



A LETTER FROM THE EXECUTIVE DIRECTOR

NUMBERS ARE IMPORTANT. BUT THIS IS ABOUT PEOPLE.

We are getting there! This report shows where we made greater progress in 2022 and where we still have further to go. I'm delighted to say that the first of those areas is larger than the second.

But what do we mean by "progress"? Our yardstick is our 2021–25 strategy. It sets out our focus, three overarching outcomes of our work, and some quantitative targets related to our key performance indicators. Each year we aim to get better at meeting them, and at collecting and evaluating the data involved.

In 2022, our partners and we enabled more than 2.7 million smallholders to access products and services supported by our Foundation. That was almost double the number of people who benefited in 2021; the share of female beneficiaries rose slightly to 29%. The value of the products and services increased by 31% to \$142 million. Studies of specific projects showed that farmers' incomes grew by between 37% and 59%. Our capacity-building activities related to climate-smart, resilient agriculture involved more than 800,000 farmers. We supported 15,000 rural enterprises, an increase of 68% over the previous year. These businesses created some 16,000 jobs, of which 56% went to young people. More than one-third of our Agriservices Centers are now owned by women.

Numbers are important. But they never convey the whole picture. Throughout the year, our website features portraits of our work. There, you may hear from a widow whose extra income earned because of our programs enables her to send all her children to school. To me, such voices are a critical counterpart to aggregate income figures. These stories tell the human side of our numbers. And fortunately, 2022 brought back the opportunity that I had so missed in 2021 – the opportunity to meet the people with whom and for whom we do all our work. I have continued to chart some of these hugely impressive encounters in my LinkedIn posts.

THESE STORIES TELL THE HUMAN SIDE OF OUR NUMBERS. AND FORTUNATELY, 2022 BROUGHT BACK THE OPPORTUNITY THAT I HAD SO MISSED IN 2021 – THE OPPORTUNITY TO MEET THE PEOPLE WITH WHOM AND FOR WHOM WE DO ALL OUR WORK.

Returning to the countries in where we operate has also brought me back into closer contact with our local employees. Their dedication and passion for helping smallholders to improve their farming inspires me time after time. Their commitment enables the highlights and performance described in this report. But what is less clear from the numbers is that many of our employees and partner organizations are working in very difficult circumstances. While we were preparing this report, armed conflict flared up in Sudan. Myanmar has dropped out of Western headlines, but life there is far from easy. Nigeria and Mali face major security issues. Other Syngenta Foundation 'presence countries' also have special challenges. I am deeply grateful to our people and their partners who tackle those challenges cheerfully and skillfully, day in, day out.

And what do I see coming up? We are currently working on exciting developments about which I hope soon to say more. Meanwhile, we are also pressing ahead with the implementation of our strategy – always remembering both the numbers and the people! I hope you enjoy the reading and, as always, I look forward to your comments.

Simon Winter
Executive Director
Syngenta Foundation for Sustainable Agriculture (SFSA)



OUR VISION

A bright future for smallholder farming

OUR MISSION

To strengthen smallholder farming and food systems, we catalyze market development and delivery of innovations, while building capacity across the public and private sectors

HOW WE WORK

SFSA's comprehensive strategy addresses numerous aspects of farming systems. We collaborate with a wide range of partners to create sustainable solutions to smallholders' challenges. Together, we focus on innovations in insurance, seeds, and other climate smart agriculture technologies and practices, as well as supporting rural entrepreneurship to enable underserved farmers to benefit from those innovations. To advance in all these areas, SFSA engages in capacity-building, policy development, public-private partnerships and resource mobilization. Supporting functions help ensure organizational excellence. These functions include partnership management, performance measurement, people development, diversity and inclusion (D&I), finance, operations and communication.

FUNDING
2022
\$ 40 M

Main beneficiaries:
Smallholders in Africa & Asia

PUBLIC AND PRIVATE PARTNERS

Governments, companies, NGOs and numerous other institutions
www.syngentafoundation.org/our-partners

OUR COMMITMENTS & SDG¹ CONTRIBUTIONS

Smallholders get the tools they need

Smallholders cope well with climate change

Smallholders benefit from thriving markets



¹ UN Sustainable Development Goals

OUR AREAS OF WORK

AGRISERVICES

Training & agronomic advice
Rural entrepreneurship –strong focus on women and youth
Delivery of innovative products & services
Market access

AGRICULTURAL INSURANCE SOLUTIONS (AIS)

Access to affordable agricultural insurance
Easier access to credit
Innovative products to reduce smallholders' risks

SEEDS2B

Access to new climate-smart varieties
Capacity-building & technology transfer – particular attention to women's needs and capacity
Support of seed companies in delivery of new varieties

WHERE WE WORK

Our Foundation has well-established local teams across Africa and Asia. This personal presence ensures excellent contacts and locally relevant activities.

In Africa, our core teams work in Mali, Senegal, Nigeria and Kenya. Our Asian teams operate in India, Bangladesh, Indonesia, the Mekong region, and China. The head office is in Switzerland.

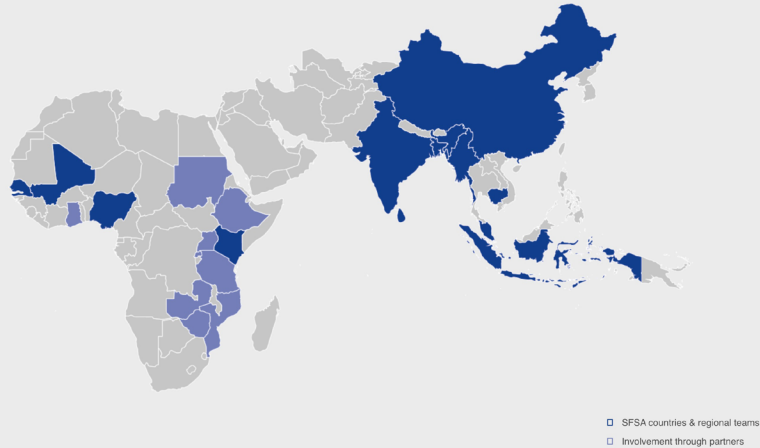
We are involved in activities in several other countries through partnerships. For instance, we carry out R&D work in Ethiopia and Uganda; numerous African universities participate in the Demand-Led Breeding program. Our seeds team collaborates with partners in several African countries, supporting programs like PASTTA, AVISA, and Seeds for Impact. We also work on agricultural insurance in Sudan, Zambia and Cambodia. Our partners come from around the world, including the Americas and Australia.

AFRICA

Mali, Senegal, Nigeria, Kenya
Sudan, Ethiopia, Uganda, Rwanda, Ghana, Tanzania, Mozambique & Malawi, Zambia, Zimbabwe

ASIA

Bangladesh, India, China, Mekong region (Myanmar, Cambodia), Indonesia



DELIVERING ON OUR COMMITMENTS


SFSA continues making significant progress towards the Strategic Outcomes (SOs) outlined in our 2021–2025 strategy. As a result, we have increased some of our initial targets.

By 2025, we are now aiming for 20,000 SFSA-supported enterprises and \$250 million in annual value from the use of SFSA-supported products. The previous targets were 15,000 and \$100 million.

SFSA'S CURRENT 2025 IMPACT TARGETS

- At least 20% net income increase for five million smallholder families
- At least 20% net income increase for five million smallholder families
- Better nutrition, health and food security
- Smallholders cope with climate change in a climate-smart and resilient way


STRATEGIC OUTCOMES BY 2025



Strategic Outcome I: Smallholders get the tools they need

At least 5 million smallholders, particularly women and youth, have better access to affordable and sustainable innovations. Use of SFSA-supported products and services creates more than \$250 million in value annually. SFSA action leads to greater investment in sustainable agriculture.


[READ MORE](#)



Strategic Outcome II: Smallholders cope well with climate change

Smallholders farm at least 2.5 million hectares in line with improved management and resilience practices. At least 1 new CSRA* initiative starts each year. At least 5 million smallholders and relevant institutions have strengthened their capacity and awareness related to CSRA.

[READ MORE](#)



Strategic Outcome III: Smallholders benefit from thriving markets

At least 20,000 successful SFSA-supported enterprises, and increasing employment opportunities for youth. Greater capacity in institutions, public and private, across and supporting the value chain.

[READ MORE](#)

Our impact is driven by smallholders' increased adoption of solutions that address climate change, incorporate the needs of women and youth, produce nutritious food, and meet consumer demand in efficient markets. The following sections provide further details.

*CSRA = Climate-Smart, Resilient Agriculture



DELIVERING ON OUR COMMITMENTS >

OUTCOME I: SMALLHOLDERS GET THE TOOLS THEY NEED

OUR APPROACH

We focus on low-income smallholders, putting them at the heart of agri-food systems. Our work increases these farmers' ability to choose, afford and use sustainable and innovative solutions to their challenges. To support the introduction of new technologies, we ensure suitable training and accompanying services. We also push for a stronger "enabling environment", for example in finance, digitalization and agricultural policy. All of this work is anchored in strong partnerships, notably between the public and private sectors.



> 2.7 m smallholders supported¹, an increase of 99%

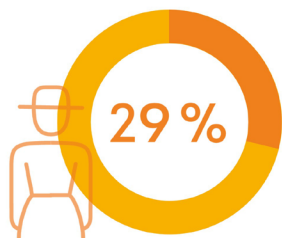
OUR PROGRESS IN 2022

In 2022, we supported more than 2.7 million smallholders, almost double the figure for 2021. "Support" means providing access to affordable and sustainable solutions and services. These include training, improved seed varieties, good agronomic practices, mechanization, digital tools, financial and agri-insurance solutions, and market opportunities. An increasingly important way to make such solutions available is through Catalytic Intermediaries. We establish these as separate legal entities to scale up our innovations. The two main examples so far are the Agri-Entrepreneur Growth Foundation (AEGE) and Agriculture and Climate Risk Enterprise Ltd. (ACRE). Studies of specific projects revealed that farmers' revenues increased by between 37% and 59%. Further information on these projects appears below.

SFSA is committed to gender equality. In 2022, the average proportion of female beneficiaries in our programs rose to 29%. This is an encouraging increase over 2021 (25%), but still a long way off our 2025 target of 50:50 parity. We are investing considerable efforts to improve in this area. Our partners and we help smallholders gain access to a wide range of products and services. Sales from those rose by almost one-third last year. The \$142 m generated through these sales considerably boost local economies; the added value of better harvests comes on top of this. Impressive though a 31% rise may sound, however: It could have been much higher. Various external factors combined to make life very difficult for many smallholders. These included volatile weather and some knock-on effects from the Covid-19 pandemic. The Russian invasion of Ukraine led to further disruptions and rapid price increases, notably for fertilizers. Smallholders' limited access to credit forced many of them to reduce their purchases of farm inputs. Political instability and lack of security added to the challenges in some of the countries in which we operate.

¹ 1.4m farmers supported by SFSA programs and partners. 1.3m farmers supported by the two catalytic intermediaries Agri-Entrepreneur Growth Foundation (AEGE) and the Agriculture and Climate Risk Enterprise Ltd. (ACRE)

² Gender percentage is estimated as an average for all the projects



29% of the farmers are women², up from 25% in 2021



AGRICULTURAL IS PROFITABLE, AND I ENCOURAGE OTHER COMMUNITY MEMBERS TO GROW GOOD FOOD. I AM GRATEFUL TO THE NUTRITION IN CITIES ECOSYSTEMS (NICE) PROJECT FOR HELPING ME TO LEARN, TRY NEW THINGS AND INCREASE MY PRODUCTIVITY. I CAN NOW FEED MY LARGE FAMILY, HELP THOSE WHO ARE LESS FORTUNATE, AND STILL HAVE EXTRA PRODUCE TO SELL.

HANNAH KARANJA

Farmers' Hub owner, Kenya

Despite these problems, we continued to expand our Agriservices programs. In 2022, 1.7 million farmers benefited from these, an increase of 88%. As part of our impact measurement, we have recently run surveys in Bangladesh, Indonesia, and India. These surveys primarily examined how smallholders benefit from the three countries' related models (Farmers' Hubs, Pancer Tani, and Agri-Entrepreneurs, respectively). The positive impact of our agriservices on farmers' lives is clear. The smallholders' responses highlight increases in crop yield and incomes, together with better access to markets. Their livelihoods have improved commensurately. However, the surveys also help us continue to learn lessons about how to improve our effectiveness. Some areas include enhancing the quality and variety of products, more frequent training, and access to finance. Further information follows below; details are

Our Agricultural Insurance Services (AIS) team also overcame the challenges of 2022 and made significant progress. About 734,000 farmers chose to sign up for SFSA-supported insurance products, more than triple the number in 2021. Bangladesh made a major contribution to this rise. There, we combine agricultural insurance with other products and services, such as credit, farm inputs and advisory services. This includes working with 'Lead Farmers', who spread awareness of crop insurance among their neighbors. Additional financial literacy training increases smallholders' understanding of insurance and how it can reduce credit risks. Alongside our well-established activities in Bangladesh, we began working in Zambia. The authorities there approved our 'macro-resilience' package in October, in time for the new season. By the end of the year, 7600 farmers in four Zambian provinces had chosen this cover.

THE POSITIVE IMPACT OF OUR AGRISERVICES ON FARMERS' LIVES IS CLEAR. THE SMALLHOLDERS' RESPONSES HIGHLIGHT INCREASES IN CROP YIELD AND INCOMES, TOGETHER WITH BETTER ACCESS TO MARKETS.



Our Seeds2B team improves smallholders' access to better crop varieties. 'Better' means, for example, seeds that raise yields, strengthen resilience to climate change and help raise smallholders' incomes. In 2022, we rigorously tested some 220 varieties for their potential to meet specific local needs. Typically, such varieties come from public breeding programs; local seed companies provide the crucial channel to farmers. In 2022, Seeds2B helped 129 such companies and breeders to expand their portfolios and sell public and private varieties to smallholders. Thanks to our combined efforts, more than 260,000 smallholders were able to use better varieties in 2022, a 27% increase over 2021.

A notable example of new seed access, initially catalyzed by our R&D teams, is Indian smallholders' ability to buy 'AAA Maize' (Affordable, Accessible, Asian). Public and private partners jointly ran the breeding program for this drought-tolerant corn. At introduction in 2018, local seed partners sold 18 tons of AAA Maize; last year this figure reached 210 tons. The number of smallholder beneficiaries has correspondingly leaped, from 900 at launch to 14,000 in 2022. Average AAA Maize yields in the targeted area of India are 2.5t/ha, compared to conventional varieties' 1.5t/ha. This difference gives smallholders an additional net income of \$75/hectare.

I AM A FARMER AND A HUB MANAGER. I GROW TOMATO, PEPPER, CUCUMBER, CABBAGE, WATERMELON, CORN, COWPEA, AND SORGHUM. THE FARMERS' HUB MODEL HAS HELPED ME INCREASE MY KNOWLEDGE OF MODERN SEEDLING PRODUCTION, FOR EXAMPLE USING IMPROVED VARIETIES, NURSERY TRAYS, AND PLANTING MEDIA. THE BENEFITS HAVE EXTENDED TO SEVERAL OTHER WOMEN IN MY COMMUNITY THROUGH CAPACITY-BUILDING IN HORTICULTURE AND ARABLE CROPS. I AM A WIDOW. THE PROFIT FROM MY FARMERS' HUB HELPS ME TO PAY MY CHILDREN'S SCHOOL FEES AND BUY THEIR BOOKS. FURTHERMORE, MY PRESTIGE AND SOCIAL STATUS IN THE COMMUNITY HAVE ALSO INCREASED.

TALATU IDRIS

Farmer, Nigeria



ASSESSING OUR IMPACT

Over the past few years, we have conducted impact studies and satisfaction surveys on some of our key projects. The work is mainly done by external organizations. The results help us better understand our activities' effects on beneficiaries. We can then continue at scale or, where necessary, adapt our approach. As well as sharing the data with program partners, we publish some key findings on our website (see links below). This section provides some examples.

PANCER TANI

Pancer Tani is a multi-service enterprise initiated by our team in Indonesia. It is similar to the Farmers' Hubs mentioned below. Smallholders value the access that each Pancer Tani provides to good products and customer service. 85% of surveyed farmers reported increases in revenue (average 37%) by using Pancer Tani offerings. Two out of three attributed the increase to having bigger harvests to sell. Our study shows that the ability to grow more crops comes primarily from better farming knowledge and easier access to quality inputs.

FARMERS' HUBS

Farmers' Hubs are rural businesses giving smallholders 'one-stop' access to quality inputs, machinery, finance, knowledge, and markets. We investigated their impact in Bangladesh. 77% of farmers reported a revenue increase averaging around 59% with crops grown from Farmers' Hub seedlings. 93% of farmers said that the rise is thanks to increased harvest sales. 84% reported accessing a new product because of a Farmers' Hub; fewer than 5% are certain they could find a good alternative.

MICROINSURANCE MARKET DEVELOPMENT

Our **Microinsurance Market Development** program provides services to mitigate and reduce agricultural risks in Bangladesh. Insurance gives farmers greater confidence: after buying it, smallholders also increase their investment in their crops – in this study, by an average of almost 9800 taka, some 42%. Two-thirds of surveyed farmers would like to keep using crop insurance. The study also showed that the project beneficiaries had better access to loans.

THE AGRI-ENTREPRENEUR (AE) MODEL

The Agri-Entrepreneur (AE) model in India empowers rural women and youth, in particular. It incentivizes them to play an active role in agricultural development. Surveyed farmers list advice and access to inputs as the two main AE services. Half of the farmers communicate with their local AE at least weekly. 79% reported earning more money; nearly half of this group said incomes had increased by at least 50%. Most farmers attribute the rise to higher volumes of crop sold. Those who reported no income change mainly blamed this on the high cost of inputs. A survey among AE is summarized under Outcome 3 below.

PASTTA

PASTTA is USAID's Partnership for Seed Technology Transfer in Africa. Its successes include the introduction of Kabamanoj hybrid corn in Senegal. Smallholders who have adopted the variety say that their yield has risen by 150% over the past three years. Many of them are now also planting Kabamanoj on a larger area. Farmers typically sell a portion of their harvest and keep the remainder for personal consumption. Farmers grow the variety during the off-season. This increases food security throughout the year and leaves smallholders time to grow cash crops as well.

Studies of specific projects revealed that farmers' revenues increased by between 37% and 59%

DELIVERING ON OUR COMMITMENTS >

OUTCOME II: SMALLHOLDERS COPE WELL WITH CLIMATE CHANGE

OUR APPROACH

Agriculture both contributes to and suffers from global warming. There is an urgent need to improve the resilience of smallholder farming to climate change. As outlined in our Strategy, we are making Climate-Smart, Resilient Agriculture (CSRA) an integral part of the entire SFSA portfolio. We take an all-round approach, tailored to local contexts.

To increase farmers' resilience and ability to adapt, we are implementing a range of strategies and tools. Increasing the likelihood of good harvests goes hand in hand with protecting smallholders against the consequences of crop failures. Longer-term contributions to resilience must be accompanied by more immediate economic incentives. Examples of such financial benefits include higher productivity, lower production costs and profitable sales of new rotation crops.



More than **800,000** farmers participated in SFSA capacity-building activities related to CSRA during 2022¹

OUR PROGRESS IN 2022

Capacity-building is a major pillar of our Mission. In the CSRA area, efforts to create awareness and build capacity include numerous smallholder training sessions and field days. These focus on good agronomic practices, climate-smart varieties, financial education, and other forms of risk reduction or mitigation. Some examples of our CSRA activities follow below; our [website](#) provides further details.

PROMOTING EFFICIENT WATER USE

In Bangladesh, our work includes the **IWET** project (Introducing Water-Efficient Technologies). IWET is sponsored by the Coca-Cola Foundation and supported by the 2030 Water Resources Group. Its main objective is to reduce farmers' use of groundwater while also improving their income. IWET focuses on more efficient mango cultivation. Using modern drip irrigation, farmers can intensify mango production and save up to 70% of the water used conventionally. This approach also has other advantages. It enables more efficient fertilizer use than traditional manual application. Fewer weeds mean less work and help avoid unnecessary tillage. Farmers can harvest earlier and more easily, with yields up to 300% higher than before. The system also allows income diversification through intercropping. In 2022, more than 6000 farmers participated in IWET training and other events; the program ran 120 demonstrations.

In the Niayes area of Senegal, our team successfully piloted the use of **solar-driven water pumps**. By replacing pump fuel with sunlight, the pumps save smallholders money and are environmentally more friendly than conventional models. Our team is now working with USAID in the Senegalese capital Dakar on spreading this promising technology. A USAID project called SURE (Scaling Up Renewable Energy) aims to increase farmers' use of solar pumps in the country's southern and eastern cropping areas.

¹ Number of participants attending events run, funded and/or supported by SFSA to support any stage of bringing SFSA-supported products to market. They include workshops, field days and training sessions. For this indicator, we are not reporting growth in 2022. Meaningful comparison with the pandemic year 2021 is anyway difficult, and several projects could only begin reporting on this indicator in 2022.

BY REPLACING PUMP FUEL WITH SUNLIGHT, THE PUMPS SAVE SMALLHOLDERS MONEY AND ARE ENVIRONMENTALLY MORE FRIENDLY THAN CONVENTIONAL MODELS.

STRENGTHENING SEED SYSTEMS TO INCREASE FOOD PRODUCTION

In the **PASTTA** program in Kenya, our Seeds2B team promoted climate-smart agriculture, in cooperation with several partners. Together, they introduced farmers to techniques such as water harvesting, drip irrigation, and the production of certified seeds. Through the program, smallholders also gained access to important tools and services. These include varieties of potato, beans or vegetables that resist drought and/or diseases. PASTTA also linked farmers to markets and ensured access to soil nutrition, mechanization, financial services and insurance. In drought-prone Samburu County, for example, pastoralists find it increasingly hard to make a living from cattle-grazing. PASTTA has helped them **diversify** into potato farming as an additional source of food and income.

Tef is a vital staple food for Ethiopia. However, the cereal is an 'orphan' crop, largely ignored by international research for many years. SFSA has been supporting the tef value chain since 2006, in collaboration with the Ethiopian Institute for Agricultural Research and the University of Bern in Switzerland. The first phase of the program concluded in 2022; by then, it had enabled release of five early maturing varieties. They are, above all, resistant to lodging and drought; yields are 0.3–1 ton/hectare higher than the main varieties usually grown. Good performance in dry conditions makes the new tef better able to cope with locally relevant climate-related stress. The program now seeks to raise Ethiopian food production by increasing local seed companies' capacity to deliver the varieties to farmers commercially. By the end of 2022, more than 35,000 smallholders were growing SFSA-supported tef; considerable expansion is planned over the next few years.

SPREADING WEATHER-RELATED INSURANCE, FINANCE AND INFORMATION

With every crop, smallholders typically carry a huge burden of risk. Crop insurance enables them to invest in their harvests with greater confidence. However, smallholders rarely have experience of such cover. A lack of both knowledge and trust can prevent them from trying out insurance policies that would reduce their risk and give them peace of mind. To help smallholders understand the concept and products, and to manage their expectations, our AIS team organizes capacity-building events across Asia and Africa. In 2022, more than 300,000 farmers and staff from partner institutions attended.

In Bangladesh, the Microinsurance Market Development Program familiarizes smallholders with multiple climate-smart farming practices. A survey showed that all farmers in the program are applying at least one of these practices. In the area of weather-related information, for example, more than 65% of farmers consult forecasts before irrigating. 59% use them for cultivation planning; more than half plan the use of crop protection products in line with the weather forecast.

In Sudan, our Financial Education Initiative aims to build a strong foundation of knowledge on credit, savings and insurance. Before the armed conflict of 2023, we assessed farmers' confidence and ability to understand financial processes. More than 90% said that the education helped them make financial transactions, fill in bank forms, read and query account statements, and understand simple sales contracts. Almost 89% considered taking up insurance after the training; 92% found it easy to use budgeting in their daily lives.

HEAVY RAINFALL RUINED SOME OF MY RICE CROP BUT I WAS ABLE TO MINIMIZE MY LOSS THANKS TO CROP INSURANCE. THE INSURANCE PAYOUT OF 7,500 TAKA (\$75) PROVIDED A BRIDGE TO THE NEXT SEASON. I AM GRATEFUL TO THE SYNGENTA FOUNDATION AND GREEN DELTA INSURANCE FOR INTRODUCING WEATHER INDEX-BASED CROP INSURANCE. THE COMBINATION OF WEATHER FORECASTING INFORMATION, CROP CULTIVATION GUIDANCE, AND INSURANCE COVERAGE BOOSTED MY CONFIDENCE. I ENCOURAGE MY FELLOW FARMERS TO JOIN ME IN BUYING CROP INSURANCE TO BE MORE RESILIENT AGAINST EXTREME WEATHER.



AMINUR RAHMAN

Farmer, Bangladesh



IMPROVING SOIL HEALTH AND REDUCING GREENHOUSE GAS EMISSIONS.

In Kenya, our local team, The Nature Conservancy (TNC) and other partners recently mapped the agricultural ecosystem of the Laikipia region. Mapping included a household survey, soil sampling, and hydrologic assessment with the University of Florida. This comprehensive approach lays the basis for a sustainable regional 'foodscape'. The soil health project in Laikipia has already exceeded its targets. We have engaged with over 7000 farmers and established value chains for two new rotation crops: dry peas and canola. We aim to introduce sunflower as the next rotation crop, continuing to improve soil health, increase farmers' resilience and raise their incomes.

We are also working with TNC in Asia. In India, we jointly enabled 154 Agricultural Entrepreneurs (AEs) to provide **direct plant seeding** rental services as part of their sustainable business offer. Direct seeding helps replace stubble-burning by using crop residues as mulch. This change in practice both keeps moisture in the soil and tackles the major annual problem of air pollution from countless fires.

In China, TNC and we assessed the effectiveness and impact of government **subsidies** on soil health and 'green' agricultural development. In Gansu province, we ran events with local officials and farmers on improving organic fertilizer subsidy policy. In Sichuan, we studied the potential of low-carbon agriculture, supporting the provincial government's drive for carbon-neutrality in the farming sector. Having estimated greenhouse gas emissions from Sichuan's farms, we held roundtables with officials, academic experts, cooperatives, and farmer representatives. We also completed data-collection for rice and kiwifruit, with the help of private and public organizations. The data enables us to draft technical specifications for improving the crops' carbon profile and to recommend incentives for farmer adoption.

Together with our partners in the Nutrition in City Ecosystems (NICE) project, we made significant progress in helping improve the demand for and local supply of diverse, nutritious food across the three countries where the initiative operates. By the end of 2022, NICE has successfully established over 174 Farmers' Hubs, serving as the preferred social business model in Bangladesh, Kenya, and Rwanda. The project provided training to over 3000 smallholders on good agricultural practices, agroecology and equipped farmers with the necessary skills to combat soil erosion effectively.

DELIVERING ON OUR COMMITMENTS >

OUTCOME III: SMALLHOLDERS BENEFIT FROM THRIVING MARKETS

OUR APPROACH

Sustainability has three pillars: environmental, social, and economic. Thriving markets are essential for sustainable improvements in livelihoods. In our case, these are markets in which smallholders can buy, rent and profitably sell, and in which businesses that serve them can thrive. As described above, SFSA links smallholders with markets for insurance, seed and other elements of successful farming. This section describes our progress in stimulating rural entrepreneurship.



AGRISERVICES CENTERS (AC)

SFSA's entrepreneurial AC help smallholders to access products and services that lead to better harvests and higher income. We empower rural entrepreneurs to meet the needs of their farming neighbors and create jobs.

SMALL/MEDIUM-SIZED ENTERPRISES

We deliver improved agricultural solutions by strengthening market mechanisms and value chains. Through partnerships, we assist local seed companies, network managers and enterprises. They can thus expand their activities and bring improved solutions to market. We also work with insurance companies, regulators, and other stakeholders. We jointly monitor and assess risk, in order to develop insurance products specifically for smallholders.

PUBLIC ORGANIZATIONS

We focus on building capacity across many organizations. For example, in the seed system, we collaborate with CGIAR centers, National Agricultural Research Systems and other public entities.

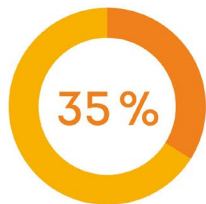
OUR PROGRESS IN 2022

In 2022, SFSA supported over 15,000 agri-enterprises, 68% more than in 2021. Depending on the local situation, our support can take many forms. They include providing technical assistance, facilitating access to financing options, catalyzing public and private partnerships, identifying and training future rural entrepreneurs, and promoting technology transfers.

Our AC vary locally in focus and in name: Agri-Entrepreneurs, Farmers' Hubs, Pancer Tani or CEMA, our West African mechanization centers. On average, 35% of AC are run by women, a major step forward from 2021. Despite the international challenges described under Outcome 1 above, 7000 new Centers started operations in 2022. This was a rise of 90%. Most of these centers are in India, where in 2022 the Agri-Entrepreneur Growth Foundation passed the milestone of 10,000 trained Agri-Entrepreneurs. Through AC, we contributed to the creation of over 16,000 permanent and temporary jobs in 2022. More than half of these positions went to people under 35.



In 2022, 15,000 SFSA-supported enterprises! 68% growth



On average, 35% of the entrepreneurs are women² (52% rise in the share)



More than 16,000 jobs created (+136%), over 50% of them for young

¹ Active Micro/Small/Growing Businesses: 14,812 Agriservice Centers, 129 public or private seed producers, breeders and seed companies, 69 Commercial financial institutions, farmer aggregators, insurance companies, reinsurance companies, telecom companies and microfinance institutions.

² Agriservices Centers (Agri-Entrepreneurs, Farmers' Hubs, Pancer Tani or Centers for Mechanized Services) track the number of youth employed and supply data by gender.

I GROW PADDY RICE WITH AN HP MICRO SOLAR-POWERED IRRIGATION SYSTEM INSTALLED WITH THE HELP OF AEGF. THE SOLAR PUMP LETS ME CULTIVATE FIVE ACRES OF RICE DURING BOTH THE KHARIF AND THE RABI SEASON. THAT EARNS ME AN ADDITIONAL INCOME OF NEARLY 200,000 RUPEES (APPROX. \$2400) PER YEAR. SUPPORTING A FAMILY OF FOUR, THAT IS A VERY VALUABLE BOOST.

PADMABATI NAIK

Farmer, India

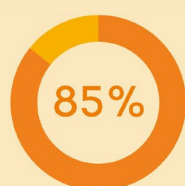


AGRI-ENTREPRENEURS: A FLAGSHIP INITIATIVE

Syngenta Foundation India launched the Agri-Entrepreneur (AE) model in India in 2014. Each AE provides services to about 150-200 neighboring farmers. For major scale-up, we partnered with Tata Trusts in 2019 to create the Agri Entrepreneur Growth Foundation (AEGF), which is now also anchored by IDH-The Sustainable Trade Initiative. Coming into 2023, there were close to 12,000 AEs across more than 15 states.

A recent **impact study** shows that the program has significantly improved the quality of life and income of 85% of surveyed Agri-Entrepreneurs. They reported that they can now afford household expenses and have improved self-esteem. The study also highlights that 41% of AEs earn most income from selling agricultural inputs; 23% report digital banking and 21% crop advice as their highest-earning services. Almost all survey participants found the AE training useful and easy to understand; 75% mentioned that they apply 'all' or 'most' of it to their work. Two out of three AEs communicate with each farmer at least weekly. However, the experiences and satisfaction of AEs vary between states. The survey also indicated scope for changes to the training. We are currently addressing both this issue and how to accelerate growth in the proportion of female Agri-Entrepreneurs in partnership with the Bill & Melinda Gates Foundation and others.

* Milestone of 10,000 Agri-Entrepreneurs passed in 2022



85% of Agri-Entrepreneurs in India experience improvements in their quality of life and income*.

VOICES FROM THE FIELD

"THE INTRODUCTION AND ADOPTION OF A WIDELY ADAPTABLE HIGH-YIELDING VARIETY MEETING FARMERS' NEEDS CAN BE A GAMECHANGER. THAT IS TRUE IN SENEGAL, FOR EXAMPLE, AND THE WHOLE OF WEST AFRICA. IN PARTNERSHIP WITH SUNRISE AGRITEC, THE COMPANY WHICH OWNS THE VARIETY, WE AIM TO PRODUCE KABAMANOJ CORN SEEDS LOCALLY IN SENEGAL."

Camille Renou
Syngenta Foundation



"THE NEW KABAMANOJ CORN MATURES QUICKLY, AND IT HAS A HIGHER YIELD THAN THE VARIETIES I USED TO GROW. I EVEN BOUGHT CATTLE AND FURNITURE THIS SEASON BECAUSE OF THE GOOD YIELD."

Aguirou Ba
Farmer, Senegal

"THE FOUNDATION'S SEEDS2B DISSEMINATION MODELS WILL LEAD TO A BETTER CORN SEED SYSTEM IN THE LONG TERM. AFTER SEVERAL YEARS OF THE PROJECT IN OUR REGION, FARMERS UNDERSTAND THE BENEFITS OF IMPROVED VARIETIES. THEY ALSO KNOW THAT THEY NEED TO BE ORGANIZED. THAT MAKES THEM STRONGER AND MORE RESILIENT IN THE FACE OF UNCERTAINTY AND INFLATION."

Sina Coulibaly
PASTTA field officer, Mali

"MY HUBS OFFER MULTIPLE SERVICES TO LOCAL FARMERS AND RAISE THEIR INCOMES. I PROVIDE SERVICES SUCH AS NURSERIES, MECHANIZATION, ADVICE, AND CROP SALES. LAST YEAR, I SOLD 609,000 NURSERY PLANTS, ENOUGH FOR MORE THAN 20 HECTARES. THOSE PLANTS HAD A TOTAL VALUE OF \$42,000."

Sery Dérne
Farmers' Hubs owner, Senegal



"I ENABLE MY FELLOW FARMERS TO GET HOLD OF GOOD AGRICULTURE."



INPUTS. THE PRODUCTS SHOULD ENABLE THEM TO ESCAPE FROM A VICIOUS CIRCLE OF LOW YIELDS AND DEBT. I SET UP A NURSERY, GREW HIGH-VALUE SAPPLINGS, AND HELPED MY NEIGHBORS TO START GROWING VEGETABLES TO IMPROVE THEIR INCOME. I ALSO SET UP A DIGITAL BANKING KIOSK TO HELP THEM MAKE AND RECEIVE PAYMENTS. THESE VENTURES EARN ME ABOUT 15,000 RUPEES (APPROX. \$ 180) PER MONTH."

Akanksha Maurya
Farmer, India

FURTHER HIGHLIGHTS

ADVANCING DIVERSITY & INCLUSION

The eradication of global poverty and the achievement of sustainable economic growth require equitable and inclusive societies and markets. In many countries, however, women smallholders are disadvantaged. For example, they often find it much harder than men to get access to training, inputs and financial services. SFSA has set itself the ambitious goal of gender equality among its beneficiaries by 2025.

Progress so far varies considerably. In 2022, our programs enabled approximately 217,000 female smallholders to get agricultural insurance, about 30% of all participants. In Mali, women now account for 45% of participants in our Seeds program PASTTA, compared with 17% in 2019. Last year, women owned more than 5000 SFSA Agriservice Centers¹, 35% of the total, and a rise from the previous year's 23%. On average, however, the proportion of our female beneficiaries increased to only 29%, up from 25% in 2021.

We are working hard to improve this situation. For example, in India there are now training programs exclusively designed for female Agri-Entrepreneurs (AEs). In 2022, our team in China introduced women-specific training for smallholder fruit-growers.

SFSA also works for the economic inclusion of people with disabilities. In Kenya, for example, we are partnering in this area with Sightsavers and East Africa Millings Limited. In 2021, we jointly launched an initiative in the sorghum value chain to empower entrepreneurs and farmers with disabilities. By the end of 2022, the initiative had engaged with 45 entrepreneurs and three network managers. The entrepreneurs run Farmers' Hubs across three sub-counties. Almost one-third of them are people living with disabilities. The program provides training and mentorship to improve participants' technical, organizational, and management skills.

¹ Agriservices Centers (Agri-Entrepreneurs, Farmers' Hubs, Pancer Tanis or Centers for Mechanized Services).
<https://www.syngenta.com/foundation/agriservices/whatwedo>

ACHIEVING GENDER EQUALITY IS A MULTI-FACETED CHALLENGE

We continue to move towards having an equal number of male and female beneficiaries in our programs. Achieving this goal, however, is often difficult. Recent observations in Bangladesh illustrate some of the topics to bear in mind.

To help assess our work, we run numerous surveys. Some of these are described in the Outcome sections above. Last year in Bangladesh, we noticed after a rural household survey that very few women had provided answers. This low participation rate did not reflect female involvement in family farming and decision-making. One issue was that some questions referred to tasks that are traditionally men's responsibility. More limiting, however, was that the survey investigators often talked only to the formal head of each household. In Bangladesh families, this person is typically male. We also realized that the number of female entrepreneurs had remained very low, even though women contribute significantly to numerous activities. These include post-harvest operations, farm management and specific profitable tasks such as establishing seedlings. To address this issue, the Syngenta Foundation has adopted a 'household' approach to training. Husbands and wives now learn together, so that both can benefit equally. Our Bangladesh Farmers' Hubs have also created numerous jobs for women, including the great majority of those related to seedling production. A remaining challenge with Farmers' Hubs is to encourage more female farmers to seek services there. Our Bangladesh Insurance team also continues to explore distribution models that reach more women. The type of goods and services with which we combine insurance can play a role. Bundling the cover with farm inputs mainly attracts men, because it is they who buy these products at local retailers. A distribution model that involves microfinance institutions encourages higher numbers of women to choose insurance.



BUILDING CAPACITY IN DEMAND-LED BREEDING

Demand-Led Breeding (DLB) aims to produce new crop varieties that meet farmers' needs. We are a founding member of a partnership that helps leading African universities to train plant scientists in DLB. In 2022, the partnership created additional educational materials with new topics for postgraduates. The two open-access training modules are designed for plant breeding educators and practitioners. One focuses on "Gender, Diversity, and Inclusivity in plant variety design", the other on "Creating new product profiles based on the DLB toolbox." Both modules are already in use at major plant science centers.

Last year, African plant breeders also used our DLB guidelines to develop 20 new product profiles. These are for improved beans, cassava, groundnut, maize, pigeon pea, sorghum, and tomato. African experts also employed the DLB methodology to create compelling cases for investment in beans and tomato. The DLB partnership's advocacy for sustainable agricultural practices continued at events in Africa and beyond. They included the Nigerian Plant Breeders' Association conference, the Australasian Plant Breeding Congress and Tropag 2022 in Australia, as well as the AAU Presidential Meeting in the UK.

In DLB, we collaborate closely with the West Africa Centre for Crop Improvement (WACCI), a World Bank Africa Centre of Excellence at the University of Ghana. Our work there, led by Professor Eric Danquah, includes a contribution to training ten PhD students in plant breeding. In 2022, Professor Danquah secured a commitment from Ghana's Food Systems Resilience Project Fund to invest two million dollars in R&D for staple crops. He also won the prestigious 2022 Africa Food Prize for WACCI's outstanding contribution to Africa's food security efforts. A World Bank-related survey of more than 50 academic institutions from nine African countries ranked WACCI top in project implementation and performance.

IMPROVING NATIONAL, REGIONAL AND INTERNATIONAL POLICIES AND REGULATIONS

Our Policy work focuses on a strong enabling environment for agricultural development. In 2022, we continued to urge for policy reforms that benefit smallholders. Our Policy team partnered with leading research organizations to propose improvements in several areas. The topics included youth entrepreneurship, climate-smart agriculture, seed policy, agriculture and food R&D, soil health and low-carbon agriculture. Our efforts involved both policy studies and advocacy for change. In Nigeria, for example, our partners Sahel Consulting and we held discussions with the country's Agricultural Research Council (ARCN). These focused on our study of national agriculture R&D and recommendations for its further evolution. The Nigerian government has recently adopted reforms to strengthen the ARCN and boost research. A community of practice aims to build a common platform for planning, streamlining, and implementing agricultural R&D nationwide.

We also ran similarly themed studies in other countries. Our goal was to identify significant trends in public and private research expenditure and recommend advisable changes in focus. In Indonesia and China, we published reports on "Reorienting Public Agri-Food R&D for Achieving Sustainable, Nutritious, and Climate-Resilient Food Systems". These are available on the relevant Policy page of our website. We also began the same research in Kenya. Additionally, we convened stakeholder meetings in Indonesia, Nigeria and China. These brought together senior representatives from the public and private sectors, as well as development and donor communities. Our well-received observations sparked intense debate on the future of agricultural R&D. Experts regard our reports as valuable and timely resources.

Our Policy team also worked on rural business topics. Together with IFPRI, we have now analyzed key drivers of successful youth entrepreneurship in several countries. In 2022, we added India and Indonesia. The resulting recommendations enable countries to identify gaps in their policy and regulatory frameworks, and to take steps for greater economic empowerment of young rural people.

In 2022, the Foundation for Food & Agriculture Research (FFAR) and we officially started a program to improve the adoption of climate-smart farming in Kenya and Bangladesh. The program will be implemented by World Vision supported by the Overseas Development Institute (UK), under AgMission, an initiative by FFAR and the World Farmers' Organisation. AgMission aims to unlock agriculture's potential to reduce greenhouse gas emissions.

OUR GOAL IS TO IMPROVE COORDINATION BETWEEN FARMERS, INPUT SUPPLIERS, AGGREGATORS, PROCESSORS, TRADERS AND STORAGE OPERATORS. BETTER COORDINATION SHOULD ENCOURAGE FOREIGN INVESTMENT IN RICE MILLING AND PROCESSING, EQUIPMENT SUPPLY, OR OTHER PARTS OF THE VALUE CHAIN.

POLICY PUBLICATIONS AND EVENTS

Our Policy Watch newsletter is available on free subscription via our website. This monthly bulletin provides a digest of policy information and insights, with a strong focus on our countries of operation. To drive policy change and promote sustainable smallholder farming, we also disseminate research papers and participate in workshops and meetings with policymakers and other stakeholders. In 2022 we organized more than 35 policy events for over 1500 people. Topics covered in our papers and events included seed policy regulations, value chains, and rural entrepreneurship.

In Kenya, in collaboration with New Markets Lab, we ran a seed policy workshop at the African Seed Trade Association (AFSTA) Congress. The primary objective was to share our findings on regionally harmonized seed policy regulations. We also published several reports on these findings. The topics included potato seed regulation in Kenya, regional registration of publicly bred varieties, and licensing approaches for public crop varieties. A visit to the Kenya Agricultural and Livestock Research Organization (KALRO) enabled staff at the Tanzania Agriculture Research Institute (TARI) to learn about KALRO's licensing models for seed companies wishing to sell its improved varieties. We also facilitated the formalization of material transfer agreements between TARI and Tanzania's Agriculture Agency.

In Nigeria, we reported on Plant Variety Protection at a national training and awareness creation workshop. We also participated in a cowpea variety licensing workshop and spearheaded other activities, at the request of the National Agricultural Seeds Council. For Nigeria and Mali, we embarked on a study of the rice value chain. Our goal is to improve coordination between farmers, input suppliers, aggregators, processors, traders and storage operators. Better coordination should encourage foreign investment in rice milling and processing, equipment supply, or other parts of the value chain. The Nigerian assessment finished in 2022; we expect to finalize Mali's this year. We then plan a series of meetings to validate the findings and to share the recommendations and opportunities with potential investors.

In Indonesia, we brought together 60 representatives from the public, private and development sectors to discuss the results of our study on reorienting agricultural R&D (see above). Our supported recommendations help inform the discussions at and between institutions such as the National Research and Innovation Agency, and the Ministries of Agriculture and of National Development Planning. Several follow-up meetings have enabled further deliberation on the recommendations and required actions.

The Policy section of our website contains a wide range of studies and other publications.

ADVANCING OUR EMPLOYEES

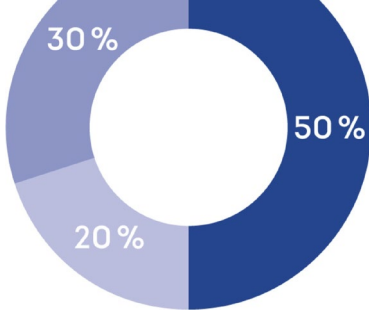
We want to be the best foundation we can. Internally, achieving this goal requires close attention to personal development and to Diversity & Inclusion (D&I). Promoting gender equality continues to be a major focus. Our aim is an inclusive and supportive workplace in which all employees thrive and contribute their best. Periodic surveys encourage staff dialogue, help us assess our progress, and identify areas for improvement. A further boost to dialogue, and to personal development, comes from our internal learning sessions. These are for employees of both sexes across the Foundation. We recently devoted one of these sessions to the topic of creating an inclusive environment for women.

Women's situation in the workplace varies internationally. This is also true of the countries in which the Foundation works. We continue to address specific challenges faced by our female employees. These include their wellbeing during extended field visits, notably in the areas of menstrual hygiene and night-time safety. Our Indian team has also been running educational sessions to tackle sexual harassment. We are now exploring how best to adapt this training to local situations in other countries.

Personal development and the Foundation's work both additionally benefit from our internal Communities of Practice. We currently have one focused on climate-smart agriculture and another on impact measurement and management. Those platforms enable our country teams to share experience and insights with colleagues across the Foundation. In addition, our Portfolio Management team shares lessons from completed projects, successful or otherwise.

PARTNERS AND RESOURCING

We are very grateful for the financial and in-kind support of Syngenta AG and our other partners. In 2022, they provided funds of \$ 40 m. These were allocated as follows:



INCOMING FUNDS 2022

- Funds from First Party (Syngenta)
- Funds from Second Party Donors
- Funds from Third Party Donors to our Programs and Catalytic Intermediary

¹ Total sum raised. This includes funding provided by Syngenta AG to SFSA HQ and country offices as well as funding from other sources that goes directly into local organizations and programs. Interim financial statements, unaudited. In 2022, funds from 'First Party' (Syngenta) also include the contribution to Syngenta Foundation India.

OUR PROGRESS IN NUMBERS

		2020-2022			Businesses selling SFSA supported products (SPs)			2020-2022		
		2020	2021	2022	2020	2021	2022	2020	2021	2022
Agitservices	Asia	607.1	883.3	1599	4003	7590	14508	234	97	119
	Africa	28.3	35.8	124	171	217	332	1.6	1.9	3.8
Agricultural Insurance Solutions	Asia	32	173.7	386	31	14	26	0.020	0.11	0.68
	Africa	100.4	66.1	348	27	34	43	0.75	0.71	6.8
Seeds2B	Asia	16.5	31.9	394	34	31	55	0.77	1.4	1.7
	Africa	90	181.7	224	152	94	74	5.3	6.5	9.6

OTHER 2020-2022 DATA

		2020-2022			% of women among farmers supported ⁴			% of women-owned businesses ⁴			2020-2022		
		2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
Agitservices	Asia	122	20.5 ¹	462	n/a	33% ^o	32% ^o	17% ^o	23% ^o	35% ^o	n/a	6600 (56% ^o)	16251 (65% ^o)
	Africa	102	11.6	245	n/a	14% ^o	39% ^o	29% ^o	26% ^o	38% ^o	n/a	576 (57% ^o)	670 (49% ^o)
Agricultural Insurance Solutions	Asia	112	202.8	291	n/a	25% ^o	19% ^o	n/a	n/a	n/a	n/a	n/a	n/a
	Africa	8	20.3	34.9	n/a	39% ^o	42% ^o	n/a	n/a	n/a	n/a	n/a	n/a
Seeds2B	Asia	19	6	0.7	n/a	15% ^o ²	28% ^o ²	n/a	n/a	n/a	n/a	n/a	n/a
	Africa	7.7	12.4	18	n/a	27% ^o ²	215% ^o ²	n/a	n/a	n/a	n/a	n/a	n/a

Particularities of these indicators are mentioned under each section. Data are collected biannually, partially automatically using SFSA's or partners' IT tools. For manually collected data, we use Smartsheet with automated validation steps. Indicators' definitions and methodologies may change depending on activities' evolution and implementation of our strategy. We will communicate such changes in our reports.

¹ 2021 value from a third-party institution is unavailable.

² 2021-2022 data not yet available for most of the countries/projects.

³ The number of people attending capacity-building activities given, funded and/or supported by SFSA. Type of participants include farmers, public (e.g. local organizations, academia, local government representatives) and private (small and medium enterprises) actors.

⁴ Data per gender are not available for certain programs. We aim to extend such reporting across all our activities.

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