



ENSP 2021 – 2025

Narrative progress report 2021 - 2022



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1 Summary Sheet

Programme title	Ethiopia-Netherlands Seed Partnership (ENSP)
Mission	The mission of the Ethiopia-Netherlands Seed Partnership (ENSP) is to enable the private sector in Ethiopia to deliver farming men and women high quality seed of improved varieties much needed for food security and nutrition, and climate resilience.
Goal	ENSP will increase 150,000 farming households' crop productivity and diversity by 50%, create 2,000 jobs and increase the area under sustainable agricultural practices. Furthermore, ENSP will improve women's access to financial services, entrepreneurship opportunities, managerial and leadership roles, and life-long learning.
Country	Ethiopia
Programme duration	4 years (September 10 th , 2021 – August 31 st , 2025)
Grantee	Stichting Wageningen Research, Wageningen University & Research P.O. Box 88, 6700 AB Wageningen, The Netherlands
Main implementing parties	Wageningen Centre for Development Innovation (WCIDI) Wageningen University & Research P.O. Box 88 6700 AB Wageningen The Netherlands Stichting Wageningen Research Ethiopia (SWR Ethiopia) Wageningen University & Research Woreda 9, Bole Sub-City Addis Ababa Ethiopia Resilience BV Bevrijdingsstraat 38 6703 AA Wageningen The Netherlands Ethiopian Seed Association (ESA) Woreda 1, Bole Sub City Addis Ababa Ethiopia Plantum Vossenburchkade 68 2805 PC Gouda The Netherlands
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Budget	€ 6,500,000

2 Executive summary

a. Lessons learned, results, and conclusions

- Progress against Outcome 1 – Private sector strengthened – was slow to start. This is due to the lengthy procurement of technical assistance from Resilience BV, ESA, and Plantum. Originally it was proposed to partner with such organizations, but the audit protocol doesn't allow sub-granting. After an open tender for technical assistance in private sector development, Resilience was awarded a subcontract in March 2022; six months after the programme's start.
- It is difficult to include women. Out of over 250 candidate businesses, only one female entrepreneur is among the 10 selected to partner with. We decided to launch the female-led business incubator, in which six women participate, to be more inclusive.
- We learned that it is often partner organizations and volunteers who strengthen ESA and not its members. We understand this as one of the association's weaknesses. By simply assigning a manager, the number of members paying their annual contributions increased from just 3 to 28.
- Outputs towards Outcome 2 – Uptake of innovations and empowerment of young men and women – also lag behind. This is due, in part, to the same reason as above: procurement. We were unable to partner with international breeding companies and have instead procured their services. Another reason is the development of instruments for sponsoring research, studies, and internships. These, coupled with the preparation and communication of calls for applications, required new legal and financial knowledge.
- Employers miss certain competencies in seed science and technology graduates. In 2023, we will establish a short course training programme to respond to the demands of seed industry.
- The first call for applications for postgraduate study and research sponsorship failed to draw sufficient women. Consequently, we improved our outreach, widened the scope to MA studies, and announced a second call for women only. We are approaching gender-parity in our education and employment activities.
- Companies were not convinced by the profiles of all candidates in our pool of interns. They prefer technical graduates of plant sciences and horticulture, which are scooped up quickly. We have subsequently broadened our outreach to include ATVETs.
- Seven international breeding companies have been subcontracted by ENSP. Collaboration goes beyond short-term commercial interests in Ethiopia and contributes to public goods like knowledge on sustainable production practices. Tens of thousands of farmers will be reached through demos and training offered by the companies, which contribute over € 1.2 m.
- Most of our outputs were achieved towards Outcome 3 – Business of the seed sector enabled – but we are not yet on track. Insecurity and instability have drawn government's attention away from agricultural development. We have found it very difficult to advance our agenda because of the lack of attention to sector governance and regulatory service provision.
- We overestimated the capacity of EAA to take over responsibilities in regulatory service provision. We learned that there is also little motivation to improve the situation in the short term, because of a lack of experienced personnel. However, watch this space, as subsequently we have reached agreement with EAA to pilot new regulation in 2023.

b. Main steering implications for the next reporting period

- After rigorous processes of selecting domestic seed businesses and international companies to work with, focus needs to shift to action. Two important directions are establishing the revolving fund for domestic seed businesses' improved access to finance and differentiating their products from competitors through exclusive access to superior varieties; both public and private.
- Short course training for both postgraduates and professionals promises to hone competencies sought by seed industry. In 2023, we will tender the opportunity for financial support in establishing a short course programme at one university.
- Piloting recent amendments to regulation on variety registration: we will support EAA every step in the way in taking up their responsibility for variety testing and establishing the standard operating procedures, protocols, and outsourcing arrangements for effective and efficient variety release. This is currently one of two top priorities for international breeding companies in increasing their trade with and investment in Ethiopia. The other is local distributors' access to foreign currency.

3 Introduction

a. Description of programme and intervention strategy

The mission of ENSP is to enable the private sector in Ethiopia to deliver farming men and women high quality seed of improved varieties much needed for food security and nutrition, and climate resilience. We will increase 150,000 farming households' crop productivity and diversity by 50%, create 2,000 jobs, and increase the area under sustainable production practices. Furthermore, we will improve women's access to financial services, entrepreneurship opportunities, managerial and leadership roles, and life-long learning.

To achieve this, the following three primary outcomes are pursued: (1) Private sector strengthened in its contribution to food, nutrition, and climate resilience; (2) Uptake of innovations and empowerment of young men and women increased; and (3) Business of the seed sector is enabled.

1. Private sector strengthened: Activities will double the production and diversity in the portfolio of 10 domestic seed businesses – three of which are women owned – and increase their access to finance. We will also work with three or more international companies to start or expand local production of seed in Ethiopia to employ nationals, raise exports, generate foreign currency reserves, and improve Ethiopia's balance of trade. We support ESA in strengthening its organization and value proposition to the sector. Furthermore, collaboration with traders, processors, or wholesalers aims to increase the uptake of quality seed in selected value chains of importance to human nutrition.
2. Uptake of innovations and empowerment increased: By the end of the Partnership, three selected knowledge institutes will perform better and more gender transformatively, and 100 graduates – of which at least half are women – will have enrolled in internships in the seed sector. We believe that skilling young entrepreneurs and graduates entering the labour market is essential for raising seed sector performance. To this end, curricula on seed science and technology, seed business, and seed systems will be improved, and scholarships for postgraduate study and fellowships to inter/national trainings will be awarded. Furthermore, 40,000 farmers (50%women) will have been trained on sustainable agricultural practices, and 20,000 of whom will have adopted improved varieties. Led by international companies, we will increase their knowledge of sustainable production practices and on how to get a return on their investment in quality seed.
3. Business of the seed sector is enabled: This will be measured by two improvements to major seed regulations and € 12 m invested by domestic businesses and international companies in seed production in Ethiopia. By improving the coherence of regulation with the practices of businesses, and these businesses' compliance with the rules of the game, increased trade and investment will be leveraged. Five seed regulatory bodies, including the recently established Ethiopian Agricultural Authority (EAA) will be strengthened in their leadership, human resources, cost recovery and provision of quality services. Lastly, solutions to critical systemic problems will be identified and promoted, in part by the programme's participation in ISSD Africa¹ and other regional initiatives.

b. Review of follow-up measures taken since last reporting period

This is the first annual report of the programme.

c. Relevant contextual changes and their potential impact

- Whilst COVID-19 had severe effect on lives and livelihoods in Ethiopia, mobility restrictions were eased by the start of the programme in September 2021. Aside from curtailing the frequency of visits of foreign staff, little further disruption was caused.
- Conflict and insecurity have been of far greater concern for mobility. There is ongoing conflict in multiple parts of the country. Regular incidents of kidnapping, violence, and killing occur. Since October and November, 2022, peace treaties are in place between the Government of Ethiopia and, respectively: the Gumuz People's Democratic Movement in Benishangul-Gumuz; and Tigray People's Liberation Front in Tigray. Security in these regions is still fragile.

¹ The community of practice on integrated seed sector development in Africa (ISSD Africa) addresses complex seed sector challenges of continental importance through action research and dialogue resulting in better performing seed sectors.

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- Insecurity and instability have drawn government's attention away from agricultural development. We have found it very difficult to advance our agenda of enabling seed business because of the lack of attention to sector governance and regulatory service provision.
 - Sanctions on the war effort have also made it impossible to invest strategically in the capacity of public services. With greater security and stability and normalizing relations between development partners and Ethiopia's government, we plan to reinvigorate our collaboration with public sector.

4 What we learned and how we learn

- It is difficult to include women owned seed businesses. Out of over 250 candidate businesses, only one female entrepreneur is among the 10 selected. Others fail to satisfy our criteria. As a change of strategy, we decided to launch an incubator for female-led small- and medium-scale enterprise in seed business and seed-related service provision. The incubator operates in a parallel track to our efforts to double and diversify the seed production of 10 domestic seed businesses.
- The most challenging of the four value chains selected for investment is leafy vegetables. The leafy vegetables value chain was selected for its value to human nutrition and because of the number of women involved in it. However, it is difficult to identify a large aggregator (i.e., market pull). We will apply a production-push approach and promote increased household consumption of leafy vegetables. In 2023, we will work with 10 women-run cooperatives in the western part of the country: introducing new varieties and improved management practices at nurseries.
- We learned that it is often partner organizations and volunteers who strengthen ESA instead of its members. We understand this as one of the weaknesses of the association. It is possible to raise the commitment of members by strengthening ESA's management. By assigning a manager, the number of members paying their annual contributions increased from only 3 to 28.
- Participating in the seed science and technology curriculum reviews of Bahir Dar University and Haramaya University, we realized that conventional methods of review fail to obtain valuable insights of industry. Employers miss certain competencies in graduates. Agreement was reached with the universities to conduct graduate tracer studies. Tracer studies are expected to reveal competencies not honed by existing curricula and demand for shorter term competence-based training. In 2023, we will support the establishment of a short course training programme at one of the universities.
- The first-round open call for applications for postgraduate study and research sponsorship failed to draw sufficient female applicants. Only one out of eight students granted sponsorship was female. Consequently, we have improved our outreach to women student associations and networks and university gender offices, widened the scope for MA studies as well as MSc, and announced a second-round call for female applicants only. To date, five female MSc students have enrolled at Bahir Dar and Haramaya universities.
- The duration between screening and placing interns needs to be as short as possible, otherwise applicants may change their minds. Moreover, recruiting companies prefer interns from surrounding vicinities and are encouraged to employ from within the local community. Localizing selection with the engagement of companies helps to successfully place interns. We also learned that companies prefer technical science graduates (e.g., plant science or horticulture) over socio-economic ones and have decided to also target technical and vocational colleges (ATVETS) in the next round open call.
- We overestimated the capacity of EAA to immediately accept responsibility for variety testing and registration, especially with few staff members and limited land secured for testing. We learned that there is also little motivation to improve the situation in the short term, partly because personnel have never conducted the activity themselves. However, watch this space, as subsequently we have reached agreement with EAA to pilot recent amendments to regulation on variety registration. This will take place in 2023 and be reported next year.
- Seed labs need equipment but also equipment that functions. We have helped seed labs obtain the services of the NMIE to install, calibrate, and maintain equipment. However, without standards and procedures developed by EAA and enshrined by the Quality and Standards Authority, regular servicing will not function.

- *How we learn*: aside from the indicators we monitor – for which we have conducted baseline assessments – we also conduct research and studies to validate assumptions in our theory of change and answer stakeholders’ questions on our learning agenda (see Output 3.3 in 5 Progress towards outcomes). Also part and parcel to daily working life in ENSP are regular meetings, workshops, and seminars. Dialogue with stakeholders yields a lot of insight. Visits abroad, e.g., study visit to the Netherlands and Germany and participation in the ISSD Africa synthesis workshop in Kigali (see Output 3.2 and Output 3.3 respectively, in 5 Progress towards outcomes) offer opportunities to share experiences with others. Lastly, annually we go on retreat for 2-3 days as a team to reflect on lessons learned. In 2022, we forged the work plan for 2023 during our retreat.

5 Progress towards outcomes

a. Progress towards our outcomes

Outcome 1: Private sector strengthened in its contribution to food, nutrition, and climate resilience

Output 1.1: Seed production doubled and diversified

More than 250 domestic seed businesses were screened in the process of selecting 10 for support from the programme. Stringent criteria were applied. We aimed for at least three of these to be women-owned, but only one was selected: Santen (see Table 1). The female-led business incubator resulted from our adaptation of the strategy to be more inclusive of women (see 4 What we learned and how we learn). Currently, six women participate in the incubator and their training, coaching, and experience sharing with others has subsequently commenced. More results are listed in Table 2.

Table 1 Selected domestic seed businesses, their portfolios, and production (2021-22)

Business	Location	Portfolio	Production (MT)
Biniyam Mulat	Amhara	Maize, malt barley, wheat, fava bean	174
Loma	Amhara	Maize, malt barley, teff, fava bean	110
Anatoli	Oromia	Forages	274
ATM	Oromia	Teff, chickpea	224
Burka	Oromia	Malt barley, teff, wheat, chickpea, lentil	559
Tuqa Katara	Oromia	Malt barley, wheat, fava bean, field pea	162
Gudeta Gonfa	Oromia	Teff, wheat, chickpea, onion	71
Borer	SNNPR	Maize, teff, chickpea, haricot bean	735
Hulume	SNNPR	Teff, haricot bean	227
Santen	SNNPR	Wheat, haricot bean, soybean	-
			Total: 2,536

Output 1.2: Private sector organized

ESA signed a subcontract agreement with SWR Ethiopia in 2022 and has hired a secretariat manager and accountant in accordance with the terms of reference. We supported their facilitation of the annual meeting of its general assembly where new board members were elected. Among them, is one representing seed importers and distributors in Ethiopia: a specialized industry. This paves the way for more opportunity in segmenting and responding to the different interests of ESA’s members, as they are not homogenous. The secretariat is more active and assumes duties that were previously handled by board members. Capacity installed at the secretariat has helped them acquire new projects, including funds from AGRA for the revision of ESA’s constitution, strategy, and member code of conduct. More results are reported in Table 2.

Output 1.3: Performance of value chains for nutrition improved

We conducted scoping studies on 10 value chains comparing their: value to human nutrition; ENSP's potential impact under time and other constraints; legitimacy of ENSP's involvement; strength of the business case; suitability of the crop for the foreseeable future (e.g., under changing climate conditions); capacity of domestic seed businesses to increase supply of related seed; Ethiopian interests; Dutch interests; positive gender effect; and potential synergy with other relevant initiatives. The animal feed, forages, plant propagation materials, and leafy vegetables value chains were selected for investment in their uptake of quality seed and improved varieties. More results are mentioned in Table 2.

Table 2 Progress towards Outcome 1

Outcome	Private sector strengthened in its contribution to food, nutrition, and climate resilience
Output 1.1	Seed production doubled and diversified
Results	<ul style="list-style-type: none">• Screened long list of 250+ domestic seed businesses, interviewed short list of 40, created profiles of 20, and selected 10• Conducted needs assessment and baseline and developed action plans for all 10• Launched the female-led business incubator with 6 female entrepreneurs
Output 1.2	Private sector organized
Results	<ul style="list-style-type: none">• Assessed members' and non-members' demands from ESA• Conducted regular meetings with ESA secretariat and board• Helped facilitate annual meeting of general assembly, reactivated and updated website², and printed and distributed >500 copies of promotional brochure• Strengthened capacity by facilitating hire of full-time manager and accountant• Helped increase membership from 42 to 51, number of paying members from 3 to 28, annual contributions from ETB 30k to 800k, and acquisition of AGRA project
Output 1.3	Performance of value chains for nutrition improved
Results	<ul style="list-style-type: none">• Developed scoping framework, compared 10 value chains, and selected 4: animal feed, forages, plant propagation materials, and leafy vegetables• Identified bottlenecks and opportunities for intervention in all 4• Identified potential collaborators and developed business cases for increased uptake of quality seed in 2: animal feed and forages• Reached agreement on actions of partners in animal feed and forages value chains• Established field trials on sunflower for the animal feed value chain

Outcome 2: Uptake of innovations and empowerment of young men and women increased

Output 2.1: Performance of selected knowledge institutes improved

We initiated the process of seed science and technology curricula review at Bahir Dar and Haramaya universities. Review started with consultation between the two universities, followed by consultation with stakeholders during which valuable feedback was gathered. Thereafter, the two universities developed action plans, established review committees, and started reviewing their curricula. In a separate activity, scholarships were awarded to 13 postgraduate students (six female), and research grants were given to nine students (one female). Fifteen students have started their data collection. While their research is expected to answer important questions of stakeholders in the learning agenda curated by ENSP, our investment will also result in more graduates strengthening the human resources of the seed sector.

Output 2.2: Young men and women enrolled in internships

12 young men and women were placed in internships at international and local companies. We announced a call for applications and have a growing pool of candidates including graduates in plant science, horticulture, rural development and innovation, and agricultural economics, among others. Not all the candidates we screened have found a place of internship. Companies are not convinced by the profiles of those candidates remaining in the pool. We have come to better understand the companies' demands and will adapt future calls for applications (see 4 What we learned and how we learn).

² <https://ethiopianseedassociation.wordpress.com/>

Output 2.3: Uptake of sustainable production practices increased

Seven international breeding companies have been subcontracted (Table 3). After rigorous consultation with Plantum members, soliciting their expressions of interest, and receiving 10 concept notes, we invited seven to develop proposals. These companies bring over € 1.2 m in own contributions. Projects with international companies go beyond short-term commercial interests in Ethiopia and contribute to public goods like knowledge on sustainable production. Companies hire interns, employ nationals, and support domestic private sector to deliver demonstration and training to farmers, transfer technology, and promote sustainable practices. Kick-off meetings were held to introduce the companies and their distributors to our staff. This made a start to joint planning and monitoring. We support companies technically and facilitate their investment in farming communities, supply chains, and partnerships with government and research.

Table 3 Subcontracted international breeding companies and their promotion plans

Company	Products	Locations
Bakker Brothers	Onion, pepper, tomato, and watermelon	Amhara Region (1x site), Oromia Region (5x sites), and SNNPR (2x sites)
EASI Seeds	Beetroot, cabbage, carrot, onion, Swiss chard, and tomato; expand with eggplant, pepper, and watermelon	TBC (Oromia)
Enza Zaden	Cauliflower, lettuce, onion, and tomato	Adama, Arba Minch, Awasa, Dire Dawa, East Shewa, Eastern & Western Hararghe Zones, Gode area-Wabi Shebelle Dam, Harari Regional State, Jijiga, Koka, Modjo, Sidama Regional State, SNNPR
HZPC	Potato (including HTPS)	Bishoftu
Nunhems	Cucumber, hot pepper, melon, onion, sweet pepper, tomato, and watermelon	Amhara
Rijk Zwaan	Broccoli, cabbage, cauliflower, cucumber (slicing), hot pepper, lettuce (3x types), melon, sweet pepper, and watermelon	Central Rift Valley and Southern- (Dire-Dawa), Eastern- (Arba Minch or Omo), and Raya- valleys
Solynta	Potatoes (HTPS)	TBC (Oromia)

All results tracking our progress towards achieving Outcome 2 are summarized in Table 4.

Table 4 Progress towards Outcome 2

Outcome	Uptake of innovations and empowerment of young men and women increased
Output 2.1	Performance of selected knowledge institutes improved
Results	<ul style="list-style-type: none">• Initiated curricula review and organized consultation meetings between Bahir Dar and Haramaya universities and with seed sector stakeholders• Identified preliminary demands of the seed industry for certain competencies• Commissioned 2 seed science and technology graduate tracer studies• Developed instrument for sponsoring postgraduate study in relevant fields and awarded 13 full scholarships and 9 research grants• Supervised all fellow's research proposals, 15 of whom have started collecting data
Output 2.2	Young men and women enrolled in internships
Results	<ul style="list-style-type: none">• Announced a call for applications for internship and placed 12 interns at companies• Increased the scope for internships at domestic seed businesses and service providers• Mentored all prospective interns in professional skills development
Output 2.3	Uptake of sustainable production practices increased
Results	<ul style="list-style-type: none">• Announced a call for expressions of interest, screened 10 concept notes, and co-developed proposals for contributions of 7 international breeding companies• Subcontracted all 7 companies to promote the uptake of sustainable production practices• Leveraged € 1.2 m in commitments of own contributions to these outputs• Conducted joint planning with companies and their local partners/distributors• Shared intelligence from scoping study on seed import and distribution with distributors

Outcome 3: Business of the seed sector enabled

Output 3.1: Trade and investment in the seed sector leveraged

We organized a workshop with CEOs of three directorates of MoA and their experts on strategic leadership of the seed sector. Objectives were to better understand systemic challenges and opportunities for transforming the sector, structures for coordination, and capacities of leadership. Consensus was reached that directorates misalign, practice poor organizational planning, and function unsatisfactorily as structures for sector coordination. It was agreed that this needs the attention of the minister. We contributed to a white paper on options to improve national seed sector coordination as member of the National Seed Advisory Group. Further, it is our agenda to reinvigorate the Ethio-NL Seed Committee which has not met since 2018. The committee provides Dutch investors and their interest groups an audience with government to identify and suggest ways to overcome hurdles to doing business in Ethiopia. A concept note was submitted to the state ministers with the request to the minister to re-establish the committee.

Output 3.2: The provision of seed regulatory services enhanced

Here is where the bulk of our results have been achieved so far.

Establishing EAA: Deputy Director General, Senior Expert Variety Registration, and Senior Advisor Phytosanitary Services, and MoA Senior Advisor on Seed, joined ENSP senior experts on a study visit to regulatory service providers in the Netherlands and Germany. The delegates learned how the EU regulatory system is organized and functions and formed a vision for seed regulatory service provision back home. Lessons were learned on regulatory roles, delegation of responsibilities, cost-recovery and service fees, variety maintenance, PVP, tag printing technology, and potato seed health testing.

We supported EAA to develop its five-year strategic plan: the authority officially requested our support. And we continue to raise EAA's profile, increase its visibility, and promote its services during workshops, meetings, and training. EAA officials are regularly invited to speak at our events.

Seed quality assurance: One of the first activities of the programme was a capacity needs assessments of each seed lab in the country. We learned that labs face many challenges in providing seed quality assurance services. Inventory of equipment needs (installation, calibration, maintenance, procurement) was conducted, equipment serviced, and consumables including reagents for seed health testing purchased and distributed to the labs. We found a reliable partner in NMIE to provide these services long term.

We expect seed labs to start experimenting with seed health testing and to generate evidence that will lead to the adoption of seed health standards across the country. There are one or two analysts per lab, some of whom are new and lack the knowledge and skills to perform these tests. Analysts received theoretical and practical training on seed health testing. Senior experts from Haramaya University provided the training.

Building seed inspector capacity is top priority for improving seed quality assurance and certification efficiency. The number of seed inspectors at each seed lab seems adequate, but their knowledge and technical skills are lacking. Most are recent graduates. Over three intensive days in Shashamene, we trained inspectors on field inspection standards, grow-out test (GOT) procedures, digitalization, and drone technology. The field inspection practical training was important for harmonizing inspectors' decision-making regarding detection of noxious weeds and intolerable diseases like smut. Inspectors regard drone technology as revolutionary in improving the quality and efficiency of their service. They recommend piloting the technology formally. We are in consultation with EIAR about the possibility of this.

The National Platform for Seed Quality Control (NaPSQC) conducts regular discussion among seed regulatory service providers to harmonize the implementation of seed quality assurance in the country. At the end of each meeting, MoUs are signed. This includes agreed actions in harmonization. In consultation with EAA, we were able to review these MoUs and identify recurring priorities. Frequently raised topics include tagging and yield estimation methods. We will lend a hand in advancing progress. Regarding tagging, we suggested the purchase of a printer for standardized labels and are identifying suppliers. Regarding yield estimation, we provided hands-on training to 34 inspectors from five seed labs in Amhara on two nationally approved

methods of yield estimation, namely Pictorial Evaluation Tool (PET) and Multiplication Factor (MF). The training harmonized techniques of PET and MF within the region.

Phytosanitary services: We hosted an awareness creation workshop for the management of EAA and seed sector stakeholders including exporters on the status of phytosanitary services. 21 participants attended, including: H.E. Ambassador Deriba Kuma, Director General, and Mr Wondale Habtamu, DDG, of EAA; representatives of Ethiopian Coffee and Tea Authority, EHPEA, and EPOSPEA; senior experts of EIAR National Agricultural Biotechnology Research Center; and selected horticultural companies. The need to establish a stakeholders' platform on phytosanitary services was expressed along with requests to improve service fees, ePhyto system functioning, phytosanitary capacity evaluation (PCE), and quick response to emerging issues such as the EU quarantine pest list updates.

We seconded Mr Fikre Markos, Senior Advisor Phytosanitary Services, to EAA. His role is to guide and monitor phytosanitary service performance at federal level, including re-operationalizing the ePhyto system, developing a list of regulated non-quarantine pests, and working closely with NPPO and senior experts of EAA to conceptualize and implement phytosanitary control measures. Fikre was able to develop a questionnaire justifying the need for plant regulatory service fee revision and collected feedback from regulatory staff. He was also able to support EAA to comply with EU phytosanitary requirements.

Variety release: Awareness was created among breeders on the need to transfer their task of variety testing to EAA. Previously, variety testing for registration was done by research institutes and universities despite regulation stipulating that NPTs and DUS testing are the mandate of the regulatory system. With EIAR's crop director, we discussed the pros and cons of transferring the duty. Technical capacity of EAA and resistance of breeders were his concern. Subsequently, a workshop was organized consulting 27 senior breeders, national crop programme coordinators, regional agricultural institute crop directors, development partners (ICARDA, GIZ-SSAP), EAA staff and members of the national variety release committee on the move. While the transfer was accepted, it was suggested that the research system support EAA in its initial years of establishment.

Plant variety protection: Although the Plant Breeders' Right Proclamation is in place since 2006, Ethiopia has yet to implement PVP. There is also varied understanding and perception about the purpose of PVP. We broke the silence by opening a dialogue among 21 professionals from Ethiopian Biodiversity Institute, research institutes, CGIAR centres, seed companies, EAA, ATI, NGOs, GIZ, and knowledgeable consultants. We reached consensus that EAA start implementing the law without further delay and proposed to pilot DUS testing with two crops with researchers' full involvement. Piloting still pends.

Output 3.3: Solutions to systemic problems identified and promoted

We sponsored the participation of 22 experts at the ISSD Africa synthesis conference from 17-19 October, 2022, in Kigali³. Over 170 seed sector professionals from across Africa and the globe gathered to harvest, share, discuss, and debate innovations in policy and practice that contribute to seed sector transformation in Africa. Those sponsored by ENSP either hail from or have knowledge of interest to Ethiopia, and have been instrumental in shaping our learning wish list: a working list of learning questions pertinent to stakeholders in Ethiopia's seed sector. From this learning wish list, which spans 35 questions in total, three topics have been prioritized for the learning agenda of 2023: conflict, disaster, and seed insecurity; competition; and seed sector governance. Investments in research and studies, by among others sponsored postgraduates and our own technical staff, will be governed by the learning agenda.

All results tracking our progress towards achieving Outcome 3 are summarized in Table 5.

³ See <https://issdafrica.org/> for more information, including conference outputs.

Table 5 Progress towards Outcome 3

Outcome	Business of the seed sector enabled
Output 3.1	Trade and investment in the seed sector leveraged
Results	<ul style="list-style-type: none"> Organized workshop with management and senior experts in 3 MoA directorates on strategic leadership of the seed sector revealing misalignment and weak coordination Contributed to white paper on options to improve national seed sector coordination Submitted a concept note to re-establish the Ethio-NL Seed Committee
Output 3.2	The provision of seed regulatory services enhanced
Results	<ul style="list-style-type: none"> Facilitated study visit to the Netherlands and Germany on EU regulatory services Supported EAA to develop its five-year strategic plan Assessed the capacity needs of each seed lab in the country and conducted an inventory of 12 facilities revealing 66 items of equipment either not installed or maintained and 167 items of 56 different types of equipment needing procurement Contracted NMIE to install and maintain 41 items of equipment at Debre Birhan, Debre Markos, Shashamane, Ambo, and Durame seed testing laboratories Purchased and distributed consumables, including 122 units of 27 types of reagents for seed health testing, to 14 labs Trained 21 analysts how to operate lab equipment including compound microscope and autoclave, test for seed-borne diseases, germination and seed purity, and conduct tetrazolium (TZ) test for seed viability and phenol test for cultivar identification Familiarized analysts with seed testing parameters, ISTA standards and procedures, and how to ensure reproducible results Trained 27 inspectors from 12 labs on both hybrid and OPV field inspection standards, GOT procedures, digitalization, and drone technology Reviewed MoUs signed by NaPSQC members and identified recurring topics of priority Started intervention to harmonize tagging and yield estimation across the country Raised awareness among 21 stakeholders on the status of phytosanitary services Seconded Senior Advisor Phytosanitary Services to EAA to guide and monitor phytosanitary service performance Developed questionnaire justifying the need for plant regulatory service fee revision Supported EAA in complying with EU phytosanitary requirements Brokered agreement with researchers to transfer the task of variety testing to EAA Proposed piloting DUS testing with two crops with researchers' full involvement Opened dialogue on PVP in Ethiopia Reached consensus that EAA start implementing PBR proclamation without delay
Output 3.3	Solutions to systemic problems identified and promoted
Results	<ul style="list-style-type: none"> Sponsored 22 experts' participation in ISSD Africa synthesis conference in Kigali Harvested 35 learning questions from stakeholders for our learning wish list Prioritized 3 topics: conflict, disaster, and seed insecurity; competition; and seed sector governance, for 2023 learning agenda

b. Unintended positive and negative effects of the intervention

Unintended Positive Effects

- Only one female entrepreneur met our criteria to be selected among 10 domestic seed businesses. We aimed for three. This led to a change in strategy to be more inclusive of women. The female-led business incubator, in which six women currently participate, is the result.
- Consultations we arranged between review committees at Bahir Dar and Haramaya universities and stakeholders revealed many competencies demanded by industry not yet addressed by seed science and technology curricula. An unintended but positive effect is the proposal to establish a short course programme on relevant topics at one of the universities. This will be tendered in 2023.
- Very few women responded to our first call for MSc scholarships. Female postgraduates are relatively few in plant sciences, horticulture, and seed science and technology. So, we decided to open up the call to MA students as well and improved our outreach to female student associations and gender offices at universities. We are now approaching gender parity in our education and research sponsorship and have widened the scope of disciplines.
- International breeding companies and their local distributors were not convinced by the profiles of all candidates in our internship programme. They prefer technical graduates of plant sciences and horticulture,

which are scooped up quickly. They have also expressed an interest in those holding diplomas from ATVETS. We have subsequently decided to broaden our outreach to include ATVETS.

- Due to windfall in our budget, in part because of companies own contributions to the stipends of interns, we can sponsor more internships. These will be at local companies and organizations. So far, seven interns were successfully placed at South Seed Enterprise.
- We have pushed hard for the transfer of variety testing from research to EAA, by among other things developing plans for NPTs and DUS testing, proposing standard operating procedures, illustrating these in flow charts and decision trees, outlining protocols for different crops, identifying sites for trials and capacity for delegated responsibility, and organizing training, experience sharing, and study visits. Despite our efforts, EAA hasn't assigned variety examiners yet, and breeders still face uncertainty, frustration, and high costs in releasing varieties. What our efforts have achieved, however, is closer coalition with ATI and GIZ-SSAP. We are united, organized, and ready to provide financial and technical support when the opportunity does arise, without risk of duplicating effort.

Unintended Negative Effects

We appreciate the policy objective of gender equity internalized in the programme and strive to attain our ambitious target of gender parity across training, education, and employment activities. However, in the interests of being more inclusive of women, we exclude certain capable young men from scholarship, research sponsorship, and internship opportunities.

c. Progress on cross-cutting topics: gender; youth; nutrition; and climate

Gender and youth

As already stated above, we launched the female-led business incubator to be more inclusive of women entrepreneurs. We are also approaching gender-parity among youth in our education and employment activities (see: 4 What we learned and how we learn; and Outcome 2, and Unintended Positive Effects in 5 Progress towards outcomes). Further:

- A gender scoping study was conducted to identify a number of gender transformative tools that other organizations apply to mainstream gender and youth inclusion. Validated by stakeholders, we will publish the results in a working paper.
- Field visits to selected seed businesses took place to assess how gender is internalized in their organizations. Deep dives using structured questionnaire were conducted with five women entrepreneurs to better understand their challenges to inclusion, equity, and success. We identified that how they design their business models, access markets, utilize finance, and pitch their products are key in determining their success. The way they do this is different from mainstream – or predominantly male-owned – business.
- Follow up will involve preparing training modules for female entrepreneurs in our business incubator. With support of a specialized coach, we will provide them with relevant knowledge and experience elsewhere, in part through a visit abroad. Since their enterprises are at different levels of maturity, we divide our support into incubation and acceleration to customize accordingly.

Nutrition

Our strategy is nutrition sensitive in that we target diversification in crop and variety portfolios. We assume that increased diversity in production results in increased diversity in consumption, and do not work on behavioural change for nutrition outcomes. To this end, diversity was a criterion in the selection of the 10 domestic seed businesses. And in addition to our support to these 10 businesses, which largely produce seed of major field crops like cereals and pulses, we subcontracted seven international breeding companies to introduce new vegetables and potato varieties to Ethiopia.

Climate

Climate change adaptation relies greatly on plant genetic diversity and a broadened portfolio of crops and varieties for which quality seed is available. Our strategy works towards this. In addition, subcontracted international companies will reach tens-of-thousands of farmers through demonstrations and farmer training. Sustainable production practices will be promoted during these activities. In 2023 we will begin to mainstream this effort.

Thus far, we have conducted a preliminary study on expected climatic changes in Ethiopia and their consequences for agriculture, focussing on sites of ENSP projects. An important conclusion is that detailed and localised forecasts are unavailable. Most reports focus on national or regional levels.

6 Visibility

- The ENSP communication strategy is in place. The strategy governs both internal and external communications. It outlines media of communication and corresponding channels, target groups, their information needs, and the frequency of communication, among other things.
- Various communication channels, including our website⁴, quarterly newsletter, social media, and other written outputs, are used to provide information to stakeholders, partners, and general public. Both printed and electronic copies are disseminated depending on the purpose.
- We commissioned the production of a corporate video explaining our mission and intended outcomes. The video and an introductory brief on the programme appear on our landing page.
- News stories of major activities and lessons learned have been shared via our Facebook, Twitter, and LinkedIn accounts. Electronic copies of all communication items are stored on our website.
- The 1st and 2nd issues of the ENSP newsletter were published and shared with more than 800 recipients in our MailChimp register. Soft copies were posted on our website and social media, and 300 copies of each issue were printed and distributed at events.
- Other print media items like brochures, leaflets, banners, roll-ups, paper bags, stickers, and staff business cards were prepared.
- Publication templates were developed for our staff e.g., PowerPoint presentations and reports.
- Documentation is an integral part of the any project, as it allows for the preservation of key information and provides evidence of the efforts made. Pictures and footages from events and activities implemented by ENSP have been documented and archived to provide a historical record of progress. Documents are stored on cloud services and an external hard drive.

Website and social media analytics

More and more people are visiting the ENSP website. Analytics show that over 25 posts and 5,060 visits were made up until December 2022. Visitors come from different parts of the world: Ethiopia (2,561); Netherlands (710); USA (582); South Africa (221); China (176); among others. The website reaches a broad international audience. Different documents have been downloaded by users: ENSP brief (91 times); ENSP corporate video (62 times); ENSP internship flyer (57 times); and ENSP Newsletter (56 times). Our LinkedIn page has got more than 100 followers and generated more than 150 impressions of posts. The number of followers of ENSP on Twitter is also increasing.

7 Sustainability

a. Measures to enhance programme sustainability

We put food systems thinking into seed sector practice. That is how our theory of change has been developed. The ENSP strategy is therefore cognisant of socio-economic and environmental drivers, interrelatedness between activities of seed production, distribution, utilization, and the enabling environment, and the contribution of the seed sector to food security and nutrition and both socio-economic and environmental outcomes. Interventions are, therefore, multi-level and integrated. We conduct systems analysis, identify systems problems, promote systems action and systems governance, and build the necessary social capital to respond accordingly. A few examples are given below. In this way, we aim to achieve meaningful and sustained impact.

⁴ www.ENSP-seed.org

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- Picking up where ISSD Ethiopia left off, we aim to unlock private investment in the seed sector. Accordingly, we selected 10 domestic seed businesses with the potential to double and diversify their production. We also strengthen the value proposition of ESA to the sector. In this vein, we have strengthened the capacity of its secretariat, increased contributions by members, and included representation in its board of the interest of seed importers and distributors.
 - ENSP builds human capacity through sponsorship of postgraduate study and internships. In 2023, we ramp up these investments, reach out to technical and vocational training too, and support short course training development.
 - Although slow to pick up, we are committed to supporting EAA in its service provision to the seed sector. A strong and capable EAA will leverage trade and investment in the seed sector. We are also prepared to continue to lend human resources to the strategic operations of EAA (like Mr Fikre Markos).
 - In 2023, our first convening of the ENSP Advisory Board takes place, which is chaired by H.E. Meles Mekonnen, State Minister of Agriculture and Horticulture Development, MoA, co-chaired by Erik Slingerland, First Secretary Food Security at EKN, and for which other permanent members are: Ambassador Deriba Kuma, EAA; Willem Schoustra, SeedNL; Melaku Admassu, ESA; and Anke van den Hurk, Plantum. The main role of the Advisory Board is to advise the programme strategically and foster an enabling environment for its successful accomplishment of primary outcomes.

b. Description of exit strategy (if applicable)

This is the first year of the programme. The exit strategy will be reported in a subsequent reporting period.

8 Organizational development and human resources

ENSP is fully staffed, and all intended partners are subcontracted. Our website provides the list and contact details of all staff members.

9 Finance

Presented in a separate document.

Annex 1 Indicators and targets

No.	Indicator	FNS / PSD	2021	2022	2023	2024	Baseline	EOP target	Cumulative reach	% Reached	Notes
1	Number (#) of small scale food producers purchasing quality seed at the end of the project	FNS 1.1	0	0			0	300,000	0	0%	We have yet to collect the data on sales by domestic seed businesses
	female		0	0			0	100,000	0	0%	
	male		0	0			0	200,000	0	0%	
	<35 (youth)		0	0			0	100,000	0	0%	
2	Number (#) of small scale food producers that progressively decrease the yield gap	FNS B.1.b	0	0			0	150,000	0	0%	
	female		0	0			0	50,000	0	0%	
	male		0	0			0	100,000	0	0%	
	<35 (youth)		0	0			0	50,000	0	0%	
3	Number (#) of jobs created in the seed sector	PSD 1b	0	0			0	2,000	0	0%	We have established a baseline and will report next period
	female		0	0			0	1,000	0	0%	
	male		0	0			0	1,000	0	0%	
	<35 (youth)		0	0			0	1,000	0	0%	
4	Percentage (%) of women seed entrepreneurs who perceive an increase in their access to financial services, entrepreneurship opportunities, managerial and leadership roles, and life-long learning		0	0			0	80	0	0%	Will be measured at end of project
5	Number (#) of improvements in seed policies/ laws/ regulations/ regulatory bodies/ solutions to systemic seed sector problems benefitting at least tens of thousands of small scale food producers	FNS 4.1	0	8			8	12	8	66%	Re.: variety registration; seed quality assurance; and sector coordination
6	Area under sustainable agricultural practices increased (ha)	FNS C.2 PSD 2c	0	0			0	48,000	0	0%	Measurement will start in the next reporting period

No.	Indicator	FNS / PSD	2021	2022	2023	2024	Baseline	EOP target	Cumulative reach	% Reached	Notes
Private sector strengthened in its contribution to food, nutrition, and climate resilience											
7	Quantity of seed produced (MT) by domestic seed businesses		0	2,500			2,500	5,000	2,500	50%	
8	# of women with improved entrepreneurship skills who have been empowered in starting a business		0	6			0	30	6	20%	Female-led business incubator started in 2022
	<35 (youth)		0	0			0	20	3	15%	
9	# of grants accessed and loan agreements signed by seed companies of a minimum of 10,000 USD		0	0			0	10	0	0%	Revolving fund planned for start in 2023
10	% of ESA members that give a rating higher than 70% for satisfaction with ESA performance		0	30			0	70	30	43%	
11	Number (#) of value chains important for nutrition supported		0	2			0	4	2	50%	Animal feed and forages
Uptake of innovations and empowerment of young men and women increased											
12	Number (#) of FNS-relevant knowledge institutes that perform better and more gender transformatively	FNS 1.2	0	2			0	3	2	67%	Bahir Dar and Haramaya universities
13	Number (#) of men and women trained or educated by knowledge institutes in newly developed seed curricula and courses		0	0			0	42	0	>100%	
	female		0	0			0	21	0	>100%	
	male		0	0			0	21	0	>100%	
	<35 (youth)		0	0			0	42	0	>100%	
14	Number (#) of graduates enrolled in seed sector internships	PSD 1.f	0	12			0	100	12	12%	
	female		0	3			0	50	3	6%	
	male		0	9			0	50	9	18%	
	<35 (youth)		0	12			0	100	12	12%	

No.	Indicator	FNS / PSD	2021	2022	2023	2024	Baseline	EOP target	Cumulative reach	% Reached	Notes
15	Number (#) of small scale food producers trained on sustainable agricultural practices	PSD 2b	0	0			0	40,000	0	0%	Demos and training will start in 2023
	female		0	0			0	20,000	0	0%	
	male		0	0			0	20,000	0	0%	
	<35 (youth)		0	0			0	20,000	0	0%	
16	Number (#) trainee farmers have adopted improved varieties	FNS 1.1	0	0			0	20,000	0	0%	
	female		0	0			0	10,000	0	0%	
	male		0	0			0	10,000	0	0%	
	<35 (youth)		0	0			0	10,000	0	0%	
Enabling seed sector transformation											
17	Amount of money (Euro) invested by domestic businesses and international companies in seed production in Ethiopia	PSD 1d	0	11 m			0	23 m	0	0%	117,620,865 ETB in working capital of domestic seed businesses, and €9 m capital investment of BASF Vegetable Seeds
18	Number (#) of seed regulatory bodies strengthened in capacity		0	4			4	5	0	80%	Amhara, Oromia, South, and federal
19	Number (#) of seed regulations improved		0	1			1	2	0	50%	Service fee regulation revision

Annex 2 Risks and mitigation measures

No.	Risk	Probability	Impact	Mitigation measure
1.	Social unrest reduces the safety and security of staff to travel to the field	Moderate	High	<ul style="list-style-type: none"> Invest significantly in stakeholder capacities Carry out activities in collaboration with stakeholders Seize opportunities to travel Build and maintain local networks of security intelligence Meet virtually, and communicate by phone, email, IM
2.	Lack of political will to implement reforms to encourage private investment in the sector	Low	High	<ul style="list-style-type: none"> Formalize cooperation with government Invest in social capital Present costs and benefits of reform to government drawing from inter/national business experience Support EAA intensively to pilot regulatory amendments
3.	Lack of interest from international companies to invest in Ethiopia	Moderate	Moderate	<ul style="list-style-type: none"> Raise awareness of our effort through Plantum & SeedNL Subcontract companies and support their distributors Facilitate participation of companies in regulatory pilots Document and celebrate success
4.	Possibility for layering seed, gender, nutrition, and climate interventions is low	Moderate	Low	<ul style="list-style-type: none"> Mainstream knowledge on crosscutting issues in staff Collaborate with RAISE-FS and HortiLIFE to this end Dedicate resources to activities on crosscutting issues Facilitate dialogue in the seed sector on these issues
5.	Education, training, and employment in the seed sector attracts little interest from women	Low	Moderate	<ul style="list-style-type: none"> Strongly consider women in the development of the communication strategy Put women role models in the spotlight to attract others Sample purposively to include even numbers of wo/men Involve companies and local communities in outreach
6.	Efforts of others are duplicated or antagonistic to our intended outcomes	Low	Moderate	<ul style="list-style-type: none"> Convene platforms on strategic topics of concern Review modalities for collaboration Adapt the workplan in a participatory and agile way Position the Partnership at a strategic level of leadership

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