

# Variations in Farmer Organizations Engaged in Seed Entrepreneurship

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## Introduction

The rural sector dominates the economy of Ethiopia, contributing 40% of GDP, 90% of exports, and 85% of employment. Ninety percent of the poor are located in rural areas. The government of Ethiopia has given top priority to the agricultural sector and has taken a number of steps to increase productivity in this sector. For example, the Government's Plan for Accelerated and Sustained Development to end Poverty (PASDEP) placed rural development as the fulcrum for faster and more equitable economic growth. Ethiopia's per capita GDP of about USD 150 per annum and per capita GDP growth of only 1.5% has been largely stagnant since the early 1990s, though the overall economy has been growing at 4% per year (World Bank, 2007). The Ethiopian government reported that the registered GDP growth rate under PASDEP, in comparison with a population growth rate of 2.6%, implies that the average annual per capita income growth rate was 8.4 % (MoFED, 2010).

Seed is the starting point of agriculture; it is the basic unit for distribution and maintenance of plant populations. Improved seed is the most cost effective way of increasing agricultural production and productivity (Zewdie, 2004). It carries the genetic potential of the plant, determining the upper limit on yield. It thus dictates the ultimate productivity of other inputs such as fertilizer, pesticide, irrigation water, etc. Similarly, improved farming techniques and machinery are only as effective as the germplasm they support (Jaffee and Srivastava, 1992).

Given the significant current and future role of the agricultural sector, a vibrant seed system that provides high quality seed in adequate amounts,

at the right time and place, and at reasonable prices to meet the demands of farmers is, therefore, an essential enabler to continued economic and social development of Ethiopia (Zewdie *et al.*, 2008; IFPRI, 2010). Ethiopia's seed sector is dominated by the public sector monopoly. Until recently, the Ethiopian Seed Enterprise (ESE) was the only public seed producing and marketing enterprise. Private seed producers, wholesalers and retailers could not compete and the ESE became a virtual monopoly (World Bank, 2007). Recently, the Oromiya Seed Enterprise (OSE), the South Seed Enterprise (SSE) and the Amhara Seed Enterprise (ASE) have been established under their respective regional states. Unfortunately, the formal seed system of Ethiopia is incapable of fulfilling the national seed demand, and cannot ensure farmers easy access to seeds of improved varieties. For example in 2008, improved seeds were used on only 3.5% of the total cultivated area (CSA, 2008).

Another potential sector that can contribute to the production and commercialization of high quality seed is the private sector. This sector is in its infancy and at present seems to be engaged mainly in the production of hybrid maize and its contribution to the overall seed need is minimal. Pioneer Hi-bred is an international seed company operating in Ethiopia and is involved in hybrid maize seed production. Its market share is increasing from time to time. The company's annual production of hybrid maize seed has increased from 600 metric tons in the mid-1990s to 1,300 metric tons in 2005. However, Pioneer's success as a large firm has not been matched by significant market entry of smaller firms, suggesting that barriers to entry may remain for companies that cannot afford the initial investment in land and equipment (World Bank, 2007).

The Farmer Based Seed Production and Marketing Scheme (FBSPMS), which was initiated by the Ethiopian Seed Industry Agency and later taken over by the Ethiopian Seed Enterprise, once seemed a promising scheme, which can make great contribution to seed availability. The share of seed produced by the FBSPMS was 25% of the total certified seed produced by the ESE. Due to many technical, administrative and policy issues the scheme could not continue. Some of the bottlenecks were the low seed procurement (46%) from farmers. The 15% premium over grain price at the time of harvest did not create sufficient incentive in the farmers to be involved in the scheme. Seed from the FBSPMS is usually of lower quality and does not fulfill the rigid seed standards set

for seed from the formal system. Seed standards such as ‘Quality Declared Seed’ might have been sufficient and special seed policy is needed to address this issue. The interference of many external players in the FBSPMS has diminished the confidence and role of the farmer in the production and especially in marketing of his seed (Yonas *et al.*, 2008). The original project design intended was that through a Secondary Seed Multiplication Scheme (SSMS) – which the final stage of seed multiplication would be by progressive farmers who would then sell the seed informally to other farmers. Instead, a new seed multiplication system was introduced, replacing the SSMS with a program directly controlled by ESE using contract farmers. The FBSPMS completely stopped any progress toward informal seed production, and meant that the quantity of seed produced depended almost exclusively on ESE’s capacity (World Bank, 2007).

The public, private and community based seed systems of the country are all constrained by many bottlenecks and needed multi-faceted assistance to be transformed and be able to satisfy the seed needs of the country. On February 22, 2009, the Royal Netherlands Embassy (RNE) brought together stakeholders from federal and regional government organizations, higher learning institutions and NGOs, and conducted an inception workshop to initiate jointly the Integrated Seed System Development (ISSD) in Ethiopia. MoARD, EIAR, FAO, and RNE developed the concept note of the ISSD. Finally, on June 19, 2009, a Memorandum of Understanding (MoU) on Research and Capacity Building was signed between EIAR and Higher Learning Institutions (HLI) on one side and Wageningen UR, on the other side. In the framework of the MoU, the parties have agreed to concentrate efforts on the thematic fields of horticulture, oilseeds, seed supply, natural resource management, soil fertility management and policy advice. The ‘Local Seed Business (LSB) Project’ was one of the thematic areas identified by the group under seed supply.

## **The Concept of LSB project**

The LSB project aims to accelerate the transition from farmer group, community or cooperative based seed production towards farmer groups in various types of organizations becoming commercial in their approach. It further aims to support these organizations becoming autonomous in

their operations within the seed system. They operate within a community/local setting, where the commercialization is at kebele or wereda level and the seed quality is of an informal status or is quality declared seed (system of seed quality assurance which can be used for those crops, areas and farming systems in which highly developed seed systems are difficult to implement; it provides flexibility in implementation retaining the basic principles of quality assurance which can achieve the confidence of stakeholders. The responsibility for seed quality is with those who are distributing it. It is used, for example, when seed is purchased for relief purposes in emergency, or by farmer groups, cooperatives and NGOs who need cost effective entry point into the seed system (FAO, 2006)). However, by gradually commercializing seed beyond wereda or even district levels, they may enter the formal system, thus producing certified or other forms of quality declared seed. In essence, the project aims to strengthen farmers' organizations independent role within the local seed systems, and above all enforce their commercial orientation.

## **Objectives of the Project**

### **Development Objective**

Contribute to sustainable seed supply for food crops.

### **Specific objectives**

- Strengthen group of farmers within a kebele or wereda to become better organized, technically better equipped, more commercial, and more autonomous;
- Assist the gradual commercialization of seed beyond wereda so that it finally enters the formal system;
- Facilitate the provision of advisory services to stakeholders promoting innovations in local commercial seed supply.
- Facilitate effective coordination of public seed stakeholders with cooperatives, other legal entities and community organizations supporting the promotion, establishment and functioning of local seed businesses within strategically identified regions;
- Contribute to regulatory framework that is conducive and supports local commercial seed businesses by providing evidence-based justifications;
- Contribute to capacity building within higher learning institutions relevant to integrated seed sector development;

- Strengthen the relation between higher learning institutions, regional and federal organizations engaged in the support to local seed businesses; and
- Provide strategic inputs and a framework for the federal and regional government, and various donors taking an integrated approach at local level to seed sector development.

## Strategies of the Project

The LSB project followed six strategies and the outcome of these strategies will be used to influence policy in such a way that it favors the activities of the seed producer cooperatives (SPCs). The following is the list of the strategies.

- Identification of innovation sites;
- Establishment of the LSB innovation team;
- LSB support, with other stakeholders engaged in other activities;
- MSc research by students;
- First level analysis of results;
- Second level of analysis of body of empirical knowledge; and
- Relating results to existing policy.

The Project's duration was from mid 2009 until December 2010, and was later extended to 2011. It had the following three phases.

**Inception and first level studies:** This was the first phase of the project and was completed within May–July, 2009. An inception workshop was conducted in Adama from May 18–21, 2009. Bahir Dar, Hawassa, Haramaya and Mekele universities with various partners (BoARDS, EIAR, ESE, OARI, ARARI, SARI, TARI) and NGOs (EOSA, SHDI, REST and ORDA) with Wageningen International, laid down the concepts of LSB. Twenty four innovation sites (innovations that are embedded within groups of organized farmers, independent from the type of organization; four in SNNPR, seven in south and southwest Oromiya, three in east Oromiya, six in Amhara and four in Tigray, were identified. Coordination units were established at each university and at OSE. Each coordination unit had a coordinator and an assistant coordinator. An innovator team consisting of a seed expert, an agri-business expert, and a farmer organization expert was established at each university and OSE (19 innovators). Eighteen MSc grants were given and the scrutiny of students was planned.

**Project Implementation Phase (August 2009 – February 2010):** The first team-training workshop was given at Hawassa University in August 2009. A common ground was laid on how to make the studies of the innovation sites. First level analysis of the innovation sites was completed during August – December 2009 and the results discussed with stakeholders on regional workshops in January 2010 and on a national workshop at Adama in March 2010. The LSB Project has also made some investment to strengthen the innovation sites by assigning a modest budget that was used for the most acute needs of the SPCs, for example, for construction of small stores, offices, purchase of weighing balances, etc.

**Operational phase (March – December 2010):** Additional activities were identified from the baseline studies and these were implemented to support the Local Seed Business. More MSc students (21) were granted and a training workshop was organized in Bahir Dar in May 2010. A survey of organizations working in the seed sector was performed and the organizations are invited to the national workshop. The second round of regional workshops were conducted in January – February 2011 and this phase culminated with a second national workshop conducted at Haramaya University in March 2011. In February – March 2010 the LSB project was amended by the addition of the Public-Private Partnership Project to link all organizations working in the seed sector. Second round of investment was also made on the Innovation Sites (SPCs).

During the two years of the project, several staff members of several partner organizations participated in training programs as organized by Wageningen International in both The Netherlands and in India.

## **Achievements**

- Five coordinating units, one in each of the 4 universities and one at OSE/OARI, were established;
- Five innovation units were established and strengthened. These can serve as advisory service units for future work in establishing LSBs (SPCs) or similar community-based organizations;
- New method of analysis was learned. The Principle of success factors of any business entity was applied throughout the study period;

- Twenty-four innovation projects were implemented (two rounds of investment completed) and documented, reports of innovation projects compiled). Ten new additional LSBs (SPCs) were implemented;
- Weaknesses of SPCs addressed. In almost all of the SPCs lack of autonomy (many organizations have a say on the SPC), lack of experience of entrepreneurship and technical capacity in seed production, and dependence on one variety of one crop, i.e. lack of differential superior product, were the major weaknesses identified; business plans wren made ready, trainings were given on cooperative management, techniques of seed production and on accounting; PVSs were conducted and better varieties identified;
- Increased production of quality seed by LSBs due to better planning;
- Nine MSc theses were completed and resulting publications being prepared. Many MSc studies to be completed in June 2011. A total of 39 will soon be completed;
- Two rounds of LSB investment were completed and some problems of the SPCs are solved;
- Some local seed business innovators, 10 professionals from partner organizations participated in relevant international trainings (Netherlands, India);
- An institutional network was created through the partnership programs (Relation between HLI, BoARDS, EIAR, RARIs, NGOs and other stakeholders). The direct relationship between SPCs and research institutions is being strengthened;
- Good practices were identified and will be organized in publications and be scaled-up;
- Publications are being prepared. A book containing the results of the more than two years study and documentation is to be published. LSB newsletter is under publication, nine issues, 0 through 8, were published; and
- A seed technology journal is being established.

## **Variations in Seed Producing Cooperatives Established by LSB**

Bahir Dar, Haremaya, Hawassa and Mekele Universities and Oromiya Seed Enterprise/Oromiya Agricultural Research Institute (OSE/OARI) in collaboration with other stakeholders have established 24 Innovation Sites (LSBs) during the 2009 and additional 10 LSBs during the 2010 which are now on a status of Seed Producing Cooperatives. The 34 Innovation Sites (LSBs) (8 in Amhara, 6 in SNNPR, 6 in Tigray, 10 in

Oromiya South and West managed by OSE/OARI, 4 in East Oromiya managed by Haromaya University) are shown on Figure1. These LSBs vary in many aspects: in the potential production of the area they were formed in, in their age, in how they were formed (as Bio-diversity Conservation units, as SPC, etc.), in number of members, in total area of the SPC devoted to seed production, in crops and varieties they produce and in many other aspects. These variations are discussed below.

## **Variations in Production Potential**

Sixteen of the 34 sites are located in high production potential areas of the Southeastern or Northwestern high plateau of Ethiopia on either side of the Great Rift Valley. These sites are in high potential areas receiving annual rainfall of more than 1000 mm. These are in Gojam and Awi Zones of the Amhara Region (Marweled, Gusha Shunkurta), in the Arsi-Bale highlands of Oromiya (Chiba-Michael, Durettii Tulluu), in West Shewa Zone of Oromiya (Daraaraa, Goromtii, Wirtuu Qacamaa, Bifa Bariii) and Udgetna Gefersa in the Gurage highlands of SNNPR. On the other hand, 18 sites are located in areas with low production potential. These include all sites in Tigray (Hatsebo, Felegewoini, Habes, Mekan, Tseada Karni and Begasheko), in eastern Oromiya (Tinike, Bishaan Babilee, Fugnaan Diimo and Qarsaa), four sites in SNNPR (Kayou, Amard, Zerfeyan, and Naplica Nassir), sites in Oromiya near the Rift Valley or near river valleys (Anano Shisho, Bonayya and Argadha Shallo), and sites such as Woken in Amhara Region.

## **Variations in Irrigation Facility**

Sites such as Daregote in SNNPR, Goshiye in Amhara Region, Boneya and Argadhe Shala in South and West Oromiya, Tinike and Fughan Dimo in East Oromiya have irrigation facilities. They can apply supplementary irrigation during the rainy season, if the rain fails and can produce high-value crops during the dry season. Multiple cropping is possible in these sites. All other sites practice rain fed seed production.

## **Variations in Formation History**

Although all the 34 innovation sites are at present Seed Producing Cooperatives, initially not all were engaged in seed production. Some were initially established for conservation of bio-diversity (Biftu in Oromiya); others were based on FREGs (Anano Shisho and Derara in Oromiya; Gusha Shunkurta in Amhara Region); while still others were

based on PVS (Habes in Tigray and Zerfeyan in SNNPR), and some formed as SPCs from the beginning (Kayou, Amard, and Udgetina Gefersa in SNNPR; Chiba Mikael, Wirtu Qaacama, Duretti Tullu in South and West Oromiya; Tinike in East Oromiya; Felegewoini and Hatsebo in Tigray Region; Mekan, Goshiye and Marweled in Amhara region). Some were formed as multi-purpose cooperatives (Bishan Babile and Abdi Jalala in East Oromiya; Daregote in SNNPR).

## Variations in SPC Age

The oldest SPC is Biiftuu (1998); some were formed in 2004–2005 (Chiba Michael, Argadha Shallo, Tinike, Woken). Some have intermediate age and were formed in 2006/2007 (Ifa Bari, Amard), while others were young and were formed in 2009/2010 (Zerfeyan, Daregote, Naplica Nassir, Wirtu Kacama, Goromti, many in Amhara and Tigray).

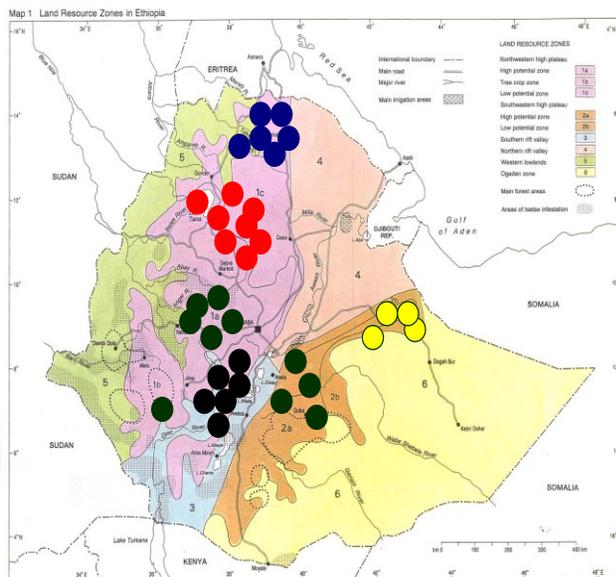


Figure1. The 34 local seed business units in three regions

(1) six sites in Tigray (blue circles [Hatsebo, Felegewoini, Habes, Mekan, Tseada Karne, Begasheko]); (2) eight sites in Amhara (Red circles [Marweled, Woken, Goshiye, Gusha Shinkurta, Kadme, Chanke, Zaba, Beteyohannes]); (3a) ten sites in South and West Oromiya (Green circles [Anano Shisho, Chiba Michael, Wirtu Kechema, Duretti Tullu, Bifttu, Derara, Boneya, Goromti, Ifa Bari, Argadha Shala]); (3b) four sites in East Oromiya (Yellow circles [Tinike, Jaalala, Fugnaan Diimo, Kersa]); and (4) six sites in SNNPR (Black circles [Kayou, Amard, Zerfeyan, Udget ina Gefersa, Naplika Nassir, Daregotie]).

## **Variations in Number of Kebeles Constituting the SPC**

Some of the SPCs were formed by clustering farmers residing in one kebele. The follow up of the whole process of seed production is easy in such SPCs and they are believed to be more successful than non-clustered LSB units are. Udgetina Gefersa in Gurage Zone of SNNPR is an example. Some were formed by clustering farmers from more than one kebele. The more the number of Kebeles constituting an SPC, the more difficult it becomes to control the seed production process and assure seed quality. Kayou SPC in Sidama Zone is formed by clustering farmers from four kebeles. In Zerfeyan in Gurage Zone, no formal clustering was used. One of the kebeles of the PA was isolated from the other by a hill. All farmers of this kebele produced the seed of an open-pollinated maize variety Gibe-1. Other farmers in this same kebele planted other crops such as tef and wheat, but not any variety of maize so no formal clustering was required in this case. Derara SPC in southwest Oromiya was formed by merging four SPCs (Mose Roba, Mose Derara, Gammachis Galan, and Galan). Members produce potato seed, which would satisfy the bulk of potato seed demand of the whole country. They have also established a fair quota marketing system when market opportunity is limited. Depending on the customers that come to purchase the seed, the quota is divided among the member cooperatives and within a cooperative among individual members. Such a fair and transparent marketing opportunity has contributed to the stability of this huge SPC.

Examples of successful clustering in Marweled SPC (Amhara Region) and farmer networking in Tigray are presented in Figures 2 and 3. The vast fields of hybrid maize production in Marweled resemble a field of mechanized modern farm. In Habes (Tigray), each member of the SPC is given a duty of inviting at least five new members into the SPC.



Figure 2. Successful clustering in Marweled to produce the maize hybrid BH660

### Variation in Number of Members

Some SPCs are small and have few members (< 50 members) – Tinike, Gusha Shunkurta, Goromti, Goshiye. Other SPCs are intermediate in size and have 50–200 members – Ifa Bari, Marewoled, Hatsebo, Zerfeyan, and Marweled. The third category is the big SPCs with more than 200 members – Daraaraa, Bonayyaa, Bishan Babile, and Hatsebo.

### Variation in Total Crop Area the SPC Possesses

By this criterion, the SPCs can be categorized into three groups:

- Very small SPCs: < 50 ha – Raaree Horaa;
- IntermediateL: 50–200 ha – Woken, Kayou, Amard; and
- Big SPCs: > 200 ha – Derara
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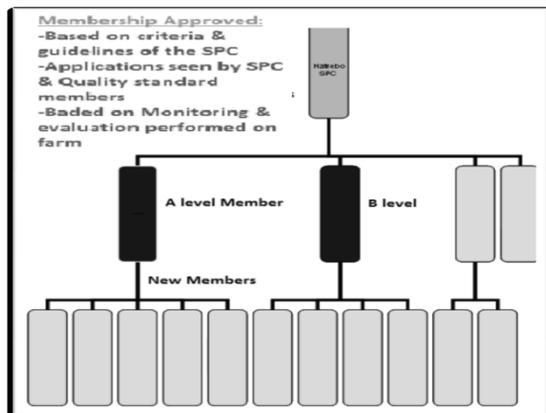


Fig. 3. Farmer networking in Tigray Region to produce barley seed

## **Variations in Landholding per Household**

Some SPCs were formed in densely populated areas, where the average landholding per household is less than 0.3 ha. An example is Zerfeyan. Some were established in areas with intermediate population density where average landholding is between 0.3 and 1.5 ha per household. The majority of the SPCs belong to this category. SPCs such as Amard are found in relatively sparsely populated areas, where average landholding per household is greater than 1.5 ha.

## **Variations in Crops Produced**

Some SPCs produce only one variety of one crop. An example is Amard that has been producing only Qubsa. Other SPCs produce one crop but many varieties. For example, Wiirtuu Qacamaa produces five varieties of wheat; Chiba Michael produces four varieties of malt barley. Other SPCs produce many crops – Chiba Mikael (barley and faba beans) Zerfeyan (wheat, maize, and tef).

Marweled (maize, wheat, and faba beans); unlike the ESE which produces few varieties of one crop and unlike the private producers that produce only hybrid maize, SPCs produce seed of many varieties of many crops. Seed of almost all crops (cereals, pulses, oil crops, potato, vegetables) is produced by the SPCs. Marweled and Gusha Shunkurta produce seed of three crops each. The 34 SPCs produce seed of more than 50 varieties of 15 crops. This practice minimizes the risk of failure due to disease outbreak, for example. Not all varieties of bread wheat are equally susceptible to rust. For example, during the 2010 cropping season, bread wheat PVS was conducted in Amard and the variety under wide production (Qubsa) was found to be highly susceptible to wheat rust while the recently released varieties Inseno-1, Picafflore and Millenium were tolerant to the disease. Farmers in Amard are now demanding the seed of these three varieties. Farmers also assign each variety to specific area within the kebeles, where the variety is most adapted. They positively exploit genotype-by-environment interaction. These aspects of the community based seed production seem to have clear advantage over the mechanized formal seed production system.

Farmers have shown their capability of producing even hybrid maize whenever sufficient training is given. Planting material of crops not given attention by the formal seed system, such as pulses, oil crops, root and tuber crops, and vegetables are produced by the SPCs.

## **Variations in Marketing Strategy**

Although most of the 34 SPCs have contractual arrangement with unions, or government organizations such as ESE, BoA, or regional seed enterprises such as OSE, there are some, which are autonomous in marketing their seed. In Tigray, SPCs such as Habes use simple bartering system for seed exchange in addition to contractual arrangement with other organizations. Contractual arrangement with different organizations (GOs such as BoA, NGOs, and even with private limited companies also exist. The following are examples.

- contract with a union – Zerfeyan, Argadhe Shado, Kayou, Amard;
- contract with ESE – Marwoled;
- contract with Amhara Seed Enterprise – Woken, Goshiye;
- contract with Solagrgrow PLC – Goromtii;
- contract with BoA – Hatsebo;
- contract with JICA – Raaree Horaa, Biftuu;
- autonomous – Gusha Shunkurta, Beteyohannes, Tinnike; and
- autonomous, bartering – Habes.

In Tigray, the farmer-to-farmer transfer (barter) of seed is very strong. Consequently, seeds of newly introduced varieties reach a large portion of the population within a kebele and its neighbors within a short period and seeds of preferred varieties can be distributed within a radius of 100 km from the place of initial introduction.

## **Variations in Principles of LSB Development**

A common system of evaluating the success of the LSB sites in their movement towards a real business entity was set at the inception training given at Hawassa University in August 2009. Principles based on the model of ‘robust seed systems’ (De Boef *et al.*, 2010) were adapted to the context of LSB development. Three basic principles were used for this evaluation:

### **Business Boundary**

If all members of the SPC are from one kebele and if the SPC markets all of the seed produced on its own within the kebele, then it gets high score. If it depends for marketing on external agencies and has no control where the seed is sold, then the SPC gets low score.

### **Autonomy**

The degree to which farmers and their organizations have control over and/or access to varieties and the traditional skills and knowledge associated with the seed. This principle evaluates the degree to which LSBs depend on stakeholders for basic seed, seed processing, seed marketing, credit, etc. If all members of the SPC take part in decisions in technical, managerial, marketing and financial matters, then the SPC is scored high for autonomy. Otherwise, it gets low score by this criterion.

### **Entrepreneurship**

It is related to sustainability in an economic and institutional context; it embeds market and service orientation with structure and functioning of the organization. This principle is strongly related to the development of the 'seed chain', which includes PVS, seed production and seed sells and the ability to become part of the formal seed system gradually. If the group produces poor quality seed of one variety of only one crop, if it gets inputs and services as grants or for subsidized prices, if it does not look for new markets but depends for marketing on one stakeholder, and if the group does not have a plan or vision, then it gets low score for entrepreneurship.

Each SPC was evaluated for each question within a principle and was given scores from 1 (worst) to 5 (best). These were then averaged to get an overall score for the specific success factor.

The following is a summary of the evaluation from the five LSB teams based on region (Table 1) and on type of organization on basis of which the SPC is formed (Table 2).

Table 1. Average principles' scores for the five regions covered in the LSB Project

Principles	Am	EO	SWO	SOU	TIG	Mean
Business Boundary	3.3	4.1	3.5	3.0	4.3	3.6
Autonomy	2.4	3.2	3.7	1.9	2.8	2.8
Entrepreneurship	1.8	2.3	2.0	2.3	1.8	2.0
Number of sites	6	3	4	4	4	21

*Am=Amhara; EO=East Oromiya (Hararghe); SWO: South and West Oromiya; SOU=SNNPR; TIG=Tigray; Mean=national (all sites).*

*Scoring: 1=poor; 2=fair; 3=satisfactory; 4=good; 5=excellent.*

For business boundary, the groups in East Oromiya (Hararghe) and Tigray scored relatively high (Table 1). Particularly for East Oromiya, the groups sell seeds through the informal channel or NGOs locally. For autonomy, SW Oromiya scores relatively high, which may be explained by the fact that these groups operate as SPCs often associated with unions; this is in contrast to Amhara and Tigray, where these groups were legalized as SPCs only in 2009 or 2010. The score in SNNPR is rather low compared with the others; reasons may be the strong presence of NGOs and the union in marketing and service provision. For entrepreneurship, the variation among the regions is limited and we can conclude that the situation is quite similar country wide, with only variation for individual sites but not at regional level.

Table 2. Variations in business orientation principles by type of SPC

Principles business orientation	CO	FREG	IC	MPC	SPC	Mean
Business boundary	2.0	4.5	4.0	4.0	3.5	3.6
Autonomy	1.8	2.5	3.0	3.5	2.8	2.8
Entrepreneurship	2.3	1.7	2.3	3.5	2.0	2.0
Number of sites	1	2	3	1	13	21

*CO=conservation cooperative; FREG=Farmer Research Extension Group or cooperative; IC=irrigation cooperative; MPC=Multi-Purpose Cooperative; SPC=Seed Producer Cooperative; Mean=national (all sites)*

*Scoring: 1=poor; 2=fair; 3=satisfactory; 4=good; 5=excellent*

The organization based on conservation of biodiversity had lower scores than others in business boundary and entrepreneurship because it has been dealing with the conservation and use of local varieties with budget from external sources. Thus, its business orientation is limited (Table 2). The FREGs also scored low for the first two principles because their main purpose of establishment is research, not business. It is through the LSB project that these two types of organizations were converted to SPCs. The multipurpose cooperatives (MPC) have been operating on

strong business environment and, therefore, score high in all principles, while the irrigation (IC) and seed producing cooperatives (SPC) score low in entrepreneurship since they are younger and are dependent on the support of GOs or NGOs (Table 2).

A tendency to be autonomous is observed in many SPCs. Kayou SPC proposed to the LSB team of Hawassa University that in addition to the seeds of the white seeded haricot beans, for which they have a binding agreement with Sidama Elto Union, there is an excellent local market for the red beans. They also complained that Wolayita Red, a red colored bean variety that has been in use for almost three decades, has become disease and pest susceptible and low yielding. They asked the LSB team to bring recently released bean varieties and test them in a PVS. The farmers evaluated eight bean varieties in 2010 and identified a new red bean variety, Hawassa Dume, much better than Wolayita Red in grain yield identify. They are producing the seed of this variety for autonomous marketing, not through the Union.

Studies during the last two years have indicated that most of the SPCs score poor in all the three principles because they are at an infant stage. Although there is market within the kebele for 95% of the seed produced by the SPCs, 18 of the 21 SPCs thoroughly studied still market their seeds through contractual arrangements with a single organization (public agency or union), which sells the seed within or beyond the kebele. The LSB project aims to support the groups in such a way that they gradually diversify their markets or customers beyond those engaged in contractual arrangement, so that the groups become more autonomous seed entrepreneurs.

The study has also revealed that the groups depend on decisions made by external stakeholders for at least three of the required expertise (technical, managerial, marketing and financial). The LSB project is working closely with the groups to enhance their capacities and to imbed such orientation in collaboration with stakeholders.

Many SPCs produce seed of only one crop. However, many SPCs have conducted PVS to identify better varieties. They are also demanding varieties of new crops whose seed was not under production. The LSB project is creating linkage between these groups and the research stations so that a continuous flow of new varieties comes through PVS, which

should be one of the important tasks of the SPCs. The ISSD is also trying to influence policy so that it favors the seed production practices of the LSBs; not only certified, but quality declared seed for local market, should be produced. Basic seed and services should be given on business orientation, not as grant or for subsidized prices. The LSB project has prepared business plans for all of the SPCS formed in 2009. In this business plan, the formulation of a vision is the first step. This is believed to improve the entrepreneurial capacity of the SPCs.

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