Partnership arrangements for SME-driven seed systems in East Africa

1. Introduction

Kick-off meeting

In February 2010 project partners from CDI (WUR) and IFDC met in Nairobi for a project kick-off meeting. The first day's focus was on clarifying the project's entry point (agreed: commercial seed enterprise point-of-view) and overall direction (agreed: working towards seed enterprise-supportive interventions). The Dutch agricultural attaché, Mr. D. Bruinsma, actively participated in this meeting. The next two days were used to better clarify detailed objectives, expected results, approach, activity plan, and roles/responsibilities. A concrete output was a draft table of contents of a publication (toolkit, policy advise on partnerships, other?). Getting to this ToC forced the project team to look at the context of potential partnership arrangements for SME-driven seed systems from a '*SME tries to do business*' point of view, rather than taking a helicopter-view of the seed sector. From this ToC a draft questionnaire was designed, which was then used (and tested) during interviews and expert meetings with seed companies in Tanzania.
Results described in this progress report have been presented at a progress meeting with the Dutch ministry of Agriculture (poster for presentation: see annex 1).

Interviews

The aim of the interviews/expert meetings is to map the constraints for commercial seed enterprises *as seen by them*. Following the kick-off meeting a first batch of interviews and meetings with seed companies was carried out by IFDC in February, with East-African Seed, IFFA Seed, Northern Seed and Tanseed, as well as informal meetings with Alpha Seed, Meru Seed, Match Maker (business support service provider), the Tanzanian Seed Trade Association (TASTA), and AVRDC Seed Marketing (donor program).
A second batch of interviews/expert meetings was organized in April. CDI held in-depth interviews with Popvriend Tanzania and Meru Seed, and, supported by TASTA, organized an expert round table meeting in which eight of its member seed companies participated: FAMCO, SATEC, Meru Seed, Mount Meru, IFFA Seed, Popvriend Tanzania, East-African Seed, and Alpha Seed.
Interviews conducted by IFDC in November 2009 in Malawi have also been included in this report.

Mapping constraints, towards identifying partnership arrangements

Findings from the interviews/expert meetings that were held so far (note: Tanzanian and Malawian situation only) provide the project team with good insights and directions on how to proceed. The project's goal is to better understand the context and constraints from a *commercial seed enterprise point of view*, and from there to identify what types of potential partnership arrangements (national/regional) can improve SME-driven seed systems, and how. Different categories of SMEs face different constraints. Different factors, e.g. geographic location (within a country, between countries) play a role. This report provides a first insight in seed value chain constraints *as identified by these enterprises*. After mapping these country-specific constraints, the constraints to cross-border seed trade will be analyzed and an economic analysis of an ongoing IFDC project on OP seed production will be conducted. A start with this analysis will be made in collaboration with IFDC in Malawi and will then be replicated for Tanzania, Uganda and Kenya. With this data available effective

policy dialogue can be held with ASIESA and other key stakeholders/alliances. This study forms a basis for understanding the context and for next steps that will lead to (advise on) integrated partnership interventions.

For this reason constraints to commercial seed production have been clustered along the steps of the seed value chain. Seen from a commercial seed enterprise perspective, eight steps of this SME seed value chain are: variety development, foundation seed marketing, business planning, seed multiplication, processing, branding, distribution, and farmer use & farmer feedback. Steps are shown in figure 1 below. Along this chain of activities, the figure relates to constraints as experienced by SMEs, and to SME recommendations on how to deal with these constraints. Finally, actors that, according to the SMEs could/should play a role in this are shown at the bottom of the figure.

Figure 1 below summarizes the chapters that follow. They represent the point of view from commercial seed enterprises. Description of constraints and of recommendations may at times seem too practical. This is done on purpose: the aim of this report is to provide a structured feedback from individual SMEs. The aim is *not* to provide solutions or contextual frameworks, but to provide the project team with directions for further research.

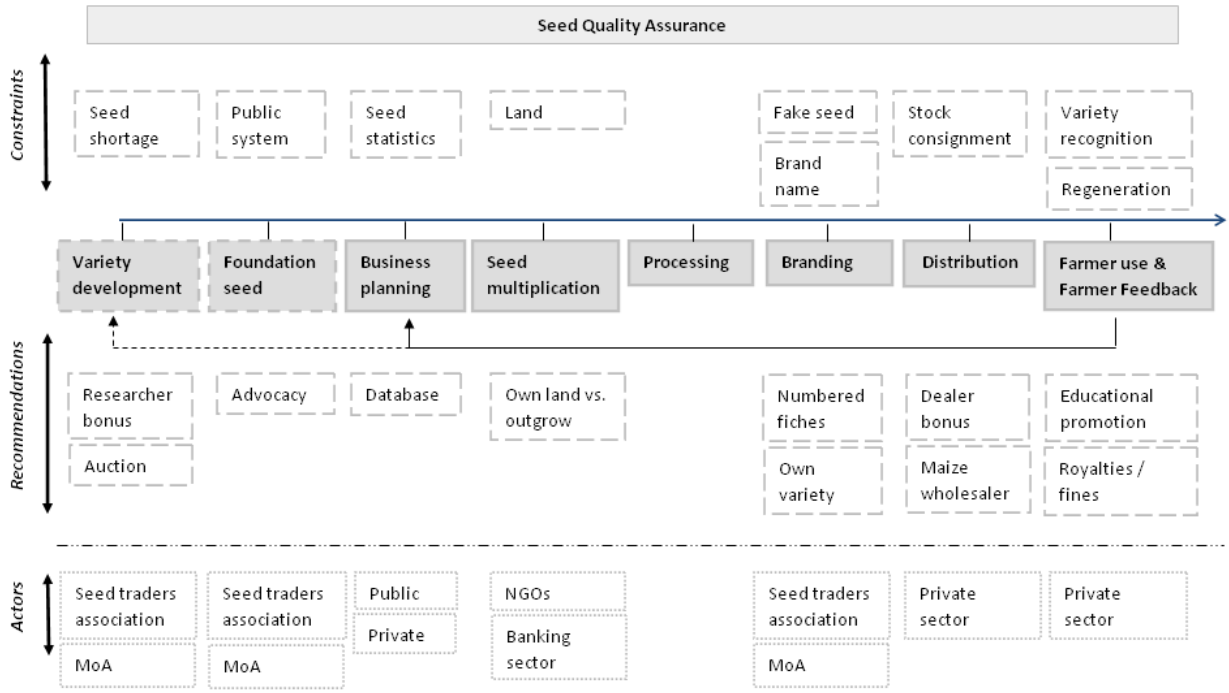


Figure 1: Stages in commercial seed production, incl. constraints and recommendations according to SMEs

2. Variety development and foundation seed production

Commercial seed enterprises to produce foundation seed of new varieties

The survey found that commercial seed enterprises in Tanzania see as a solution to foundation seed shortages that government allows private seed companies to produce it. In Tanzania foundation seed is produced by ASA (Agricultural Seed Agency), the only government agency mandated to produce foundation seed for public varieties. Seed companies may also import foundation seed but will in that case have to undergo similar long-time trials, testing and certification procedures. The result of ASA's monopoly is that all varieties are stored at a research station and are often not distributed. The

Government of Tanzania recently allowed for the private sector to have access to those varieties, however not enough: as one commercial seed enterprise put it: 'no government opens all doors'.
R. Tripp (2006) feels that 'for public varieties the public sector will play the dominant role and take responsibility for breeder seed provision. But subsequent stages, from foundation seed production to distribution of commercial seed, should be managed by commercial, cooperative, or community-level enterprises'. However, another constraint related to this is that of regeneration. The survey found that even if foundation seed is available there may be two or more commercial seed enterprises that obtain the right to manage the commercial activities – the constraint becomes that it is no longer traceable if and how farmers regenerated.

In Malawi, the situation is slightly different. The bigger seed companies get new varieties from their breeding stations in Zambia, Zimbabwe and South Africa whereas the smaller seed companies take public materials from the national research centre. The usual mode of production is that breeders seed is imported and then multiplied within the country, using contract growers. Seed is then, mostly, treated and packaged within the company in Malawi.

Commercial seed enterprises emphasize the key constraint of having to do business is the absence of a market-driven enabling environment. 'There is just no proper seed policy', says one Tanzanian SME, 'interventions and regulatory frameworks meant to support the development of the seed value chain are in fact main reasons not to invest in the sector'. Tripp (2000)[1] too finds that 'national seed policies in Africa emphasize *public systems* of variety development, multiplication and distribution', emphasizing that 'many donor investments target the establishment of community seed projects, subsidize seed delivery or distribute free seed under relief programs.' In line with what the interviewed SMEs express, Tripp concludes that 'such public interventions lead to underdevelopment of commercial channels and do not stimulate seed enterprise development'.

Commercial seed enterprises recommend that public research stations develop new OPv's (but do stay out of commercializing them), and that the SMEs are able to buy 'the rights' of these OPv's to further commercialize them. With this, the SME also buys the right to control regeneration of it and, in return, 'owns' the rights to successful marketing of it. For example, it is estimated that in Tanzania's chick peas, cow peas, pigging peas, food beans, sugar beans, and onion sub-sectors, every 2-3 years produces between 2-3 new varieties that can be released. If only one SME can claim a new variety, and if it can become fully responsible for keeping this variety generic, the SME can regulate production and marketing of the seed rather than government staying in control of the foundation seed production phase.

Commercial seed companies feel that the possibility of 'owning a variety' can provide them with a competitive edge and lower production costs. Seed trade associations can play a vital role in this process by facilitating public research stations to actively market their new varieties through open biddings. The associations can help organize these events, where commercial seed enterprises bid for new varieties. Bids for a commercially attractive variety can lay, for example, in the range of US$ 50,000 per new OPv. Tailor-made training of commercial seed enterprise staff on 'material transfer agreements' and on 'intellectual property rights', particularly with respect to variety development, is therefore seen of high importance. The seed enterprises indicate that for a bidding system to become reality, public research stations would need to be in much closer contact with market (farmer) demand. Researchers should actively run demand-driven research programs and know of, for example, specific and current diseases, by conducting ongoing market surveys among farmers and processors/exporters. According to one commercial seed enterprise, private sector players (organized farmers, commercial farmers, processors/exporters) always require good quality / tailor-

[1] Tripp, R., Rohrbach, D., 2000. Policies for African seed enterprise development. Food Policy 26, 147-161.

made seed. For this reason they will be very interested in partnering with business-driven researchers.

The question is 'how to make the public research system more market-driven?' Commercial seed enterprises recommend that researchers are awarded a bonus based on the outcomes of 'their' new variety in terms of bringing solutions to specific end-user problems, and as a result of 'sales' at the auction. A bonus mechanism is also recommended by Tripp (2006), who suggests adopting an incentive structure where researchers' rewards will depend on adoption of their varieties, with 'the future depending on technology adoption rather than the mere release of varieties'.

For commercial seed enterprises to be able to do their business, a focused policy dialogue is needed that involves key policy actors, and that focuses on the vital role that the *private* local seed industry plays. Seed enterprises in Tanzania see a clear role for their national Seed Traders Association to represent them in this process; this means however that associations should be supported in taking up this advocacy role to lobby for effective private sector-led seed development programs.
Also the process of variety release will be much more efficient if there is regional harmonisation of regulations. This will allow varieties approved in one country easy access to neighbouring countries and will stimulate seed trade.[2]

3. Business planning

Commercial seed enterprises to determine seed demand
Commercial seed enterprises see their lack of access to working capital as a major constraint and feel that the financial sector simply does not understand their needs and opportunities. 'Seed enterprises that have some form of collateral are able to obtain finance – but SMEs do often not have any collateral in the first years of doing business', says one SME. 'A bank may require three years of documented cash flow and bank statements, something a starting enterprise simply does not have '. If a loan agreement is possible it is often too expensive, with interest rates of between 18-24%. All interviewed SMEs note that startup capital comes out of own equity.
SMEs see their business as one that requires 'heavy investments': technical expertise, infrastructure (storage, processing), marketing, research & development, and labor. Insurance companies are often not willing to insure their seed stocks. For a commercial seed enterprise to access donor supported finance schemes, basic computer (including internet) skills are needed – this too may provide barriers for starting SMEs.

For commercial seed enterprises to do business, one specific key constraint is the limited knowledge of and lack of access to proper 'seed statistics'. 'We know there is market demand for drought resistant varieties in a number of districts, but we have no reliable data on exact figures [of number of farmers etc.]', said one of the SMEs interviewed. Among commercial seed enterprises there is a real need observed to be able to determine seed demand based on data per district. Seed companies now make use of their own intelligence, primarily obtained from agrodealers, to forecast demand. In practice this means that most seed companies have to rely on data related to past sales. From this data commercial seed enterprises can decide to increase their supply to agrodealers in the next year, but this remains risky: most produce is based on own equity, and if an agrodealer in one district is unable to sell this quickly it results in an evaporation of profits made in another district, or in an

[2] http://www.odi.org.uk/resources/download/1239.pdf

overall negative profit. For commercial seed enterprises to do proper business planning and to invest in production and marketing of good solutions, a platform or centre should be established (public-private, private-private) that gathers and makes accessible farmer-based information per district in a central database.

4. Seed multiplication and processing

Commercial seed enterprises to find balance between outgrower schemes and own production
The majority of commercial seed enterprises indicated that they work using outgrower schemes with small(er) farmers for seed production. Only a small number does not: they feel that working with dispersed outgrowers is too costly and argue that they can sell their produce at a lower price (due to 'limited assembly costs') than their competitors. As noted by Tripp (2006)[3], 'seed growers are usually paid a premium over grain price. Yet such premiums are sometimes small. Larger commercial farmers may not be willing to grow seed for such modest premiums, while smallholders are willing to accept a lower price. A major constraint is that supervision and management costs of working with small outgrowers are considerably higher compared to contracting large-scale farmers.' Most of the interviewed seed enterprises indicate that this is indeed a problem, and that in working with outgrowers 'there is limited control over productivity as they have little technical knowledge and often no irrigated land'. But access to own land (finance, titles) remains a critical issue as well. A seed company in Malawi also notes that contract growers education is an issue for them and for that reason they are multiplying their seed in Zambia since according to him the farmers achieve higher yields there as contract growers. A farm manager from Zambia notes that in Malawi the storage facilities are missing as well as subsequent processing stages. According to him the situation is different in Zambia where production is largely commercial and large millers can be found as well as sufficient storage facilities.

According to a representative of the Seed Trade Association of Malawi there is currently no real commercial Malawian seed company. The companies that are present in Malawi are either linked to multinational seed companies or are foreign owned. The 2 major issues that seed producers face are 1) lack of access to quality foundation seed for multiplication and 2) certification of seed is very difficult due to prohibitive policies (high costs/lack of capacity). [4] The government subsidy scheme, that was implemented in 2006 by the Malawian government, which supplies the poorest farmers in the communities with seed vouchers, will provide a stable market to sell seed to the government for the next 3-4 years. During this period the seed industry has to mature to be able to stand on its own after the subsidy scheme ends.

Commercial seed enterprises indicate that more applied research (i.e. cases, business models) is needed on reaching optimal combinations of own farm production and small producer outgrow, with the focus on risk reduction and quality guarantee.

[3] Tripp, R., 2006. Strategies for Seed System Development in Sub-Saharan Africa: A study of Kenya, Malawi, Zambia and Zimbabwe. ICRISAT eJournal.

[4] Field trip report Malawi, IFDC

5. Marketing and branding

Commercial seed enterprises to market added value with 'owned' and branded varieties
Commercial seed enterprises try to distinct themselves from competitors by marketing high quality seed that is well cleaned, graded, sorted, dressed and packed. Experience has learnt that (cultural) preferences of farmers should be kept in mind: seed should have desirable characteristics and add value, e.g. resistance to specific disease/drought, providing higher yields, or providing early maturity (to enable farmers to get their crop to market earlier, and thus at a better price). A Malawian seed company however mentions that the breeding priorities are set by the government, but that these priorities are different from the preferences of the farmer. The government prioritizes yield and disease tolerance whereas farmers prioritize hardness of grain and early maturity.

A major and more and more accruing problem according to some Tanzanian commercial seed enterprises is that of labels being copied and fake seed being distributed. A seed company in Malawi estimates the distribution of fake seed in Tanzania to be around 30% whereas fake seed does not seem to be a problem in the seed market in Malawi currently. The root of the problem is attributed to the low punishments for IP infringement. The seed companies see a crucial role for their national Seed Trade Association in relation to eliminating the distribution of 'fake' seed. The associations can act as objective actors in the seed marketing process by, as one commercial seed company suggested, 'inserting numbered fiches or tokens (plastic coins) in the SME's seed bags, and by issuing, numbering and registering these tokens against seed enterprises'. In this way, the end user can verify the authenticity of the seed by communicating with the seed trade association. Commercial seed enterprises underline that for the end user to see the seed's performance (resistance, yield, maturity), it is crucial to demonstrate to end users in the field using demonstration plots. There is a clear role for (international) NGOs, in collaboration with Village Extension Officers (VEOs), to support such efforts in a well-structured and organized manner, i.e. in close cooperation with the commercial seed companies.

Marketing requires branding, also in the commercial seed business. However, unless the commercial seed enterprise owns a seed variety, it is not allowed to brand foundation seed as being its own. This results in an crucial disincentive for the SME to invest in producing and marketing high quality seed. Or as one seed enterprise put it: 'investing in the promotion of a public variety is not beneficial; the private sector will not invest in developing or promoting varieties which are in the public domain'. According to the ministry of Agriculture and Food Security in Malawi, the problem with the uptake of new seed varieties from the public sector is that the public sector doesn't grant exclusivity for the varieties handed over – but seed companies want exclusivity. Commercial seed companies feel that for doing business the brand of the seed it sells must be associated with the name of the enterprise. Branding through printed packaging alone, or maintaining high quality and offering reliable produce and service is no longer enough – the competitor's product will just be the same. For a commercial seed enterprise, having an own variety with an own brand name is crucial. As recommended in chapter 2, public research stations should develop new OPv's (based on proper demand studies) and SMEs must be enabled, at an auction, to buy the rights of these OPv's to further commercialize them. Seed companies indicate that in order to improve marketing efforts it is crucial that agrodealers are trained in entrepreneurial skills, marketing, and providing small-scale extension services to farmers. Also provision of training and demonstration to farmers to strengthen capacities in variety recognition and testing is seen as important. (international) NGOs, in collaboration Village Extension Officers (VEOs), can play a role.

6. Distribution

Commercial seed enterprises to organize effective means of distribution and sales to agrodealers
For commercial seed enterprises a key constraint is their so called *zone of mobility*. Most indicate that their produce can be sold within a 200 km. radius. Beyond that point cost of distribution (to agrodealers/retailers) put too much pressure on the price it to be competitive. The 200 km. is seen as a breakeven distance for an average commercial seed enterprise.
Commercial seed enterprises feel that probably the most important aspect of doing business is a well-organized distribution and sales to agrodealers. In most cases, the agrodealers too do not have (access to) sufficient working capital. The SMEs feel that both agrodealers and farmers would purchase more seed from them if they could provide credit. For this reason seed enterprises often supply seed to agrodealers in advance ('stock consignment'). A common problem is that they are not being paid back once the seed has been sold (agrodealer default). Another problem of stock consignment is that an average agrodealer will not be motivated to sell that stock; it does not have his priority as he has not paid for it and may be sold only once other stocks of seed are moved. The result of this is that the commercial seed company is left with unsold and deteriorated seed at the end of the planting season (when it is already too late to sell it elsewhere).

Commercial seed companies, in their efforts to avoid poor payments by agrodealers, recommend the provision of training to agrodealers to enable improved marketing and sales. This includes training in the use of demo plots (see chapter 5: marketing) for visibility of benefits for each variety, and introduction of a bonus or awards mechanism for outstanding sales performance by agrodealers, to increase their sales efforts.

Seed companies can adopt different distribution models: an SME can do its own production/processing/distribution; but it can also use a model by which it outsources distribution (and possibly processing) to a large wholesaler (see figure 1). For example, large hybrid maize wholesalers have a strong network among and transportation infrastructure (incl. larger zone of mobility) to agrodealers. Aside from their possible interest in selling seed for SMEs, the wholesaler can also offer storage/processing (cleaning, dressing, packing) facilities and services that are too expensive for an individual SME.

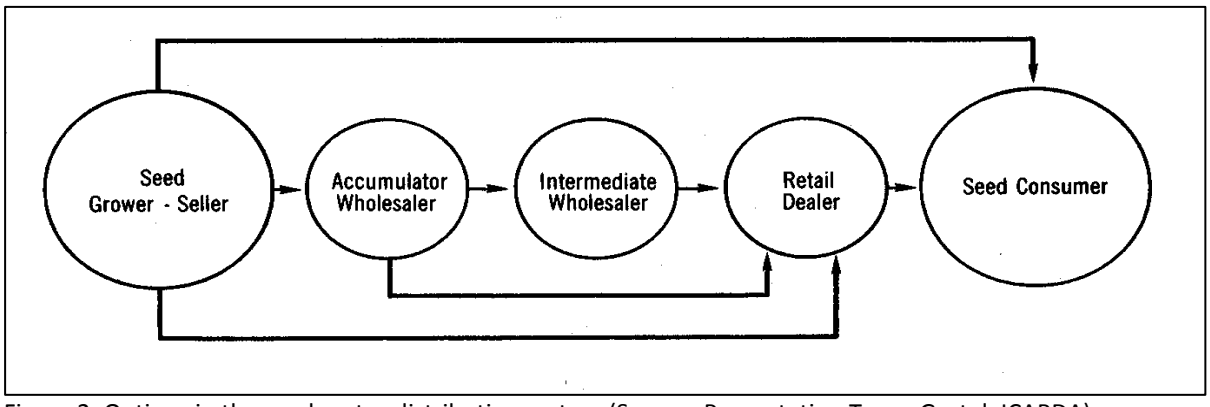


Figure 2: Options in the seed sector distribution system (Source: Presentation T. van Gastel, ICARDA)

7. Farmer use & farmer feedback

Commercial seed enterprises to regulate regeneration by farmers
A major constraint for commercial seed enterprises is the regeneration of OPv's. Farmers buy seed at the market and simply regenerate at farm level, particularly in years with high yields. From a short term perspective this 'free' seed regeneration may seem to have a positive impact (lower costs for farmers). But from a commercial and medium/long term perspective the result of this lack of control is that of fewer business-minded seed enterprises taking up the responsibility to invest in commercial seed value chain development. With no legal consequences attached to regeneration, commercial seed production becomes an almost impossible task. According to a seed company, except for the hybrid seed sector, there is no real commercial seed industry in East Africa.

Commercial seed enterprises suggest the introduction of a more formalized system based on royalty agreements. Farmers must be allowed to regenerate the seed they buy, as long as regeneration is based on a fee (e.g. US$ 5.-/acre). Commercial seed enterprises should be enabled to fine farmers that do not pay this fee (e.g. fine of US$ 15.-/acre). Key to a more formalized system, including these royalties/fines, is for new and innovative legislation to be in place.

8. Cross-border seed trade

Regional initiatives, such as advocating for regional markets, will help provide markets for the increased productivity in breadbaskets, and assure that crops grown in food-surplus areas can get to food-deficit areas. And because agro-ecological zones often extend beyond a country's boundaries, regional initiatives will help spread the effects breadbasket transformations across borders[5].

Not only cross-border trade is important for commodities, but equally crucial for the seed sector. In many regions, cross-border seed trade is hampered by the differences between national seed rules and regulations. This barrier can be eliminated by harmonizing seed rules and regulations at the regional level. Facilitated seed trade will favour the development of the private seed sector and increase the availability of adopted varieties, since agro ecologies are similar in many neighbouring countries[6].

A number of alliances exist in Africa that address seed trade harmonization laws. In West-Africa, the West African Seed Alliance (WASA) is present, which helps build the capacity of existing and emerging seed companies while expanding agrodealer networks. WASA also addresses seed trade harmonization laws across the five countries it works in, facilitating cross-border trade. In East and Southern Africa there is the Alliance for the Seed industry in East and Southern Africa (ASIESA), which is a public-private partnership between African governments, donors, and the seed industry. The main objectives of ASIESA are to 1) Strengthen the role of the seed industry and enhance industry competitiveness at national and regional level, 2) Enhance company competitiveness of seed value chain enterprises in ESA, 3) Facilitate trade and access to markets, improve linkages with public

[5] Strategy for an African Green Revolution: AGRA Alliance

[6] Seed security for food security in the light of climate change and soaring food prices: challenges and opportunities, April 2009, FAO, Rome

institutions, and enhance public registration, testing and seed handling capacity, and 4) Provide farmer level knowledge transfer and create demand that leads to productivity improvement[7].

One of the aims of the alliance is to achieve a regional seed policy environment that allows for the unimpeded import and export of seeds across borders within Africa. Small and fragmented national markets and a lack of regional integration due to poor policies discourage seed trade. Policies to facilitate the import and export of seeds across borders would allows national markets in Eastern and Southern Africa to grow to support a viable, thriving seed industry. The Eastern and Southern Africa regional market would become commercially viable and attract investment. Policy harmonization across the region is hence a critical step to realizing this and will require the involvement of regional economic institutions and national governments.

9. Next steps: Towards supportive interventions

The constraints and recommendations identified in the first half year of the project provide direction to further identify and investigate supportive interventions. It is felt that in such interventions the private sector should be the leading actor in commercial seed production, multiplication and marketing. This includes the production of foundation seed, in which private and public (research) actors should integrate demand and supply more strongly. Meanwhile, for increasing awareness of different varieties among farmers, as well as training agrodealers on marketing and sales related aspects, international and national NGOs should focus more strongly on educational promotion. They should stay out of commercial activities and not to disturb seed market mechanisms. Government's main role should be to contribute to a sound seed policy context, based on a market-driven approach and designed in close collaboration with the private sector.

With the findings of this progress report in mind, the second half year of the project will make a start with the economic analysis of open pollinated seed production in Malawi and Tanzania and zoom in on the possibilities and constraints of cross-border seed trade. This can be organized soon when making effective use of IFDC's project activities and network in Malawi's commercial seed production. This activity is planned in *September or early October 2010.* A more detailed overview of activities is presented below accounting for the years 2010 and 2011.

- Step 1 (2010-02): In collaboration and with available knowledge of IFDC develop a model calculating the costs and benefits of OP seed production in Malawi and Tanzania and gather data on costs of foundation seed, multiplication rate, storage costs, processing costs, distribution costs and the retail price necessary for breakeven. Interview IFDC project team members, STAM, NASFAM and AISAM as well as 3-4 seed outgrowers in both Tanzania and Malawi.
- Step 2 (2011-01): Gather hard data (results) in Tanzania and Malawi after the certified seed has been harvested (Aug-Sep) and sold to seed outgrowers who then have planted, harvested and sold the seed.
- Step 3 (2011-02): Upscaling and replication of Malawi project in respectively Uganda and Kenya.

This report will serve as a new entry point for the second project team meeting in September 2010, to be held in Nairobi. Here new activities for the September-December 2010 period will be planned, including holding a final event organized by both CDI and IFDC.

[7] ASIESA Executive Summary

Annex 1

WAGENINGEN UR
For quality of life

Project Title: Partnership arrangements for SME-driven seed systems in East Africa

Project leader: Hans Nijhoff

INTRODUCTION

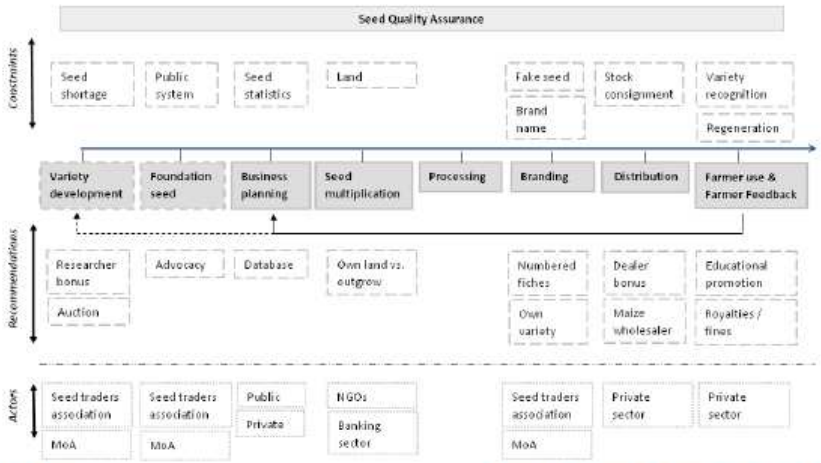
- Crucial: boosting productivity of African agriculture through commercial / local SME-driven seed systems
- Key words: higher national productivity, sustainable food chains & markets, and improved food security
- Basis: partnership arrangements / joint interventions for

Need of knowledge:

- Explore (lack of) partnership arrangements in commercial seed sector in Africa. What works and what does not, and why?

RESULTS

- Provide analysis of (potential) partnership arrangements / interventions for commercial and sustainable SME-driven seed systems in Africa.
- Research on (potential) partnership arrangements in commercial seed systems in East Africa (as seen by SMEs)
- Recommendations on strategies and joint interventions
- Toolkit (hardcopy, internet), policy briefs, presentations, international workshop



APPROACH

- 1st team meeting / plan of action semester1 (Nairobi)
- Desk study + Interviews/expert meeting with SME seed companies in Kenya, Tanzania, Ethiopia, Malawi
- Report on findings (constraints for doing business, suggested solutions/partnerships – indicated by SME seed companies)
- Filling gaps: Interviews with SME seed companies/other actors
- 2nd team meeting / plan of action semester 2 (Nairobi)
- Desk study + field survey: mapping of interventions aimed at SME seed business development
- Report on findings (conclude on successful interventions linked to types of SMEs, roles/responsibilities different partners
- International workshop in E Africa, present findings and recommendations, with IFDC

CONCLUSIONS AND OUTLOOK

- Conclusions in semester 1
  - Private & Public research sector should work hand in hand (foundation seed)
  - Private sector for seed production, multiplication and marketing
  - NGOs stay out of commercial activities and focus on educational promotion
  - Government main role: develop sound seed policy
- Semester 2 will focus on:
  - Successful interventions linked to SME types
  - Roles different actors/partners

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