

# ISSD Africa



## Thematic Scoping Paper Promoting Seed Entrepreneurship

Thematic Working Group 1  
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## **BACKGROUND of the Piloting Phase of ISSD Africa**

The goal of the Piloting Phase of ISSD Africa is to support the development of a market-oriented, pluralistic, vibrant and dynamic seed sector in Africa for providing both female and male smallholder farmers access to quality seed of superior varieties. Superior varieties refer to both improved and local varieties most preferred by farmers. Currently, smallholder farmers face challenges in getting reliable access to sufficient quantities of quality seed of superior varieties at the right time and at an affordable price, which affects their agricultural productivity, income and resilience.

The Piloting Phase of ISSD Africa will experiment with and explore ways to address four themes defined by complex challenges that hamper seed sector development at local or national levels, but by their specific nature need to be tackled at the continental level. The project will operate in a niche that complements the work of national seed programmes and will recognize complex national realities, learn lessons from a diversity of intervention strategies and feed these into international dialogues.

Themes have been identified through previous analytical studies and workshops, and have been prioritized through an intensive consultative process. The priority themes selected are (1) Common challenges to promoting entrepreneurship in seed value chains; (2) Access to varieties in the public domain; (3) Matching global commitments with national realities; and (4) Supporting the AUC CAADP, ASBP and seed sector development.

The project seeks collaboration with a wide range of existing national seed programmes, to work on these four themes; in this way action learning activities are grounded in local realities among dissimilar strategies to seed sector development. Themes will be addressed through action learning, innovation trajectories, policy dialogues, capacity strengthening, and joint learning in eight to ten countries with relevant stakeholders and partners. The project will facilitate the establishment of an African-wide learning and innovation network of experts, seed programmes and associated organizations. The project will contribute to creating an enabling structure and a favourable environment for experimenting, documenting, sharing and learning, enhancing collaboration and promoting synergy in seed sector development.

## **INTRODUCTION to the Theme of Promoting Seed Entrepreneurship**

### ***Common challenges to promoting entrepreneurship in seed value chain***

The notion that the seed sector is best developed by seeing it as commercial sector, which provides service to the larger agricultural system has become mainstream. Most seed sector interventions nowadays aim to support the development of a commercial seed sector, which can sustain itself by producing and marketing seed for a profit. The promotion of seed enterprise development can be found as an objective in most seed sector development initiatives.

If providers of production or support services derive their living from it, this is the ultimate motivation to continue performing this services. That the development of for-profit seed sector is an important principle for sustainability will not be disputed. What is a much interesting debate is however, how seed sector entrepreneurship can actively be promoted by seed sector interventions, using public or other development resources.

Promoting agricultural entrepreneurship in general is seen as an essential element of rural development. The added interest of seed sector entrepreneurship is that it does not only provide jobs and value compared to ordinary production. The real interest in functioning seed enterprises is to assure the availability of affordable high quality seed of superior varieties to larger agricultural system, thus contributing to increased land, labour and capital use efficiency in agricultural.

There is a quickly increasing amount of experience with the promotion of seed entrepreneurship as a manner to improve seed sectors in Africa. It is now opportune to assess these experience and look at possibilities, difficulties and innovative approaches to promote seed entrepreneurship

## Delineation of the theme

### *What do we mean by seed entrepreneurship?*

Here we define seed entrepreneurship as: satisfying customer demand for a seed product, or seed support service for a profit or a realistic fee.

We attach to the inclusion of satisfaction of customer demand, to disqualify making profits in the seed sector through deliberate fraud by marketing sub-standard seed as quality seed as seed entrepreneurship. At the same time however, individuals making a profit out of the storage of grain, to sell as seed at the onset of the rainy season in open markets, do satisfy a customer demand. Although the quality of the seed sold is often poor, there are willing buyers of that poor quality of seed at that date and time.

The 'profit' in the definition should be interpreted relatively wide. The most commonly understood level of seed entrepreneurship are seed companies, who produce, package and market seed to satisfy the demand of seed users willing to buy quality seed. We also consider the informal seed producer known in the community as a reliable source of seed, who sells, or even barter small quantities to neighbours, for a modest profit, as a seed entrepreneur. The free exchange of seed and varieties among producers, we do not consider to be seed entrepreneurship.

Furthermore we do consider seed entrepreneurship to exist throughout the seed value chain. Commercial breeders, who develop new varieties to derive profit, either through own production or marketing or through licensing, are seed entrepreneurs. But also agro-dealers selling small quantities of seed, next to selling other agricultural inputs, are to be considered seed entrepreneurs. Even private seed service providers, such as quality inspectors, could be considered seed entrepreneurs, provided they provide their service for a fee which they depend on for their living.

As such we recognise seed entrepreneurship from small-scale local and highly informal exchange of seed products and services for a profit or fee, to large scale national and international companies making a profit out of the same. Seed entrepreneurship can thus be found in different seed systems, from the farmer-to-farmer seed system to formally recognised seed systems.

What we seek to assess is how seed entrepreneurship can be facilitated to increase the availability of high quality seed of superior varieties to the diversity of agricultural producers in Africa. This means that some choices are made with regard to the area of study. Most importantly, the main beneficiary of seed entrepreneurship development aimed at is not the seed entrepreneur him or herself. The seed entrepreneur is only an instrument to assure improved seed access. It is recognised that profitable seed business is the best guarantee for sustained seed production and marketing, but the business figures of the seed entrepreneurs as such are not the ultimate indicator of success. The objective is improved use of quality seed by the diversity of agricultural producers, for the sake of broad rural economic development. As the vast majority of seed users are smallholder family farms, this is the main targeted audience.

## Current State of Affairs

In 2012 the world seed market had a value of 47 billion USD; of this 9.9 billion USD was internationally traded seed. This largely refers to the formal seed markets (International Seed Federation, 2013)<sup>1</sup>.

Africa is a small player in the International Seed Trade picture. It imported a total of USD 392.8 million of seed (half field crops and half vegetable seed) in 2004-2006. North Africa has by far the largest share of seed imports (USD 274 million) in comparison to other African regions, mainly seed potatoes and vegetable seeds. The entire East-African Union for example imported 24 million USD worth of seed (largely maize and vegetable seed) in the same period. Central Africa only imported 4 million USD of seed (vegetable seed), while West-Africa imported 15.8 million USD of seed (vegetable seed, seed potato and maize).

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<sup>1</sup> Cited in: Geneviève Audet-Bélanger, Peter Gildemacher, Willem Heemskerk, 2014. *An introduction to the Sub-Saharan African seed sector. Seed 2 Feed. June 2014, Royal Tropical Institute, Amsterdam*

South-Africa is in its own right a sizeable seed exporter (importing from Europe and exporting to neighbouring countries, as well as local production) (Debrabant, 2012). Only in 2011, the imports to South Africa reached 88 million USD and exports reached 73 million USD. South Africa is now the largest provider of seed to Kenya, Tanzania and Uganda.

The African seed imports and domestic formal seed markets together could amount to figures close to 1500 million USD (350 million imported seed and 1150 million domestic formal sector), but this represents only a small part of the total seed use in Africa. An estimated 80% of all seed used in Africa is produced in the informal systems (Byerlee et al. 2007), and for many crops the estimate is closer to 100%. This means that informal seed supply is the main source of seed for most crops and farmers in developing countries, and is likely to remain so for a foreseeable future (FAO 2010) and could reach a value up to 7500 million USD.

For maize, and to a lesser extent rice, seed delivery has been much improved through the promotion of seed entrepreneurship. This is an important achievement, and worthy of further attention to assure the largest possible impact of access to high quality maize and rice seed across the continent. Stopping short of claiming that maize and rice seed issues have been solved on the entire African continent, it is recognised that great strides have been made, and maize seed entrepreneurship is developing fast. This is far less the case for many other commodities and not even trues for maize and rice in many countries and agro-ecologies.

The African Seed Trade Association (AFSTA) represents the formal seed system companies and records through the national seed trade associations the number and size of local seed companies, as well as the seed entrepreneurship challenges. Little is known about the seed entrepreneurs and their challenges in the informal and notably the intermediate seed systems e.g. those producing quality declared seed.

One of the challenges of the current analysis is to collect more statistical data on these smaller and more informal seed entrepreneurs, largely through country cases studies. A similar challenge exists in finding data on investment in seed enterprise development, as well as on the enabling environment for small, medium and microenterprise (SMME) development in general in the seed sector. Although promotion of seed entrepreneurship is becoming a mainstream seed sector intervention strategy, data on investment will be analysed through the different cases studies.

#### ***Issues identified related to seed entrepreneurship development***

The added value of ISSD Africa will lie in considering how to promote seed entrepreneurship at local and informal level in informal seed systems. Seed entrepreneurs who focus on the local market, rather than the national market. The analysis will assess how seed entrepreneurship can be facilitated for other crops than maize, rice and vegetable hybrids, which are normally the main crops in the formal seed systems, in which nationally and internationally seed companies have an important take. The analysis will result in the documentation, synthesis and communication of experience from seed sector enterprise development initiatives.

In a seed sector expert meeting, the authors of this document elaborated a long list of urgent issues related to seed entrepreneurship development. **Error! Reference source not found.** provides a summary of the debate.

**TABLE 1: Summary of identified issues hampering African seed entrepreneurship**

<b>Production skills</b>
<ul style="list-style-type: none"> <li>- Production of seed is technically more complex than ordinary production</li> <li>- Often seed producers can improve on their technical skills.</li> <li>- Poor pest and disease management increases risks, reduces profitability of seed production and can have important consequences for the quality of seed.</li> <li>- Well qualified staff with seed technology skills is hard to get</li> </ul>
<b>Business skills</b>
<ul style="list-style-type: none"> <li>- Seed technology is relatively easy to learn compared to seed business skills.</li> <li>- For seed entrepreneurship an entrepreneurial mind-set, focussed on investing to reap a profit is needed</li> <li>- Continuous focus on improvement of the business operations is required</li> <li>- Knowledge of customer / market demand is essential</li> <li>- Business planning, assuring the availability of the product at the right time against the right price, is complex to learn</li> <li>- A thorough understanding and administration of production costs and benefits is often lacking</li> </ul>
<b>Investment constraints / access to finance / credit</b>
<ul style="list-style-type: none"> <li>- Seed enterprises are cash intensive compared to producing for the consumption market</li> <li>- Financial services are poorly available:</li> <li>- High start-up costs for seed production, handling and storage infrastructure</li> <li>- High recurring costs for quality control, inputs and quality labour</li> <li>- Capital is locked in the seed till the start of the next season</li> <li>- Insecurity of long term access to land increases risks</li> <li>- Commercial rain-fed seed production is high risk, supplementary irrigation is recommendable</li> <li>- Specificities of credit demand by seed producers are poorly understood by financial service providers, and risks are (justifiably) considered (too) high</li> </ul>
<b>Poor access to new varieties and early generation seed</b>
<ul style="list-style-type: none"> <li>- No reliable access to new varieties to allow for a continuous improvement of variety portfolio offered</li> <li>- access to early generation seed of client-demanded varieties is often problematic, more so if the maintainer is a public institute</li> <li>- In many countries early generation seed production is a public sector monopoly</li> </ul>
<b>Market constraints</b>
<ul style="list-style-type: none"> <li>- Lack of trust in seed companies resulting from fake seed</li> <li>- Unfair competition with the relief based system and seed subsidies</li> <li>- For many crops seed is a low margin business</li> <li>- Poor opportunities for diversification to complement seed business</li> <li>- Artificial, unpredictable, fluctuating market as a result of institutional buyers</li> <li>- Unpredictable market because of rain-fed agriculture</li> <li>- Low level of understanding by seed users of the benefits of good quality seed</li> <li>- Competition with farmer saved seed</li> </ul>
<b>Quality assurance</b>
<ul style="list-style-type: none"> <li>- Limited and non-structural quality control by local seed producers</li> <li>- very poorly functioning, centralised, certification services</li> <li>- Few alternative decentralised local quality control systems known</li> <li>- No quality control possible of non-registered varieties (land races)</li> <li>- Seed company registration not well organised, sometimes too difficult, sometimes too easy</li> </ul>
<b>Policy issues</b>
<ul style="list-style-type: none"> <li>- Illegality of and negative policies on informal seed</li> <li>- High taxes on profits and seed</li> <li>- Scarcity of land for seed production</li> <li>- Variety release unnecessarily complex</li> </ul>

**Where are breakthroughs needed?**

When analysing the list of issues identified as constraints for seed entrepreneurship, a number of practical constraints were identified, to further focus on. The choice for issues to tackle were in the first place informed by the relation to the

other three topics tackled by ISSD Africa (see introduction). Access to varieties and early generation seed was considered to be the mandate of the thematic working group on 'access to varieties from the public domain'. Policy issues are to be addressed by the other two groups.

The very important issue of relief seed interventions and seed subsidies often hampering seed market development, and restraining the involvement of a commercial profit-based seed sector has earlier been highlighted as a topic deserving specific attention. It is a complex issue, which requires separate attention as a major topic, rather than being considered as an action learning component under seed entrepreneurship.

The weaknesses in technical and business capacities, and the identified lack of qualified staff to be employed by seed companies are important constraints which are being addressed by many seed sector interventions. More emphasis on seed sector development in technical and agri-business education would be highly desirable. It was however after some debate considered to be a topic which requires a different type of intervention than action learning, documentation and communication of experiences which the inception phase of ISSD Africa can offer.

Finally, three concrete action learning questions were identified. It is thought that answering these three questions will assist future seed sector interventions aiming to promote seed entrepreneurship for the sake of improving the access to affordable high quality seed of superior varieties.

1. What are effective alternative quality control mechanisms for different crops in different seed systems?
2. How to provide seed entrepreneurs in different seed systems with access to credit with favourable conditions?
3. How to make entrepreneurship in seed production of crops with currently low profit margins on seed profitable?

## **ACTION Learning Question 1:**

*What are effective alternative quality control mechanisms for different crops in different seed systems?*

Action learning question 1 seeks effective alternative quality control mechanisms for different crops in different seed systems. Seed quality control mechanisms remain a major constraint throughout Africa. In most countries rules and regulations are described for seed entrepreneurs to adhere to. In practice however, very few functioning quality control systems can be found in Sub Sahara Africa, if any. Almost invariably seed quality control systems are based on the principle of obligatory registration and certification of seed. Seed quality control services are mostly publicly run, and the seed certification services have, across the continent, major difficulties in assuring the quality control demanded by the relatively small formal commercial seed system. Seed entrepreneurship in the formal seed sector are demanding an effective, timely and independent seed certification service to be able to distinguish their products from the informal sector.

The vast majority of seed used however, originates from informal or intermediate seed systems. A major challenge is to develop quality control mechanism adapted to the opportunities and needs of these informal and intermediate seed systems. Fully informal seed systems are defined by a lack of external independent quality control. Internal auto-control mechanisms can however be applied to improve the reliability of quality of seed originating from informal seed systems.

Local Seed Businesses, who are serving clients at a local rather than national level, face difficulties accessing centralised independent quality control. The transaction costs are often too high for their modest scale, and getting access to inspection services timely is an even bigger challenge than for commercial seed companies operating at national level. Centralised seed certification systems are not adapted to these seed systems, and provide thus no useful service to seed entrepreneurs operating at these levels.

### **Action learning method**

#### *Desk study*

To answer the learning question different known cases of alternative quality control, both globally as African, will be documented. A cross case analysis will provide insight into options for quality control for different crops under different circumstances. The different cases will be compared for cost-effectiveness, simplicity, local availability and proven effectiveness at a larger scale for seed entrepreneurs in different seed systems. The different alternative cases

documented will be compared to the certified seed system existing in the same country. The cases will include examples from India, Nepal, South Africa, Latin America, and additional African examples.

#### *Field study*

In addition to the desk study a field study of at least 3, possibly 4, alternative quality assurance mechanisms is foreseen. Preliminarily Tanzania is foreseen as the area of study. Tanzania has experience with quality declared seed production which is of interest. Furthermore there are pilot experiences with quality assurance of seed of indigenous vegetables. A third foreseen case to study is the Quality Management Protocol which was developed for cassava and has evolved into a seal of quality for cassava cuttings. In addition it could be considered to study how quality assurance is handled by sweet potato multipliers.

The cases will be documented through interviews with producers, controllers and seed clients. Furthermore a mini-workshop with stakeholders will be held to debate the functioning of the system and the relevance for different seed systems, crops and environments.

#### *Communication of results*

The study will result in a report and a public ISSD paper. The results will be shared with ISSD Burundi and ISSD Uganda, where there is a specific demand for assistance in the design and piloting of alternative quality assurance mechanisms. Furthermore the results will be presented and debated in an appropriate international forum, either as part of ISSD Africa events or elsewhere.

## **ACTION Learning Question 2:**

*How to provide seed entrepreneurs in different seed systems with access to credit with favourable conditions?*

As specified above, access to credit is a major concern for seed entrepreneurs. Two major credit needs can be distinguished:

- Investment credit for seed production and handling infrastructure and equipment
- Recurring production credit to assure inputs, labour and services can be paid while capital is still locked in the seed in storage

For both these credit needs there are existing experiences in seed interventions in Sub-Sahara Africa. In many cases the first type of credit need is, at least partially, satisfied by grant funding, as banks are reluctant to fund such investments, especially for emerging seed businesses. For the production credit an adapted inventory credit system could be applied. The study of earlier experiences will assist seed sector intervention especially for the first type of credit or grants to determine what kind of support to emerging seed enterprises is opportune, seen the public interest of successful seed enterprises and the desire to increase the number of seed enterprises, even for crops with a relative low profitability. For the second type of credit financial service providers are required who are willing to routinely provide credit services to seed entrepreneurs. The study will collect evidence what makes seed enterprises in different seed systems bankable and which type of commercial credit is feasible for which kind of seed enterprise.

#### *Desk study*

An inventory will be made with partners of known seed enterprises which gained access to the two types of credit, to get a general overview of credit opportunities for different types of enterprises.

#### *Field study*

In Rwanda more in-depth investigation will be done to assess the access to credit of emerging seed multipliers. Possibly additional information can be obtained in Burundi.

#### *Communicating results*

The study will result in a report and a public ISSD paper. Agri-ProFocus will be approached to partner in this topic to share experiences and communicate results. Furthermore the results will be presented and debated in the context of ISSD Africa events.

## **ACTION Learning Question 3:**

*How to make entrepreneurship in seed production of crops with currently low profit margins on seed profitable?*

The major challenge for seed entrepreneurship regarded crops with low profit margins on seed. There are many crops for which the actual business case for seed production is rather poor. The additional margins which can be obtained by producing seed rather than for the consumption market are relatively thin, while much additional effort is required, higher investments are needed, and as a result also business risks are higher. Still, producing seed as a profession, to gain a profit margin, is mentioned above, a manner to assure timely and sustainable quality seed available. So the question is, how can business be made out of an enterprise with relatively low profit margins. This would seem at first sight impossible, but still there are seed multipliers making business out of common bean seed, cassava cuttings, sweet potato and millet. Crops which are considered to be low-profitable with regard to seed production.

To answer this question the secrets to business success will be identified of seed enterprises which have been able to make a sustainable profitable out of seed of such crops. Understanding the circumstances and strategies applied which make such seed enterprises able to produce seed of these crops will inform seed entrepreneurs and seed sector development initiatives to improve their businesses and interventions.

Together with partners having direct relations with successful seed enterprises successful businesses will be described. A selection will be interviewed directly.

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- *Picture credit:* Peter Casier (CGIAR)

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# ANNEX – Overview of possible action-learning cases

## Thematic Working Group 'Promoting Seed Entrepreneurship'

**Research question 1** – What are effective alternative quality control mechanisms for different crops in different seed systems?

Activity	Country / area	Organisations	Chief responsible	Other contributors
Desk study Overview of global experiences. Presenting advantages and disadvantages different systems	Global	KIT	Eline Minneboo Adolphe Kadeoua	Others suggest documentation / grey literature to consider
Field study 1: Vegetable seed QDS	Tanzania	Hortitengeru; CABI	Daniel Karanja, CABI	Damas Hortitengeru
Field study 2: QDS maize OPV and rice	Tanzania, Morogoro, Dodoma.	MoA	Raphael Laizer	Eline Minneboo
Field study 3: Internal quality control Irish potato cooperative	Kayanza, Burundi	IFDC	Cyriaque Simbashizubwoba; Alexis Ntamavukiro	
Field study 4: Quality Management Protocol cassava	Burundi	IFDC	ISSD IFDC staff	
Field study 5: Certified maize seed production	Burkina Faso	AGRA	Adolphe Kadeoua	
Field study 6: Quality management based on own-control and social pressure	Central equatorial state, South Sudan	AGRA	David Ndung'u	
Co-author a paper			Peter Gildemacher,	TWG members; case owners
Present and discuss the results in national meetings			Country focal point	1 TWG member, national case owners;

**Research question 2** – How to provide seed entrepreneurs in different seed systems with access to credit with favourable conditions?

<b>Activity</b>	<b>Country / area</b>	<b>Organisations</b>	<b>Chief responsible</b>	<b>Other contributors</b>
Desk study: Sketching rural finance background Literature on credit for seed producers	Global	KIT	Eline Minneboo	David Ndung'u
Field case 1: AGRA WAAIF: NAFASO, FasoKaba	Burkina Faso, Mali	AGRA	Adolphe Kadeoua	Issoufou Kapran
Field case 2: Cooperative de Production de Semences de Sinzana; PAFISEM supplies loans through BNDA	Sinzana, Mali	SSN Segou ; IER Sinzana	Adolphe Kadeoua	Samba Traore
Field case 3: Farmer groups access credit for OPV maize and rice production.	Morogoro and Dodoma	District government; MOA	Raphael Laizer; Eline Minneboo	
Field case 4: Seed companies providing credit to outgrowers of vegetable seed (and maize?)	Arusha, Tanzania	Daniel Karanja	CABI-Hortitengeru	
Field case 5: Bagré. Rice chain integration, providing seed producer access to credit? (CORIS bank)	Bagrépole, Bagré, Burkina Faso		Adolphe Kadeoua	
Field case 6: Individual seed potato producers access bank loans	Kayanza, Burundi	IFDC	Cyriaque Simbashizubwoba; Alexis Ntamavukiro	
Field case 7: Post-conflict access to finance for seed producers	Central Equatorial State, South Sudan	AGRA	David Ndung'u	
Co-author a paper			Peter Gildemacher,	TWG members; case owners
Present and discuss the results in national meetings			Country focal point	1 TWG member, national case owners;

**Research Question 3** - How to make entrepreneurship in seed production of crops with currently low profit margins on seed profitable?

<b>Activity</b>	<b>Country / area</b>	<b>Organisations</b>	<b>Chief responsible</b>	<b>Other contributors</b>
Field case 1: Rice seed produced by farmer associations	Imbo and Muhinga, Burundi	IFDC	Cyriaque Simbashizubwoba; Alexis Ntamavukiro	
Field case 2: Bean seed produced by individuals and farmer groups	Common beans in Muhinga; Climbing beans in Ngozi and Makamba; Burundi	IFDC Burundi	Cyriaque Simbashizubwoba; Alexis Ntamavukiro	
Field case 3: Sorghum seed for the brewing sorghum chain, BRARUDI	Chibitoke; individuals	IFDC Burundi	Cyriaque Simbashizubwoba; Alexis Ntamavukiro	
Field case 4: Cassava cutting production and marketing by farmer groups	Koranga district, Tanzania	MoA, district agricultural office	Raphael Laizer, Eline Minneboo	
Field case 5: Millet, Cooperative de Production de Semences de Sinzana	Sinzana, Mali	IER Sinzana	Adolphe Kadeoua	Samba Traoré
Field case 6: Millet, Cooperative de producteurs de semences de Pobe-mengao.	Pobe-mengao, Burkina Faso	AGRA	Adolphe Kadeoua	Jonas
Field case 7: Business secrets of South Sudanese seed producers	Central equatorial state, South Sudan	AGRA	David Ndung'u	
Co-author a paper			Peter Gildemacher,	TWG members; case owners
Present and discuss the results in national meetings			Country focal point	1 TWG member, national case owners;