The seed sector at a glance

Burundi is one of the countries in Sub-Saharan Africa where farmers primarily depend on the informal seed sector, which is mainly comprised of a household or farmer-saved seed system, and a community-based system. Non-governmental organizations (NGOs) and development programmes provide some support services in the community-based system, with humanitarian and international development programmes targeting the relief and rehabilitation of the agricultural sector. Major investments are being made in the production, distribution and, in some cases, the subsidized marketing of all kinds of seed. These relief programmes have created dependency among beneficiary farmers, which in turn has an impact on vitality and robustness of the informal seed sector. At the same time, these programmes have led to the emergence of seed systems comprised by progressive farmers and entrepreneurs with tissue culture laboratories that produce quality seed and planting materials on a contractual basis. Combined with the vulnerable status of the public structure for basic seed production, quality control and marketing, we consider the presence of these groups of entrepreneurs, and the informal seed sector itself, a major opportunity for seed sector development in Burundi. Despite the fact that seed sector development is given great attention in general agricultural development policies, its implementation by regulatory and institutional bodies is restricted. Some international programmes do aim to strengthen the seed sector; however, their focus is either on relief and rehabilitation, or on the establishment of a formal public seed sector. With regards to the latter, we find it conflicts with the reality of seed systems in Burundi. Taking an integrated approach, thus acknowledging the value and potential of both the informal and formal sectors, and seeking ways to promote entrepreneurship, should be incorporated within the policy and regulatory frameworks, and in the major programmes that target seed sector development. The fact that policy and regulatory frameworks have not yet been fully put into practice does have the advantage that it has created room for entrepreneurs and individual projects. The challenge is now how to mainstream the opportunities as found in the informal sector and among entrepreneurs within major programmes and government interventions in the seed sector.

Seed systems assessment

The fact there are seven systems within the seed sector, the farming household system is characterized by traditional practices of seed production and maintenance, with bartering and marketing in local markets. This system is the basis of almost all agricultural production in Burundi, for subsistence and for generating a cash income, with the exception of tea, coffee and temperate vegetables. The community-based seed system consists of farmers’ organizations that are supported by NGOs and relief projects. These farmers’ organizations produce seed that is distributed or sold at a special rate among the members, while the surplus is locally sold or sold to NGOs that redistribute it. This system mostly uses improved varieties of both food and cash crops. The third system is associated with emerging seed growers. These are progressive farmers who specialize in producing and selling seed of food and cash crops of local, improved and imported varieties. This system combines both individual, private farmers and entrepreneurs, and the public services that support and work with them, in order to increase the availability of both quality seed and certified seed. The fourth system is based on the chain of free seed distribution associated with humanitarian programmes. The seed is sourced from informal sources, and distributed for relief or through seed fairs. This system focuses on local and improved varieties of both food and cash crops of various classes of seed quality. The fifth system is based on the rapid multiplication of vegetatively propagated crops through tissue culture, possibly followed by specialized field multiplication. This system is associated most prominently with bananas and potatoes. The rapid multiplication is carried out by private or public laboratories. Within this system, the seed chain is rather short; it includes the production and acclimatization of plantlets, which are then distributed or sold to farmers,
### Table 1. Characterization of seed systems in Burundi

<table>
<thead>
<tr>
<th>characteristic</th>
<th>farming household – farmer-saved</th>
<th>community-based farmers</th>
<th>progressive farmers</th>
<th>humanitarian</th>
<th>commercial in-vitro propagation</th>
<th>public-private formal</th>
<th>perennial cash crops</th>
</tr>
</thead>
<tbody>
<tr>
<td>general description</td>
<td>traditional for food, subsistence and cash crops (informal)</td>
<td>development oriented and community-based (intermediary)</td>
<td>emerging group of farmers and entrepreneurs (intermediary)</td>
<td>basically a distribution system dependent on other seed systems for production (intermediary)</td>
<td>specialized entrepreneurs working for humanitarian and commercial markets (intermediary)</td>
<td>project based structure that approach a public seed sector</td>
<td>basically value chain system targeting cash and industrial crops (formal)</td>
</tr>
<tr>
<td>type of crops</td>
<td>food security (subsistence) and cash crops</td>
<td>food security and cash crops</td>
<td>cash and food crops</td>
<td>food security (subsistence) and cash crops</td>
<td>food security and cash crops (vegetatively propagated)</td>
<td>food security and cash crops</td>
<td>cash and industrial crops</td>
</tr>
<tr>
<td>major crops</td>
<td>maize, potato, beans, sorghum, wheat, banana, sweet potato, cassava, rice, etc</td>
<td>potato, cassava, banana, maize and beans</td>
<td>potato, maize, rice, beans, banana</td>
<td>beans, maize, potato, cassava, banana</td>
<td>banana, taro, cassava, potato</td>
<td>potato</td>
<td>potato, coffee, tea</td>
</tr>
<tr>
<td>type of varieties</td>
<td>indigenous, local</td>
<td>improved and local</td>
<td>improved and local</td>
<td>local, improved and imported</td>
<td>improved and imported</td>
<td>improved</td>
<td>improved</td>
</tr>
<tr>
<td>type of seed quality</td>
<td>farmer-saved</td>
<td>commercial but non-certified</td>
<td>commercial both certified and non-certified</td>
<td>commercial both certified and non-certified</td>
<td>basic materials based on vitro-plants</td>
<td>certified</td>
<td>basic material released by research</td>
</tr>
<tr>
<td>type of distribution and marketing</td>
<td>farmer-saved, local exchange and markets</td>
<td>farmer-saved, local distribution and marketing</td>
<td>direct marketing, outgrower schemes, contracts with humanitarian agencies</td>
<td>distribution followed by farmer-saved and local marketing</td>
<td>contracts and direct marketing</td>
<td>contracts and government distribution</td>
<td>government distribution</td>
</tr>
</tbody>
</table>
or to specialized field multipliers with financial support from NGOs and emergency projects. The sixth seed system is the formal seed system, which is based on a public-private partnership. Seed is produced in different categories and is distributed to farmers through public structures (National Seed Services). This system depends on project funding and is currently only effective for potatoes, including improved varieties, and for producing certified seed. The final and seventh seed system targets specific perennial cash crops, such as coffee and tea. Planting materials are evaluated by researchers and are distributed to farmers.

**Seed-related programmes**

National research institutions, primarily the Institute of Agronomic Sciences of Burundi (ISABU), as well as international agricultural research centres, like the International Rice Research Institute (IRRI), are responsible for breeding, the transfer of technological innovations and the production of basic seed. The Department of Seed Promotion is a public service that is responsible for coordinating all activities related to the production, distribution, control and certification of seed. It is also responsible for regulating the import and export of plant materials.

The Heavily Indebted Poor Countries (HIPC) initiative has prioritized the seed multiplication of rice, banana, maize, cassava, and potato for the period of 2011 to 2015. This programme is being implemented by the government with HIPC funding that is administered by the World Bank. Large quantities of basic seed are purchased from ISABU. The seed is then distributed for further private multiplication and subsequent dissemination through the representatives of the Provincial Agriculture and Livestock Directorate (DPAE). The principle adopted to ensure the sustainability of this initiative is that farmers must contribute 50% of the seeds received in kind (except for banana and cassava), which is then redistributed to other groups of farmers.

The Institutional and operational support programme for the agricultural sector (PAIOSA) is a bilateral cooperation programme of the governments of Burundi and Belgium. This programme is critical for supporting the establishment of a formal seed sector in Burundi. Significant financial support is directed towards research and seed production, seed sector coordination (national seed plan formulation and the revision of the Seed Act), and the strengthening of seed certification and quality control systems. In addition, support is provided to private enterprises, mostly for their production of potatoes; enterprises supported by PAIOSA are now also beginning to develop rice, banana, maize and milk value chains.

Other programmes aimed at seed production include the Emergency and Rehabilitation Programme run by the Emergency and Rehabilitation Coordination Unit (ERCU), under the Food and Agriculture Organization of the United Nations (FAO), and other programmes implemented by NGOs. These programmes can be characterized as relief operations, supporting the most vulnerable households by providing access to quality seed for the rapid rehabilitation of agricultural activities. These humanitarian interventions result in short-term rehabilitation and contribute to a gradual improvement in food security.

**Seed-related policies**

The seed sector is key to increasing agricultural productivity, an objective mentioned in both the National Agricultural Strategy (SAN) and in the National Agricultural Investment Plan (PNIA). It is therefore desirable that the Government of Burundi will make significant investments in the sustainable development of the seed sector.

In recent years, various studies have been conducted on the seed sector, in the context of international programmes such as those conducted by FAO and the Belgian Development Agency (BTC). These studies focus on the organization of the formal seed system. However, the informal system is still the dominant source of seed for Burundian farmers. Little is known about its functioning and it is given little attention. Mechanisms of seed supply among farmers; sources of seed; the stability of the system over time; the varieties used; the economics and quality of informal seed multiplication; and other basic information are unknown. Such information is essential in order to better target future interventions in the seed sector, particularly taking into account the fact that the informal seed system accounts for virtually all the seed used in the country. Traders who operate in local markets are one of the probable sources of non-certified seed purchased by farmers. The seed law and regulatory mechanisms are gradually being put into place; however, they ignore the informal sector and its key players, resulting in a mismatch between policy and practice.

The household or farmer-saved seed system and the community-based seed system together constitute the informal seed sector. These systems continue to represent by far the largest seed source for the medium term, and possible even for the long term. The impact on food security and agricultural production of this informal sector is essential and its improvement is an opportunity to effectively combat poverty among poor Burundian farming households.

The emergency situation in Burundi has changed. The intervention of technical and financial partners should now move away from providing humanitarian aid and rehabilitation, towards supporting sustainable agricultural development. Such changes would inevitably motivate those organizations currently involved in humanitarian interventions in the seed sector, such as FAO and NGOs, to assume different...
The current situation no longer warrants the free distribution of seed or even the organization of seed fairs. Development partners should move towards strengthening the professionalism of the seed producers and entrepreneurs who currently provide services to the humanitarian sector. Those private producers, though diverse in nature, could be better linked to marketing structures, and could shift their focus from providing services to development organizations as intermediate buyers, to providing direct services to the ultimate client, the agricultural producers. Whether emerging seed entrepreneurs will produce formally certified seed, or other forms of quality seed, should be determined based on the diverse demands of different types of agricultural producers. A pluralistic approach that focuses on strengthening seed entrepreneurship in both the formal and informal sectors, as advocated in integrated seed sector development is better able to serve the needs of the diverse group of agricultural producers in Burundi than a single focus on the development of a public sector dominated, formal seed sector. Incentives to stimulate client-oriented seed entrepreneurship will contribute to an enhanced availability of quality seed of improved varieties for Burundian farmers, which is a pre-requisite for the much desired increase in agricultural productivity in the country.

The link between practices, programmes and policies: challenges and opportunities

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The African Seed and Biotechnology Programme (ASBP), which was adopted during the Eighth Ordinary Session of the Assembly of Heads of States and Governments of the African Union, in January 2007, aims to provide a strategic approach to the comprehensive development of the seed sector and related biotechnology in Africa, taking into account the different needs of the countries and regions. The programme pursues an integrated approach towards enhancing capacities for seed policy development and implementation; strengthening linkages between informal and formal seed sectors; ensuring further adherence to international norms and standards; stimulating the transfer of appropriate technologies and products; and encouraging public-private partnerships to promote the development of local seed enterprises. The Integrated Seed Sector Development (ISSD) in Africa programme is meant both to strengthen these processes and to contribute to the implementation of the programme at the level of national policies, supporting regional economic communities in their contribution to ASBP objectives. This makes the ISSD Africa programme timely and well placed to a continental and regional context.

**ISSD Africa II and the current ISSD Briefing Note**

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ISSD Africa is a collaborative programme that is active in Burundi, Ethiopia, Ghana, Mali, Malawi, Mozambique, Uganda and Zambia. It includes partners from the public and private sector, NGOs, farmers’ organizations and universities, at national level in each country.

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