Private Seed Producers Share Experiences, Discuss Challenges

In order to strengthen the role of the private sector in the seed business in Amhara region, ISSD Amhara organised a consultation workshop on private seed sector development and challenges on 02 May 2015 at Bahir Dar.

The specific objective of the workshop was to discuss current developments and challenges related to the private sector that need priority by respective actors and stakeholders. Quality seed production of crops besides hybrid maize, expanding direct seed marketing in more Woredas with more crops, the potential danger and prevention of Maize Lethal Necrosis Disease (MLND), EGS seed production, and increasing capacities of private seed producers were some of the topics of discussion. An onion seed producer has also shared his experience...

...continued to page 6

Seed Producers and Research Centres Hold Joint Planning Workshop

A consultative and joint planning workshop that aims at strengthening the linkage among the seed sector actors in Early Generation Seed (EGS) production was conducted to allow seed producers and research centres plan their activity together for demand based production. Participants discussed on current bottlenecks of early generation seed production and supply in the region and debated on how to increase the flow of (new) released varieties from research to farmers.

Twelve seed producers and four research centers brought their potential need and production plans, respectively, to a common table for discussion and negotiation so that the end result could be a demand based EGS production action plan.

On the opening, Ato Shumye Alemu D/Head of BoA underlined the importance of working together to secure sustainable EGS supply in the region mentioning the current challenge of shortage of hybrid maize EGS seed.

The session also helped seed producers to know more about...

...continued to page 2
ISSD Amhara and ATA Collaborating to Support SPCs in Amhara Region

ISSD Amhara in collaboration with Ethiopian Agricultural Transformation Agency (ATA) provided a series of trainings for seed producer farmers and their supporting Woreda and Kebele partners. The trainings, which aim at enhancing the seed production capacities of selected farmers’ cooperatives in Amhara region, were organised for three different groups and focused on seed production, post-harvest management and seed business management.

On the first round training, 48 cooperative leaders from selected six Seed Producer Cooperatives (SPCs) and 18 Woreda and Kebele supporting stakeholders of these SPCs participated. The training focused on cooperative leadership, business planning and entrepreneurship and was held for two days at Dangila.

Table 1. ATA supporting SPCs

<table>
<thead>
<tr>
<th>Name of SPC</th>
<th>Woreda</th>
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<tr>
<td>Woken Awaramba</td>
<td>Dabat</td>
</tr>
<tr>
<td>Avolla Goshiye Yilmana</td>
<td>Yilmana Densa</td>
</tr>
<tr>
<td>Gusha</td>
<td>Guagusa Shikudad</td>
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<td>Serten Endeg</td>
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<td>Marwolled</td>
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<td>Dil Betigile</td>
<td>Wonberma</td>
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These SPCs have evolved as competitive quality seed producers as they have been supported by Bahir Dar University (BDU) ISSD and other local partners. However, they were mostly producing seed on contract basis to public and private seed enterprises since they don’t have the capacity and machinery to process further and add value on the seed for market.

In another session, 42 Woreda and kebele seed production, protection and extension experts selected from the six SPC Woredas were trained on seed production and post-harvest handling techniques for two days. The training topics include seed production, seed production and protection practices and experiences, seed quality control and certification, seed post-harvest handling technologies and post-harvest management. These trainees were selected for their direct engagement in supporting the SPCs.

The last group of trainees were the actual seed producer farmers of the six SPCs. A total of 1,623 members from the SPCs were trained on seed production and post-harvest handling techniques of crops that they produce. The training sessions were organised at four clusters (Woredas) based on proximity and were held at same time.

The selected SPCs are located in potential crop production areas in Amhara region. The major crops SPCs produce include Tef, wheat, hybrid maize, malt barley, faba bean and potato.

Trainers from Amhara Region Agriculture Research Institute (ARARI), Bureau of Agriculture (BoA), Bahir Dar University (BDU), and Amhara seed quality regulatory authority provided the training.

Joint Planning...

...continued from page 1

the different new varieties released by research centers over the years.

Having the experiences from last year, ISSD Amhara programme facilitated the consultation workshop so as to strengthen the link between seed producers and research centers in the region.
The Growth and Transformation Plan (GTP) is an umbrella strategic framework of Ethiopia’s ambitious national five year plan of development. The plan emphasises propelling the growth of the country through transformation of the agriculture sector as a major engine of the economic growth. It also details that the transfer of improved agricultural technology to smallholder farmers is the major implementation strategy of the sector. The development objectives of the Integrated Seed Sector Development (ISSD) Ethiopia programme i.e. strengthening the development of vibrant, commercial and pluralistic seed sector are highly aligned to this GTP’s priority areas. Below are some of the areas these objectives go together in support of the transformation.

Out of the five major aims of the agricultural sector, ISSD addresses four of them directly. These four GTP aims are:

1. Enhance productivity and production of smallholder farmers
2. Strengthen marketing systems
3. Improve participation and engagement of the private sector
4. Reduce the number of chronically food insecure households

ISSD is working on the strategic commodity of the agriculture sector – seed – improving the seed sector. A vibrant seed sector maximises the availability and use of quality seed. As studies suggest, the use of quality and improved seed can boost productivity up to 50%. The remaining share can be addressed using better production management practices which are also an integral part of the ISSD programme. This strongly supports in meeting the GTP’s overall target of at least 8.1% annual agricultural growth over the five-year period.

ISSD’s approach is pluralistic (involving all stakeholders in the process) but also market oriented. Hence, strengthening the marketing system of the seed sector is one of its priorities. Seed producer cooperatives (SPCs) are supported to be vibrant and imperishable seed businesses that can abundantly satisfy local seed demands. Besides, all seed producers are introduced to a new marketing system where they can sell their seed directly to farmers. This ISSD innovation of marking system allows market interactants to share their interests in comparatively free and open market place for more sustainable relationship. Hence, this directly goes with objective two of the GTP, as listed above.

When we look at from the supply target of improved seed, the GTP had planned a 543% increment amounting 3.6 million quintals (baseline in 2009/10 is 0.56 million). Though this target seems too extended to be achieved, there is a convincing exponential increase in the past five years. ISSD’s contribution here too, is enormously significant. In Amhara region alone, more than 71 SPCs and a dozen of private seed enterprises have produced more than 28 thousand tonnes of improved seed in the past three years.

Another key sub-sectoral target of the GTP that ISSD contributes a lot is the target of ‘more than doubling the production of key crops from 18.1 million metric tonnes to 39.5 million metric tonnes’. As seed is the major input of agricultural productivity, this target is only achieved through the availability, accessibility and affordability of quality seed of superior varieties by smallholder farmers. ISSD also targets and empowers smallholder farmers in quality seed production and use of the same.

Even when we see the Agricultural Growth Programme’s (AGP’s) strategic objectives (that are part of the implementation strategy of the GTP), the works of ISSD strongly supports two

...continued to page 6
Introduction

Seed is a basic and critical input for agricultural production and the very central part of farmers’ livelihoods. Agricultural productivity couldn’t be achieved without good seed. Good seed may have better yield advantage, the desirable quality traits (colour, texture, shape etc) and other socially desirable traits. Moreover, it should be adaptable to the specific environmental conditions where it is intended to be cultivated. It is obvious that all varieties of a given crop not equally perform in a given environmental condition. This general truth leads to look alternative varieties for specific localities.

The national and regional research centres have released a number of crop varieties which have better yield advantage, disease tolerance, and having other desirable traits. However, most of the released varieties are not underproduction with reasons: i) some varieties are obsolete because they became less productive and susceptible for a number stresses; ii) other varieties don’t reach to farmers because of less promotion and forced to display on the shelf; and iii) others may not well-adapt under farmers’ condition. In this article the experience of Seed Producer Cooperatives (SPCs) in increasing varieties portfolio is described.

Why SPCs interest in varietal inflow?

Seed producer cooperatives are business organizations basically established by group of farmers having common interest i.e producing seed as a business. Their ultimate objective is to produce and supply quality seed to the farming community in order to get better income and improve members’ livelihoods. Even if their contribution is pretty indispensable for sustainable seed supply and rural economic development of the country, at the same time they want to make sure that the seed they are supplying should have market demand. To maintain their seed business they want to access the required inputs (quality seed, fertilizers, agrochemicals etc) and strongly link themselves with potential suppliers.

They are collaborating with government seed enterprises, private seed producers, research centres (RCs), agriculture offices, cooperative offices and agriculture (seed) related projects to access the seed. Among these suppliers, it is RCs the one that the SPCs can potentially collaborate to access diversified crops and varieties that may suitable to their specific farming conditions. They collaborate to increase their crops/varieties portfolio to satisfy what the local farmers [and beyond] need/prefer and to continue their seed business as well. They clearly understand that seed business will no longer stay without having alternative crops/varieties.

What SPCs are producing?

Currently SPCs found in Amhara region are producing over 14 crops and more than 35 varieties. The majority of crops are cereals and pulses, and to some extent oil corps, spices, and vegetables. The varieties under production are location specific-adaptable to the specific agroecology. As compared to the diversified agroecologies where SPCs are operating and the number of varieties released by research centres, there are only a few varieties that are under production.

SPCs’ collaboration with RCs

The collaboration of SPCs with RCs in Participatory Variety Evaluation (PVE) is an important step to identify suitable varieties for specific locations and to make SPCs decide wisely whether to include additional varieties to the business. RCs had years’ of experience working with individual farmers/or group of farmers to demonstrate their technologies and to facilitate a room for farmers to involve in varietal selection/development process. As a result many varieties have
been introduced in the farming community and remain under production for many years. However, the PVE activities with SPCs have additional advantages in inflowing varieties in the seed business and better coordination between researchers and farmers.

In the past few years, several PVE have been conducted in close collaboration with SPCs, local partners, and RCs. SPCs choose some varieties among the tested varieties which meet their seed business requirements such as high demand by buyers, specific adaptability, better agronomic and quality traits etc. Some of the varieties included in the business’ crop portfolio are now under production, and others are being requested by SPCs to access the basic seed from suppliers. All the eight SPCs that ISSD/BDU is supporting directly have conducted PVE together with RCs and included the better varieties in their business menu. Below, the experience of Woken SPC, as an example, is explained.

Woken SPC is found in Dabat district, North Gondar Zone. The area is suitable for seed production of highland crops (wheat, barley, potato, and faba bean). Bread wheat is the main seed that the SPC produces and supplies to the market. The SPC was entirely dependent on the long years released wheat variety, HAR604. It was a typical highland variety commonly cultivated in the area. Although it was a good variety, perfectly adapted to the specific conditions, farmers and partners (including ISSD) realised that the yield capacity of the variety was limited. A few years before SPC and partners (Gondar agricultural research centre/GARC, Dabat Woreda Office of Agriculture/DWoA, and ISSD) discussed how to increase the variety portfolio in the area in order to tackle adverse effect as a result of total dependence on a single variety.

Based on the discussion, workable agreement was prepared with clear roles and responsibilities among stakeholders including SPC. GARC took responsibilities to provide bread wheat varieties released for typical highland areas, to provide technical support for local experts and selected farmers on trial/field management. Regular support/supervision and technical support was given as responsibilities for the DWoA. ISSD took the overall technical support and facilitation responsibilities. Finally, Woken SPC took the vast responsibilities in providing inputs (other than varieties), land for trial, select farmers, and cover the cost for overall field management. Three farmers were selected by the SPC together with experts to allocate land for trial. Strong commitment, technical skills, social acceptance, and previous experience in field experiment are some of the major criteria used to select farmers. With close supervision by the SPC and the internal agreement made with farmers, the land was prepared well at the required expectation. The varieties were delivered to the site on time and the support from partners was carried out as agreed. A total of eight bread wheat varieties were evaluated. From the varieties under testing/evaluating, a few varieties tolerated external shocks (diseases, frosts) and gave better yield. Danphe was one of the selected varieties that attracted farmers with its various merits which helped the SPC to decide to include Danphe, among others, in their seed business. The following year, the SPC purchased basic seed of Danphe from Ethiopia Seed Enterprise to produce at larger scale. As a coincidence, during the time a crucial wheat disease (yellow rust) appeared in the country and many old varieties including HAR604 were seriously damaged followed by significant yield loss. However, Danphe showed its ability to tolerate the disease pressure and gave reasonable yield. Farmers in the area understood that Danphe is the appropriate variety, not HAR604 anymore. Since then the SPC is producing and selling Danphe seed to the local community and beyond the Woreda with attractive price.

**Lessons learnt**

1. Technically speaking, SPCs are able to work with RCs and partners in evaluation and promotion of technologies as far as the technologies can be displayed in the shopping list.

2. It is a mutual benefit that strengthens collaboration and brings success.

3. Crops/varieties in the SPC’s business has paramount importance for continuity of the business and a key adaptation strategy.
of the major objectives: (1) Achieve a sustainable increase in agricultural productivity and production, and (2) Achieve universal food security and protect vulnerable households from natural disasters.

In Amhara region alone, ISSD works in 17 of the 22 AGP Woredas in organizing and supporting SPCs to make them professional seed businesses which can autonomously plan, produce and market their products. Involvement of smallholder farmers in seed business has proved better income for farmers. The number of Woredas in the list increases if we include the target geographical areas of specific projects such as direct seed marketing and the overall seed sector support provided to key seed stakeholders in the region.

As ISSD and GTP follows medium term development targets and both of them are now evaluating their achievements for another round of five year plans, the tributary effect of ISSD to GTP remains as paramount. The lessons learnt from the six year experience of ISSD gives us confidence that our next contribution can strengthen and accelerate the rate of achieving GTP2 targets by the end of 2020.

Seed has a special place in agriculture. It is the cheapest but a vital input in crop production and key to agriculture progress. Crop status largely depends on the seed materials used for sowing. Response of other inputs in crop production also depends on seed material used. Below are 15 known benefits of using quality seeds in crop production.

1. They are genetically pure (true to type).
2. The good quality seed has high return per unit area as the genetic potentiality of the crop can be fully exploited.
3. Less infestation of land with weed seed/other crop seeds.
5. Minimization of seed/seedling rate i.e., fast and uniform emergence of seedling.
6. They are vigorous, free from pests and disease.
7. They can be adopted themselves for extreme climatic condition and cropping system of the location.
8. The quality seed respond well to the applied fertilizers and nutrients.
9. Uniform in plant population and maturity.
10. Crop raised with quality seed are aesthetically pleasing.
11. Good seed prolongs life of a variety.
12. Yield prediction is very easy.
13. Handling in post-harvest operation will be easy.
14. Preparations of finished products are also better.
15. High produce value and their marketability.


Private Seed Producers...

and the opportunities of working in the vegetable seed sector. Participants of the workshop include regional governmental organizations, partners, selected unions and private seed producers.

Currently, more than a dozen of private seed producers are actively working in seed production, processing and marketing of different crops including vegetables and forage seed in Amhara region.

ISSD Capacitating...

Participants also visited one of their member cooperatives which has independently marketed its seed directly to farmers by partnering five other cooperatives as its dealers. It processed the seed using local materials and packed it in 25kgs. The Cooperative’s success lies on its quality seed, promotion of product to target customers and strong linkage with partners and stakeholders. Participants were particularly impressed by the cooperatives initiative of such actions by managing available sources effectively.

The training and experience sharing events were a good starting point and an eye opener for the Union to aggressively work on achieving its objectives.
Seed has been described as an essential, strategic, and relatively in expensive input that often determines the upper limit of crop yields and the efficiency of all other agricultural inputs. In line with this, integrated seed sector development (ISSD) Amhara programme is one of the development partners providing supports for the development of the seed sector in Amhara region since 2009. So far, 71 local seed businesses have been reorganized and organized to form seed producer and marketing cooperatives with the support of ISSD Amhara programme and through collaboration of partners. Though seed producer cooperatives are business organizations, they do not have information about the comparative advantage of producing seed over grain on a specific plot of land.

Consequently, ISSD Amhara programme has conducted profitability analysis on three crops (tef, maize and wheat) at Goshiye, Marwoled and Gusha seed producer and marketing cooperatives to compare the profit of seed over grain production of 2013 production year. Profitability refers to the operating efficiency of the enterprise, while profit refers to the total income earned by the enterprise during the specified period of time. The profit of tef seed over grain production was assessed at Goshiye while wheat at Gusha and Marwoled SPCs. Besides, maize seed profitability over grain production was assessed at Marwold SPC.

These SPCs were selected purposively for this study. Simple random sampling technique was employed to select the number of households from each stratum. A simplified formula for proportions suggested by Yamen, (1967), was used to determine sample size. The sample has been taken from those cooperative members who produced seed and grain in 2013 production year. Accordingly, among the 306 cooperative members who had produced seed and grain in the 2013 production year, 219 were selected for direct interview based on the sampling taking technique adopted for this purpose. Training was provided to enumerators to gather information using semi structured questionnaires. Then data was collected from farmers by enumerators with the support of ISSD experts. Descriptive statistical and quantitative methods were used to analyze the data collected. A combination of profitability analysis tools such as Gross Margin Analysis (GMA), Return on Investment (ROI), Return on Capital (ROC), and Return on Cash Cost (ROCC) were adopted to determine the level of profitability of smallholder farmers.

Findings and Conclusions

1. Maize: The gross margin of maize seed production (BH-660) was Birr 7,102.46 per hectare while for grain production Birr 8,060.18 per hectare. This indicates that the gross margin of maize grain production is more than the gross margin of maize seed production. The return on investment also shows that the net return of grain production is Birr 4.14 which means by investing Birr 100.00 farmers obtained Birr 4.14 for grain. For seed production, however, the net return is negative that is Birr 1.27 lost by considering all direct and indirect costs including all opportunities costs. The return on capital also reveals that farmers obtained net return Birr 37.09 and Birr 31.68 by investing Birr 100.00 for seed and grain production excluding all family labor costs respectively. Moreover, the return on cash cost reveals that farmers obtained net return Birr 147.00 and Birr 157.64 by allocating Birr 100.00 for seed and grain production excluding all opportunity costs respectively. From the above profitability analysis tools, one can observe that grain production is more advantageous than seed production for maize BH-660 in 2013 production year.

2. Wheat: Gross margin result indicated that Birr 13,556.18 for seed and Birr 1,601.22 for grain production were obtained on a hectare of land. Hence, the gross margin of seed production for bread wheat was more than the grain production. The return on investment result depicts that farmers got net return Birr 39.12 from seed production and negative Birr 3.15 from grain production by investing Birr 100.00 including all direct and indirect costs. The return on cash cost reveals that farmers obtained net return Birr 69.2 for seed and Birr 5.35 for grain production by investing Birr 100.00 including all family labor costs respectively. Moreover, the return on capital also reveals that farmers obtained net return Birr 147.00 and Birr 56.15 from grain production on one hectare of land during 2013 production year. From this profitability analysis result, it is possible to conclude that the profitability of bread wheat seed production was more advantageous than grain production.

3. Tef: In the case of gross margin, the result...continued to page 8
ISSD Amhara provided a four day intensive capacity development training and experience sharing for the newly established Ediget Bandinet Seed Producer Cooperatives Union from 24-27 July 2015 at Finote Selam.

The objective of the training and experience sharing was to enhance the capacity of leaders on seed business management, marketing and entrepreneurship. After the three days training, participants shared experiences from Damot Multipurpose Cooperatives Union and Ediget Ber Seed Producer Cooperative to consolidate their training with practical experiences.

For practical experience, participants visited Damot Union, one of the successful and strong cooperative unions in the region, which has also seed production and marketing experience in W/Gojam. Damot Union’s manager Mr. Getachew welcomed the visitors and explained the success and challenges of the Union mainly in the areas of seed production and marketing, linkage with partners and infrastructure development. The manager also invited the visiting board members to share experience with the Union during their board meeting every 27th of the month. Participants asked different questions for more explanation in relation to their current encounters and how Damot Union solved similar challenges.

About ISSD: The programme on Integrated Seed Sector Development in Ethiopia aims to strengthen the development of a vibrant, market oriented and pluralistic seed sector in the country. Through a vibrant and pluralistic seed sector, quality seed of superior varieties are available and affordable to a larger number of farmers, thereby contributing to agriculture for food security and economic development in Ethiopia.

More Information:  
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Profitability Analysis...  
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indicates that Birr 21,581.18 for seed and Birr 10,048.60 for grain production were obtained on one hectare of land. Hence, the gross margin of seed production for Tef was more than the grain production. The return on investment result also depicts that farmers got net return Birr 93.69 from seed and negative Birr 32.01 from grain by investing Birr 100.00 including all direct and indirect costs.

Moreover, the return on capital shows that farmers obtained net return Birr 154.27 for seed and Birr 73.25 for grain by investing Birr 100.00. The return on cash cost result reveals also that farmers got net return Birr 521.54 from seed and Birr 325.95 from grain production on a hectare of land during the study production year. From this profitability analysis, it is observed that the profitability of producing Tef seed was more advantageous than grain.

In conclusion, from the three crops, maize (BH-660) seed production was not profitable over grain production in 2013 production year for farmers.

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