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Executive summary

Embrace systemic change, manage not only adaptively but inclusively, and invest in social capital. These are the lessons learned in guiding sector transformation through the programme Integrated Seed Sector Development in Ethiopia (ISSD Ethiopia) over the past decade. This case study takes as its starting point the pinnacle of the programme's efforts, a little less than two years ago. Looking specifically at the achievements of a new seed policy, and a stakeholder-owned strategic document, entitled 'Transforming the Ethiopian seed sector: issues and strategies', we describe the effectiveness of the methods applied by ISSD Ethiopia, their grounding in theory, and the relevance of these three lessons for practitioners and policy-makers looking to achieve similar results.

Throughout time, Ethiopia has struggled to meet the increasing demand for quality seed by farmers and government extension programmes. The seed sector is dominated by the presence of four public enterprises, with little private investment and participation to date. Although certified seed production has seen average annual growth rates of 19% since 2004, it still covers less than 20% of the cultivated area of the country. Most farmers access seed predominantly from informal sources, including the seed they save, exchange with relatives and neighbours, and sell at places commonly referred to as local, traditional and informal markets. The seed sector's poor performance has had a negative effect on crop productivity as well. Ethiopia has been lagging behind the global average increase in productivity over the past two decades.

ISSD Ethiopia has been working towards the transformation of the Ethiopian seed sector since 2012, to enhance female and male smallholder farmers' access to and use of

quality seed of new, improved and preferred varieties. The vision of ISSD Ethiopia is that of a vibrant, pluralistic and market-oriented seed sector. Much of the attention has been directed at underlying causes of systemic problems, and a number of important structural innovations have been achieved. The programme introduced the model of local seed business to more than 270 seed producer cooperatives and 50 development organizations across the country, and enhanced pluralism in seed production. Farmers' use of quality seed increased by 28% between 2014 and 2016, and since then ISSD Ethiopia has improved access to seed for more than four million smallholder households. To reduce the bureaucratic burden, inefficiency and costly rates of seed carryover in storage, in some cases by as much as 85%, ISSD Ethiopia introduced the concept of direct seed marketing and helped scale its practice to 290 districts across the country. It catalysed the establishment of independent seed regulatory authorities in three regional states to enforce regulation and improve

the delivery of public services to the sector, including quality assurance. ISSD Ethiopia also established seed core groups, uniting decision-makers in each of the four regions where it operates. Jointly, core group members formulate interventions to overcome challenges, coordinate developments, facilitate partnerships, channel financial and technical resources, monitor and support interventions, and embed successful innovations institutionally in Ethiopia.

After years of investing in piloting innovations and facilitating dialogue at all administrative levels, ISSD Ethiopia generated enough support to pursue sector-wide and inclusive strategy at national level. In 2017, the opportunity for partnership at federal level presented itself. Agreement was reached to facilitate greater stakeholder involvement in identifying, prioritizing and overcoming key challenges in the seed sector. In the second half of 2017, the National Seed Advisory Group, a team of experts in the sector, was established to advise the Ministry of Agriculture (MoA) on strategy and policy. In April 2018, ISSD Ethiopia facilitated a workshop on seed sector governance to promote regional stakeholders' participation in strategic dialogue at national level. During this workshop, a vision of the sector in 2040 was conceived, intended outcomes and strategies for each seed sector function were defined, and the structures through which the seed sector would be governed were proposed. In November

2018, a second workshop was organized to consolidate the work and propose a national agenda. By December 2018, the document 'Transforming the Ethiopian seed sector: issues and strategies' (hereafter, the transformation agenda) was presented to the State Minister of Agricultural Development, who endorsed it as the guiding document for the seed sector, nationally; it was later published by the MoA in 2019.

Hot on the heels of the transformation agenda's endorsement was an assignment to finalize the new draft seed policy. ISSD Ethiopia was tasked with facilitating the reconciliation of differences between two competing versions of the seed policy, towards the development of one final draft policy. The resulting draft seed policy was presented during a National Agricultural Research Council meeting in February 2019 and subsequently approved by the MoA. To align the 2013 Seed Proclamation with the seed policy and the transformation agenda, an amendment has been drafted. The proposed amendment aims to create far greater clarity on the rules of the game to which the sector subscribes. ISSD Ethiopia has contributed to multiple directives in the past few years, all of which serve to generate this clarity and facilitate what is considered to be good practice on the ground. With the amendment to the legislation, hopefully these directives will become a more permanent feature of an improved enabling environment for the seed sector in Ethiopia.

1 Introduction

1.1 Aim, scope and structure of the case study

This document aims to disentangle the success of the programme Integrated Seed Sector Development in Ethiopia (ISSD Ethiopia) and its approach towards facilitating systemic change. It shares lessons learned with those who strive to guide sector transformation elsewhere. The case study begins in 2018 at the pinnacle of the programme, and the efforts are described below. We look specifically at the achievement of the new seed policy and the national strategic document entitled 'Transforming the Ethiopian seed sector: issues and strategies'. In Section 2, we describe the methods deployed by ISSD Ethiopia since 2018 to facilitate an adaptive and inclusive consultative process in guiding sector transformation. Section 3 discusses the results achieved between April 2018 and March 2020, after which we conclude, in Section 5, by sharing recommendations for the way forward and the lessons learned. But first, a brief history of seed sector development in Ethiopia sets the stage.

1.2 A brief history of seed sector development in Ethiopia

Quality seed is of utmost importance for increasing farmers' yields and income. The inherent characteristics of seed determine to a large extent its production potential and capacity to withstand diseases and shocks like droughts and floods. It is estimated that

the use of quality seed of improved varieties can decrease the yield gap (the difference between potential and actual yields) by up to 50% (World Bank, 2007). To increase agricultural productivity, farmers need access to quality seed of a diverse portfolio of superior varieties. Next to achieving good and stable yields, this enables enhanced product quality, increased income, food security, resilience to climate change, and improved livelihoods. Summarized below is a brief history of the efforts made in developing the seed sector in Ethiopia over the past 40 years.

1.2.1 The formative years

Although public investments in agricultural research for crop improvement began as far back as the 1950s in Ethiopia, it was not until

Farmers pay attention to a diverse range in traits when selecting their preferred varieties





Women grading beans for the selection of seed to be saved for the next season

the late 1970s that formal seed production began. In 1979, what is now known as the state-owned Ethiopian Seed Enterprise (ESE), was set up to supply seed primarily to stateowned farms, but also to farmers' cooperatives and settlement areas. Until then, seed was multiplied through outreach programmes of agricultural research centres and selected colleges. Seed multiplication expanded in the 1990s in response to growing demand from government extension programmes (AGP, 2009). This was also very much supported by the World Bank Seed Systems Development Project (World Bank, 2003), which strengthened the commercial orientation of the ESE, improved seed sector coordination, and introduced the seed certification system. Against the backdrop of increasing seed demand, the

project, which operated between 1996 and 2002, laid the foundation for recent developments in the Ethiopian seed sector.

Over the years, the formal seed system has been continuously challenged to sufficiently meet the increasing demand for quality seed. Nearly 30 years after the establishment of the ESE, three more parastatal seed enterprises arrived on the scene in the regional states of Amhara, Oromia, and the Southern Nations, Nationalities and Peoples' Region (SNNPR). These enterprises have helped boost seed production from about 33,000 tonnes in 2009 to more than 135,000 tonnes today (MoA, 2018). The seed sector is still dominated by the presence of these stateowned enterprises, which contribute about

72% of the volume of certified seed supplied in the country (MoA, 2018). Although their share of certified seed of hybrid maize is relatively lower (~60%), very little private investment and participation has taken place to date in the seed sector. The formal seed system in Ethiopia has always been predominantly public. Prior to 2010, the few private seed producers that were in operation in the country, with the exception of Pioneer Hi-Bred (now owned by Corteva Agriscience), acted fully within the capacity of out-growers for the government.

Although certified seed production has seen average annual growth rates of 10% since 1995, and 19% since 2004 (MoA, 2018), it still covers less than 20% of the cultivated area of the country (CRS et al., 2016). The

majority of farmers access seed predominantly from informal sources. These include stocks saved, exchanged and sold informally at places commonly referred to as local, traditional and informal markets. The limited availability and use of quality seed negatively influence crop productivity and farm profitability. Yield gaps in Ethiopia for maize, wheat and beans remain as high as 82%, 73% and 68% respectively (GYGA, 2020). Despite recent advancements, Ethiopia has been lagging significantly behind the global average increase in productivity over the past two decades. Reasons given for the underperformance are many, including a lack of strategic leadership and strategy in general, weak governance, and poor coordination, accountability and capability among actors in the seed value chain (MoA, 2019).

1.2.2 Challenges of the past decade *Production*

Over the past ten years, a relatively narrow band of varieties has been made available through the formal seed system, and rates of seed and varietal turnover has remained low. The comparatively narrow base of producers and predominance of the parastatals has not allowed for location-specific quality seed production. Instead, seed production has favoured a few crops and varieties with widest possible adaptation. Furthermore, there have been repeated mismatches between the supply and demand of early generation seed (EGS)1. EGS supply was misaligned with demand for quality seed, because of weak market incentives and planning by those predominantly responsible for its production, namely public research institutes. Coupled

with limited private investment in seed production, available volumes have been disappointingly low.

Markets

During this period, seed was obtained by farmers through a centrally planned scheme of distribution that relied upon a lengthy and bureaucratic system of demand collection, aggregation and allocation. The seed available was allocated as best as possible and distributed through the network of unions and primary cooperatives of the country and, where needed, through local government offices of agriculture as well. Seed distribution was, by and large, inefficient, resulting in high rates of costly carryover².

Services

The public sector has played a prominent role in providing important services to seed producers. At federal level, the MoA is responsible for facilitating the release and registration of varieties, protecting plant breeders' rights, ensuring the health and quality of imported and exported seed, and providing licenses to seed producers that operate in more than one regional state of the country. Regional bureaus of agriculture (BoAs) or, where established, independent seed regulatory authorities, ensure seed quality, and license producers and distributors that operate within their jurisdiction. Regional cooperative promotion agencies (CPAs) provide legal, financial and organizational support to unions and primary cooperatives producing and distributing quality seed. By 2009, the availability and quality of these services remained unsatisfactory due to a lack of resources, commitment, alignment and accountability;

ISSD Ethiopia helped establish independent seed regulatory authorities in three regions, responsible for seed quality inspection and testing



Quality seed of an improved variety may close up to 50% of the gap between potential and actual yields



¹ EGS includes breeder-, pre-basic- and basic seed, or by a different nomenclature nucleus- and foundation seed.

 $^{^{\}rm 2}~$ Seed carryover refers to the seed that remains unsold in storage.

since then, there have been varying levels of improvement (Hassena, van den Broek and Borman, 2020).

Regulation and coordination

In terms of governing the seed sector, the MoA is the most senior body for developing seed-related policies, regulations and strategies. The Ethiopian Seed Association, an association of industry players, has been around since 2006, but has struggled to leave its mark in lobbying the interests of its members. While the main policies, regulations and strategies governing the practices of seed producers, other operators and service providers in the seed value chain, are defined at federal level, regional state governments are largely autonomous in their implementation of these. In general, seed sector development efforts have been poorly coordinated and nearsighted in focus. The former National Seed Industry Agency (NSIA), which was replaced by the National Agricultural Input Authority, once played this role, but its responsibilities were officially transferred to the MoA in 2004 and the authority was dissolved.

1.3 Integrated seed sector development

The concept of integrated seed sector development was introduced to Ethiopia in 2009 by Wageningen University & Research. A concept note on integrated seed sector development in Ethiopia was formally endorsed and signed by the MoA, the Food and Agriculture Organization of the United Nations (FAO), and the Embassy of the Kingdom of the Netherlands in 2009. Several projects, managed independently, but working collectively towards the integrated development of the seed sector in

Ethiopia were launched around this time. However, it was not until 2012 that these efforts were consolidated under the management of Wageningen Centre for Development Innovation (WCDI), within Wageningen University & Research, in the comprehensive programme on Integrated Seed Sector Development in Ethiopia (ISSD Ethiopia).

Integrated seed sector development (Louwaars and de Boef, 2012; Louwaars, de Boef and Edeme, 2013) is a concept that WCDI and its partners have operationalized into an approach of eight guiding principles: (1) foster pluralism and build programmes on the diversity of seed systems; (2) work according to the structure of the seed value chain; (3) promote entrepreneurship and market orientation; (4) recognize the relevance of informal seed systems; (5) facilitate interactions between informal and formal seed systems; (6) recognize complementary roles of the public and private sector; (7) support enabling and evolving policies for a dynamic sector; and (8) promote evidencebased seed sector innovation. Further details and an explanation of the guiding principles can be found on www.ISSDseed.org.

1.4 ISSD Ethiopia

ISSD Ethiopia has been working towards the transformation of the Ethiopian seed sector since 2012 to improve female and male smallholder farmers' access to and use of quality seed of new, improved and preferred varieties. The vision of ISSD Ethiopia is that of a vibrant, pluralistic and market-oriented seed sector in the country. The programme works towards the achievement of its mission by ensuring the following primary outcomes:

(1) increased availability to and use of quality

seed; (2) enhanced performance of seed value chains; and (3) an improved enabling environment for the seed sector. Furthermore, ISSD Ethiopia works intensively on strengthening professional capacities and facilitating partnerships for systemic change. Activities take place at federal level and at regional and local levels in the states of Amhara, Oromia, SNNPR, and Tigray. ISSD Ethiopia is funded by the Embassy of the Kingdom of the Netherlands in Addis Ababa.

The ISSD Ethiopia consortium is comprised of six organizations: Bahir Dar University, Haramaya University, Hawassa University, Mekelle University, Oromia Seed Enterprise, and WCDI. Hosted at each partner organization is a multidisciplinary team of experts.

These partners have a wide collaborative network within the government, research organizations, industry and civil society, at federal, regional state and district levels in Ethiopia, and also internationally. The collaborative efforts of these organizations and the investments made by other development organizations and their partners have revived the seed sector over the course of the past decade.

1.5 Achievements of the past decade

ISSD Ethiopia has achieved a great deal with its partners. An independent survey conducted by the Policy and Operations Evaluation Department (known by its Dutch acronym, IOB) of the Ministry of Foreign Affairs of the Netherlands revealed that

Seed production has seen a fourfold increase since 2009; however, often stored under substandard conditions



farmers' use of quality seed of improved varieties increased by 28% between 2014 and 2016 (ECORYS, 2017). Since 2016, ISSD Ethiopia has enhanced the availability and use of quality seed for more than four million smallholder households (Alemu et al., 2019). Much of the attention has been directed at underlying causes of systemic problems. The following is a selection of the more structural innovations.

Production

For bolstering supply in a sustainable way, ISSD Ethiopia partners piloted and promoted local seed business models of decentralized production and marketing by seed producer cooperatives and private investor farmers. In 2018, 28,353 tonnes of quality seed of grains, 5,768 tonnes of seed potatoes, 200,000 sweet potato cuttings, and 150,000 papaya seedlings were produced by ISSD Ethiopiasupported local seed businesses. At present, 13% of the total volume of all certified seed in the country comes from these producers, and sufficient quality seed tubers are produced to sow one-fifth of the total area of potato cultivation (CSA, 2018; ISSD Ethiopia, 2019). The investment in local producers has significantly widened the production base. ISSD Ethiopiasupported seed producers incorporated 96 varieties of 31 different cereals, legumes, oilseeds, roots and tubers, fruit and vegetables, and spices in their seed product portfolios in 2019 (ISSD Ethiopia, 2019).

Markets

Direct seed marketing (DSM), whereby seed producers are authorized to sell seed directly to farmers, was piloted by the programme and its partners in 2011, as an alternative to the incumbent system of centrally planned allocation and distribution. DSM



Direct seed marketing increases companies' accountability to farmers by bringing the two more closely together



reduces costly rates of carryover seed. In 2016, the rate of wheat seed carryover in DSM piloted areas in Oromia was 85% lower than in non-pilot districts (ATA, 2017). In 2019, with the support of the Ethiopian Agricultural Transformation Agency (ATA), DSM was scaled to 290 districts, to deliver over 50,000 tonnes of certified seed to two million farmers.

Services

In its early days, ISSD Ethiopia conducted a study of seed quality and recommended the establishment of independent seed regulatory authorities to enforce regulation and to enhance the delivery of public services to the sector, including seed business licensing, seed quality inspection and testing for seed certification, and seed quarantine. Subsequently, independent authorities have been established in the regional states of Amhara, Oromia and SNNPR, and the capacities of relevant departments within the MoA and the Tigray BoA have been strengthened.

Regulation and coordination

A strategy that greatly contributed to the above achievements was the establishment of regional seed core groups in the four regional states where ISSD Ethiopia operates (Hassena, 2017). These are groups of selected key decision-makers in the regional state arena, including deputy heads of the BoAs, directors of research institutes, representatives of public and private seed producers and farmers' organizations, and coordinators of multi-/bi-lateral seed-related projects of NGOs. The function and intended purpose of these regional core groups is the collaborative governance of the seed sector. Members jointly formulate interventions aiming to overcome strategic challenges of the seed sector, and coordinate developments by facilitating partnerships for innovation, channelling financial and technical resources into interventions, monitoring and supporting interventions, and embedding successful interventions in the working practices of seed value chain actors.

1.6 A case study on guiding sector transformation in Ethiopia

The abovementioned innovations are the result of close collaboration between ISSD Ethiopia staff and stakeholders in the sector. As ISSD Ethiopia's results materialized, collaboration at federal level was increasingly solicited. Over time, closer ties were developed with the MoA, ATA, Ethiopian Institute for Agricultural Research (EIAR), and selected programmes, projects and initiatives. As a trusted and respected partner, this recognition at federal level has provided opportunities to more actively contribute to, and in some cases lead, structural change at federal level. It has also enabled ISSD Ethiopia to move to a more holistic approach to sector transformation, one that integrates innovations in a systematic and strategic way. After years of investment in piloting innovation and facilitating dialogue at higher administrative levels under an all-encompassing agenda for the seed sector, ISSD Ethiopia has generated the necessary support to pursue sector-wide and inclusive strategy at national level.

2 Methods: strategizing for systemic change

ISSD Ethiopia applied two conceptual frameworks to guide its approach to creating a sector-wide and inclusive strategy to seed sector development. The first uses a theory-based approach to ensure well-designed multi-stakeholder engagement. The second is a model that helps to deconstruct the complexity of the sector. Both approaches will be explained below, and the results of their application will be described in Section 3.

2.1 Facilitating multi-stakeholder partnerships

Partnerships are an interesting phenomenon. They often lack the spontaneity we assume they have, and instead need facilitating. Facilitating partnerships among multiple stakeholders poses an even greater challenge. Well-designed multi-stakeholder engagement usually follows six stages: connection, shared language, divergence, co-creation, convergence, and commitment (Flower, Muoio and Garris, 2013; Kaner et al., 2014). In reality, the boundaries between one stage and another may blur, and the group may transition quite fluidly back and forth and through several reiterations of a given stage before advancing towards commitment. A facilitator should remain cognizant of these stages, their intended outcome and where the dynamic of the group is at, rather than apply a linear logic too rigorously. Brouwer et al (2016) provide an elaboration of these steps in 'The MSP guide: How to design and facilitate multistakeholder partnerships'. As Section 3 will discuss, the efforts of ISSD Ethiopia in transforming the seed sector have been conducted with this strategic thinking in mind. It is important to note that this strategic thinking may not be shared by all those participating in the process. The six stages are described here below and are illustrated in Figure 1.

Connection: defining the issue and becoming a group

At this stage, the aim is to get as many people as possible talking to each other. Stakeholders listen more if they have been able to talk and share, and feel that they have connected with some of the others. One of the key outcomes is that everybody is clear about what the issue is. Stakeholders discover that people have different perspectives on the issue and realize there are many learning and networking opportunities.

Shared language: understanding the issue and appreciating different perspectives

At this stage, stakeholders can articulate their understanding of the issue and create a solid knowledge base that participants can use to start developing solutions. It is important to recognize individual capacity gaps that need to be addressed so that everyone can participate meaningfully. Common ground between stakeholders should be emphasized at this stage to instil a sense of common purpose by sharing information and creating a new 'container' together.



Farmers frequently save, share and exchange seed informally at local markets

Divergence: broadening perspectives on the issue and surfacing and appreciating differences

This is the stage at which differences in understanding, seeing, and valuing become visible. By this time, people know who holds which view and who is aligned to which camp. It is important to create a safe environment for these differences to be expressed and examined. The challenge in this stage is to encourage people/stakeholders to withhold their judgement and not jump to conclusions.

Co-creation: developing options to address the issue and helping people engage and collaborate

The emphasis at this stage is on developing stakeholder outputs using the raw materials of the previous stages. As in the Divergence stage, the aim is to encourage stakeholders to develop a range of options and to avoid deciding on a single solution or direction too early. Final decisions will be taken at the Convergence stage.

Figure 1: Icons denoting each of the six stages of well-designed multi-stakeholder engagement



Defining the issue and becoming a group



language

the issue and

perspectives

different

Divergence

Broadening
perspectives
on the issue,
surfacing and
appreciating
differences



Co-creation

options to address the issue and helping people to engage and collaborate effectively



Convergence

Deciding which ideas could work, prioritising and refining what has been created



Agreeing on actions,

alignment and

reflection

Commitment

Convergence: deciding which ideas could work and prioritizing and refining what has been created

This stage focuses on creating as much shared understanding as possible, and getting a sense that progress is being made towards finding solutions. Many of the options generated at the co-creation stage might still be too general and need specification and testing. One can use tools to prototype and weigh the pros and cons of each idea. The Convergence stage is not easy. A facilitator may need to take on an unpopular role and insist that stakeholders make clear choices, even when difficult. If they don't, the process could get stuck at the final stage of Commitment. The end product of Convergence is a range of clear options ready for decision-making.

Commitment: agreeing on actions, aligning and reflecting

The main aim of the Commitment stage is to make decisions and agree upon actions. Tools for prioritizing, ranking, and decision-making can help to structure the decision-making process, and prevent meetings from ending with no decision, or stakeholder groups from hijacking the agenda to push their preferred solutions. Stakeholders agree on ways to stay accountable to each other for implementing the actions.

2.2 Deconstructing the complexity of the sector

The second framework concerns the concept and language of the sector and its transformation. The challenge to transforming a sector is that it has many interrelated constituent parts. The process to agree on strategy can therefore easily be derailed by confusion on concepts and a lack of understanding of the impact one's actions have on another's in an interrelated system. Hence, a framework was needed to articulate what sector transformation entails in order to create a common understanding. As Section 4 will discuss, this would end up playing a pivotal role in the ISSD Ethiopia team's facilitation of the second stage mentioned above, Shared language.

ISSD Ethiopia found a solution at Aidenvironment, a Dutch non-profit values-driven consultancy. Aidenvironment has developed a model (Molenaar, Vorley and Blackmore, 2017) to conduct sector diagnostics and support strategy development; the model can also be used to unpack a sector into its different interrelated parts. Aidenvironment was hired in 2018 to assess ISSD Ethiopia's approach to sector transformation using its model. The model proved to be applicable in facilitating high-quality discussions of a strategic nature among different disciplines.

The model was applied to disaggregate the seed sector into six seed sector functions (Figure 2). The first three functions concern the capabilities of and links between seed producers, their markets and service providers (the seed value chain). They also incorporate in their scope the organization of seed producers that facilitates these linkages. The remaining three functions refer to how the seed sector is governed, and include policy and regulation, coordination, and the mechanisms through which the seed sector collects and reinvests revenues strategically. The model emphasizes the interdependencies between functions. The performance of one seed sector function depends partly on the performance of another. For example, developing fair and competitive seed value chains may only be possible if seed producers receive inputs and services that enhance their performance, and if regulation succeeds in levelling the playing field for small and large seed producers alike. Consequently, a sector-wide transformation requires complementary strategies in all, or at least most, of the seed sector functions.

The model also emphasizes the importance of having a vision of the future as the point of departure when developing a strategy for seed sector transformation. It is the vision from which key performance indicators are derived, for example regarding the sector's competitiveness and sustainability. Having a long-term vision helps to shift the focus beyond today's problems and short-term problem solving. As Section 3 discusses, this proved to be important to ISSD Ethiopia when facilitating the fifth stage of multistakeholder engagement: Convergence.

Figure 2: Model of the seed sector and description of its six functions (adapted from Molenaar et al., 2017)

Vision

A high-performing sector is: • competitive, in price and quality; • resilient to price volatility and climate variability; • profitable, allowing producers, workers and supply chain actors to capture a fair share of the value created; • innovative and adaptive to market trends; • sustainable, protecting the environment and respecting labour rights; • inclusive to the most vulnerable participants • resistant to rent seeking and elite capture; • transparent, operating within legal frameworks, with traceable supply.

Services

- Provision of high quality, inclusive and differentiated services
- Key elements are research and development, actual services (e.g. advisory, inputs finance), and the viability of their delivery models

Production

- Combination of farming models and organization of producers around production, services and markets
- Key elements of the farm ar product mix, technologies, and scale
- Key elements of organization include governance, collective capabilities, and business models

Markets

- Development of efficient, fair, inclusive and transparent product markets
- Key elements include transparency, traceability, fair pricing and trading, incentives for good and disincentives for poor performance

Revenue and reinvestment

- Ability to generate revenues at sector level by capturing some of the value created and making strategic re-investments
- Key elements include revenue generating mechanisms (e.g. taxes, fees) and re-investment mechanisms (e.g. subsidies, funds, public works, loans)

Coordination

- Alignment of stakeholders around a shared vision and strategy
- Key elements are dialogue, sector platforms and/or governing bodies, a sector vision and strategy, shared standards and guidelines, informing policymaking and sector-wide monitoring and learning

Regulation

- Establishment of coherent rules and systems that govern markets
- Key elements include market, social and environmental management, land tenure, and the rules governing both producer organizations and service providers' operations

3 Results and discussion

This section annotates the process facilitated between April 2018 and March 2020 in the pursuit of a sector-wide and stakeholder-inclusive strategy. Applying the conceptual framework explained above, results are discussed in terms of their relevance and importance for the achieved outcome.

3.1 Connection and divergence

As mentioned in the introduction, ISSD Ethiopia had already witnessed the success of its efforts in facilitating multi-stakeholder partnerships at regional state level. The regional seed core groups, and their members with whom ISSD Ethiopia had built strong relationships, also gained visibility and credibility at federal level.

The opportunity for establishing partnership at the federal level presented itself most

H.E. Mr Sani Redi, State Minister for Agricultural Development



notably in 2017, when one of the former core group members was elected to office. Having become the Minister of Agriculture, one of his first points of business was to request ISSD Ethiopia to engage in formal partnership with the MoA. A collaboration agreement was signed with the shared ambition to 'effectively and sustainably address persistent challenges in the seed sector and to proactively and jointly seek opportunities and design strategies to improve its performance'.

The objectives cited in the agreement between the MoA and ISSD Ethiopia can be summarized as facilitating greater involvement of multiple stakeholders in identifying, prioritizing and overcoming key challenges in the seed sector. The MoA requested the secondment of a senior expert to help achieve this. As there is no specific directorate within the ministry dedicated to seed, ISSD Ethiopia's senior seed sector expert was deployed to the so-called Seed Unit, an ad hoc taskforce comprising senior civil servants, advisers to the state ministers and a seconded staff member from the ATA, with the mandate to improve seed sector performance. In accordance with the agreement signed with the MoA, one of the major tasks of the seed expert was to facilitate the work of a soonto-be-established advisory group. This group, the National Seed Advisory Group (NSAG), was established in the second half of 2017 to advise the MoA on strategy and policy,



NSAG members debating the way forward

although not exactly with the same composition that ISSD Ethiopia had in mind.

It was agreed that the group comprise bona fide experts in the seed sector, but ultimately it was dominated by senior staff members from the MoA and chaired by one of the state ministers. Efforts by ISSD Ethiopia to include regional state participants in the group were quickly dismissed. As a compromise, ISSD Ethiopia proposed the establishment of the National Seed Sector Platform for wider stakeholder engagement in strategic agenda setting and decision-making for the sector. It was in this space that the members of the regional core groups hoped to have a podium to share their experiences in tackling systemic problems in the seed sector nationally. The platform's first convening took place at the end of 2017.

The first meeting of the platform did not go according to plan either. Instead of creating an arena for joint decision-making on developing a strategic agenda, it was used to a large

extent to communicate the ministry's requests for better stakeholder alignment with its short-term plans. Despite the privileged position ISSD Ethiopia held in 2017, it remained difficult to work towards systemic change with such limited dialogue taking place and the prevailing composition of the NSAG to work with. In the summer of 2018, the legitimacy and effectiveness of the Seed Unit and NSAG were brought into question by certain staff of the ministry, concerned that their jobs were being taken over or undermined. However, this potential threat became an opportunity when the conflict of interest in the NSAG was exposed and its composition changed. Nowadays, the NSAG can be described as an independent team of professionals, which include the national director and deputy director of ISSD Ethiopia, who advise the MoA.

3.2 Shared language and co-creation

Recognizing the difficulty in facilitating dialogue at national level, with regard to the initial performance of the NSAG and platform, ISSD Ethiopia began a parallel process of consultation between the regions and with federal government. In April 2018, ISSD Ethiopia facilitated a workshop on seed sector governance in which the regional core groups participated. The objectives of the workshop were to develop a shared vision for the transformation of the Ethiopian seed sector; support representatives of the core groups to revise strategies on the best way to transform and govern the seed sector in each of their regional states; and reflect on differentiated roles and responsibilities in governing and coordinating seed sector development. Over the course of this workshop, participants produced a vision of the sector in 2040, defined the planned outcomes and strategies for each seed sector function, and proposed the structures through which the seed sector would be governed in each regional state. The model of Aidenvironment, discussed in Section 2.2, proved very useful in the process.

3.3 Convergence and commitment

Not long after the April workshop, things began to change within the MoA, when the Prime Minister challenged all ministries to present him with convincing plans for transformation within 100 days. A new State Minister for Agricultural Development was appointed, who was familiar with the collaborative forms of coordination that ISSD Ethiopia had established at regional state level, providing the opportunity for more open discussions on how the seed sector was governed. ISSD Ethiopia planned to use the opportunity to present the outputs of the workshop held in April 2018 to this new leadership.

In November 2018, a workshop was organized to consolidate the efforts made by the

regional core groups earlier that year and to propose an agenda for seed sector transformation at the federal level. Workshop participants included representatives of the regional seed core groups, NSAG members, senior experts from and advisers to the MoA, and the State Minister for Agricultural Development. In preparation, core group members and ISSD Ethiopia staff members consolidated their strategies for achieving the vision and outcomes proposed in April in a draft transformation agenda. A summary of that agenda is presented in Figure 3. The initiative taken by the core groups and ISSD Ethiopia, and the draft transformation agenda they proposed, were received positively by the state minister, who then tasked the NSAG to finalize a strategic guiding document, and ISSD Ethiopia to facilitate that process.

The national director and deputy director of ISSD Ethiopia, now members of the NSAG, took on the responsibility of drafting and revising the document, in close consultation with other members of the NSAG, ESA, ATA and Seed Unit within the ministry. The document was presented to the state minister, who endorsed it as the guiding document for seed sector transformation, and it was later published in 2019 with the title, 'Transforming the Ethiopian seed sector: issues and strategies' (known as 'the transformation agenda').

Hot on the heels of the transformation agenda's endorsement at the end of 2018, was the assignment to finalize the development of a new draft seed policy. ISSD Ethiopia was tasked with facilitating the reconciliation of differences between two competing versions of the policy in order to

generate a final draft policy. The two different versions were developed by different stakeholders. The first was spearheaded by the ATA with input from representatives of the MoA and other players in the seed sector, and the second was the combined work of the National Agricultural Research Council (NARC) and the Ethiopian Economic Policy Research Institute (EEPRI). ISSD Ethiopia mediated the process whilst ensuring that the transformation agenda was consulted for consistency. Though there were a number of opposing views, bearing in mind the stages of multi-stakeholder engagement and their different objectives helped manage the process and a new draft seed policy emerged. In February 2019, the draft seed policy was submitted to the Prime Minister's office for approval, where progress stalled. The office shared its view that seed ought not to stand alone, but rather be part of a wider policy on agriculture for the country. The NSAG advised the MoA not to wait but to endorse the seed policy at ministerial level.

Figure 3: The transformation agenda across the six seed sector functions

Vision

An efficient, well-regulated and dynamic seed sector that meets quality standards, adapts to climate change and market conditions, has transparent and inclusive governance, and maintains biodiversity. A sector that provides farmers with certified seed of improved varieties of key crops in sufficient quantity and quality, at a required place and time with affordable price through multiple channels.

Services

- Establish a federal seed

- seed producers

Production

- Attract foreign and domestic producers to seed business
- Support variety development
- Contract EGS production
- Issue exclusive use of
- improve out-grower schemes

Markets

- Expand DSM to cover more areas and all crops
- Support suppliers to open market outlets in rural areas
- Deregulate price-setting
- Develop value chains
- Promote international trade

Revenue and reinvestment

- Invest in irrigation, processing and marketing infrastructure
- Generate foreign currency
- Design and introduce levies on sales for reinvestment in R&D
- Develop MoUs between seed and agro-processing industry

Coordination

- Establish coordinating bodies
- Draw lessons from the performance of existing coordinating bodies
- Recruit competent staff
- Clarify mandates and task division
- Ensure inclusion and transparency in decision making
- Ensure accountability

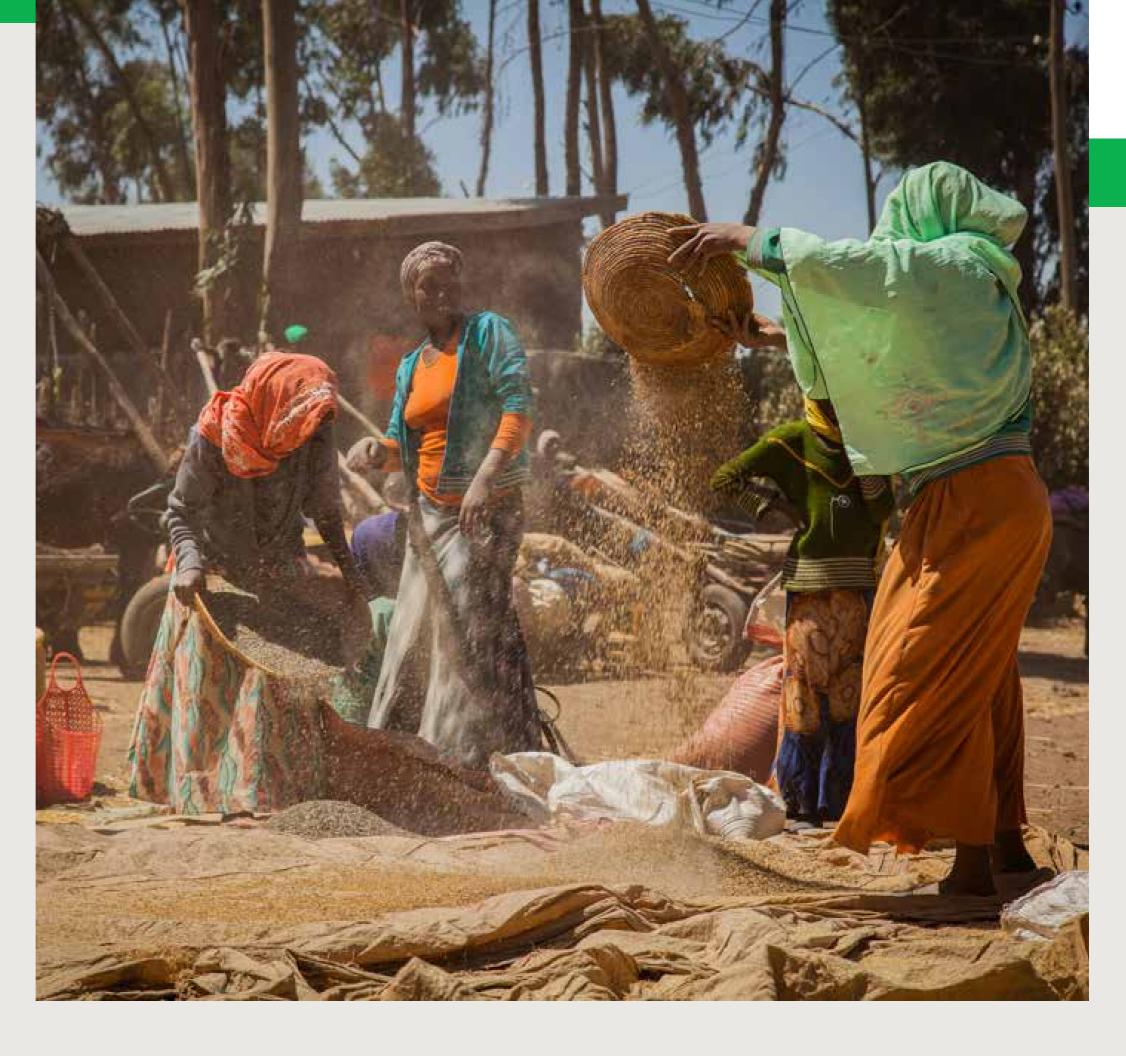
Regulation

- Approve and effectively implement seed policy
- Develop regulation and directives for PBR protection
- Introduce legal recourse in contractual seed production
- Harmonize regulation for regional trade

Key: DSM - direct seed marketing; EGS - early generation seed; MoU - memorandum of understanding; PBR - plant breeders' rights; R&D - research and development

To align the 2013 Seed Proclamation (law) with the proposed seed policy and transformation agenda, an amendment was drafted in 2019. One of the major changes the amendment proposes is the inclusion of a clear definition of seed marketing, a definition that is more in line with the concepts presented in the draft seed policy and transformation agenda and the actual contemporary practice of DSM in Ethiopia. Up until recently, conventional practice was to centrally plan, allocate and distribute seed. Consequently, the gap in legislation has been considered a significant constraint to more rapid and widespread application of the universal concept of marketing in the seed sector in Ethiopia. In fact, the ATA successfully lobbied for a ministerial directive on seed marketing aimed at generating such clarity.

In February 2020, the MoA endorsed the seed policy as a ministerial policy, following the advice of the NSAG. We hope that this will pave the way towards passing the amendment to the seed proclamation, which would in turn render the directive on seed marketing and others like it redundant by creating far greater clarity on the rules of the game to which the sector must subscribe. ISSD Ethiopia has contributed to the development of four directives over the past few years, which serve to empower what is considered good practice on the ground.



4 Conclusion

4.1 The way forward

As a result of the process outlined above, today there is a stakeholder-owned and MoA-endorsed seed sector transformation agenda, a seed policy, and a proposed amendment to the seed proclamation. Whilst these are themselves achievements, they have yet to produce a positive impact on the performance of the seed sector. The challenge now is to translate these documents into action and actual implementation.

ISSD Ethiopia has already started raising awareness on the strategies proposed in the transformation agenda. In October 2019, the NSAG was invited to launch the agenda in the presence of selected stakeholders. MoA staff were briefed technically on the meaning of the strategies proposed. The same activities were carried out in each of the regional states, for all the members of the core groups. Shortly afterwards, ISSD Ethiopia organized regional workshops in which stakeholders prioritized and elaborated those strategies of greatest relevance to their contexts. It is likely that success will depend on further dialogue, planning, commitment, collaborative action and coordination.

An important opportunity to further cement the contents of the transformation agenda in the plans of government is the dawn of the next period of their multi-annual strategic planning. This is underway at federal level and will cascade down to the regional states

over the course of 2020. ISSD Ethiopia, members of the NSAG and their allies could do well to advocate for inclusion of these strategies at both federal and regional state levels.

4.2 Lessons learned

ISSD Ethiopia's experience offers interesting lessons and key insights for practitioners and policymakers, including donors. We believe that these lessons are more universal than a blueprint plan to sector transformation, and hold true in a range of different contexts. For those looking to guide sector transformation elsewhere, we have three lessons which we would like to share with you.

Embrace systemic change

The transition towards a more competitive and sustainable sector requires a holistic and coordinated strategy for aligning production, service provision, markets and sector governance. This necessitates seeing the bigger picture. Introducing some successful innovations, or creating 'islands of success', is not enough to achieve wide-reaching impact in food systems. To improve the performance of the seed sector as a whole, partnerships among multiple stakeholders, and possibly disruptive change, are needed. ISSD Ethiopia did well to focus its narrative on systems, systemic change, the root causes of stubborn problems of the seed sector, and stakeholders' mental models (see Kania, Kramer and Senge, 2018), and to raise the ambitions of



Systemic change requires adopting new ways of doing business

its partners in this way. Developing the vision of tomorrow was a far better point of departure than the pressing problems of today, as it elevated the dialogue to a far more strategic level.

It can be a challenge to work on systemic change with professionals from different organizations, and with different disciplinary backgrounds, as they tend to approach issues and solutions primarily from their own fields of interest and expertise. To facilitate a participatory and constructive process, it is therefore important to introduce simple concepts and frameworks that assist people in understanding complex realities. ISSD Ethiopia succeeded in this by adopting a sector model. The model provided by Aidenvironment ena-

bled ISSD Ethiopia, together with the sector's stakeholders, to arrive at a shared vision of the future, assess current performance and agree on what outcomes are needed to realize this vision. It made it possible to facilitate this dialogue in a structured way. The model is particularly functional in unpacking reality in clear and distinctive components. Its use created a shared language among participants and helped them realize the interdependencies between seed sector functions.

Manage adaptively and inclusively

Several conclusions can be drawn from the multi-stakeholder engagement in this case study. First, it was important that ISSD Ethiopia worked in parallel with key stakeholders at regional state and federal levels.

This is highly relevant in a federated state where administrations have relative autonomy. Furthermore, it increased familiarity and trust at both levels, which made communication and follow-up around the development of strategies more effective. As strategies and speed of implementation differed according to regional state, this created a dynamic in which one acted as a pioneer for another. Facilitating the exchange of experiences between one regional state and another motivated those lagging behind to attempt to achieve successes elsewhere.

The second conclusion is that timing is everything. The political environment in Ethiopia has been very dynamic and important in determining the success of these efforts. One of the strengths of ISSD Ethiopia was to be strategic and adaptive in the face of unfolding circumstances. To successfully facilitate a transformation process of this kind requires a form of policy entrepreneurship in an unravelling institutional environment.

Waiting for opportunities to come is of course not enough. It is even more important to create opportunities for change. The third conclusion is about the adoption of tactics for creating commitment among decision-makers. Experts from ISSD Ethiopia continuously highlighted to policymakers the business case for systemic change. Elements of such a business case comprise meeting policy objectives, achieving quick wins for constituencies, saving government budget and reducing workloads. Propositions were supported with evidence from experiences in the regional states and sites of piloting and practical intervention.

Creating commitment also requires numerous meetings and follow-up with key decision-makers, something which was greatly facilitated after the introduction of a regular meeting cycle between the leadership of ISSD Ethiopia, the Dutch Embassy and the Ethiopian MoA. ISSD Ethiopia's participation in the NSAG and through secondment of its staff member to the MoA Seed Unit was instrumental in building good links with the state minister and other decision-makers. Once sector dialogue started with their consent, ISSD Ethiopia team members made sure to emphasize vision, strategies, and technical solutions, as opposed to politics.

Invest in social capital

The credibility of ISSD Ethiopia was of crucial importance in the achievements of this case study. Its presence in the country for

almost ten years shows commitment, and its results at a systemic level have been witnessed by many. Investment by ISSD Ethiopia in relationships at all levels and in all sectors of society has ensured this. The combination of 'having their boots in the mud', but also wearing these muddied boots to the boardrooms of higher strategic level policy dialogue has earned trust as well as the position of a respected adviser to government in particular.

The collaboration with other partners has also led to this success. This is particularly true in the context of ISSD Ethiopia's partnerships at regional state level. At the federal level as well, the ATA, together with the Agricultural Growth Program of the MoA, have helped bring innovations like DSM and cooperative-based seed production to scale. The collabo-

ration between the ATA and the organizations to which other NSAG members are affiliated has also created an alignment of interests and investments in the seed sector for far greater synergetic effect.

Finally, ISSD could not have embarked on a process of sector transformation without its dedicated and skilful systems thinkers. It managed to hire some of the most recognized seed experts of the country. These people opened doors and drew audiences. Their commitment to the programme's vision and objectives, technical expertise, as well as remarkable capacity to reflect and learn have become truly recognizable features of ISSD Ethiopia's organizational culture. Among them are knowledgeable, enthusiastic and creative facilitators, who are at the core of guiding sector transformation.

Manage not only adaptively, but inclusively



Invest in social capital. You can do that by not only having a presence in the boardroom, but in the field as well



References

Agricultural Growth Program (AGP) (2009) Assessment of the formal seed system in Ethiopia. Addis Ababa. [Unpublished].

Alemu, D., Koomen, I., Ayana, A., Borman, G., Elias, E., Smaling, E., Getaw, H., Becx, G., Sopov, M., Terefe, G., Schrader, T., Tefera, T. and Vonk, R. (2019) BENEFIT Partnership-2018 annual report: Bilateral Ethiopian-Netherlands Effort for Food, Income and Trade Partnership (No. 19-053). Wageningen: Wageningen Centre for Development Innovation. https:// doi.org/10.18174/471788.

ATA (2017) Direct seed marketing data on 2016/17. Agricultural Transformation Agency (ATA) Oromia branch. [Unpublished].

Brouwer, J.H., Woodhill, A.J., Hemmati, M., Verhoosel, K.S. and van Vugt, S.M. (2016) The MSP guide: How to design and facilitate multi-stakeholder partnerships. Practical Action Publishing Ltd. Available from: http://www.mspguide.org/sites/default/files/case/ msp_guide-2016-digital.pdf [Accessed 4 May 2020].

Catholic Relief Services (CRS), Ethio-Wetlands and Natural Resources Association (EWNRA), Integrated Seed Sector Development (ISSD) Ethiopia, Organization for Rehabilitation and Development in Amhara (ORDA), Relief Society of Tigray (REST), and the Ethiopian Catholic Church - Social and **Development Coordinating Offices** (ECC-SDCO) of Meki, Hossana, and Sodo (2016) Seed system security assessment in Ethiopia, 2016. Available from: https://seedsystem. org/wp-content/uploads/2017/01/ Ethiopia-SSSA-Final-Report-Dec-2016. CA: Jossey-Bass. pdf [Accessed 4 May 2020].

Central Statistical Agency (CSA) of the Federal Democratic Republic of Ethiopia (2018) Key findings of the 2017/18 (2010 E.C.) Agricultural Sample Surveys: country summary. Addis Ababa: CSA.

ECORYS (2017) Evaluation of the Dutch Louwaars, N., de Boef, W. and Food Security Programme in Ethiopia

- including an impact study of the Integrated Seed Sector Development Project (ISSD II). Country case study for the food security evaluation for the Dutch Ministry of Foreign Affairs, the Netherlands. Available from: https://english.iob-evaluatie.nl/publications/reports/2017/04/01/419--country-study---ethiopia [Accessed 4 May 2020].

Flower, N.R., Muoio, A. and Garris, R. (2013) Gather: the art and science of effective convening. Monitor Institute and the Rockefeller Foundation. Available from: https://www.rockefellerfoundation.org/wp-content/ uploads/Gather-The-Art-and-Scienceof-Effective-Conveing.pdf [Accessed 4 May 2020].

Hassena, M., van den Broek, J. and Borman, G. (2020) Final report to RVO: Institutional mapping and needs Ministry of Agriculture (MoA) (2018) assessment of Ethiopia's public seed sector services. Report WCDI-20-101. Wageningen: Wageningen Centre for Development Innovation, Wageningen University & Research. Available from: https://research.wur.nl/en/publications/final-report-to-rvo-institutionalmapping-amp-needs-assessment-of [Accessed 4 May 2020].

Hassena, M. (2017) Seed for change: the making and implementation of seed policies in Ethiopia (Doctoral dissertation, Wageningen University). https://doi.org/10.18174/421204.

ISSD Ethiopia (2019) Seed production and marketing datasheets. Integrated Seed Sector Development in Ethiopia programme. [Unpublished].

Kaner, S. with Lind, L., Toldi, C., Fisk, S. and Berger, D. (2014) Facilitator's guide to participatory decisionmaking. Third edition. San Francisco,

Kania, J., Kramer, M. and Senge, P. (2018) The six conditions of systems change. The water of systems change. June 2018. FSG Consulting. Available from: https://www.fsg. org/publications/water_of_systems_ change [Accessed 4 May 2020].

Edeme, J. (2013) Integrated seed

sector development in Africa: a basis for seed policy and law, Journal of Crop Improvement. 27(2), 186-214. (Louwaars et al 2013)

Louwaars, N. and de Boef, W. (2012) Integrated seed sector development in Africa: a conceptual framework for creating coherence between practices, programs and policies, Journal of Crop Improvement. 26(1), 39-59.

Ministry of Agriculture (MoA) (2019) Transforming the Ethiopian seed sector: Issues and strategies. Government of the Federal Democratic Republic of Ethiopia. Available from: https://issdethiopiablog.files.wordpress.com/2019/11/ seed-sector-transformation-guidingdocument-final-july-2019-vfinal.pdf [Accessed 4 May 2020].

Seed supply. Government of the Federal Democratic Republic of Ethiopia. [Unpublished].

Molenaar, J.W., Vorley, B. and Blackmore, E. (2017) Reaching beyond the value chain: How sector governance can improve the performance of agricultural commodity sectors. May 2017. Aidenvironment, IIED and Sustainable Food Lab. Available from: https://sustainablefoo.wpengine.com/wp-content/ uploads/2017/05/Sector-Governance-Full-Report_May2017.pdf [Accessed 4 May 2020].

The Global Yield Gap and Water Productivity Atlas (GYGA). Available from: http://www.yieldgap.org/ [Accessed 4 May 2020].

World Bank (2007) World development report 2008: Agriculture for development. Washington, DC: World Bank. Available from: https://openknowledge. worldbank.org/handle/10986/5990 [Accessed 4 May 2020].

World Bank (2003) Ethiopia - Seed Systems Development Project (English). Washington, DC: World Bank. Available from: http:// documents.worldbank.org/curated/ en/892611468250239546/Ethiopia-Seed-Systems-Development-Project [Accessed 4 May 2020].

List of acronyms

ATA Ethiopian Agricultural Transformation Agency

BoA Bureau of agriculture

CPA Cooperative promotion agency

Direct seed marketing DSM

FFPRT Ethiopian Economic Policy Research Institute

EGS Early generation seed

EIAR Ethiopian Institute for Agricultural Research

ESE Ethiopian Seed Enterprise

Food and Agriculture Organization of the United Nations FAO

IOB Policy and Operations Evaluation Department

ISSD Ethiopia Programme on Integrated Seed Sector Development in Ethiopia

MoA Ministry of Agriculture (Ethiopia) MoU Memorandum of understanding NARC National Agricultural Research Council National Seed Advisory Group NSAG **NSIA** National Seed Industry Agency

PRRs Plant breeders' rights R&D Research and development

SNNPR Southern Nations, Nationalities and Peoples' Region WCDI Wageningen Centre for Development Innovation

Colophon

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