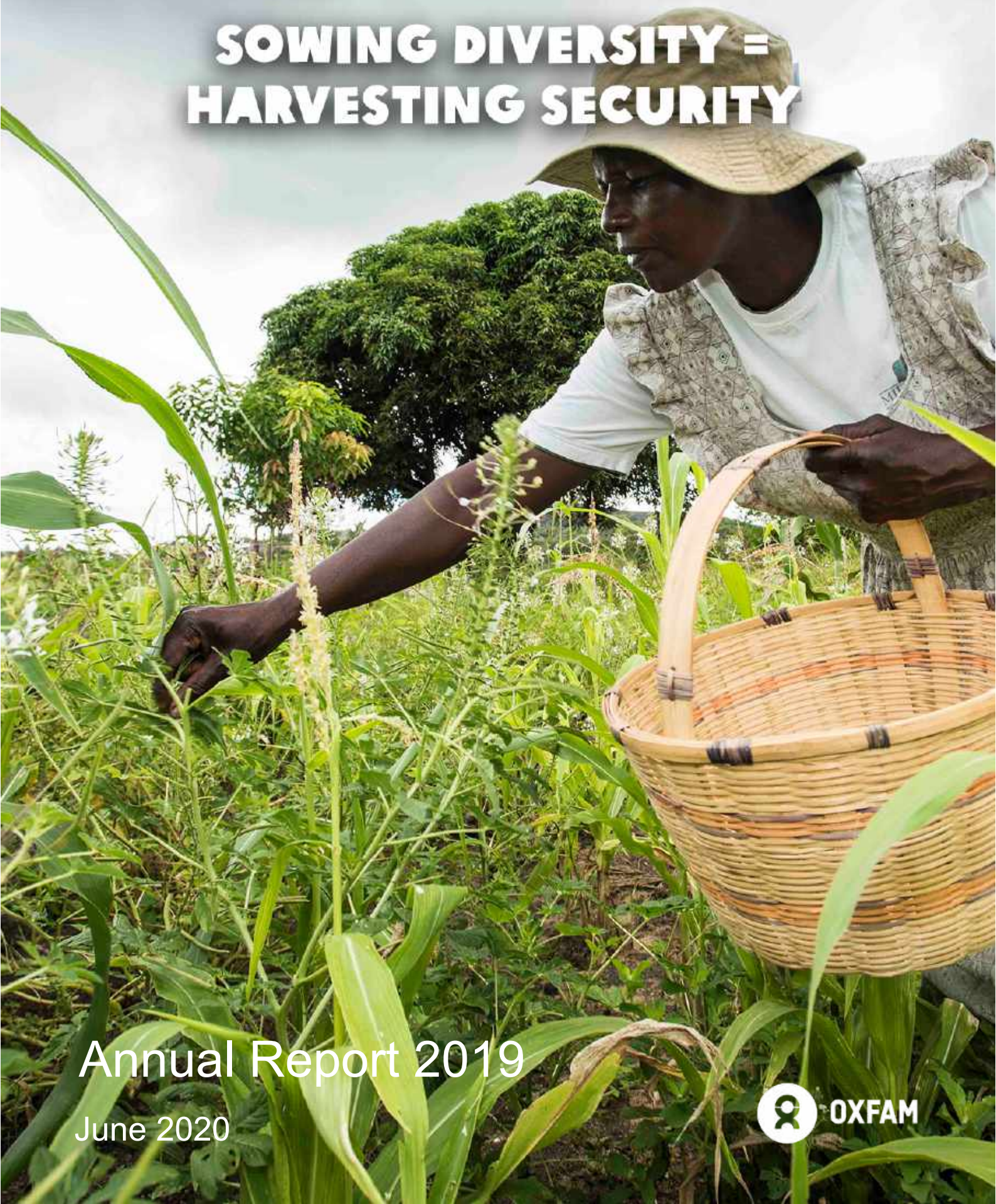


SD=HS

SOWING DIVERSITY = HARVESTING SECURITY



Annual Report 2019

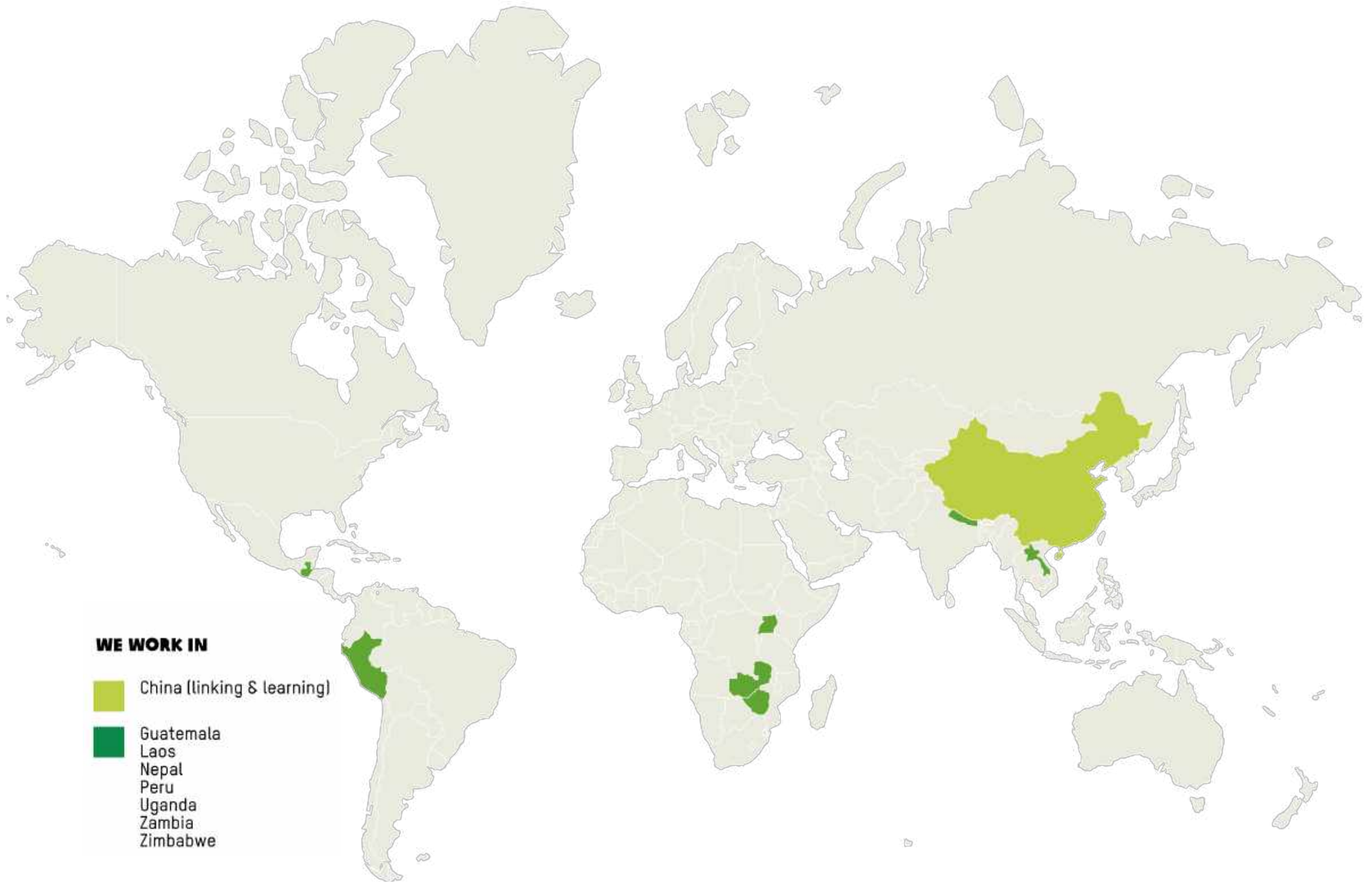
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Cover photo: Sacha de Boer/Oxfam Novib, Zimbabwe



WE WORK IN

China (linking & learning)

- Guatemala
- Laos
- Nepal
- Peru
- Uganda
- Zambia
- Zimbabwe

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ACRONYMS AND ABBREVIATIONS

AMCEN	African Ministerial Conference on the Environment
ANDES	Asociación para la Naturaleza y el Desarrollo Sostenible
ASOCUCH	Asociación de Organizaciones de los Cuchumatanes
CGIAR	Consortium of International Agricultural Research Centers
CGRFA	Commission on Genetic Resources for Food and Agriculture
CIMMYT	International Maize and Wheat Improvement Center
COVID-19	Coronavirus Disease 2019
CSO	Civil society organization
CTDT	Community Technology Development Trust
FAO	Food and Agriculture Organization of the United Nations
FFS	Farmer Field School
FSE	Farmer Seed Enterprise
HRC	United Nations Human Rights Council
IAST	Institute of Agriculture Science and Technology
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
IPSHF	Indigenous peoples and smallholder farmers
MEAL	Monitoring, evaluation, accountability and learning
NAFRI	National Agriculture and Forestry Research Institute
NGO	Non-governmental organization
NUS	Neglected and Underutilized Species
OPV	Open Pollinated Varieties
PGR	Plant Genetic Resources
PMU	Project Management Units
PPB	Participatory Plant Breeding
SD=HS	Sowing Diversity=Harvesting Security
SDG	Sustainable Development Goal
Sida	Swedish International Development Cooperation Agency
ToT	Training of Trainers

INTRODUCTION

In 2019, the SD=HS program entered Phase II, while evaluating the results of Phase I. Some key lessons learned from Phase I were:

- SD=HS has made effective strides to uphold the rights of smallholder farmers and indigenous peoples. It should continue its effort to increase scale by mainstreaming its approach in the policies and practices of public institutions.
- SD=HS should focus more on climate change adaptation, as its methodology is very well suited to developing farmer-centered innovations that can strengthen resilience.
- Although the participation of women and youth in the program is strong, more focus should be given to their leadership roles.
- As a network of civil society organizations working on agricultural biodiversity, the program should invest more in cross-organizational and cross-country learning.

These lessons were used in the inception of Phase II to define common strategies, plans and tools to expand work on plant genetic resources in China, Guatemala, Laos, Nepal, Peru, Uganda, Zambia and Zimbabwe. Oxfam offices and 15 leading organizations worked together to contribute to the overall objective:

Indigenous peoples and smallholder farmers enjoy their Farmers' Rights and have the capacity to access, develop and use plant genetic resources to improve their food and nutrition security under conditions of climate change.


All organizations work with an integrated approach to achieve results on three complementary levels: the *community*, through work on food crops (outcome/pillar 1) and better use of local or wild food plants (outcome 3); the *market*, through work with Farmer Seed Enterprises for wider distribution of quality seeds (outcome 2); and *institutions*, through local and global efforts to create an enabling policy environment for Farmers' Rights (outcome 4).

In 2019, the organizations that are part of the SD=HS program directly strengthened the capacities of 33,600 households (19% of the four-year target) to improve their production systems and worked on an enabling institutional and policy environment. Indirectly this benefited 260,000 households in eight countries across three continents. SD=HS is particularly proud that women play an increasingly decisive role in all aspects of the program: approximately 63% of leadership roles are now taken by women, as master trainers, facilitators, lead farmers and entrepreneurs.

From a program management point of view, 2019 was a satisfactory year, particularly considering the late signing of the agreement with Sida and some delays in the finalization of contracts with countries. SD=HS was able to initiate project activities in all the countries second half of the year and make significant strides towards the agreed outcomes. An issue that will require more attention in the years it come is to really turn SD=HS into a network of organizations working on Farmers' Rights. This means more attention to cross-country learning, as well as joint advocacy on regional and global levels.

2019: OUR RESULTS

If we fail on seeds, we fail on food. If we fail on the right to food, we fail on the most basic of human rights.




We directly reached 33,600 farmers and indigenous people in eight countries



We established and supported 374 Farmer Field Schools



We trained 7,300 smallholder farmers and indigenous people




55% of SD=HS farmers are women. 63% of the leadership roles are taken by women



496 new varieties of over 20 crops made available to Farmer Field Schools



The top five crops farmers chose to develop are maize, rice, wheat, potato and sorghum



We strengthened 23 partnerships with national and international breeding institutes, seed banks and research centers



Champion Seeds in Zimbabwe certified and sold 84 MT of seed to smallholder farmers



Farmers' Rights achieved:

- CGRFA adopted the Guidelines for Conservation and Sustainable Use of Farmer's Varieties
- Farmers' varieties registered in Nepal and Zimbabwe

EXECUTIVE SUMMARY

In 2019, the SD=HS program drew on lessons from the evaluation of Phase I to define strategies for Phase II work in China, Guatemala, Laos, Nepal, Peru, Uganda, Zambia and Zimbabwe. Oxfam offices and 15 leading organizations are working together to contribute to the overall objective: *Indigenous peoples and smallholder farmers enjoy their Farmers' Rights and have the capacity to access, develop and use plant genetic resources to improve their food and nutrition security under conditions of climate change.*

The program directly strengthened the capacities of 33,600 households in 2019, representing 19% of the four-year target, and indirectly benefited 260,000 households.

OUTCOME 1: Farmers' crop diversity management

In general terms the work on this outcome is on track. Although activities started later than foreseen, SD=HS reached more farmers than planned. Around 7,300 farmers, half of them female, are working to develop new crop varieties in 300 Farmer Field Schools on Participatory Plant Breeding across the eight countries.

The success of these FFS in the first phase of SD=HS led to their rapid adoption in the new program countries: in Zambia, for example, 18 out of 39 newly established FFS decided to go for advanced breeding work in their first year. The aim is to develop climate-resilient varieties: for example, an FFS in the flood-prone area of Saravanh province in Laos successfully selected a rice variety with the ability to resist being submerged in flood water.

OUTCOME 2: Farmer Seed Enterprises

Zimbabwe's Champion Seeds cooperative had a challenging 2019, due to erratic weather and the country's continued economic downturn. It sold and distributed 84 MT of drought-tolerant and early- or medium-maturing varieties of food security crops, benefiting smallholder farmers in marginal regions.

Two new countries, Nepal and Guatemala, have been selected to expand work under this outcome. Experience shows that achieving greater impact depends on tackling seed regulations that prevent farmer varieties of seed from being commercialized.

OUTCOME 3: Nutrition and local food plants

SD=HS remains the only program globally that uses the FFS approach for local food plants and nutrition. The FFS Field Guide on Nutrition and Local Food Plants was published on the SD=HS website in 2019 and guided the work with 74 FFS on nutrition. Nepal, Peru, Uganda, Guatemala and Zimbabwe organized 44 public events to highlight the role of local food plants and NUS in healthy and diverse diets.

The program used a newly developed baseline tool to identify food and nutrition issues. Preliminary analysis suggests that not only local food plants are important for coping with food scarcity, but also unusual parts and residues of more widely known crops.

OUTCOME 4: An enabling policy environment

The Commission on Genetic Resources for Food and Agriculture adopted new Guidelines for the Conservation and Sustainable Use of Farmers' Varieties and Landraces in 2019. A new procedure was developed for registration of farmer varieties in Nepal. Side events at the FAO meeting on the International Treaty on Plant Genetic Resources for Food and Agriculture – and a virtual reality video – reached around five hundred government officials, NGO representatives and researchers.

Gender and youth

SD=HS has developed a plan to integrate female leadership in its existing methodology and learning and research tools. In 2019, women accounted for 63% of leadership positions in the program's key activities – an upward trend. On average 30% of direct beneficiaries in 2019 were youth – higher than the target of 25% for the whole project.

CONTEXTUAL CHANGES

Climate change

On the night of 14-15 March 2019, Cyclone Idai hit Mozambique, Malawi and Zimbabwe, killing thousands and leaving 2.6 million people in need of humanitarian assistance. Catastrophic damage wiped away harvests and destroyed seed stocks. Almost one year on, more than 9.7 million people do not have enough food or water.¹

Idai was not an isolated incident. It was an example of how climate change makes extreme weather events more frequent and severe, hitting small-scale food producers and their communities across the globe, and deepening inequality in the food system. The world has barely a decade to limit the impacts of climate change by keeping the global temperature rise below 1.5C.²

With 2020 meant to be a critical year for global climate policy, 2019 saw a number of important new reports give further impetus to Oxfam asks. In September, the Global Commission on Adaptation published a report³ warning that, without adaptation, climate change could depress yield growth in global agriculture by up to 30 percent by 2050, affecting in particular the world's 500 million smallholder farmers. A few months earlier, the FAO certified that the number of people suffering from hunger and malnutrition had risen for the third year in a row. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) urged the world to address the dangerous decline in biodiversity, while the IPCC called for action on the impact of land use change and insecure tenure rights on climate change.

The Global Commission on Adaptation launched several Action Tracks to help accelerate climate adaptation around the world. One of the objectives is to double investment in the CGIAR system to support 300 million smallholder producers to adapt their farming systems, with donors pledging around USD 650 million in response. Oxfam will continue to engage to ensure that this initiative delivers on the interests of vulnerable people.

Oxfam will continue to advocate for the direct involvement and leadership of small-scale food producers throughout the process of adapting to climate change by designing, developing and implementing alternative approaches to maintain food and nutrition security.

Inequality remains a fundamental feature of both the impact of and the response to climate change. Women small-scale food producers and their communities are hit the hardest and have less voice and resources to respond.

“The world is screaming out for climate action, but this summit had responded with a whisper. The poorest nations are in a sprint for survival, yet many governments have barely moved from the starting blocks”

Chema Vera, Interim Executive Director of Oxfam International, 15th December 2019⁴

¹ Oxfam. 2020. After the Storm. One year from the Cyclone Idai.

² IPCC. 2018. Forward of the IPCC Special Report on Global Warming of 1.5°C.

³ <https://gca.org/global-commission-on-adaptation/report>

⁴ <https://www.oxfam.org/en/press-releases/world-screams-out-action-climate-summit-responds-whisper>

A decline in biodiversity and access to plant genetic resources

The increasing impact of climate change runs parallel to a significant loss in biodiversity. In 2019 IPBES warned that a million animal and plant species were under threat of extinction. Access to (agro-)biodiversity is one of the most important pre-conditions for the capacity of farmers to adapt to climate change and transform food systems. Two important reports published in 2019 by the Commission on World Food Security and the FAO Commission on Genetic Resources for Food and Agriculture highlighted the relationship between food security, climate adaptation and biodiversity, and pointed to increasing interest in the potential of sustainable and agroecological management practices to reinforce synergies.

Smallholder farmers' future access to diverse crops and varieties continued to be under threat from the patenting of plants and animals, through which a small number of multinational companies increasingly control genetic materials. According to recent research by the No Patents on Seeds coalition, 3700 patents have now been approved on plants by the European Patent Office. Oxfam has identified many such patents in the global South. This problem is compounded by the failure of the International Treaty on Plant Genetic Resources for Food and Agriculture to revise its Multilateral System of Access and Benefit-Sharing – a key system to allow the open and fair exchange of genetic materials between countries, allowing farmers free access to new options to improve and adapt their production systems.

OUTCOME 1: Farmers' crop diversity management

"By participating in the Farmer Field School, I can now take matters into my own hands. I can select varieties that fit any future challenges the climate may bring."

A female FFS member in Saravanh province, Laos.



Micheal Chela (56) from FFS Mbutoshambuya-Rufunsa district, Zambia, selecting an unusually early-maturing maize plant for variety improvement.

Photo: Mike Ngulube, Rufunsa district officer, CTD-T-Zambia

Successful farmer-breeder collaboration: the discovery of a flood-tolerant rice variety in Laos

In September 2019, a once-in-40-year flood hit six provinces in Laos. The floods destroyed half of the planted rice fields in Saravanh province.

SD=HS has been active in the province for six years, working with our partner organization the National Agriculture and Forestry Research Institute (NAFRI) to distribute diverse rice varieties to the FFS informed by farmers' needs assessment. The FFS group in Saravanh included the TDK1-Sub1 variety with flood tolerant potential from NAFRI in their selection study. A female FFS member discovered that as a result of her meticulous selection the variety was the only line still standing after her field was fully submerged for ten days in murky flood water.

NAFRI and the FFS will together continue to study and develop this flood-tolerant rice variety, which could be of enormous impact for Laos.

Geographical focus

China (linking and learning only), Guatemala, Laos, Nepal, Peru, Uganda, Zambia, and Zimbabwe.

Outcome

Resilient indigenous and farming communities are better able to access and sustainably use and maintain plant genetic resources for food and nutrition security, climate change adaptation and disaster management.

Key achievements in 2019

Outcome	Planned	Achieved
Resilient indigenous and farming communities reached	No target for 2019	7,300 farmers directly benefiting

Output	Planned	Achieved
Expansion of the network of Farmer Field Schools	275 FFS 300 master trainers and facilitators trained (at least 150 or 50% female)	300 FFS 307 master trainers and facilitators trained, with 165 female (53%) 96 out of 307 are youth (31%)
Institutional support	229 plant genetic materials distributed to FFS	496 varieties, advanced lines and segregating populations of 20 crops distributed to FFS
Capacity to adapt to climate change	No target for 2019	Nine new varieties developed by FFS

Highlights in 2019

- Approximately 7,300 farmers (50% female) in 300 new Farmer Field Schools on Participatory Plant Breeding across the eight countries are working on selection⁵ and development of new crop varieties to better cope with shifting market demands and the impacts of climate change, such as droughts and floods.
- Very strong contribution of women and girls: 53% of the 307 trainers who accompany FFS in conducting research on crop improvement are women, of whom 30% are young women.
- The FFS on Participatory Plant Breeding reached maturity after the first phase of SD=HS. Its success meant it was rapidly adopted in the new program countries. In Zambia, for example, 18 out of 39 newly established FFS decided to go for advanced breeding work in their first year.

⁵ This figure does not include the Farmer Field Schools that were established in the first phase of the program and that continue to operate with support from national partner organizations.

- Developing climate-resilient varieties: as described in the box above, an FFS in the flood-prone area of Saravanh province in Laos successfully selected a rice variety with the ability to resist submergence in flood water.

Analysis

In general terms the work on this outcome is on track. Although activities started later than foreseen, SD=HS reached more farmers than planned. In 2019, SD=HS conducted a huge effort to train a new generation of trainers and facilitators, providing the basis for future expansion and sustainability. In Guatemala, Laos, Nepal, Uganda, Zambia and Zimbabwe, there are now 307 FFS facilitators who can support farmers in their communities to select and develop crop varieties.

Earlier lessons learned showed that partnerships with formal research and breeding institutes are needed for farmers' seed systems to keep up with fast-changing climatic conditions and economic demands. Activities in Year 1 were geared towards creating strong partnerships between the FFS groups and breeding and research institutions and extension services, particularly in the new countries. In Guatemala, the Ministry of Agriculture, Livestock and Food opened space to integrate the FFS on PPB approach in the work of decentralized extension agencies. In Zambia, 18 FFS engaged in advanced breeding work in their first year – a direct result of the effective use of the field guide and strong collaboration with breeders from the Zambia Agriculture Research Institute (ZARI) and the University of Zambia.

SD=HS promotes equal participation of women and men in FFS because each have their own preferences for the qualities or traits in crop varieties. The program removes barriers for women to participate, strengthens female leadership, and integrates a focus on gender in its tools, such as the FFS field guide. In Nepal, for example, the program encourages male household members to take care of children, enabling the women to take part in the training of trainers' sessions.

In 2019, despite a late start, the partners in eight countries set up 300 FFS – more than the 275 planned. They work on improving varieties of at least 20 key crops, including maize, rice, wheat, potato, sorghum, cowpeas, millets, groundnuts and vegetables.

- 148 FFS worked on selecting new varieties or advanced lines provided by breeding institutes against a set of locally preferred traits.
- 45 FFS focused on improving cherished local varieties that have deteriorated or become unable to deal with changing growing conditions.
- 21 FFS set out to develop new varieties through crossbreeding, for instance to better cope with drought or flooding.
- 86 FFS were working with diversity plots or were still in a preparatory phase at the end of 2019.

In 2019, partnerships with public institutions facilitated the distribution to farmers' fields of 496 breeding materials of more than 20 crops. This contributed to broadening the genetic base, which is essential for farmers to be able to adapt their crops to current and future conditions. FFS in Nepal, for example, obtained wheat varieties from the Nepal Agriculture Research Council. In Guatemala, breeding materials of potato and beans will be obtained from the Institute of Agriculture Science and Technology (IAST). FFS in Laos selected preferred lines from 30 promising CIMMYT⁶ maize inbred lines that were multiplied and distributed by NAFRI. Dissemination of these lines ensured increased genetic diversity to create new populations for further development of open pollinated varieties.⁷

⁶ International Maize and Wheat Improvement Center

⁷ Open pollinated varieties (OPV) of maize are genetically diverse, allowing them to better adapt to local growing conditions and climate every year. Farmers can save OPV seeds for planting the following season.

In all program countries, SD=HS expects the emergence of promising farmer varieties as a result of the work of the FFS. Building on years of earlier crop improvement work, FFS in Laos, Peru and Zimbabwe already adopted nine farmer varieties in 2019. This work also resulted in the national release of two FFS sorghum lines as farmer varieties in Zimbabwe.

Lessons learned in 2019

With the increase from five to eight countries, the need to be smart about management and field monitoring has become even more urgent. Hiring a roving field officer for the African partner countries is proving an effective step to increase and decentralize our capacity.

We started a global WhatsApp group community for FFS on PPB facilitators. It is proving to be a lively group that stimulates a healthy sense of competition between countries, and allows them to exchange knowledge, experiences and lessons learned on key issues in real time. This reduces the risk of FFS failures.

During a global meeting of the wider FFS community at the FAO, we signaled the need for proper FFS monitoring to safeguard quality and show the global impact of our work. We are piloting and sharing an online/offline documentation tool for facilitators and are anxious to see its results over the coming year.

OUTCOME 2: Farmer Seed Enterprises

“Our Farmers’ Rights are ignored. We can produce, we can! We must be taken into consideration because we are the producers.”

Marjory Jeke, lead farmer, local politician and Champions Seeds Murehwa seed grower, Zimbabwe.

Improving women’s seed production and livelihoods in Zimbabwe

Mercy Faro is a mother of four and the lead farmer of her FFS in Murewa District. In 2017, she decided to join Champion Seeds Farmers’ Cooperative as a groundnut seed grower to improve her income.

She received training on groundnut seed production, quality management and certification. In 2019, despite the severe impact of adverse weather conditions on rainfed agricultural activities in her district, her FFS produced 59.5 kg of certified groundnut seed.

Being a member of the FSE offered Mercy leadership and entrepreneurial opportunities. She became a local seed agent, marketing FSE seeds. She represents women farmers in forums at village, district and national level. In 2019, for example, she was selected to represent Champion Seeds at Zimbabwe’s National Seed Fair, where she showcased the cooperative’s climate-smart varieties of cowpea, groundnuts, sorghum, pearl millet and maize.

Geographical focus

Guatemala, Nepal, Uganda, Zambia and Zimbabwe.

Outcome

Indigenous peoples and smallholder farmers enhance their livelihoods, income and seed security through improved production or market access to high-quality seeds of diverse crops and varieties, which are adapted to farmers’ needs and preferences.

Key achievements in 2019

Outcome	Planned	Achieved
Indigenous peoples and smallholder farmers with increased market access to high-quality seeds	No target for 2019	7,300 farmers directly benefiting from access to quality seeds.

Output	Planned	Achieved
Piloting and strengthening FSE models	Between two and four Farmer Seed Enterprises identified	Three FSEs in Nepal, four in Guatemala, one in China, and one in Zimbabwe selected
Strengthened capacities of farmers to produce quality seeds	600 farmers trained	In Zimbabwe: 721 farmers trained, 465 female (64%) and 84 youth (12%)
Volume (tonnage) of seeds produced and distributed (including farmer varieties)	150 MT	84 MT (nine varieties of seed sold, including two farmer varieties)

Highlights in 2019

- 84 Metric tons (MT) of drought-tolerant and early- or medium-maturing varieties of food security crops were sold and distributed, benefiting smallholder farmers in marginal regions of Zimbabwe.
- 721 smallholder farmers in Zimbabwe were trained in seed production; 64% (465) women, 36% (256) men and 12% (84) youth.
- Two new pilot countries, Nepal and Guatemala, have been selected to expand work in Pillar 2.

Analysis

Building on the experience with Champion Seeds in Zimbabwe in Phase I, SD=HS worked to improve access to appropriate high-quality seeds for smallholder farmers by supporting Farmer Seed Enterprises.

The 2019 production season was challenging for Zimbabwe's Champion Seeds cooperative, due to the country's continued economic downturn and erratic rainfall. As a direct consequence, less seed was produced in 2019: a total of 84 MT of climate-smart seed was marketed and diffused to marginal regions where smallholder farmers reside. The cooperative maintained a 100% seed certification rate – that is, all seed successfully passed inspection.

With nine seed varieties, including farmer varieties, suitable for the agroecological regions where smallholder farmers live, Champion Seeds' crop portfolio is more diverse than that offered by other seed shops. The maize, small grain and legume seed crops produced by the FSE are drought-tolerant and early-maturing varieties, suitable for production in low-rainfall environments.⁸

Champion Seeds provides income opportunities for smallholder farmers and women in particular. Of the 721 members of the cooperative, 465 are women (58%) and 84 are youth (10%). Recognizing the important role of women farmers as custodians of seeds, Champion Seeds prioritizes strengthening their technical skills and leadership role in the cooperative. Efforts to engage more youth resulted in a significant increase in youth participation since 2018. Women and youth occupy leadership positions on the Board and at various levels of the five district associations in which the FSE operates.

Based on the experience with Champion Seeds, SD=HS started expanding its FSE work to other countries. In 2019, scoping and feasibility studies were developed for Guatemala, Nepal, Uganda and Zambia. An expert committee, including the Dutch company ENZA Seeds and the research group ISSD, selected four seed enterprises in Guatemala and three in Nepal for future collaboration:

- In Nepal, SD=HS partners will work with 3 provincial cooperatives and focus on strengthening production and marketing capacities and introducing new varieties of rice, maize, wheat, potatoes and vegetables, benefiting 2,000 farmers.
- In Guatemala, strengthening the production and marketing capacities of three existing potato cooperatives and one bean association will directly benefit 833 smallholder farmers.

In 2020, we will explore opportunities to work in Zambia and Uganda on a smaller scale. We will also document experiences with Rongyan Farmer's Cooperative in Guangxi province in China, as part of the linking and learning activities.

Lessons learned in 2019

- Achieving greater impact strongly depends on tackling seed regulations that criminalize the commercialization of farmer varieties. The SD=HS policy work on registration of farmer varieties is essential for scale and impact of the work on farmer seeds enterprises.
- The sustainability of FSEs is also determined by their capacity to innovate; i.e. to offer new seed varieties that meet the specific needs of smallholder farmers. This means that SD=HS will seek a closer articulation of plant breeding activities of the FFS and work of FSE.

⁸ Standard Grade seed is equivalent to Quality Declared Seed (QDS). There are two classes of seed in Zimbabwe: certified seed and standard-grade seed. Seed certification is mandatory for only eight crops with "commercial importance", namely maize, soya bean, tobacco, cotton, wheat, barley, oats and potatoes. For these crops, it is illegal to sell standard-grade seed. All other registered crops can be sold as standard-grade seed if they meet germination standards. As landraces for which registration is not possible in Zimbabwe at the moment, the FSE had to apply for and receive clearance from the seed certification office.

OUTCOME 3: Nutrition and local food plants

“Local food plants have proven to play a critical role towards contributing to dietary variety and, in addition to their nutritional value, these foods have medicinal benefits and are part of the cultural identity of communities.”

Thamsanqa Khanye, CTD Nutrition Advisor, Zimbabwe.



Women farmers showcasing their favorite local food plants in an agrobiodiversity fair held in Guatemala. Twenty different organizations and more than 500 farmers shared their seeds and traditional knowledge.

Photo: ASOCUCH

Enriching lives and diets through local food plants

Farmers in the Rushinga District of Zimbabwe face erratic rainfall, with dry spells and flash floods resulting in low yields, food scarcity and malnutrition. A local partner organization of SD=HS, Community Technology Development Trust (CTDT), started working with farmers of the FFS in Maguta to use local food plants to enhance nutrition. The 15 active members of the FFS, three men and 12 women, engage in the management, production, processing and preparation of local (and often neglected) food plants.

Gracious Chibaya, a 28-year-old mother of three, said: “Before the project we were ashamed to use local food plants because they were stigmatized as food for the poor people. We also lacked the knowledge on how to prepare them as a palatable meal for our families.”

Despite the stigma, Gracious decided to learn how to use local food plants. She now knows how to prepare more diverse and nutritious meals for her family at low cost, collect seeds and break seed dormancy. Her income increased, meaning she is able to pay school fees for her children. Maguta FFS members are reaching out to other communities to explain that local food plants are a “gold mine”.

Geographical focus

Guatemala, Laos, Nepal, Peru, Uganda, Zambia and Zimbabwe.

Outcome

To strengthen the coping mechanisms of the households (men and women) participating in the program by improving access to and use of local food plants, in particular neglected and underutilized species (NUS).

Key achievements in 2019

Outcome	Planned	Achieved
Strengthened coping strategies of communities with the use of local food plants	No target for 2019	1,112 farmers directly benefiting

Output	Planned	Achieved
Baseline to identify major problems with food and nutrition security	Baseline in all countries working on local food plants	Implementation baseline in all countries implementing Pillar 3 activities, except Peru
Expansion of the network of Farmer Field Schools	No target for 2019	74 FFS supported (44 new FFS) 45 new facilitators trained
The role of local food plants in improving nutrition highlighted to various stakeholders	No target for 2019	44 public events

Highlights in 2019

- The new FFS Field Guide on Nutrition and Local Food Plants was published on the SD=HS website. So far SD=HS is the only program in the world that uses the FFS approach for local food plants and nutrition.
- Food and nutrition issues were identified in all program countries, using a newly developed baseline tool.
- Nepal, Peru, Uganda, Guatemala and Zimbabwe organized 44 public events to highlight the role of local food plants and NUS in healthy and diverse diets.

Analysis

A major achievement in 2019 was the finalization of the extended Field Guide on Nutrition and Local Food Plants. The FFS approach has been applied worldwide in different areas, but only SD=HS uses it to enhance the management and use of local food plants to improve dietary diversity and quality.

The Field Guide builds on the experiences of SD=HS with nutrition and local food plants in Phase I. It allows for further alignment and sharing of resources. It provides the basis for trainings of trainers in 2020, to be followed by the FFS implementation in Laos, Nepal, Zambia and Uganda. In 2019 SD=HS

supported 74 FFS working on nutrition and 45 trainers were trained in Zimbabwe, Peru and Guatemala. Of the 74 FFS, 44 FFS were newly created in 2019, while 30 FFS were already established in Phase I, but continue to receive support from the program. Another 10 FFS (that are not included in the results of SD=HS) continue activities under supervision of government extension staff and health workers, showing the sustainability of the FFS approach. Multiple legume and tuber crops were collected for propagation to ensure the availability of planting material for use in forthcoming FFS in Laos. In Zambia a community seed bank was established, and members were trained on seed handling and storage⁹.

In 2019, a baseline study was conducted in the participating communities to assess the nutritional situation and availability of local food plants, with a focus on NUS. The baseline study conducted with 1295 households in Uganda, Guatemala, Zimbabwe and Laos led to three important conclusions:

- The households showed middle to low dietary diversity, according to the Household Dietary Diversity Scale (on the scale, for Uganda scored 4, Zimbabwe 5, Guatemala 7, and Laos 8). Most households in Zimbabwe and Laos did not report consuming roots and tubers. In Zimbabwe and Laos, 79% and 83% of households respectively did not report consuming legumes, nuts and seeds. In Uganda and Guatemala, 68% and 82% respectively did not report consuming fruits, and 63% in Zimbabwe did not consume vitamin A-rich fruits. Consumption of animal protein was low in all four countries.
- Most households in Uganda and Zimbabwe (96% and 81% respectively) reported having a food scarcity period, with a mean length of 3 and 5 months respectively. This was lower in Guatemala (37% of households, with a mean length of two months).
- While most households (97%) in Uganda reported consuming local food plants specific to periods of food scarcity, with a mean of four plants identified per household, in Guatemala the equivalent figures were 27% and two plants.

These findings will inform upcoming trainings and FFS activities to ensure local food plants, including NUS, contribute to filling gaps in diets and strengthen household coping strategies in food scarcity periods.

Various local and national events in our program countries recognized and shared the knowledge and role of farmers – women, in particular – in the management of local food plants and their importance for nutrition. These events involved traditional leaders and actors from the health, food and nutrition, agriculture, women affairs and youth sectors, among others:

- Twenty food and seed fairs were conducted in Zimbabwe, and two in Guatemala. In Uganda, a national-level fair was organized.
- The FFS in Murehwa (Zimbabwe) participated in a national seed fair and good food festival.
- A nutrition fair with 2,000 participants and a biocultural festival with 350 participants were organized in Lares, Peru.
- Four regional events and one national event were organized to exchange knowledge on NUS between elderly and youth in Uganda, with 137 and 90 participants respectively. In addition, farmers showcased their NUS diversity in Organic Week and World Food Day events.
- In Nepal, a local food evening event – Raithane Khadya Saajh – was conducted in collaboration with the Department of Agriculture.
- Additional meetings were organized in Zimbabwe, Nepal, Peru and Uganda to raise awareness on the importance of NUS for nutrition.

⁹ The activities on nutrition and local food plants in Zambia are funded by the Hans Geveling Fund

The communities of the Potato Park in Peru published a recipe book focused on NUS with high iron content to help tackle anemia in the region. In Guatemala, SD=HS local partner organization ASOCUCH published a report on NUS involving 39 communities in the Sierra de los Cuchumatanes region.

Lessons learned in 2019

- After difficulties encountered in using the term 'NUS' at the community level during Phase I, use of the term 'local food plants' proved to be more successful. Likewise, the term 'food scarcity season' was better received than 'hunger period'.
- Preliminary analysis of the baseline study suggests that not only local food plants are important for coping with food scarcity, but also unusual parts and residues of more widely known crops.

OUTCOME 4: An enabling policy environment

“We want to grow! We don’t like to remain being peasant farmers all the time. Why can’t we as farmers come up with seeds that we can manage ourselves?”

Grace Asio, lead farmer of Ojaba Village Farmer Field School, Uganda



Two delegates watch the VR video Guardians of Seeds at the SD=HS stand at the Governing Body meeting of the FAO Treaty in Rome in November 2019.

Photo: Hedwig de Coo

Virtual reality video: Guardians of Seeds

SD=HS presented its VR video 'Guardians of Seeds' in November 2019 at the Governing Body meeting of the FAO Treaty in Rome. More than 500 country delegates and FAO staff stepped into the world of farmers' fields and seed banks to experience the joys and challenges of local seed systems in Nepal, Uganda, Zambia and Zimbabwe.

Since time immemorial, farmers have been custodians of crop diversity. Their seed systems are indispensable for global food and seed security, and increasing resilience to climate change – but they receive very little support and recognition from governments. The VR video shows how Community Seed Banks and Farmer Field Schools provide much-needed support for farmers' seed systems.

Viewers of the VR video were clearly moved by the experience, as reflected in appreciative questions and vivid discussions on the content and policy issues raised. One example is the invitation we received from the International Seed Federation to broadcast the movie during their annual congress.

WATCH THE VIDEO ONLINE IN 2D

The experience works best with VR goggles, but you can also watch it online in 2D via <https://www.sdhsprogram.org/video/vr/>. You can move through the image as you would do on Google Maps, or watch it on a phone or tablet and move the device to see in different directions.

Geographical focus

From local to global.

Outcome

Policy makers and other stakeholders support an enabling policy and institutional environment for farmers' seed systems and the implementation of Farmers' Rights, through improved policies and practices.

Key achievements in 2019

Outcome	Planned	Achieved
Number of improved policies, laws and regulations in support of farmers' seed systems and Farmers' Rights	No target for 2019	Four national policy changes and one international policy change

Output	Planned	Achieved
The consequences of existing policies and laws on smallholder farmers, as well as effective strategies to change them, are analyzed and documented	No target for 2019	Wide distribution of the first-ever study on Status of Patenting Plants in the Global South
Number of influentials explicitly supporting an enabling policy environment (i.e. political will)	No target for 2019	Eight influentials explicitly supporting an enabling policy environment at the global level
Strengthened capacities of IPSHF and their organizations to claim a role in policy making	No target for 2019	Thousands of Mayan families reached by radio spots on Farmers' Rights in Guatemala

Highlights in 2019

- Adoption of the Guidelines for the Conservation and Sustainable Use of Farmers' Varieties and Landraces by the Commission on Genetic Resources for Food and Agriculture (CGRFA).
- New procedure developed for the registration of farmer varieties in Nepal.
- Five hundred government officials, NGO representatives and researchers reached through the VR video and side events at the FAO meeting on the International Treaty on Plant Genetic Resources for Food and Agriculture.

Analysis

Oxfam is working with partners in all countries to develop and implement laws that recognize Farmers' Rights, and better protect their access to and use of plant genetic resources.

Several SD=HS partners (already since Phase I of the project) contributed to the Guidelines for the Conservation and Sustainable Use of Farmers' Varieties and Landraces, which were adopted by the CGRFA in February 2019. The guidelines now make proper reference to the importance and rights of smallholder farmers in creating and conserving local crop diversity. As humans rely on only three crops (maize, wheat and rice) for 51 percent of plant-based food, the guidelines acknowledge: "For our food systems to be sustainable, farmers must, therefore, grow the most genetically diverse set of crops and varieties that are suited to their agroecologies, production systems and end-users' preferences."¹⁰ They aim to assist countries in developing national plans for the conservation and sustainable use of farmers' varieties.

The SD=HS program supports the production and use of farmers' varieties in part by lobbying to enable the registration of farmer varieties in program countries – not only recognizing the role of farmers in plant breeding, but also allowing much wider distribution of farmer varieties to meet demand that is not met by commercial seed suppliers. The heterogeneity of farmer varieties allows for greater resilience, but existing seed regulations in many countries often allow only for the release of new varieties that are highly uniform and stable.

In Nepal, local partner organization Li-Bird achieved a new registration form for farmer varieties; proposals for nine promising varieties were submitted. This achievement – together with examples from Bolivia, Zimbabwe and Laos – was presented during the 8th Governing Body meeting of the FAO Treaty in Rome. SD=HS program partners organized or contributed to seven side events, bringing farmers' voices to hundreds of national policy makers, research institutes and NGOs from around the world with the aim of inducing policy changes that meet farmers' local needs.

Another achievement in 2019 was the formal recognition of the Potato Park as an "Agrobiodiversity Zone" in Peru. Agrobiodiversity Zones protect the cultural values of indigenous peoples and offer land security against threats from, for example, the mining industry. SD=HS local partner organization Andes is integrating its biocultural rights methodology in Agrobiodiversity Zones and conservation projects throughout the country.

¹⁰ <http://www.fao.org/3/ca5601en/ca5601en.pdf>

Gender & Youth

Gender

Empowerment of women and men is at the heart of SD=HS. The program ensures equal participation of women and men, and supports more women and youth to assume decision-making roles. SD=HS acknowledges that the innovations and coping strategies of different groups of farmers may vary, depending on their access to resources and assets and their production goals: women may, for example, be more concerned with qualities of crop varieties that relate to family food security or food preparation.

Based on a recommendation from Phase I, SD=HS developed a plan to integrate female leadership in its existing methodology and learning and research tools. SD=HS tries to include existing local methodologies as much as possible. For example, Oxfam in Laos and Uganda used Oxfam's Gender Action Learning System to improve the gender focus in the FFS field guide, ensuring that selection and breeding focuses on varieties valued by women and men, and strengthening women's technical and leadership skills.

In 2019, women accounted for 63 percent of leadership positions in the program's key activities: FFS facilitators, lead farmers, FSE board members, cooperative members, and global forum representatives. This reflects a real upward trend: for example, the percentage of trainers and facilitators in Laos and Zimbabwe in 2019 was 50% and 60% respectively, up from 22% and 55% respectively in Phase I.

Youth

The first year of SD=HS Phase II saw a strong involvement of youth. On average 30% of the direct beneficiaries of SD=HS activities are youth – higher than the target of 25% set for the whole project duration. A key factor was the establishment of youth led FFS, which attracted more young participants. FFS organized trainings and activities specifically aimed at youth: in Zimbabwe, youth-led FFS hosted sessions on the use of mobile applications for agriculture; in Uganda, options to use social media as a tool for youth empowerment were explored; in China, all FFS integrated a focus on market linkages as a way to involve young people migrating back from urban areas.

Across the program, young farmers were involved in trainings for quality seed production and Community Seed Bank strengthening. Youth involvement in Community Seed Bank management was highly encouraged in Nepal, while Zambia looked at options to include youth in FSE activities as a route towards job opportunities in the seed value chain. Young people were actively involved in seed diversity fairs in several countries: in Zambia, for example, a sports tournament was organized as part of a seed fair to encourage youth participation.

Some countries developed activities with schools, particularly focused on nutrition and local food plants: in Peru, students participated in trainings on the use of iron-rich plants to address anemia, and school children prepared and presented dishes using local plants. In Uganda, school quizzes and debates focused on indigenous knowledge and the importance of preserving local species.

FINANCE

Total direct expenditure for SD=HS in 2019 was EUR 1,826,858 against an operational budget of EUR 2,513,817. This implies that SD=HS realized a total absorption rate of 73%. Underspending occurred both on program management (69%) and program implementation (75%). The underspend is primarily due to a delay in contracting of partners. Below is a summary of the cost for SIDA Phase II SD=HS:

Table 1. SD=HS FINANCIAL SUMMARY, JAN–DEC 2019

	TOTAL 2019 Euros			
	Budget	Actuals	Absorption	Balance
A. Direct Contract Management Cost	611,689	462,083	76%	149,606
0.1 Direct Contract Management Staff Cost	509,319	419,648	82%	89,671
0.2 Direct Contract Management Other Cost	102,370	42,436	41%	59,934
B. Other direct Program Costs				
Inception period	143,707	89,889	63%	53,818
C. MEAL	112,976	48,499	43%	64,477
Pillar 1: Farmers' crops diversity management	775,086	582,329	75%	192,757
Pillar 2: Farmer Seed Enterprises	297,534	241,955	81%	55,579
Pillar 3: Nutrition and local food plants	392,084	246,421	63%	145,663
Pillar 4: An enabling policy environment	180,741	155,681	86%	25,060
D Total Program Costs	2,513,817	1,826,858	73%	-686,959

