NIGERIA LIMITED	VALUE SEEDS LIMITED
Success factor 1: Seed operations																
Success factor 2: Structured commercial orientation																
Success factor 3: Transparent and reliable information exchange with customers																
Success factor 4: Strategically connected																
Success factor 5: Technically well- equipped																
Success factor 6: Responsible financial management																
Success factor 7: Long-term vision																
Non-satisfactory Fair <u>Legend:</u>		Satis	sfactory													

Table 5. Performance assessment of the selected seed traders



3 Challenges faced by seed entrepreneurs and potential actions to tackle them

Seed entrepreneurs were asked during interviews to provide the main challenges they were facing in their business. The following section gathers the mentioned challenges according to the six functions of the seed sector transformation mentioned in the National Seed Roadmap (NSRM). For each challenge, some actions to be taken to tackle the challenge, a catalyst actor who is best positioned to pull and facilitate the change process, a priority and the related Strategic Innovation Pathway (SIP) from the NSRM have been listed. As some of the challenges mentioned by the interviewed seed entrepreneurs are similar to some listed in the NSRM, the actions are not listed again but a reference to the SIP is made. Based on the frequency of the reported challenges and required support by seed entrepreneurs during the face-to-face interview, a priority level has been established.

3.1 Service provision

#	Challenge	Actions	Catalyst actor	Priority	SIP
1	Development of varieties of improved, preferred and adapted to climate change	See detailed strategic innovation pathway in NSRM SIP-SP2	University of Queensland through BPAT with regional consultants and/or partnership with CGIAR Centers in Nigeria that have gone through a BPAT process; consulting firm or knowledge organization with insights in public financing.		SP2
Lege	end Medium priority level High priority level				

3.2 Seed production

#	Challenge	Actions	Catalyst actor	Priority	SIP
2	Access to and affordability of quality inputs and equipment	Identify the equipment, infrastructures, technologies and inputs required for improving processes of seed production and processing.	Seed entrepreneurs		N/A
		Promote agricultural fairs where agro-dealers selling the identified equipment, technologies and inputs can introduce their product portfolio to seed entrepreneurs.	SEEDAN		
		Partner with projects, Non- Governmental Organizations (NGO), financial institutions to finance the required equipment, technologies and inputs.	SEEDAN		
		Identify improved models (finance, distribution) to facilitate the access and affordability of the required equipment, technologies and inputs to seed entrepreneurs.	SEEDAN		
3	Availability of EGS of adapted varieties to agroclimatic conditions in required quantities	See detailed strategic innovation pathway in NSRM SIP-PS1	Consulting firm with insights into seed sector development, capabilities in the design and facilitation of public-private partnerships and business development, and insights into the structure of public finance in close collaboration with NARIs, the NASC, seed companies and other seed entrepreneurs.		PS1
4	Capacity of seed entrepreneurs and outgrowers in seed production and processing including on the adaptation to climate change	See detailed strategic innovation pathway in NSRM SIP-PS3	Consulting firm or services provider with strong profile in business development and the seed sector.		PS3
5	Limited access to modern infrastructure for seed transportation and storage leading to seed damages and losses	See detailed strategic innovation pathway in NSRM SIP-PS2	Consulting company or NGO with knowledge of the seed sector, including a strong business profile, with insights into financing an upgrade of the infrastructural capacity of seed entrepreneurs, and insights into the world of agricultural finance.		PS2

Medium priority level High priority level

3.3 Market development

#	Challenge	Actions	Catalyst actor	Priority	SIP
6	Capacity of seed entrepreneurs on seed marketing and promotion	See detailed strategic innovation pathway in NSRM SIP-MD3	NGO/consulting firm with expertise on seed marketing and promotion		MD3
7	Access to a large market of farmers interested in quality seed of improved varieties	See detailed strategic innovation pathway in NSRM SIP-MD1	NAERLS, based at Ahmadu Bello University (ABU), in collaboration with an NGO or consulting firm with strong communication and institutional development skills		MD1
8	Quality of seed on the market, including presence of counterfeit seed	See detailed strategic innovation pathway in NSRM SIP-MD2	Consultancy firm with insights into seed business, seed laws and regulations and Information and Communication Technologies, in close collaboration with NASC and SEEDAN		MD2
9	Unfair practices of seed sector stakeholders leading to poor trust in the sector (seed pricing, unfair competition from NARIs, side-selling by outgrowers, seed poaching, etc.)	See detailed strategic innovation pathway in NSRM SIP-MD2	Consultancy firm with insights into seed business, seed laws and regulations and Information and Communication Technologies, in close collaboration with NASC and SEEDAN		MD2
10	Subsidy schemes offered to farmers to obtain seeds through institutional markets causing market distortion and harming the sustainability of seed businesses	See detailed strategic innovation pathway in NSRM SIP-MD6	Independent consulting firm or service provider with a strong profile in business development, risk assessment and seed sector development, operating in close collaboration with the Federal Inputs Support Service, agro-inputs and coordination agency such as the National Agricultural Growth Scheme and AgroPocket, NASC and SEEDAN, the last two could host the service provision unit		MD6
11	Limited opportunities for business-to- business with Nigerian and international seed companies	See detailed strategic innovation pathway in NSRM SIP-MD5	Consulting company or NGO with knowledge of the seed sector including a strong business profile.		MD5

Medium priority level High priority level

3.4 Regulation and management

#	Challenge	Actions	Catalyst actor	Priority	SIP
12	Inadequate policies to create an enabling environment for thriving seed businesses all along the seed value chain and its activities	Engage in policy advocacy and dialogue with policymakers to emphasize the importance of a supportive policy environment.	SEEDAN, NASC		N/A
		Conduct assessments of existing policies to identify gaps and opportunities for improvement.	SEEDAN, NASC		
	(variety release, seed production, seed processing, seed marketing, seed quality assurance, seed import and export)	Develop evidence-based policy recommendations in collaboration with relevant stakeholders, including seed businesses, research institutions, and government agencies.	SEEDAN, NASC		
		Foster public-private partnerships to enhance policy implementation and ensure alignment with industry needs.	SEEDAN, NASC		
		Monitor the impact of new policies and regulations on the seed sector, and make necessary adjustments to maximize their effectiveness.	SEEDAN, NASC		
13	High price and difficult processes for seed import and export	See detailed strategic innovation pathway in NSRM SIP-RM3 and SIP-RM4	Consulting firm with a profile in the seed sector, regulations and information technology solutions		RM3 RM4
14	Difficult access to FOREX	Engage in policy advocacy to promote favourable foreign exchange policies. Establish strategic partnerships with financial institutions for	Federal Ministry of Finance		RM3
		improved access to FOREX. Explore alternative financing options to reduce dependency on FOREX.			
Logo					

Legend Medium priority level High priority level

3.5 Revenue generation and investment

#	Challenge	Actions	Catalyst actor	Priority	SIP
15	Difficult access to appropriate financial services and products and poor linkages to financial institutions	See detailed strategic innovation pathway in NSRM SIP-RR2	Consulting firm with knowledge of both the seed and financial sectors that works closely with concerned stakeholders, including the Central Bank of Nigeria and/or the Federal Ministry of Finance in partnership with local financial service providers in the landscape.		RR2
Lege	end				
	Medium priority level				
	High priority level				

Methodology of the Nigerian seed Annex 1 entrepreneurs assessment

1. Phases and steps of the assessment

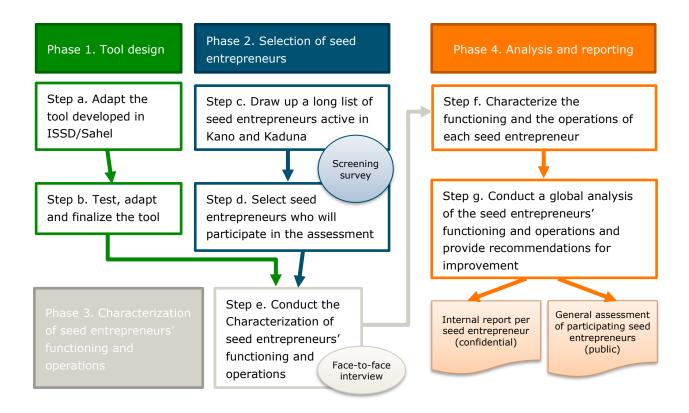


Figure 2. Phases and steps of the assessment

2. Details of each step

2.1 Phase 1. Tool design

Step a. Adapt the tool developed in ISSD/Sahel

A similar assignment was conducted for the ISSD/Sahel project (Mali and Niger seed entrepreneur assessment) in which Wageningen Centre for Development Innovation (WCDI) was involved. The ISSSD/Sahel assessment team created a seed entrepreneur assessment tool by first compiling existing agrobusiness and entrepreneur evaluation tools. The team also consulted Dutch seed companies to identify essential parameters they consider when seeking new partnerships, incorporating these insights into the final tool.

The ISSD/Sahel data collection methodology consisted of two primary phases and formats. Initially, a screening form was distributed to a long list of entrepreneurs, gathering crucial information on the nature of their business, seed operations, key partners, and marketing and distribution networks. This data was used to make the final selection of seed entrepreneurs. Subsequently, face-to-face interviews were conducted

using the key information collected from the screening form as a basis, resulting in the main findings of the assessment and forming the primary source of evaluation.

Drawing from the experiences in the ISSD/Sahel project, the tool used in this assignment is adapted to the Nigerian context. The ISSD/Sahel tool was built on the Business Model Canvas (BMC) framework, initially utilized for providing an overview of the seed entrepreneur's key operations. This framework has been adapted to the one developed by MacRobert et al.'s (2018), now relying on the development of a seed business vision with the adaptation of the BMC to seed businesses.

The definition of a seed business vision per seed entrepreneur will focus on detailing:

- Three long-term objectives constituting the vision of the business with a horizon of 5 to 10 years
- The seed business' ethical virtues or values that characterize the business in the environment in which it evolves
- The business' vitals, meaning cross-cutting activities in which the business is performant
- Five bold steps the business must set in motion to reach the objectives
- The challenges faced today or tomorrow that may hamper the activities of the business and may be a break to reaching the vision
- The external support required by the business to reach the objectives.

An example of the seed business vision is given below (Figure 3):



Source: MacRobert et al., 2018

Figure 3. Example of a seed business vision sheet

After detailing the seed business vision, the overarching structure of the seed BMC, the objective is to dive into the 11 elements of the seed BMC (Figure 4).

B. VIRTUES	A. VISION	C. VITALS
Value proposition	Sales target	Customer segments
Value creation		Customer relations
Value assurance	Marketing channels	Key partners
Cost structure	Revenue streams	Key resources

Source: MacRobert et al., 2018

Elements of the seed business model canvas Figure 4.

In addition to the descriptive frameworks of the seed business vision and BMC, a scoring method is used to characterize seed entrepreneurs' functioning and operations according to key performance indicators combined in success factors. Since key performance indicators are quantifiable, they enable comparisons. Consequently, success factors and key performance indicators form the core of comparing seed entrepreneurs' functioning and operations, ultimately serving as a guide for identifying compatible entrepreneurs to establish partnerships between Nigerian seed entrepreneurs and Dutch seed companies. It is important to notice that despite the vocabulary of "performance" used in these paragraphs, this study aims to characterize seed entrepreneurs' functioning and operations, rather than evaluating their performance. Various factors explain this nuance: the confidentiality of some pieces of information, the limited capacity of the CSP team to evaluate precisely seed entrepreneurs' performance, the reliance on the honesty of seed entrepreneurs on the information shared.

Two distinct data collection phases and methods have been employed to gather the necessary information. Initially, a survey was distributed to all interested seed entrepreneurs participating in the assessment. The survey is utilized in the seed entrepreneur evaluation process, creating an outline of the seed BMC and scoring the KPIs. In addition to the survey, face-to-face interviews (approximately 1.5 hours) were conducted with each seed entrepreneur in Nigeria, with a focus on developing the seed business vision and elaborating on the seed BMC. Table 6 details the specific applications of various data collection methods for each analytical framework used in this tool.

Matrix of data collection methods and the information used per analytical framework for the performance assessment of the seed entrepreneurs

Analytical frameworks	Data collection methods			
	Survey	Face-to-face interview		
Seed business vision		X		
Seed BMC	X	X		
Success factors comparison	X	X		

Step b. Test, adapt and finalize the tool

Following the adaptations outlined in Step a, the tool underwent testing in November 2023 with the CSP team and selected seed companies. Feedback was gathered from participants, the evaluation team (comprised of SEEDAN, Sahel Consulting, and WCDI), and the three participating seed entrepreneurs. The tool was finalized after incorporating necessary modifications based on this feedback. This testing round was also an opportunity for enumerators to gain experience with the tool and the face-to-face interview.

2.2 Phase 2. Selection of seed entrepreneurs

Step c. Draw up a long list of seed entrepreneurs in Kano and Kaduna

The team created a long list of seed entrepreneurs, starting with the existing database of the CSP, the National Agricultural Seed Council's (NASC) and SEEDAN databases, and the list created per state on the Nigeria seed portal.

Step d. Select seed entrepreneurs who will participate in the assessment

Within the Seed Company Marketing and Promotion of CSP, some seed entrepreneurs are supported for the establishment of demonstration plots. Propositions were made to these 14 companies to be included in the assessment.

The focus for seed entrepreneurs selection was geared towards B2B. Criteria were developed to help the selection of the most ready and successful entrepreneurs to engage in partnerships with Dutch seed companies. As more independent stakeholders, Sahel Consulting and WCDI conducted this selection which was submitted to SEEDAN for confirmation.

Two sets of criteria have been established to conduct the selection. First of all, a list of eligibility criteria (Table 7), including some boundaries set in the scope of assessment (see paragraph 2.3), initiated the process by pre-selecting only the entrepreneurs matching these criteria. After this process, other criteria together with a scoring methodology allowed for the final selection (Table 8).

Table 7. List of eligibility criteria

Theme	Criteria	Rationale
Answer to the screening survey	1. Only entrepreneurs answering the screening survey will be eligible.	The survey allows for standardized analysis and evaluation of entrepreneurs. This also demonstrates the interest of seed entrepreneurs in participating in the exercise.
Legal registration	Entrepreneurs must be registered at SEEDAN and be accredited at NASC.	Seed entrepreneurs must be legally registered because companies are subject to controls and follow the national seed regulatory framework.
Nature of business	Seed traders and entrepreneurs involved in both production and sales are considered.	This tool focuses on seed entrepreneurs dealing with B2B.
Involved in seed sales and distribution	4. Entrepreneurs must be involved in seed sales and distribution.	Increased access to quality seed is an objective of CSP. Thus, entrepreneurs involved in the sale and distribution of seed are considered.
Sales and financial records	5. Entrepreneurs must maintain sales and financial records.	Seed sales and financial records are the foundation of professional and successful seed businesses.
Region of operation	6. Must work in Kano or Kaduna	The seed entrepreneur must work in Kano or Kaduna state.

Table 8. Scoring methodology for the final selection of seed entrepreneurs participating in the assessment

#	Topic	Rationale	Scoring
1	Region of operation	Reaching all parts of the country with distribution networks and promotional activities is necessary for the adoption of quality seed of improved varieties.	10 points are granted to entrepreneurs working in four or more states (including Kano and Kaduna), 5 points if working in three or less states.
2	Seed turnover	A classification is made from the largest to the smallest seed operation as Dutch seed companies wish to work with larger actors.	5 points are granted to half of the largest seed entrepreneurs who have answered the survey.
3	Hybrid varieties	Many international seed companies, working particularly with vegetables, sell hybrid varieties. Seed entrepreneurs already working with hybrid varieties are therefore of interest to international seed companies as they are already exposed to the specificity of marketing this type of varieties.	10 points are granted if the entrepreneur produces or sells seeds of hybrid varieties.
4	Import of seed	It is important for Dutch seed companies to create partnerships with seed entrepreneurs who have experience in importing seeds from abroad. Knowing the seed import process is a positive point a it can be lengthy and so cost money to international companies.	10 points are granted to a seed entrepreneur who has experience with import of seeds from abroad.
5	Distribution network	Particular attention is given to entrepreneurs with the largest seed distribution network.	10 points are granted to the first half of seed entrepreneurs with the largest network of agro-dealers/distributors
6	Demonstration plots	Establishing demonstration plots to showcase the potential of newly introduced and improved varieties is essential to raise awareness in farmers' communities of the existence and the agronomic added-value to use improved varieties.	10 points are granted to seed entrepreneurs who have established at least five demonstration plots in 2023.

7	Other promotion activities	The development of other promotional activities on various format is essential for raising awareness among farmer communities and to create demand for quality seed of improved varieties	5 points are granted to seed entrepreneurs if they promote their seed on social media, 5 points if they promote their seed on TV, radio or YouTube and 5 points if they participate in seed fairs.
8	Training of farmers	Alongside the sales of quality seed of improved varieties, seed entrepreneurs can also deliver technical support or training to clients about GAP to explore the potential of their seeds. It is important for B2B linkages that seed entrepreneurs have this technical background to demonstrate to clients through training or on demonstration plots the best practices to adopt when using specific seed.	10 points are granted to seed entrepreneurs delivering technical support (technical advice), extension materials (crop and technical guides in local language) or training to clients.
9	Packages	Delivering seed in small packages is essential reach smallholder farmers that they have the ability firstly to afford these seeds but also to try them out.	10 points are granted to seed entrepreneurs if they do packages of 25g or less for vegetables and 2kg or less for cereals and legumes.
10	Financial accounting	Strong financial accounting and statements are essential for a seed entrepreneur to understand the business health and to seek for investment.	5 points are granted if a seed entrepreneur has developed a cash flow statement, 5 points for a balance sheet, 5 points for an income statement in the last 3 years.
11	Management accounting	Establishing an annual budget is an essential part of financial management to run a business and so to make informed decision-making.	10 points are granted to a seed entrepreneur who is developing annual budget in the last 3 years.
12	Planning, projections and seed forecasting	Forecasting is an essential ability that international seed companies are seeking in a national partner. Forecasting demonstrates a forward-looking ability and so capacity for a seed entrepreneur to provide correct information to seed companies on their needs in the coming years.	5 points are granted to a seed entrepreneur who has developed a seed production planning and sales forecast for the next year and 10 points for the period of 3 to 5 years ahead.
13	Partnerships	Long-term partnerships are a sign of commitment and loyalty from seed entrepreneurs and so their ability also to collaborate in a professional fashion with international seed companies.	10 points are granted to seed entrepreneurs with partnerships of 3 years or more.
14	Working with vegetable or potato	Dutch seed companies focus on seed of vegetable crops and potato tubers. Experience with these crops is perceived as an added-value for seed entrepreneurs to enter in partnerships with international seed companies	10 points are granted to seed entrepreneurs working with potato or vegetables and 15 if they are working with both.
15	Sufficient financial capacity for partnership with international seed companies	To enter in partnerships with international seed companies require a strong financial basis. An upfront payment of 30 million Nairas is considered as minimal to allow for effective collaboration (import of seeds).	5 points are granted to seed entrepreneurs who can handle a 30 million Nairas upfront payment.
16	Availability of an up- to-date business plan	The development and update of a business plan, including clear vision and goals, is essential to drive the development of a business.	5 points are granted to seed entrepreneurs who have developed and updated a business plan
Tota	al		160 points

2.3 Phase 3. Characterization of seed entrepreneurs' functioning and operations

Step e. Conduct the characterization of seed entrepreneurs' functioning and operations

The characterization of seed entrepreneurs' functioning and operations is carried out using two distinct data collection methods and periods. Initially, a screening survey distributed to seed entrepreneurs facilitating the selection gathers essential information used to create a preliminary sketch of their BMC and score seed entrepreneurs' functioning and operations according to the key performance indicators.

Seed entrepreneurs are invited to take part in a face-to-face interview led by enumerators previously trained to this exercise. The sketched BMC is used as a basis for the interview which will go more in detail in understanding the entrepreneur's business and functioning.

The face-to-face interview is suggested to be of time length of a maximum of two hours, divided into two main activities:

- 1. Developing the seed business vision (45 minutes)
- 2. Uncover seed entrepreneur's functioning and performance (1 hour).

2.4 Phase 4. Analysis and reporting

Step f. Characterize the functioning and operations of each entrepreneurs

A confidential report is generated for each seed entrepreneur, providing a comprehensive analysis of their functioning and operations in which is compiled:

- The seed business vision
- The seed BMC
- The success factors and key performance indicators scoring
- Recommendations for improvements.

Step q. Conduct a general analysis of seed entrepreneurs' functioning and operations and provide recommendations for improvement

Utilizing the individual seed entrepreneur assessment reports, a public report is created to compile general information and key insights from the participating entrepreneurs. This document act as a foundation for B2B connections between Dutch and Nigerian seed entrepreneurs. While the seed business vision and seed BMC of each entrepreneur is not publicly disclosed, international seed companies may request this information directly from the assessed Nigerian seed entrepreneurs. The public report primarily focuses on sharing a comparison of success factors scoring among all seed entrepreneurs. Additionally, the assessment benefits other stakeholders in the sector by raising awareness of key challenges and bottlenecks within the industry. Links are created on topics addressed in the NSRM.

Annex 2 List of Nigerian seed entrepreneurs who responded to the screening survey

Entrepreneur involved in seed production and trade

#	Name
1	No name given
2	Abc Highlands Seeds Nig Ltd
3	Agric Greenery Ltd
4	Boom Seeds Nigeria Limited
5	Da-Allgreen Seeds Limited
6	De-Mothers And Care Nig Ltd
7	Empire Seed Production Amd Agroallied Nigeria Limited
8	Farm Best Agro
9	Ingachi Global Processing
10	Jordan Agro Services Ltd
11	Joy Seeds Limited
12	Kab Agro Limited
13	Lifted Agro Ltd
14	Mashura Investment Ltd
15	Nabaichi Seed Ltd
16	Nagari Seed Nig Ltd Zaria
17	Nuragitta Crop And Animal Production
18	Romarey Ventures Nigeria Limited
19	Sabanah Seed Company
20	Salamun Kmrhm Seed
21	Samco Seeds And Agrotek Limited
22	Samuda Communications Ltd
23	Savannah Seeds And Livestock Ltd
24	Tecni Seeds Limited
25	The Seed Project Co Ltd
26	Tukunyan Gwari Seed Nig Ltd
27	Value Seeds Limited

Seed traders

#	Name
1	Afri Agri Products Ltd.
2	Agrodawaki Seeds.
3	Dawakifarm Africa
4	Farmgate Initiative
5	Gold Sprout Agritek
6	Gonan Dan Kaka Agro Allied Services Ltd
7	Isah Agro
8	Jimsan Smart Agri Limited
9	Mbiddy Global Business
10	Nafarm Agro-Allied Integrated Limited
11	Onida
12	Royal Blue Contractors Nig Ltd
13	Seedforth Agro

Annex 3 Methodology of the scoring and the analysis of the key performance indicators

KPI	Defenses	Watakia	Scoring reference		
KPI	Reference	Weighing	1	3	5
Total seed sales in 2023 (NGN)	The turnover generated by the sale of seed is indicative of the efficiency of the commercial operation.	0.1	From 0 to 49M	Between 50 and 99M	More than 100M
Focused crop groups portfolio	A wide portfolio of crops is associated with crop choice often driven by short-term gains, depending on institutional markets, rather than mid- or long-term business development objectives with a limited crop portfolio enabling professionalization of seed entrepreneurs.	0.2	3 or more crop groups		1 or 2 crop groups
Production/sales of hybrid varieties	Product differentiation strengthens the (future) viability of the company.	0.2	No		Yes
SEEDCODEX	The SEEDCODEX is an electronic seed authentication tag to provide farmers with quality assurance through tracking, traceability and provision of quality seed.	0.2	No		Yes
Share of revenues generated from seed sales compared to total revenues	If the majority of total revenues is generated from seed sales, it shows their professionalism in the seed business and industry.	0.3	From 0 to 50%	From 50 to 75%	From 75 to 100%
Success factor 1: Seed op	erations	1			
Sales of packages with adapted volumes to smallholder farmers	The sale of packages of small volumes shows the commitment to make quality seed accessible to all farmers.	0.2	No		Yes
Clear product and price segmentation	A clear seed pricing strategy is developed, with customer segmented strategies.	0.1	No	Mostly based on bulk purchases	Adapted to the different types of clients
Share of seed tenders in total revenue from seed sales	Excessive reliance on seed tenders can limit a seed business's flexibility, restrain innovation, and create dependency, hindering long-term growth and sustainability.	0.2	From 100 to 50%	From 50% to 25%	From 25 to 0%
Market study	Conducting regular market studies is crucial to understand customers' needs and requirements.	0.1	No		Yes

Development of annual production/sales plans	Members/employees feel a strong sense of ownership when work plans are developed and communicated. It is an indicator of planning and therefore of control of the activities undertaken.	0.2	No		Yes
Seed sales forecasting	Forecasting is a necessary practice to synchronize seed availability with suppliers/producers.	0.2	No or next season	Next year	For the next 3 to 5 years
Success factor 2: Structur	Success factor 2: Structured commercial orientation				
Variety introduction through demonstration plots	The establishment of demonstration plots is essential for introducing new varieties to client farmers.	0.2	No	Below 5 demonstration plots per year	Equal or more than 5 demonstration plots per year
Truthfully labeled seed packages	By providing accurate information, the company fosters trust and credibility with customers while guaranteeing quality.	0.2	No		Yes
Promotion of seed through different marketing channels	Marketing and promotion are vital for seed businesses to create brand awareness, introduce varieties, communicate product information, and strengthen customer relationships.	0.05	0 or 1 channel used	2 of the channels	3 channels used: TV, radio, social media
Participation in seed fairs	Participation in seed fairs are vital for seed businesses to create brand awareness, introduce varieties, communicate product information, and strengthen customer relationships.	0.05	No		Yes
Handle of customers' complaints	Feedback and complaint handling mechanisms are essential to ensure transparency and impartiality in the relationship between a seed entrepreneur and his clients.	0.2	No		Yes
Standard Operations Protocols	Documented standard operating protocols enable seed businesses to systematically track, address, and learn from customer complaints, ultimately fostering continuous improvement in product quality and customer satisfaction.	0.2	No	Yes but not documented	Yes
Customer relationship	Maintaining a good customer relationship guaranteeing their satisfaction of a product sold, sharing marketing initiatives and offering services allow to win customers' loyalty and so to increase the pool of clients.	0.1	1 out 3	2 out 3	Satisfaction, marketing, service
Success factor 3: Transpa	rent and reliable information exchange with customers	1			
Access to early generation seed/imported seed	Only for seed entrepreneurs involved in seed production and commercialization: Early generation seed are the cornerstone of agricultural innovation, sustainability and food security. Their access is essential for the production of certified seed. Only for seed traders: The access to imported seed in quantities required is ensured.	0.3	No		Correct
Activity in a number of states	The extent of a business's activity across various states is a key element of its distribution network, leading to greater market shares in seed sales.	0.3	2 or less	Between 3 and 4	More than 4
Experience in seed import	Experience in seed import is important when working with international seed companies.	0.4	No		Yes
Success factor 4: Strategi	ically connected	1			

Service provision to client farmers	The provision of services, including training in good agricultural practices, in addition to the introduction of new varieties to client farmers, generally helps to speed up the process and increase the rate of adoption of quality seed of improved varieties.	0.4	No		Yes
Trained staff	Training of company employees or subcontracted producers is important to guarantee the production of quality seed and efficient business management.	0.4	No	Needs improvement	Satisfying
Equipment and infrastructure	The seed entrepreneur has the necessary production and processing equipment (land area, agricultural machinery, packaging equipment, vehicles for transporting seed and moving them), as well as the infrastructure (stores, points of sale, kiosks, production building, storage) necessary for the proper functioning of a seed entrepreneur.	0.2	No	Needs improvement	Satisfying
Success factor 5: Technic	ally well-equipped	1			
Methods of financing operations	Financial equity, i.e. the percentage of mobilization of own funds, for the financing of all activities (payment of salaries, purchase of inputs, investments) is considered a sign of financial viability in the Sahelian context. If financial entrepreneurs mobilize external funds, partly to respond to calls for tender from institutional markets or to invest in new equipment, these funds are considered risky, particularly due to high interest and payment defaults or delays.	0.3	From 0 to 33%	From 34 to 67%	Equal or above 67%
Financial documents	Financial accounting is essential for a seed business to track performance, make informed decisions, manage cash flow, monitor inventory, and attract investors or financing.	0.1	0 or 1 out of 3	2 out of 3	Cash flow, income statement, balance sheet
Appropriate budgeting	Operations budgeting is essential to the good financial management of any structure.	0.1	No		Yes
Audited by a registered accounting firm	Being audited by an accounting firm is essential for seed businesses to ensure financial accuracy, enhance credibility, identify potential issues, comply with regulations, facilitate access to funding, enable informed decision-making, and manage risks effectively.	0.3	No		Yes
Financial readiness of businesses to collaborate with international actors	International seed companies are willing to invest in Nigeria and collaborate with national partners. Nevertheless, this is conditioned by the financial readiness of a business to afford the minimal seed batch price (set at 30M NGN).	0.2	No		Yes
Success factor 6: Respon	sible financial management	1			
Availability of business plan	A business plan is used to set specific objectives within a given time frame. Strategies are also defined to achieve these objectives.	0.3	No		Yes
Engagement in long term partnerships	Long-term partnerships are indicators of performance and good management of a company. This demonstrates a company's ability to meet the expectations of a supplier or customer.	0.5	No		Yes
General assembly organization	General assemblies play a crucial role in exchanging information on company strategy.	0.2	No	Only involving management	Yes
Success factor 7: Long-te	erm vision	1			

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The mission of Wageningen University & Research is "To explore the potential of nature to improve the quality of life". Under the banner Wageningen University & Research, Wageningen University and the specialised research institutes of the Wageningen Research Foundation have joined forces in contributing to finding solutions to important questions in the domain of healthy food and living environment. With its roughly 30 branches, 7,600 employees (6,700 fte) and 13,100 students and over 150,000 participants to WUR's Life Long Learning, Wageningen University & Research is one of the leading organisations in its domain. The unique Wageningen approach lies in its integrated approach to issues and the collaboration between different disciplines.