

Resilient Food Systems

Programme highlights

2020



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Design and Layout: Debra-Jean Harte

Editing and Production: Lucy Martin, Rodrigo Ciannella and Jonky Tenou

For more information: www.resilientfoodsystems.co
Rodrigo Ciannella: R.Ciannella@cgiar.org
Jonky Tenou: Y.Tenou@ifad.org
Jean-Marc Sinnassamy: Jsinnassamy@thegef.org

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Produced by World Agroforestry (ICRAF) 



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List of abbreviations

AGRA	Alliance for a Green Revolution in Africa
ANR	Assisted natural regeneration
COVID-19	Coronavirus 2019
CREMA	Community resource management area
DATAR	Diversity Assessment Tool for Agrobiodiversity and Resilience
EO4SD	Earth Observation for Sustainable Development
EX-ACT	Ex-Ante Carbon Balance Tool
FAO	Food and Agriculture Organization of the United Nations
FIES	Food Insecurity Experience Scale
GEF	Global Environment Facility
GEF-6	GEF Sixth Replenishment Cycle
GIS	Geographic information system
ICRAF	World Agroforestry
IFAD	International Fund for Agricultural Development
LDSF	Land Degradation Surveillance Framework
M&E	Monitoring and evaluation
Mt CO2e	Metric tons of carbon dioxide equivalent
NGO	Nongovernmental organisation
PCU	Programme Coordination Unit
PPP	Public-private partnership
RFS	Resilient Food Systems
SHARED	Stakeholder Approach to Risk Informed and Evidence Based Decision Making
SHARP	Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists
SMS	Short message service
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
WOCAT	World Overview of Conservation Approaches and Technologies



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Foreword



Gustavo Fonseca

Director of Programs

The Global Environment Facility

The Resilient Food Systems programme is one of three Integrated Approach Pilot programmes financed by the GEF during the Sixth Replenishment Cycle (GEF-6). It aims to improve the resilience and sustainability of smallholder agricultural systems while generating global environmental benefits. Despite challenges posed by the COVID-19 pandemic, Resilient Food Systems has continued to progress with advancing integrated solutions in smallholder agriculture across dryland regions in Africa.

I am very pleased to introduce this latest Annual Report, which shows that all 12 participating countries (Burkina Faso, Burundi, Eswatini, Ethiopia, Ghana, Kenya, Malawi, Niger, Nigeria, Senegal, Tanzania and Uganda) are reaching important milestones with overall implementation of their respective projects. The report also highlights how countries deal with external shocks that exacerbate existing environmental challenges—land degradation, biodiversity loss, water scarcity and climate change, amongst others – to increase vulnerability in smallholder agriculture.

With effects of COVID-19 manifested all across the continent, countries in the dryland regions have also been facing another major threat: swarms of desert

locusts that destroy crops and impact livelihoods especially in the Horn of Africa, one of the most food insecure regions in the world. The focus on delivering integrated solutions through the Resilient Food Systems programme has emerged as an invaluable approach for helping smallholder farmers build resilience in the face of such risks and shocks.

Thanks to a collaborative effort by GEF agencies (IFAD, Conservation International, FAO, UNDP, UNEP, UNIDO and World Bank) and support of key partners such as the World Agroforestry Center (ICRAF), Bioversity International and the Alliance for a Green Revolution in Africa (AGRA), countries are getting support to strengthen capacity for scaling-up innovative practices that generate multiple benefits. In the face of national and global restrictions due to COVID-19 pandemic, the partnership has focused on ensuring the security of project teams and beneficiaries and assessing constraints in each project context to anticipate impacts on staff, communities and potential implications for achieving global environmental benefits.

In addition to milestones reached, the report also highlights emerging lessons and experiences from the different countries, including examples of how the Resilient Food Systems programme is helping to build resilience of smallholder farming communities and production systems to stresses and shocks – work that is essential to face crises now and in the future. These achievements are further manifestation of the critical role of GEF financing to deliver global environmental benefits in the context of transforming livelihoods.



Ms Jyotsna Puri, Ph.D

Director, Environment, Climate, Gender and Social Inclusion Division

International Fund for Agricultural Development

At the end of 2020, I am delighted to share our progress in implementing the Resilient Food Systems programme.

Despite the COVID-19 pandemic, IFAD and its partners remain committed to supporting a systemic shift in African agriculture to enhance smallholder farmers' resilience and food and nutrition security. The pandemic has shone a spotlight on the drivers behind some of the most pressing challenges facing our agricultural systems—climate change, environmental damage and biodiversity loss—and created a renewed sense of urgency for transformational change. Several innovative approaches, such as IFAD's Rural Poor Stimulus Facility, have been employed as fast-tracked responses to ensure the rural poor and small-scale producers are more resilient, not less, after the pandemic subsides.

This report highlights some achievements and innovations of the Resilient Food Systems regional partners, country project teams and beneficiary communities across 12 targeted countries in 2020. It highlights, inter alia, the importance of strategic partnerships to develop and implement strong

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THE PANDEMIC HAS SHONE A SPOTLIGHT ON THE DRIVERS BEHIND SOME OF THE MOST PRESSING CHALLENGES FACING OUR AGRICULTURAL SYSTEMS—CLIMATE CHANGE, ENVIRONMENTAL DAMAGE AND BIODIVERSITY LOSS—AND CREATED A RENEWED SENSE OF URGENCY FOR TRANSFORMATIONAL CHANGE.

knowledge systems, nature-based solutions that attract private investments and innovative adaptation actions that leverage technological solutions and integrate gendered perspectives.

The commitment, knowledge, enthusiasm and dedication of our partners and country project teams underpins the success of our achievements. We would like to express our gratitude to all of them for their continuous support and especially thank the Global Environment Facility for our excellent collaboration.



Executive Summary

In 2020, the global coronavirus 2019 (COVID-19) pandemic posed new challenges to the initiatives and institutions supporting the farming communities and ecosystems that underpin Africa's food systems. This year's challenges highlighted the value of the Resilient Food Systems (RFS) programme and heightened the sense of urgency for achieving the programme's objectives.

The pandemic showed how external shocks intersect with existing challenges—land degradation, unproductive agricultural practices, insecure livelihoods, climate change, among others—to exacerbate long-term drivers of vulnerability in smallholder food systems.

Despite these challenges, RFS projects and beneficiary communities adapted to the changing environment. In many ways, the integrated nature of the programme, which promotes the use of innovative approaches to complex problems, provided RFS projects with the tools and skills necessary to meet the demands of the 'new normal'. In spite of the ongoing pandemic and desert locust crisis in the Horn of Africa, RFS projects were able to focus on building the resilience of smallholder farming communities and ecosystems to stresses and shocks—now and in the future.

The 2020 reporting period was marked by continual learning. Valuable lessons drawn from the achievements and innovations of the RFS country projects and Regional Hub will not only inform the programme's implementation in the years to come, but can also provide helpful insights for other initiatives, governments and implementation partners working to enhance the long-term sustainability and resilience of food systems in developing countries around the world.

10 key lessons from the 2020 reporting period

01. Strategic partnerships provide essential knowledge, experience and networks for the RFS programme.
02. Making a strong business case for investment in nature-based solutions can attract expertise and financing from private partners.
03. Including local communities in project design and implementation from the beginning ensures sustainability of project outcomes.
04. Learning-by-doing approaches help farmers draw a direct link between sustainable agricultural practices and productivity.
05. Addressing land degradation can increase biodiversity and support socioeconomic development.
06. Effective gender mainstreaming relies on concerted effort throughout project design and implementation.
07. Investing in women's economic empowerment is good for communities and the environment.
08. Online monitoring systems provide easy access to up-to-date information, improving decision-making across RFS projects and levels of governance.
09. Cross-programmatic knowledge management and dialogue promotes exchange of evidence, lessons and best practices.
10. Innovative adaptations to COVID-related challenges highlight the potential of technology-based solutions.

01.

Strategic partnerships provide essential knowledge, experience and networks for the RFS programme.

The RFS country projects have developed and leveraged a range of strategic partnerships—across the public, private and civil spheres of society—to ensure that the necessary technical expertise, networks and local knowledge are available to implement activities across the project components.

At the national level, government ministries and agencies are essential implementing partners, supporting the integration of RFS lessons and evidence into the policy- and decision-making processes; facilitating provision of essential training, inputs and technical support to rehabilitate the landscape and improve agricultural practices;

and harmonising agroecosystem monitoring and information systems. At the local level, nongovernmental organisations (NGOs) and civil society groups with in-depth knowledge of project areas support implementation of various activities. From rehabilitation and conservation to training of smallholder farmers, these organisations provide an essential link between project planning and execution.

Organisations operating on local and global scales, such as The Nature Conservancy in **Kenya**, have proved invaluable in connecting national and local project activities with broader networks, approaches and frameworks. Research institutes, as hubs of knowledge, expertise and learning, have also been important contributors to RFS country projects. In **Burkina Faso**, **Uganda** and **Burundi**, national research institutions are working in tandem with country projects to multiply and distribute seeds to farmers to increase agrobiodiversity and build community resilience to climate change.

02.

Making a strong business case for investment in nature-based solutions can attract expertise and financing from private partners.

The RFS programme emphasises the importance of fostering lasting relationships with private partners. By making a strong business case for investment, projects encourage private sector participation in RFS activities and, more broadly, in rehabilitation of natural resources and improvement of smallholder agricultural systems.

Innovative approaches channel private finance into activities that increase the resilience of the ecosystems that underpin economic development. From multinational corporations investing in water resource conservation efforts in **Kenya's** Upper Tana region to banking institutions finding ways to mitigate the risks of lending to small-scale farmers in **Niger**,

03.

Including local communities in project design and implementation from the beginning ensures sustainability of project outcomes.

RFS partnerships come in many forms—local civil society organisations, NGOs, research institutions and private sector actors—but the most important partners are the community members themselves. By establishing and strengthening local multi-stakeholder platforms and institutional frameworks, a focus on community participation is integrated into every phase of the project—from design and development to implementation and monitoring.

Community participation has many shapes and forms. In **Senegal**, mangrove user associations have played an essential role in restoring wetlands. In Malawi, catchment management committees and

private sector partners have been essential sources of co-financing for the programme.

As the central actors in agri-food value chains, input suppliers, farmers, end market operators and processors are engaged in RFS projects to foster the growth of targeted value chains and integrate small-scale farmers. With support from **Regional Hub** partners, the **Alliance for a Green Revolution in Africa (AGRA)** and the **United Nations Development Programme (UNDP)**, country projects are linking local producers with processing infrastructure and end markets to move into higher-value production.

In **Eswatini**, the RFS project has partnered with the Eswatini Small Enterprise Development Company to promote the growth of an indigenous chicken value chain. In **Nigeria**, the RFS project has established public-private partnership platforms that bring together value chain actors to discuss and establish linkages in priority value chains and brainstorm collective solutions to challenges in the business environment.

village nature resource management committees work with extension services to promote sustainable land, water and natural resource management. In **Eswatini**, chiefdom development committees have helped integrate sustainable land and water management principles into local development planning.

These platforms not only ensure community ownership of project activities, motivating community members to be active participants in the programme, but also help integrate RFS approaches into individual and collective decision-making processes. Experiences from **Malawi, Eswatini, Burundi and Tanzania**, where local committees are working to integrate new evidence and approaches into local-level plans and management processes, have demonstrated the benefits of community participation in identifying and prioritising interventions that align with a collective vision for the future. This collective buy-in contributes to the scaling up of successful interventions over time and ensures the sustainability of project outcomes.



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04.

Learning-by-doing approaches help farmers draw a direct link between sustainable agricultural practices and productivity.

Reversing trends in land degradation requires transforming the way communities restore natural resources and manage their collective use. It means addressing land degradation and overexploitation of natural resources while providing smallholder farmers with the skills and tools necessary to adopt sustainable agricultural practices.

Rural agricultural extension is crucial to this transformation.

To build new skills, technologies and approaches into sustainable land and water management, the RFS programme has promoted innovative agricultural advisory methods and platforms, such as the Food and Agriculture Organization's (FAO's) Farmer Field Schools. These methods and platforms have several things in common.

First, they differ from traditional advisory services in that they emphasise experimental learning by doing and discovery-based learning. Demonstration plots, as examples from **Nigeria, Malawi and Burundi** show, provide opportunities for direct observation and experimentation in the field, enabling farmers to see first-hand how new techniques and skills can improve their livelihoods.

Second, innovative rural advisory models often use a decentralised approach to sharing information. After completing training, master trainers, lead farmers and facilitators return to their communities to lead local training groups. This training model ensures a collaborative approach to extension, one that draws from and builds upon the knowledge and experience of the farmers. In **Eswatini and Nigeria**, lead trainers have become leaders within their communities, which has resulted in greater community ownership of the learning process and contributes to the scaling up and sustainability of extension interventions.

05.

Addressing land degradation can significantly increase biodiversity and socioeconomic development

Land degradation analysis conducted by Conservation International, a Regional Hub partner, shows that, from 2000 to 2015, there was a trend toward declining land productivity in all RFS project areas except **Uganda's** Karamoja region. Deforestation is a major cause of land degradation: between 2000 and 2018, 283,372 hectares of forest cover were lost in all 12 countries in areas that are now being targeted for RFS activities.

This trend highlights a primary challenge facing RFS countries and underscores the importance of integrated interventions to reverse land degradation, land cover change, forest cover loss and carbon emissions from deforestation.

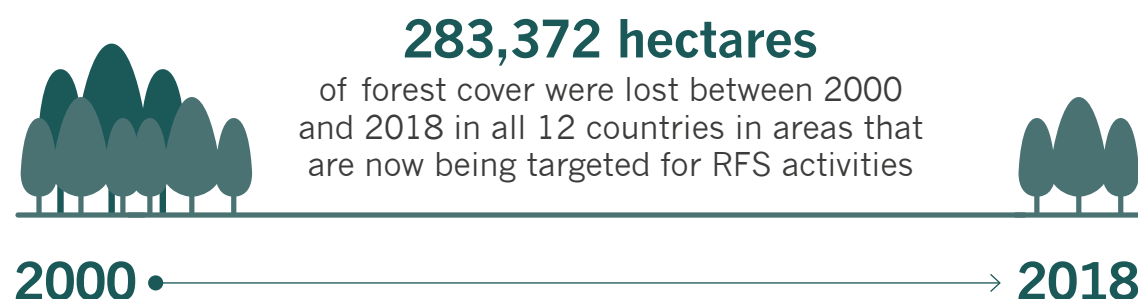
RFS interventions have had tangible results. Restoration work is underway in **Burundi**, where tree

planting and agroforestry approaches are improving soil health and agricultural productivity by reducing soil erosion. In **Eswatini**, wetland restoration efforts have had such visible results that communities are seeking additional funding to expand the area under restoration. In **Kenya**, preventing agricultural activities from further degrading the banks of the Tana River is a win-win solution for farmers and ecosystems.

By targeting areas where land degradation is a major constraint on agricultural productivity, the RFS projects have demonstrated a direct link between rehabilitation efforts and household food security and livelihoods. The effect of sustainable land management and integrated natural resource management interventions on agricultural yields, growth of trees and vegetation and health of water resources has encouraged commitment and buy-in from communities.

In **Niger, Eswatini, Ghana** and **Nigeria**, these results have motivated communities outside the project area to adopt successful restoration approaches, expanding the programme's reach.

ADDRESSING AFRICA'S SHRINKING FORESTS:



06.

Effective gender mainstreaming relies on concerted effort throughout project design and implementation.

Throughout the RFS programme, gender mainstreaming is a cross-cutting theme integrated into project design, implementation and monitoring and evaluation (M&E). Incorporating gender considerations into all aspects of the programme is an ongoing, iterative process. Moving beyond women's participation targets, the programme is continually adapting its approach to empower women and catalyse real transformational change at the household, community and intuitional levels.

Each country project has adopted a different approach to mainstreaming gender considerations within project interventions. Multiple country projects, including in **Eswatini, Ethiopia, Kenya, Tanzania** and **Uganda**, have hired gender consultants to support ongoing analysis to account for differences

in women's needs, roles and responsibilities and to identify opportunities for equal engagement of women and men in project activities. Partnerships with women-led civil society organisations, such as **Nigeria's** collaboration with the Women Farmers Advancement Network, help expand in-country female networks and tailor training and awareness raising for female participants. In **Ethiopia**, designated gender teams help implement district-level gender action plans.

The **Regional Hub** plays an active role in supporting these initiatives, offering programme-wide support, through gender training and guidance materials and targeted one-on-one support. In 2020, the Regional Hub collaborated with several country projects to mainstream gender considerations into capacity development, multi-stakeholder dialogue and M&E activities, including technical support for improving gender-responsive data collection in **Uganda**, mainstreaming gender considerations into **Eswatini's** Training for Transformation Manual and conducting an in-depth gender study in **Nigeria**.

07.

Investing in women's economic empowerment is good for communities and the environment.

A large part of the programme's focus on developing agri-food value chains is equipping women with the tools and networks they need to earn a sustainable income. By introducing women to new income-generating activities, such as beekeeping in **Eswatini**, dairy goat farming in **Nigeria** and oyster cultivation in **Senegal**, and connecting them to end markets, the programme is increasing the collective earning power of the entire community. Women are able to contribute more to household food and livelihood security, invest in the health and education of their families, increase the community's resilience to shocks and invest in the growth of their business.

Experiences from **Kenya, Uganda, Burkina Faso, Ghana** and **Ethiopia** have shown that improving women's access to financing for small businesses and ability to invest in their farms pays off. This is especially true when women work together in groups. Collective savings groups in **Ghana, Niger** and **Ethiopia** have encouraged women to work together to save and invest in collective and individual income-generating activities.

By providing women an opportunity to earn and control an independent income, the programme is transforming traditional beliefs about women's roles and addressing power imbalances within households and communities. Incorporating women into decision-making structures that manage access to and use of natural resources results in more equitable distribution of resources and reduces the vulnerability of the entire community.

08.

Online monitoring systems provide easy access to up-to-date information, improving decision-making across RFS projects and levels of governance.

Within the country projects, activities take place over large and often remote implementation areas, which makes it difficult to gather data consistently to track the impact of project activities. Online information systems, often hosted by government institutions or agencies, allow for data to be uploaded instantly to a centralised database, where real-time data from across the project are collected, organised and stored. Data from various sectors and sources, including census, socioeconomic and remote-sensing data, can be easily layered and disaggregated to form a holistic picture of resilience reflective of the integrated nature of the programme.

These systems make it easier for stakeholders, including government ministries, research institutions, national statistics offices and universities, to access and share information. Experiences from **Kenya**, **Ethiopia**, **Malawi**, **Eswatini** and **Senegal** have demonstrated how online monitoring systems can enable project teams and government partners to draw lessons from project interventions more rapidly and integrate these lessons into decision-making processes.

The **Regional Hub** supports these efforts through programme-wide and targeted capacity development and technical support. The programme-wide M&E workshop held during the second half of 2019 is a good example of how these events not only build M&E expertise, but also foster valuable connections and exchanges between country projects and Regional Hub partners that result in the scaling up of innovative M&E methodologies, platforms and tools across the programme. After the M&E workshop, tailored one-on-one support provided by the Programme Coordination Unit was instrumental in helping countries transition to the Global Environment Facility-7 core indicators and harmonise their M&E systems with programme-level frameworks.



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09.

Cross-programmatic knowledge management and dialogue promotes exchange of evidence, lessons and best practices.

Knowledge management—facilitating capture, sharing and use of information across the RFS programme and within country projects—is embedded in the RFS approach.

Within country projects, knowledge and evidence is integrated into project implementation, promoting adaptive management and national policy and institutional dialogue processes to improve decision-making. Experiences from **Senegal** in operationalising the National Strategic Investment Framework on Sustainable Land Management and from **Burkina Faso** in influencing development of the next iteration of the National Rural Sector Programme have demonstrated the value of RFS's work to influence policy and institutional dialogue processes by increasing access to information.

Between country projects, knowledge exchange through field visits, webinars and project information shared through various channels, such as the RFS

website, Knowledge Centre and newsletters, enables country project teams to learn from each other and share innovative solutions that yield results. South-South exchanges, such as the visit between **Burkina Faso** and **Niger** country teams at the beginning of this year, have enabled projects to see first-hand what works and what does not in similar country contexts. The **Nigeria** project's adoption of a new composting technique after observing its success during a field visit in **Ghana** is an example of how in-person exchanges can accelerate the pace at which successful approaches are expanded.

The **Regional Hub** plays a crucial role in helping the country projects enhance the science-policy interface by convening multi-stakeholder platforms and targeted training, such as the **FAO** and **World Agroforestry**-led training on using evidence to influencing policy processes.

The **Regional Hub** also plays a pivotal role in linking country projects to broader scientific and policy processes at the regional and international level. By highlighting RFS lessons and achievements at regional and international events and establishing platforms, such as the RFS Science-Policy Interface, the programme builds synergies with other stakeholders and initiatives, supporting collaborative efforts to achieve common goals.

10.

Innovative adaptations to COVID-related challenges highlight the potential of technology-based solutions.

Although the COVID-19 pandemic posed many new challenges this year, RFS country projects and the Regional Hub continued to innovate and adapt to the rapidly changing environment to provide essential services to project communities. Many of these innovations proved incredibly successful at leveraging technology-based solutions to facilitate communication between programme staff, partners and beneficiaries.

In-person meetings and workshops were moved to online platforms where country project teams from

around the continent could connect with each other and with technical partners around the world. Training sessions continued with smaller class sizes in **Niger** and **Burkina Faso**, providing personalised capacity development support. Short message service (SMS)-based platforms in **Eswatini** and **Kenya** helped project staff and extension officers share valuable information with farmers. Using satellite and remote sensing tools developed by **Conservation International**, country projects were able to monitor progress despite restrictions on movement.

In many ways, the pandemic provided opportunities to accelerate the use of technology-based solutions that country project teams were already implementing. It also created opportunities for new innovations. Overall, these now tried-and-tested adaptive strategies have increased the resilience of the programme and its beneficiaries in times of uncertainty.



CHAPTER ONE —————

About Resilient Food Systems

2020: a challenging year for food security in sub-Saharan Africa

The Resilient Food Systems (RFS) programme works with some of the most vulnerable populations in sub-Saharan Africa to increase the resilience, productivity and sustainability of smallholder agricultural systems while generating global environmental benefits.

Prior to the COVID-19 pandemic, smallholder farming communities in the dryland regions of Africa already faced a number of significant challenges.

With Africa's population set to double by 2050, demand for food will rise sharply in a region that already struggles with a chronic food deficit; 73 million people are acutely food insecure and one-quarter of the population is undernourished.

Agricultural intensification, overgrazing and unsustainable agricultural practices have degraded natural resources. Smallholder farmers face increasingly poor soil quality and the lowest crop yields in the world, resulting in chronic food insecurity, poverty and vulnerability to climate change and extreme weather events.

Worsening climate change has resulted in increasing temperatures, changes in rainfall patterns and more frequent and severe droughts and floods. Africa's smallholder farmers bear the brunt of these climate effects, leading to further decline in agricultural productivity.

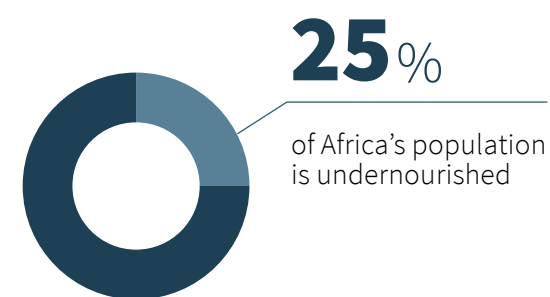
In times of crisis, these smallholder communities are affected the most—either directly through sickness and loss of life or indirectly through the ripple effects of economic recessions, at home and abroad, that continue to hit rural communities for years after the crisis has subsided.

The direct and indirect effects of the COVID-19 pandemic have plunged millions into food insecurity around the globe. According to the World Food Programme, the number of people facing acute food insecurity in low- and middle-income countries is expected to almost double, from 135 million in 2019 to 265 million in 2020.

Vulnerable communities are concentrated in sub-Saharan Africa, where rural smallholder communities were struggling with productivity and food insecurity before COVID-19. At the beginning of 2020, 21 million people were food insecure in East Africa alone, a region that, at the start of this year, was already facing the beginning of the desert locust crisis. COVID-19, and subsequent government responses

to the pandemic, placed an added burden on these fragile communities. For countries that rely heavily on food imports to bridge their production gaps, currency depreciation increased the cost of staple foods. Widespread lockdowns and government restrictions disrupted food supply chains within and between countries. Lockdowns hurt businesses across the continent, disproportionately affecting women and the informal sector.

The effects of the global response to the pandemic will reverberate through the developing world for years to come. The world economy is expected to contract nearly 5 percent this year. For those already in poverty, loss of employment and income will lead to higher levels of food insecurity and, in some sub-Saharan African countries, mass hunger.



The mission of the RFS programme: now more important than ever

The crisis has highlighted some of the most pressing challenges facing agricultural systems—climate change, environmental damage, biodiversity loss—and created a renewed sense of urgency for transformational change.

Throughout the 2020 reporting period (July 2019 – July 2020), the RFS programme helped communities increase the sustainability and productivity of local food systems—work that is essential for building resilience to crises now and in the future.

RFS is one of the three [Integrated Approach Pilots](#) funded by the Global Environment Facility (GEF). Through RFS, GEF is advancing a new paradigm for Africa's agricultural systems: one that emphasises the importance of natural capital and ecosystem services for agricultural productivity.

RFS consists of 12 country projects (Burkina Faso, Burundi, Eswatini, Ethiopia, Ghana, Kenya, Malawi, Niger, Nigeria, Senegal, Tanzania, Uganda) and one cross-cutting Regional Hub project. The International Fund for Agricultural Development (IFAD) is leading implementation in collaboration with these 12 countries and several regional partners (Figure 1).

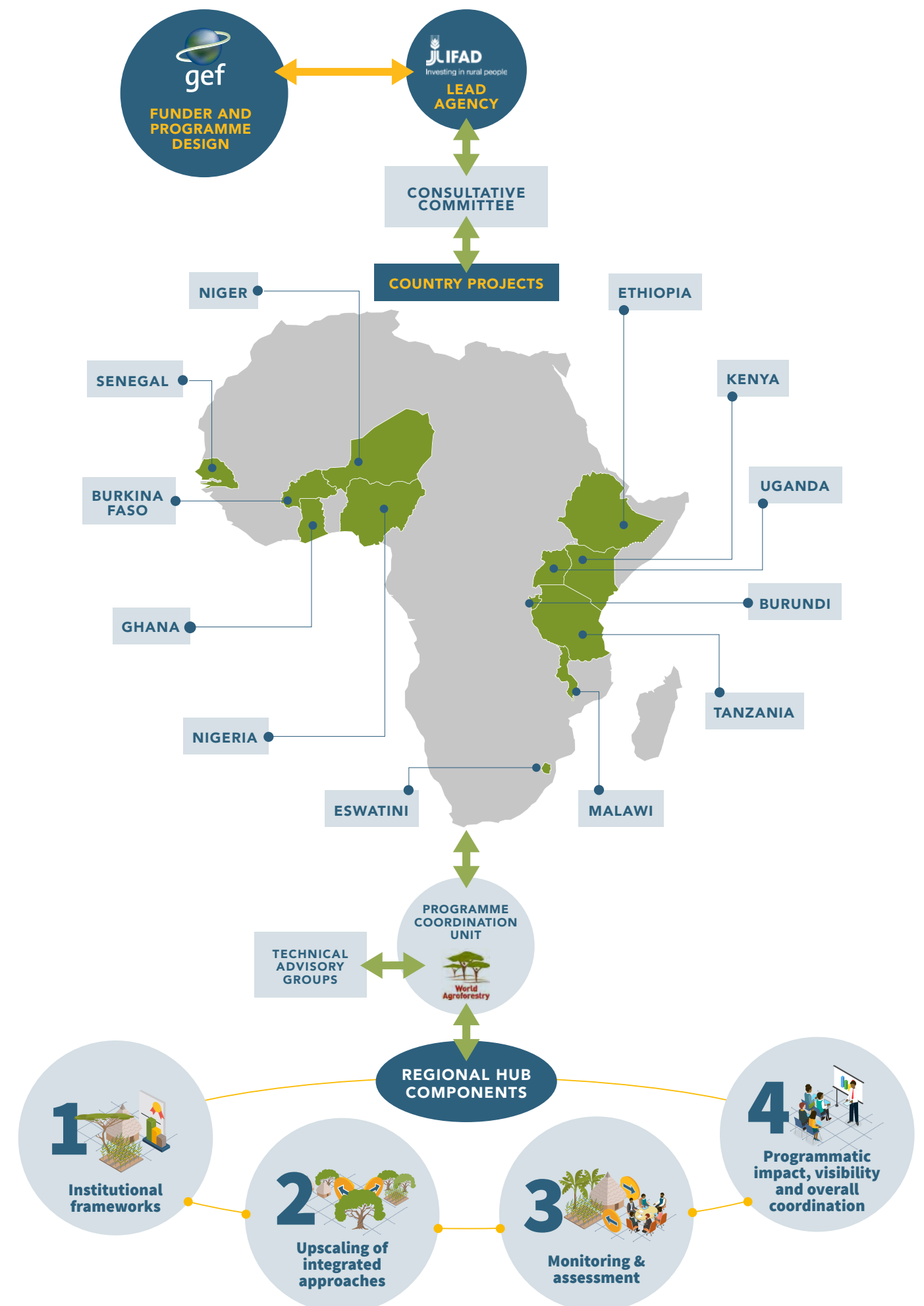


Figure 1. RFS organisational structure

Twelve Country Projects

All country projects (Figure 2) are located in the dryland regions of sub-Saharan Africa, where the threat of environmental degradation and climate change is a major constraint on food production. Each country project aims to improve smallholder farming and increase food security by investing in projects that promote natural capital management and restoration and safeguard ecosystem services.

Each project is designed to reflect the country's context while aligning with the broader aims and approaches of the RFS programme.

BURKINA FASO

Participatory Natural Resource Management and Rural Development Project

Promote sustainably managed agro-ecosystems to ensure food security and increase smallholder farmers' resilience in the northern region of Burkina Faso.



GHANA

Sustainable Land and Water Management Project

Scale up integrated landscape management practices in Northern Ghana to improve food security and maintain ecosystem services.



NIGERIA

Integrated Landscape Management to Enhance Food Security and Ecosystem Resilience in Nigeria


Foster sustainability and resilience for food security in Northern Nigeria through addressing key environmental and socioeconomic drivers of food insecurity across three agro-ecological zones.



SENEGAL

Agricultural Value Chains Resilience Support Project


Improve the sustainability and resilience of smallholder agricultural systems and food value chains by safeguarding and maintaining ecosystem services.



NIGER

Family Farming Development Programme


Strengthen sustainable family farming and climate change adaptation and improve market access for smallholder farmers.



ESWATINI

Climate-Smart Agriculture for Climate-Resilient Livelihoods


Increase the adoption of diversified, climate-resilient agricultural production practices and promote associated market linkages to enhance the food security and livelihoods of smallholder farmers.



ETHIOPIA

Integrated Landscape Management to Enhance Food Security and Ecosystem Resilience


Enhance long-term sustainability and resilience of food production systems by addressing the environmental drivers of food insecurity in Ethiopia.



MALAWI

Enhancing the Resilience of Agro-ecological Systems

Enhance the provision of ecosystem services and improve the productivity and resilience of smallholder agricultural systems through addressing land degradation, loss of agro-biodiversity and climate change adaptation and mitigation.



KENYA

Upper Tana-Nairobi Water Fund

Achieve a well-conserved Tana River basin with improved water quality and adequate quantities for downstream users and strong benefits for agricultural communities in the watershed.



UGANDA

Fostering Sustainability and Resilience for Food Security in Karamoja Sub-Region

Improve food security and the long-term environmental sustainability and resilience of food production systems in the Karamoja sub-region by addressing environmental drivers of food insecurity and their root causes.



BURUNDI

Support for Sustainable Food Production and Enhancement of Food Security and Climate Resilience in Burundi's Highlands

Increase the adoption of resilient, improved production practices for sustainable food and nutrition security through integrated landscape management and sustainable food value chains.



TANZANIA

Reversing Land Degradation trends and increasing Food Security in degraded ecosystems of semi-arid areas of central Tanzania

Reverse land degradation trends in central Tanzania and Pemba (Zanzibar) through sustainable land and water management and ecosystem-based adaptation.



Figure 2. RFS country projects

One Regional Hub

The Regional Hub, a cross-cutting unit whose core focus is to coordinate efforts across country projects, ensure cross-project learning and collaboration and monitor and assess programmatic progress, connects the 12 country projects. The Regional Hub has established various communication channels and avenues for knowledge dissemination to ensure that countries do not work in isolation. Beyond the programme, the Regional Hub works to

establish partnerships with existing platforms in sub-Saharan Africa, cultivating consistency between RFS and other initiatives, strategies and platforms at the regional and global levels.

A coalition of partner organisations implements the functions of the Regional Hub across four components: strengthening institutional frameworks; scaling up integrated approaches; monitoring and assessing; and increasing programmatic effect, visibility and coherence (Figure 3).



Figure 3. RFS Regional Hub components

Ensuring programme consistency through a common, integrated approach across all RFS projects

The RFS approach consists of three pillars—ENGAGE, ACT, TRACK (Figure 4). Each pillar reflects a critical component for enhancing the long-term sustainability and resilience of smallholder food systems. Designing and implementing activities within each of these pillars is an iterative process, with progress in one pillar reinforcing progress in the others.

Although the design and implementation of each project are different, reflecting the unique capacities, priorities, vulnerabilities and strengths of each country, the three pillars are the same across the entire programme. This unifying framework facilitates a common approach, structure and monitoring system across the programme and provides a shared basis for comparing experiences, practices and tools between project teams and countries.

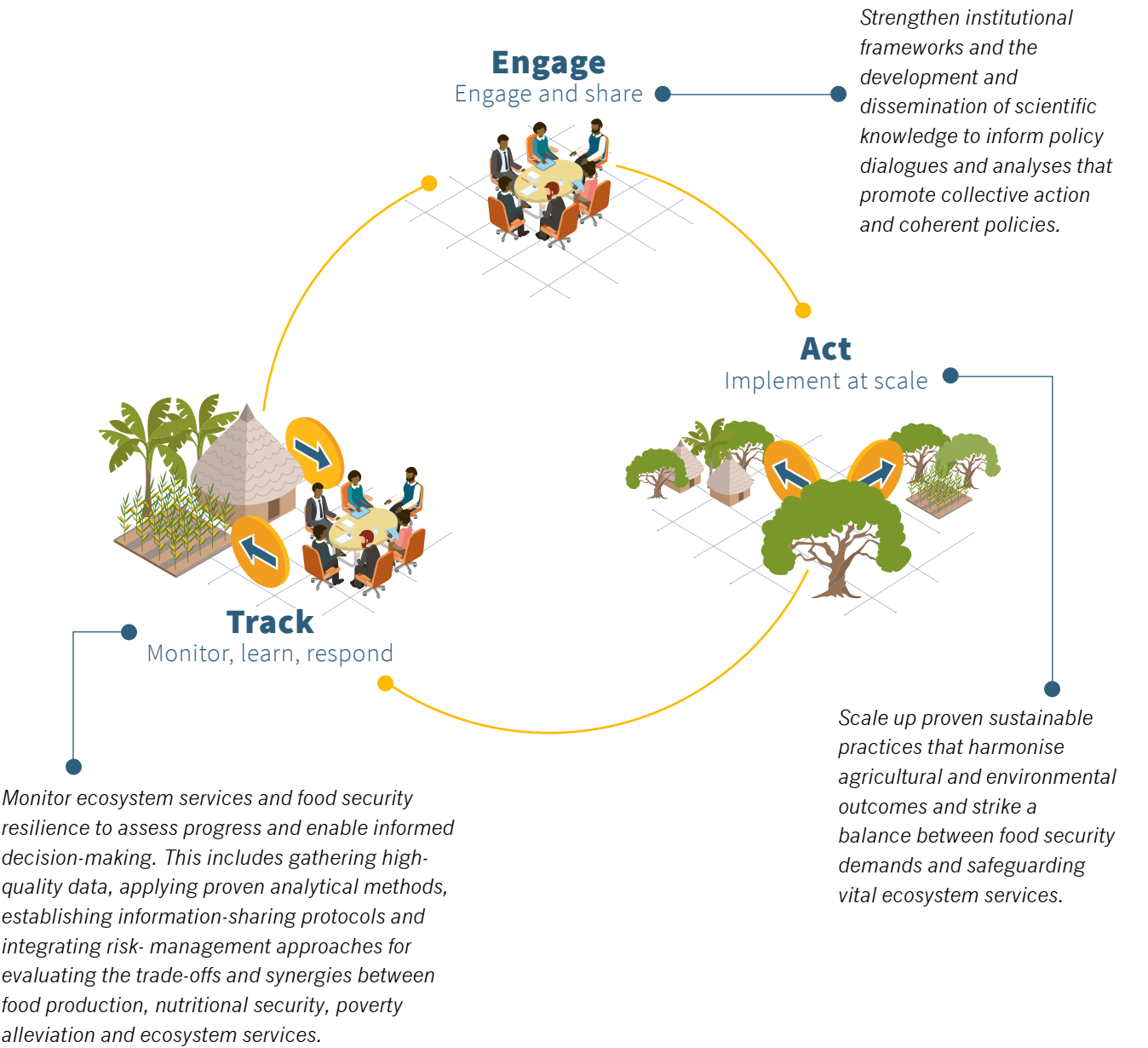
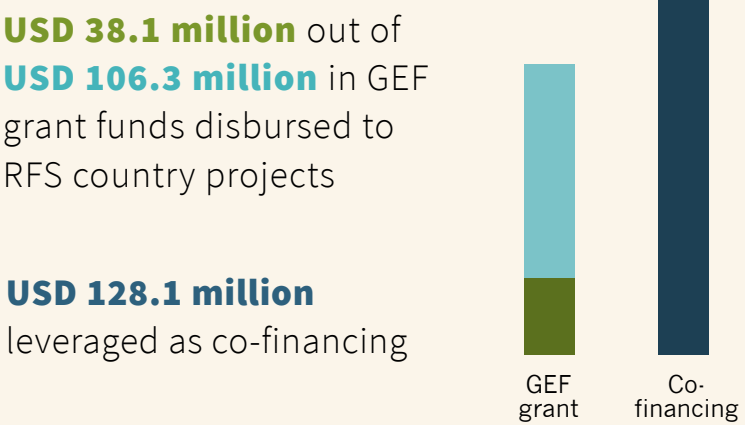


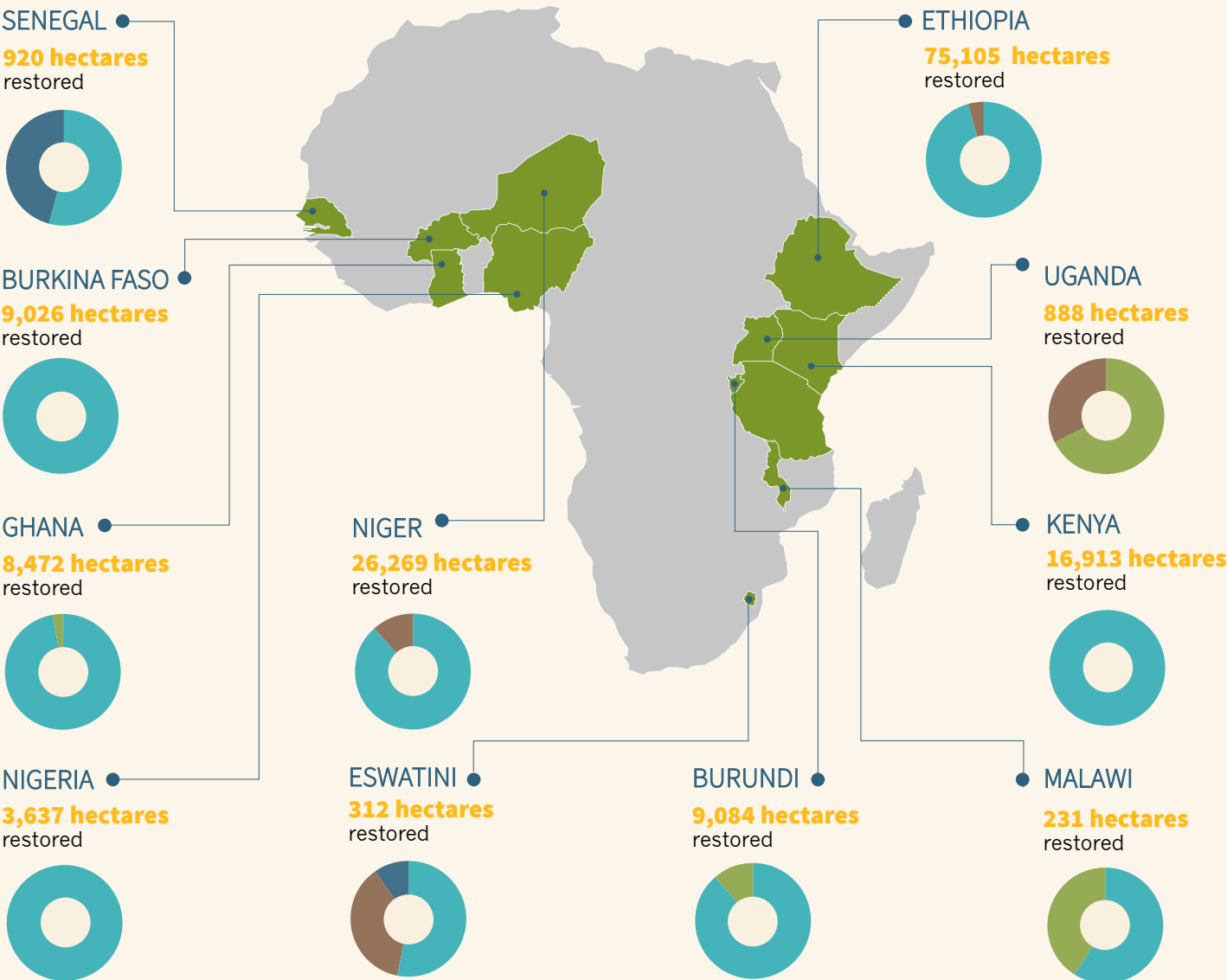
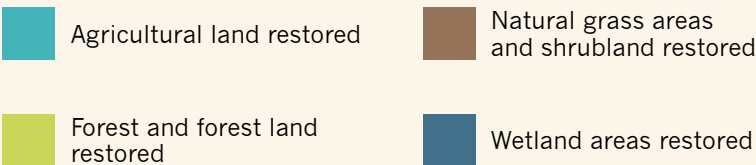
Figure 4. The three pillars of the RFS approach

RFS in numbers¹

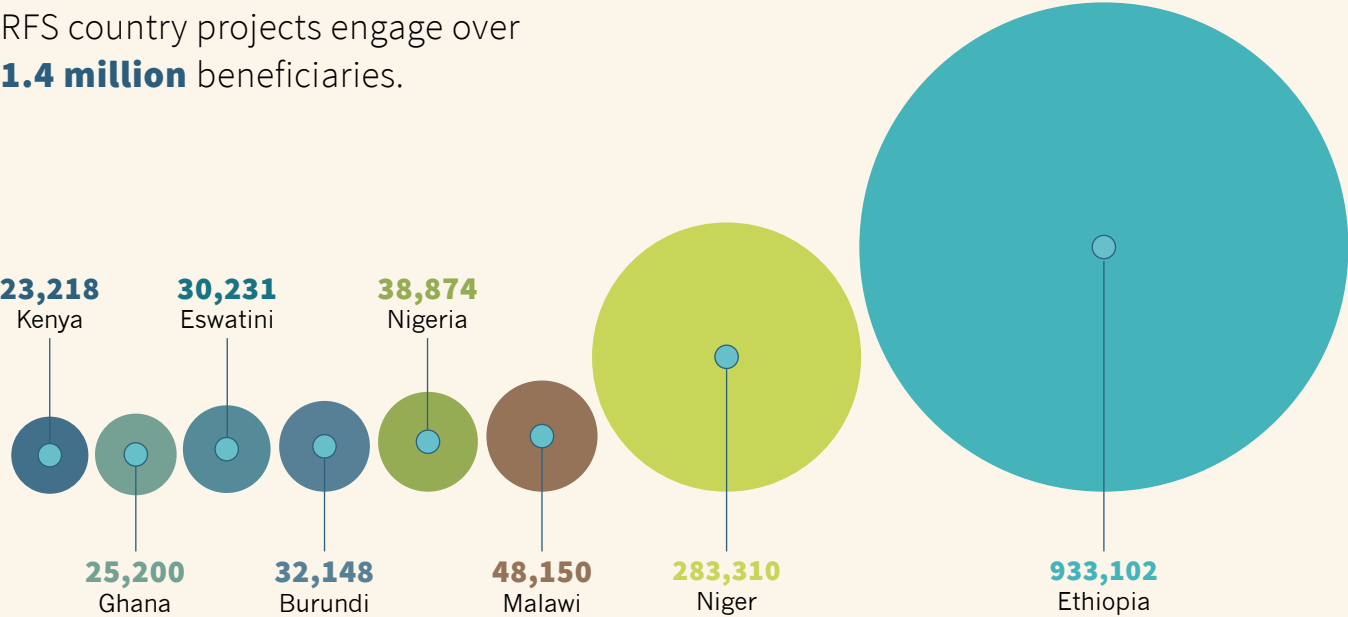


150,857 hectares of previously degraded land restored

RFS country projects are working to restore degraded land in a diverse range of landscapes using a wide variety of approaches, practices and technologies.



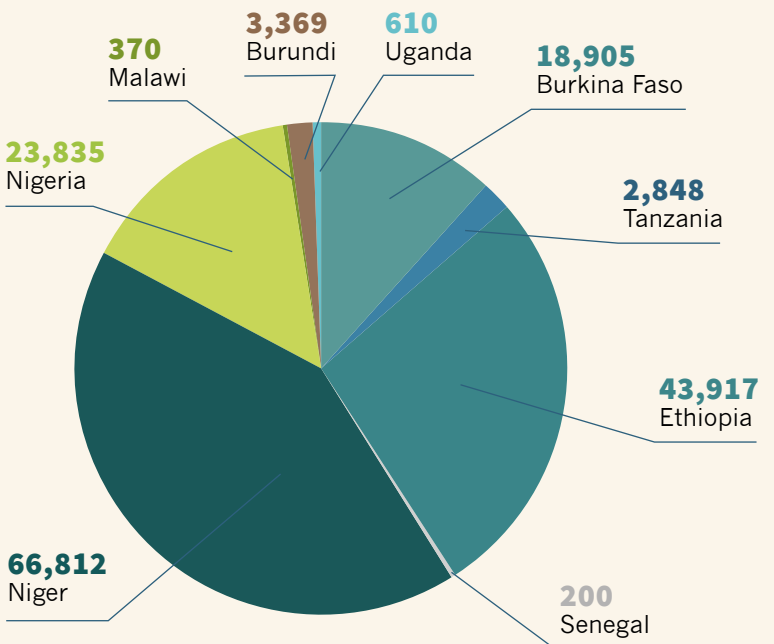
RFS country projects engage over **1.4 million** beneficiaries.



RFS has established **multi-stakeholder platforms** and influenced **policies, policy instruments** and **regulatory frameworks** focused on integrated natural resource management at the national and sub-national level.



160,866 farmers have been trained by RFS country projects in **sustainable land management** practices.



¹Figures are based on cumulative data from programme inception until June 2020. Data is reported by country projects to the Programme Coordination Unit at the end of each reporting period.



CHAPTER TWO

Engage

Connect, collaborate and share



© Benue State Agricultural Development Project, UNDP-GEF Nigeria.

The multidimensional nature of agriculture and food security in sub-Saharan Africa is inherently complex, involving a wide range of actors, mandates, and priorities that often compete and conflict. Despite the clear need for collaborative decision-making and action, government ministries often work within specific mandates with little cross-sectoral communication, knowledge exchange, and collaboration.

As a result, policies and institutions are created that fail to reflect the interconnected nature of climate, environment, agriculture, and food security.

Information and data gaps that exist due to lack of capacity, funding, quality control and data harmonisation make effective policy-making and public programme implementation even more difficult. In the absence of accessible information and usable evidence, actors in the public and private spheres are often tasked with establishing strategies and action plans without a strong evidence base.

Through the ENGAGE pillar, RFS aims to bring together the right stakeholders in the appropriate forums to analyse and disseminate scientific and practical evidence to bridge the gap between agricultural and environmental agendas and effectively align policy and institutional frameworks with realities on the ground.

Influencing policy and institutional dialogue processes by increasing access to information

Institutional strengthening is not just about bringing all stakeholders to the table; it also requires providing actors with the information and knowledge they need to make the right decisions at the right time. In addition to strengthening multi-stakeholder platforms and building institutional capacity, the RFS programme is influencing policy and institutional dialogue processes by improving the evidence base for decision-making, facilitating access to that information, and encouraging knowledge exchange

between key ministries and government departments. In **Senegal**, the country project has supported the government in setting up a national strategic investment framework on sustainable land management, a process that has involved collaboration of multiple government ministries. The framework promotes sustainable land management upscaling by providing political, legal, and financial support for sustainable land management and making data on natural resources and land degradation available to decision-makers and implementors. RFS Senegal is working with government partners to sign the decree for operationalisation of the framework.

The RFS country project in **Burkina Faso** has been working closely with the national government to prioritise mitigation of land degradation. These efforts have generated significant political momentum regarding the recent national commitment to voluntary targets to achieve land degradation neutrality by 2030.

With support from the RFS country project, the government of Burkina Faso has been active in establishing the land degradation neutrality baseline, disaggregating national targets at regional levels, and integrating measures to achieve land degradation neutrality into national planning frameworks, including, most recently, the National Program for the Rural Sector.

As part of this process, the Permanent Secretariat for the Coordination of Sectoral Agricultural Policies, with support from the RFS country project team, [organised a workshop to share Burkina Faso's experience](#) in setting land degradation neutrality targets and integrating them into national planning frameworks.

Delegations from **Niger** and **Senegal** attended the workshop, providing a valuable **South-South learning opportunity** for Sahelian countries, each faced with similar land degradation challenges. Each country was able to share experiences and lessons learned from initiatives contributing to land degradation neutrality within their respective countries.

REGIONAL HUB: CAPACITY DEVELOPMENT

FAO and ICRAF provide virtual training on enhancing the science-policy interface

To assist RFS country teams in strengthening the connection between science, policy, and institutions from the national to the local level, FAO partnered with the Stakeholder Approach to Risk Informed and Evidence Based Decision Making (SHARED) Decision Hub to increase the engagement of RFS country project teams with policy and institutional processes. Founded at ICRAF in 2012, the SHARED Decision Hub is a collective of multidisciplinary specialists who work with governments, programmes, and development partners to shift toward a more human-centred, evidence-based decision-making culture. The SHARED framework has been successfully applied in more than 17 countries, predominantly in Africa.

In July 2020, a [two-part webinar training series](#) was organised to build the skills of country project teams

in enhancing policy and institutional engagement within their projects. Before the webinars, a series of interviews was conducted with all RFS project teams to gain a better understanding of what strategies and approaches are working well across the RFS projects and what bottlenecks and gaps still exist within policy engagement activities.

Using this information, webinars were tailored to country situations. The training introduced a systematic approach to influencing policies and decisions using the SHARED method focusing on five thematic areas: stakeholder mapping and influence, deepening relationships, policy engagement, applying evidence, and evidence for influence (Figure 5).



Figure 5. The two-part webinar training series covering topics related to analysing stakeholders, engaging stakeholders in policy processes, building stakeholder relationships, influencing policy-making and integrating evidence into decision-making.

Influencing regional and international policy processes

Over the 2020 reporting period, the RFS programme has been active in a range of regional and international events involving policymakers, academia, NGOs and the private sector. These

events provided an opportunity to share valuable experiences from the RFS programme and learn from other projects, frameworks, and initiatives in similar thematic areas. They also provided a platform for advocacy and awareness raising regarding RFS programmatic themes, including land degradation; biodiversity conservation; and building productive, sustainable smallholder systems.



Figure 6. Timeline of RFS regional and international engagements

Encouraging community ownership of natural resource management through bottom-up approaches

The geographic scope of the RFS programme requires strong local partnerships to ensure that approaches are tailored to the needs of the landscapes and the communities that rely on them for their food security and livelihoods. These partnerships come in many forms—local civil society organisations, NGOs, research institutions, and private sector service providers, but the most important partners are community members.

The RFS programme emphasises strengthening collaboration and harmonisation between national

and local institutional structures to ensure that the realities of community members are reflected in national decision-making.

Over the past year, the RFS **Malawi** project has been working to [establish and train local multi-stakeholder platforms for managing natural resources](#) in project communities. The project has supported establishment of catchment management committees in all five catchment areas and 66 village nature resource management committees, both of which will be responsible for implementing catchment-level conservation activities. The catchment management committees, village natural resource management committees, and village development committees work with extension services to promote sustainable land, water, and natural resource management.

“

IN TERMS OF SUSTAINABILITY OF THE PROJECT, THE VILLAGE NATURAL RESOURCE COMMITTEES HAVE BEEN EMPOWERED TO MANAGE THEIR OWN INVESTMENTS AND IMPLEMENT ACTUAL INTERVENTIONS ON THE GROUND.

Bryson Msiska
M&E Officer, RFS Malawi



Village natural resource committees provide platforms for community members to discuss and agree on the best approach for the sustainable use of shared natural resources in the Northern Region of Malawi. © Felix Malamula, IFAD Malawi.

600,995 hectares

of land within Ghana's Western Wildlife Corridor have been brought under better management practices.



The **Ghana** project has taken a similar approach to the Malawi project in establishing a vertically aligned institutional framework to improve natural resource management. The project has overseen establishment of six community resource management areas (CREMAs), each led by an executive committee that oversees the activities of community-level groups.

Within the Western Wildlife Corridor, 94 community groups have been established and are directly responsible for enforcing the CREMA by-laws and implementing the CREMA management plan with support from the Wildlife Division of the Forestry Commission.

As a result of targeted capacity development and coordination of CREMAs, 600,995 hectares of land within the Western Wildlife Corridor have been brought under better management practices. Some notable results include the growth of previously extinct vegetation species and fauna in the Gbele Resource Reserve and surrounding communities.

The project's bottom-up approach has not only secured the full participation of all local community members, but has also extended the impact of the project beyond the beneficiary communities. Nonbeneficiary communities near the project area have adopted sustainable land and water management technologies (e.g., compost preparation and use, earth bunding, stone lining) and sustainable agricultural practices through farmer-to-farmer learning and knowledge exchange. As a result, the diversity of smallholder farming systems has increased through the promotion of mixed cropping-livestock systems.

In June 2020, the **Burundi** country project team kicked off the watershed rehabilitation process in the Gitega province with an [awareness-raising meeting](#) for the communities of Nyamugari, Rweru, and Kibimba Hills. Attended by more than 200 participants, the meeting provided community members, local elected officials, and service providers with an overview of the causes of land degradation in the Gituku watershed and the associated socioeconomic and ecological effects. It was also a call for the active participation of community members in the conservation of more than 700 hectares in the Gituku watershed.

“

THE COMMUNITY IS CALLED UPON TO TAKE OWNERSHIP OF THE INTERVENTIONS BECAUSE THEY WILL CONTINUE TO MAINTAIN THE INFRASTRUCTURE AFTER THE PROJECT IS OVER.

Salvator Ndabirorere
Project Director, RFS Burundi

Strategic partnerships: providing essential knowledge, experience, and networks to the RFS programme

The RFS programme spans a broad range of sectors, activities, and levels of implementation, requiring a wide array of expertise and knowledge that the programme cannot supply alone. The strength of the programme is in many ways reflective of the strategic partnerships that have been developed to bring in the necessary technical expertise, networks, and local knowledge to implement activities across the **ENGAGE, ACT, TRACK** pillars.

Because of the integral nature of strategic partnerships within the programme, information on partner contributions is included in each chapter of this report. This section provides highlights of partnerships that have been forged or strengthened over the past year, many of which are expanded upon in the following chapters.



PUBLIC SECTOR PARTNERSHIPS

Government institutions, agencies, and platforms are closely involved in most RFS country projects, providing oversight or directly implementing activities. Many of these institutions provide essential expertise for capacity development.

- Burkina Faso** The RFS project partnered with the National Forest Seed Centre to lead implementation of agroforestry activities while transferring skills and forest resources to grassroots actors.
- Burundi** FAO signed a letter of agreement with the National Institute of Agricultural Sciences to produce fruit and vegetable seeds, disseminate these seeds to farmers, and train the farmers in market gardening and fruit production techniques.
- Niger** The project partnered with the National Centre for Environmental and Ecological Monitoring to improve and integrate environmental monitoring with broader M&E frameworks.



RESEARCH AND UNIVERSITY PARTNERSHIPS

As hubs of knowledge and expertise, research institutes and universities are important contributors to RFS country projects.

- Kenya** The project is leveraging the expertise of Jomo Kenyatta University of Agriculture and Technology to develop and institutionalise best practices in hydrological data collection, analysis, and communication.
- Regional Hub** ICRAF has partnered with Bangor University to offer, in collaboration with IFAD, training for RFS country teams interested in integrating outcome mapping into project implementation.
- Tanzania** Through FFS platforms, the Sokoine University of Agriculture is providing targeted expertise to support the training of master trainers in sustainable land and water management practices.



CIVIL SOCIETY PARTNERSHIPS

Civil society organisations are often already active within communities and have long-standing relationships with local networks. Their knowledge and experience are an asset to RFS country projects when engaging with farmers and implementing project activities.

- Burundi** The country project team has partnered with two local NGOs—*Appui à la Promotion des Cultures Vivrières* (Support for the Promotion of Food Crops) and *Appui au Développement Intégral et la Solidarité sur les Collines* (Support for Integral Development and Solidarity on the Hills)—to help implement watershed conservation activities in Gitega and Mwaro provinces.
- Nigeria** Through its partnership with the Women Farmers Advancement Network, the project is able to leverage the network's extensive knowledge base on gender-sensitive approaches for sustainable land management.
- Senegal** The RFS project has partnered with NGOs active in the Saloum Delta, including Wetlands International, Symbiose and ADT/GERT, to align soil defence and restoration efforts.



PRIVATE SECTOR PARTNERSHIPS

Private sector engagement and financing for smallholder agriculture is a challenge across sub-Saharan Africa. The ACT chapter provides a more extensive overview of the innovative approaches that country projects are applying to encourage private sector participation in RFS activities and, more broadly, in smallholder agricultural systems and rehabilitation of natural resources.

- Kenya** Smallholder farmers are key private sector investors and partners in the Upper Tana region. By September 2020, smallholder farmers had invested more than USD 150,000 in the Upper Tana Nairobi Water Fund.

- Nigeria** The country project team has established a public-private partnership (PPP) platform for groundnut and rice value chain actors in Abuja to discuss and establish linkages and foster a more enabling business environment.
- Regional Hub** The FAO e-learning team is forging a partnership with the TikTok video editing platform to pilot the use of TikTok to create and disseminate educational videos produced through Farmer Field Schools
- Senegal** Private companies are installing biodigesters and will lead trainings to show community members how to operate and maintain the new technology to produce organic fertiliser and biogas for cooking and electricity.



REGIONAL AND GLOBAL PARTNERSHIPS

The RFS country projects are not alone in their environmental, socioeconomic, and agricultural aims. Key partners include other programmes, projects, and organisations working toward complementary objectives and international or regional bodies that connect RFS project activities with broader networks, approaches, and frameworks.

Through IFAD, the programme is participating in policy discussions and contributing to the regional environment and climate cluster two-year workplan under the United Nations and African Union Regional Coordination Mechanism.

Other examples include partnerships currently in development with the World Overview of Conservation Approaches and Technologies (WOCAT), building on IFAD's contributions to the United Nations Convention to Combat Desertification targets, and with the African Risk Capacity, a specialised agency of the African Union.



Developing platforms for sharing knowledge and contributing to a growing community of practice

Cumulative experience and knowledge of development programmes are often-underused resources that, when used correctly, can have a significant impact and ensure long-term sustainability by increasing local capacity. In the RFS programme, knowledge and learning activities take place within the 12 country projects and across the RFS programme as a whole, facilitated by the Regional Hub.

 www.resilientfoodsystems.co

WEBSITE REDESIGN

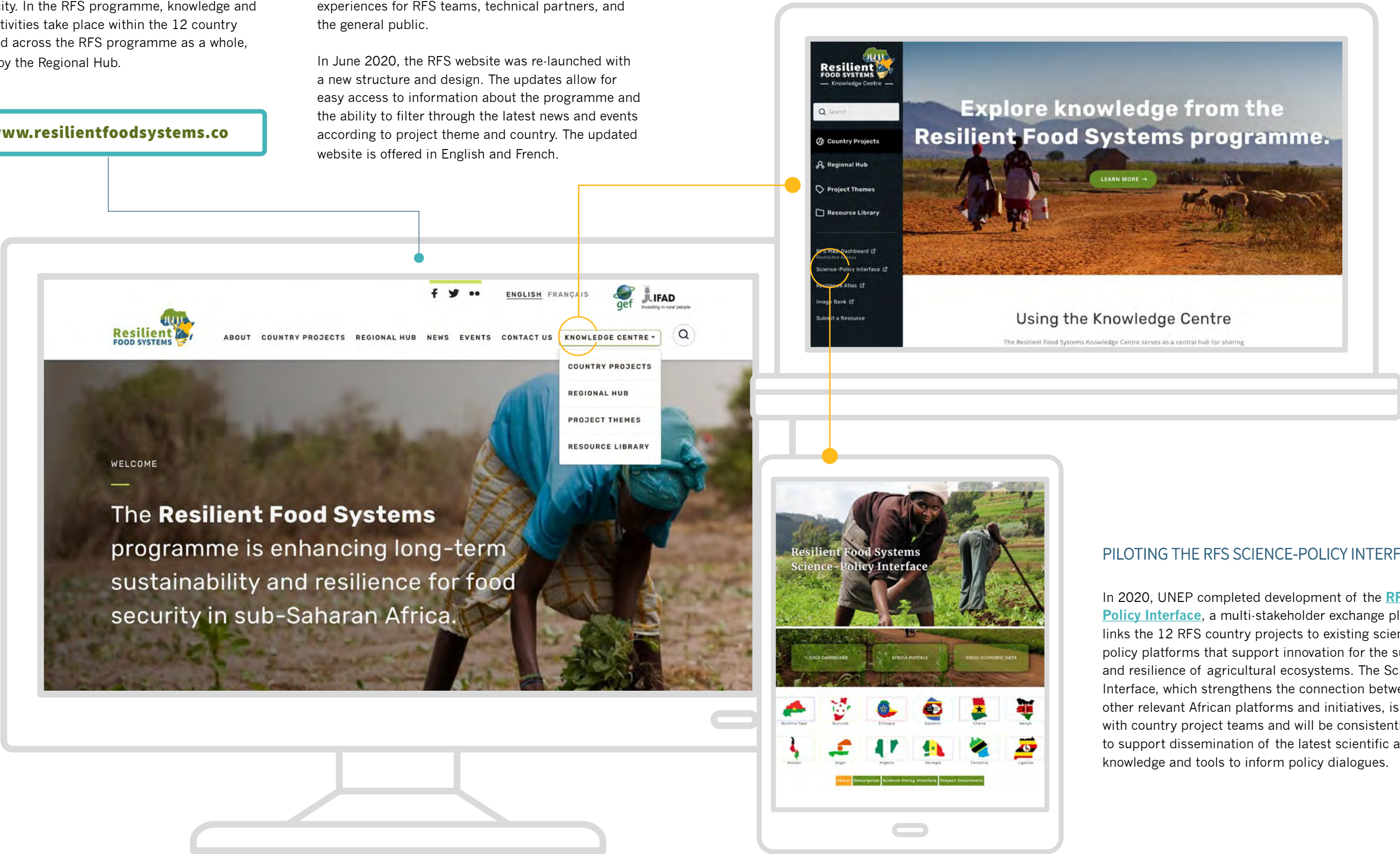
In addition to the programme’s ongoing monthly knowledge management cycle, which circulates information about new achievements, resources, and events through newsletters and social media, the PCU strives to keep the RFS website updated, useful, and easy to navigate. The [RFS website](#) is the primary tool used to capture and disseminate knowledge and experiences for RFS teams, technical partners, and the general public.

In June 2020, the RFS website was re-launched with a new structure and design. The updates allow for easy access to information about the programme and the ability to filter through the latest news and events according to project theme and country. The updated website is offered in English and French.

LAUNCH OF THE NEW RFS KNOWLEDGE CENTRE

Along with the revamped RFS website, the [RFS Knowledge Centre](#) was launched in June 2020 to facilitate information sharing on important thematic areas, country project activities, and resources. The Knowledge Centre is accessible in English and French

and is one of the main channels through which country project teams can see their accomplishments showcased on a public platform. It also provides a common space for country projects to keep up to date with what other projects in the programme are doing, make connections, and engage with the broader programme.



PILOTING THE RFS SCIENCE-POLICY INTERFACE

In 2020, UNEP completed development of the [RFS Science-Policy Interface](#), a multi-stakeholder exchange platform that links the 12 RFS country projects to existing scientific and policy platforms that support innovation for the sustainability and resilience of agricultural ecosystems. The Science-Policy Interface, which strengthens the connection between RFS and other relevant African platforms and initiatives, is being piloted with country project teams and will be consistently updated to support dissemination of the latest scientific and technical knowledge and tools to inform policy dialogues.

South-south learning exchanges: sharing knowledge and lessons learned within and between country projects

Although each country project operates in a unique context with local challenges and opportunities, there are significant commonalities across the projects. The cross-programmatic exchange of ideas, innovations, practices, and approaches is an important way not only to build programmatic coherence and consistency, but also to accelerate change by sharing first-hand, real-time experiences of what works and what does not in different contexts.

South-South exchange visits are one of the most important ways that the RFS programme facilitates direct learning and exposure. Exchange visits between and within projects provide an opportunity for teams operating in different contexts, but with similar goals, to compare innovative approaches and technologies, share lessons learned, and showcase best practices in the field.

RIGHT: In January 2020, the Burkina Faso country project team visited Niger to observe the impact of successful sustainable land management approaches in two project sites outside Niamey. © Burkina Faso Permanent Secretariat for the Coordination of Agriculture Sector Policies.

OPPOSITE: Women in Adiko, Benue State layer on-farm materials, such as cattle dung, poultry litter, harvested green leaves, pre-dried leaves and mud, to produce a compost “sandwich” within the trenches. © Benue State Agricultural Development Project, UNDP-GEF Nigeria.



SOUTH-SOUTH EXCHANGES BETWEEN COUNTRY PROJECTS

There have been several exchange visits between RFS country projects in the Sahel during the 2020 reporting period. To share regional experiences in integrating land degradation considerations into national planning frameworks, the **Burkina Faso** country project organised a learning and exchange workshop with delegations from **Niger** and **Senegal** in the second half of 2019. Through this process, the delegations formulated several recommendations for Sahelian countries looking to integrate land degradation neutrality targets into plans and strategies.

In January 2020, ten members of the RFS **Burkina Faso** team travelled to Niamey for a knowledge exchange trip with their RFS counterparts in **Niger**. On a separate occasion, as a prelude to development of the third cycle of the National Rural Sector Program, seven representatives from the **Burkina Faso** project travelled to Niger to visit the High Commission of the Nigeriens Nourish Nigeriens initiative, enabling the RFS Burkina Faso project to take into account Niger's experiences in integrating environmental issues and climate change into national policies.



COUNTRY HIGHLIGHT: NIGERIA

South-South exchange visit in Ghana inspires RFS Nigeria team to introduce new composting approach

During the 2019 RFS Annual Workshop, country project teams visited project sites in northeast Ghana where the RFS project had introduced farmers to a new method of composting, one that was environmentally friendly, low cost, and effective. By constructing elevated composting trenches and layering on-farm materials such as cattle dung, poultry litter, harvested green leaves, pre-dried leaves, and mud, smallholder farmers were able to produce high-grade biofertiliser for use on their own farms and to sell.

After seeing the success of the composting initiative first-hand, the RFS Nigeria team decided to take the new approach home with them, adapt it, and introduce it in their project area. The project has reached out to all 70 project communities, training more than 2,000 farmers in production of high-grade biofertilisers using readily available tools and bioresources.

By using fertilisers produced in their own backyard, these farmers can increase the organic content of their soils, improving soil structure and fertility.

Together with good agricultural practices, it is expected that the use of biofertilisers will increase crop yields in the project area by at least 40 percent.

By reducing their reliance on imported synthetic fertiliser, each farmer can save roughly USD 84 per hectare of land each cropping season, allowing them to redirect their income toward more worthwhile ventures, such as new productivity-enhancing technologies. This, in turn, has the potential to increase food security and reduce poverty in the region.



2,000 farmers

trained in new composting methods



SOUTH-SOUTH EXCHANGES WITHIN COUNTRY PROJECTS

South-South exchange visits are also organised between stakeholders operating in different regions or different areas of expertise in the same country. In **Niger**, farmers participated in a study trip to the Gidda plateau in January 2020 to observe successful sustainable land management interventions and the impact of new technologies. The project team reported that sharing experiences between farmers from different regions energised the farmers, providing new motivation for their own projects.

Through these visits, farmers are able to share successful practices and approaches, ask questions, and share lessons learned, providing an important way not only to build programmatic coherence and consistency, but also to accelerate the pace of change by sharing first-hand, real-time experiences of what works and what does not in different contexts.



LEFT: A few weeks after the start of the rainy season, the half-moon structures in Dan Gueza, Zinder region, show visible results. The half-moons have succeeded in “greening” areas that were previously too dry to grow crops. © Maurice Ascani, ProDAF.

PROGRAMME-WIDE LEARNING AND EXCHANGE

The Regional Hub frequently organises workshops and other events that facilitate knowledge exchange across the entire programme. In November 2019, the Regional Hub held a [South-South learning workshop](#) at the ICRAF campus in Nairobi to harmonise programme-wide M&E, build the capacity of country project M&E officers, and exchange M&E experiences between RFS projects. The workshop, discussed in further detail under the TRACK pillar (Chapter 4), provided a platform for discussions and interactive exercises between country project teams and Regional Hub partners.

Because of the COVID-19 pandemic, fewer of these exchanges could take place this year than originally planned, but throughout 2020, the PCU worked to adapt many of the planned knowledge exchange activities to virtual platforms.

In response to the cancellation of this year’s RFS Annual Workshop and field visit, originally scheduled for March 2020 in Senegal, the PCU held [two country project learning and exchange webinars](#) in July. Featuring presentations from the Tanzania, Senegal, Nigeria, and Malawi country projects, the webinars provided a space for country project teams to update each other on their progress and engage in facilitated discussions.

To adapt capacity-building exercises that had been planned for the Annual Workshop, FAO migrated a training on [enhancing the science-policy interface](#) online. As described earlier in this chapter, FAO partnered with ICRAF’s SHARED Decision Hub for the two-part webinar training series held in July 2020. The virtual platform provided a space for country project teams not only to learn new skills, but also to exchange experiences on successful approaches to influencing policy-making and integrating data and evidence into institutional dialogues. FAO also organised a series of virtual trainings to strengthen the capacity of national stakeholders to assess resilience, food security and carbon balances. More details are provided in chapter 4.

More information on how the RFS programme adapted to the COVID-19 pandemic is provided in chapter 6.



ABOVE: In the village of Oumaroua, in the Maradi region of Niger, bench terraces sown with herbaceous plants help prevent soil erosion. © Maurice Ascani, ProDAF.

LEFT: In the village of Elkokia, in the Maradi region of Niger, community members dig half-moon structures into the ground to help capture rainwater and improve the moisture content of the soil. © MauriceAscani, ProDAF.



CHAPTER THREE

Act

Impact at scale



© Adamawa State Agricultural Development Project, UNDP-GEF Nigeria.

The 12 RFS country projects are concentrated in the dryland regions of sub-Saharan Africa, where rural households rely on subsistence farming for their food and livelihoods.

Rapid population growth in these countries has led to intensification and expansion of agricultural production, placing mounting pressure on the natural resources that smallholder farmers rely on for food and income. The use of unsustainable farming practices, such as monocropping, deep tillage, overgrazing, farming too close to riverbanks, and vegetation clearing, degrades the ecosystem services and biodiversity necessary for productive agricultural systems.

The result? Smallholder farmers are caught in low productivity traps with few alternative options.

This cycle renders rural smallholder farmers extremely vulnerable to climate change, climate variability, and extreme weather events. Degraded ecosystems are less resistant to increasing temperatures, changes in rainfall patterns, droughts, and floods, making it harder for communities to rebound after climate events.

These challenges are complex and interconnected, requiring innovative solutions that address the causes of environmental degradation. Through the ACT pillar, RFS promotes holistic approaches that increase the agricultural productivity of smallholder farming

systems while rehabilitating and safeguarding the soil, forests, rivers, plants, and animals essential for sustainable, healthy food systems.

Tailoring sustainable land management approaches to ecological and socioeconomic realities

RFS country projects draw from a wide range of sustainable land management approaches, including climate-smart agriculture, conservation agriculture, and agroecological approaches, to rehabilitate, conserve, and protect previously degraded landscapes. In all RFS projects, community members are central to the planning, implementation, and monitoring of land rehabilitation and restoration.

In **Niger**, land rehabilitation activities in the Tahoua, Maradi, and Zinder regions are focused on the watershed level, where project teams collaborate with local communities to implement mechanical and agronomic interventions, including dune stabilisation, erosion control, pasture recovery, hedgerow planting, and assisted natural regeneration (ANR). In 2020, the Niger project recovered 13,487 hectares of land through mechanical interventions and integration of sustainable land management practices into agropastoral systems (Figure 7).

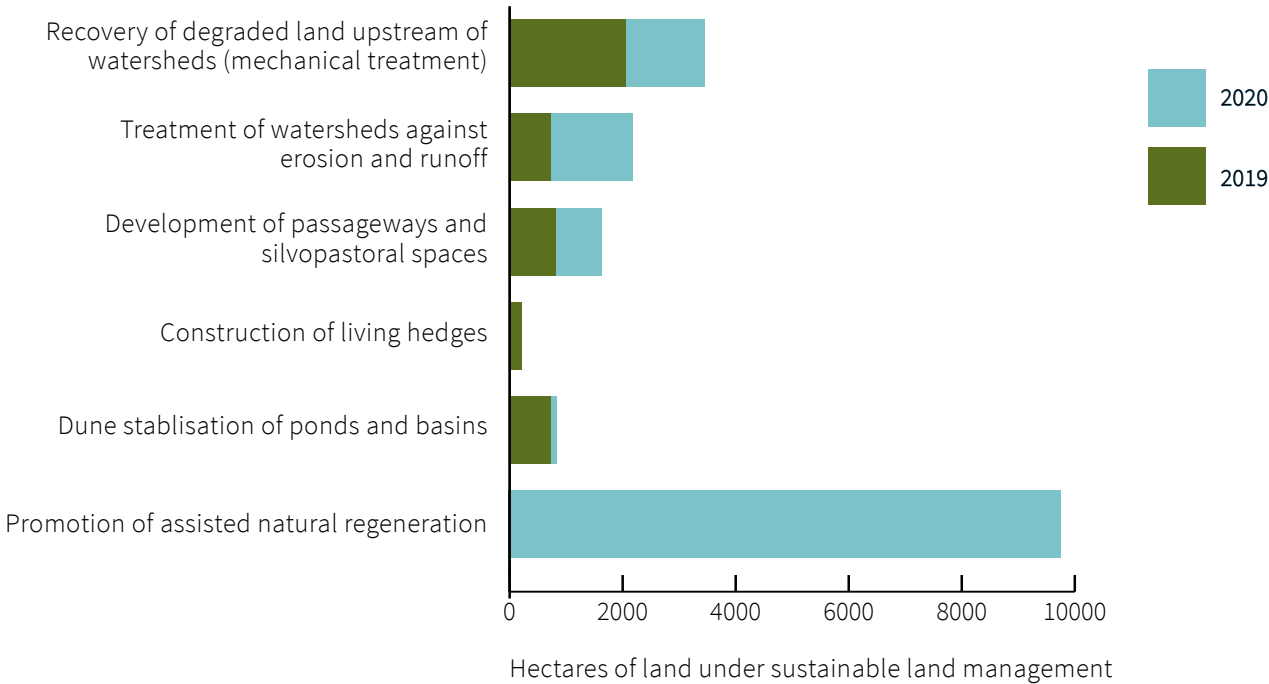


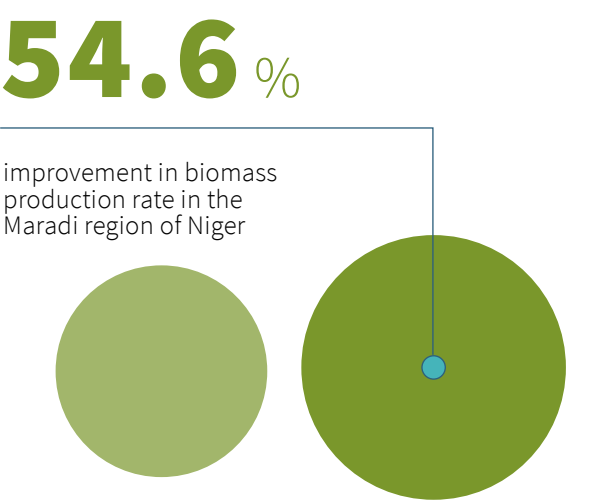
Figure 7. Approaches for rehabilitating degraded land: Niger

Land rehabilitation has been one of the Family Farming Development Programme’s most successful activities due to the strong involvement of beneficiaries in implementing the activities. By targeting areas where degraded land is a major constraint on agricultural productivity, the project demonstrates a direct link between rehabilitation efforts and household food security, providing strong motivation for local communities to participate in and take ownership of the rehabilitation efforts.

Communities are seeing results. Reclamation projects on cleared land in the Maradi region in 2019 have already increased the production of fodder, with an average productivity of 1.89 tonnes of dry matter per hectare and a 54.6 percent greater biomass production rate than in control sites.

In **Burkina Faso**, RFS relies on strong partnerships with local institutions to expand rehabilitation approaches and sustainable agricultural practices at the watershed level. In 2020, the project renewed its partnerships with two social engineering operators: the National Federation of Naam Groupings and the NGO *Solidarité et Entraide Mutuelle au Sahel*. Through these partnerships, the project has access to a network of trained facilitators familiar with the local context.

To ensure that community actors are supported as they adopt new sustainable land management approaches, National Federation of Naam Groupings and *Solidarité et Entraide Mutuelle au Sahel* have set up a support system to provide producers with access



to lead farmers and sustainable land management experts. This learning model has been a huge success. This year, National Federation of Naam Groupings and *Solidarité et Entraide Mutuelle au Sahel*, with support from the Regional Chamber of Agriculture, oversaw the restoration of 9,000 hectares of previously degraded land through community-driven soil conservation and restoration interventions and roughly 4,500 hectares through assisted natural regeneration in the Nord region (Figure 8).

The restoration effort has also led to considerable global environmental benefits related to climate change mitigation, with new carbon sinks translating to 7.9 metric tons of carbon dioxide equivalent (Mt CO2e) per hectare per year and 735,387 Mt CO2e over the five years of implementation.

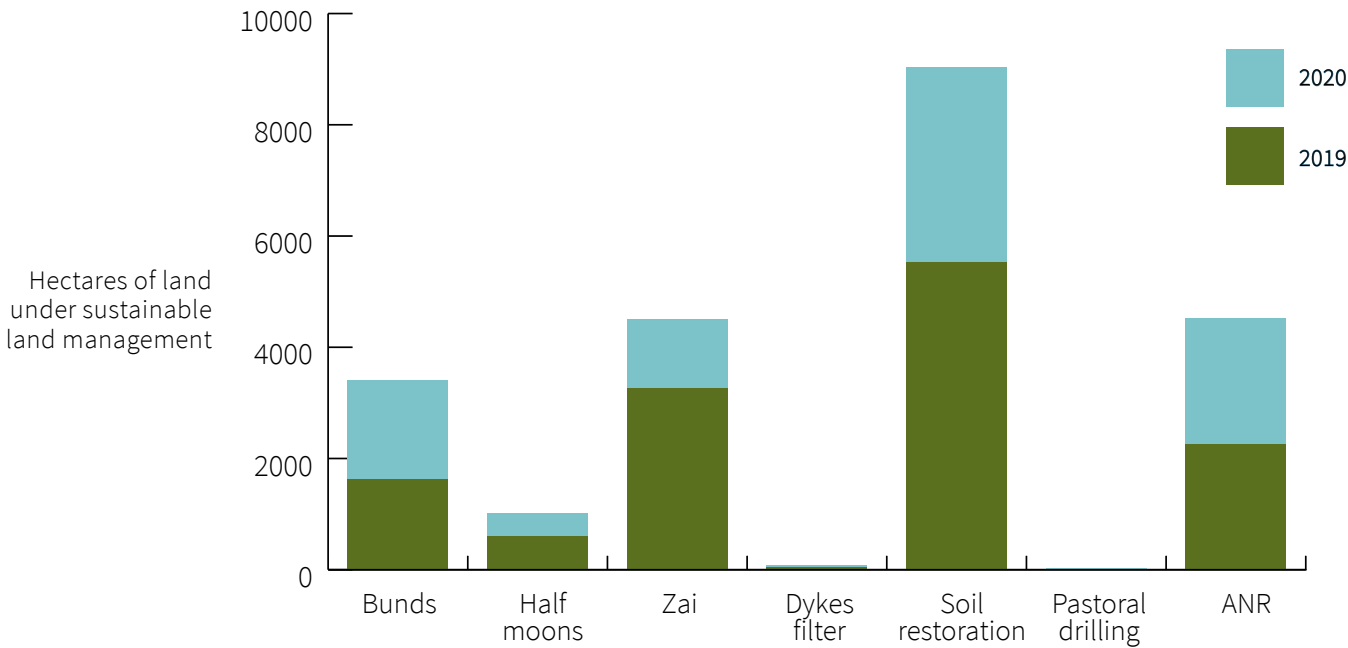


Figure 8. Approaches for rehabilitating degraded land: Burkina Faso

UNEP publishes sustainable land management toolbox and best practice guidelines

As a Regional Hub partner, **UNEP** supports RFS country projects in expanding proven approaches for sustainable land management and has been working with country project teams to identify sustainable land management practices across the programme and communicate about them to increase awareness and adoption of successful approaches.

In 2020, UNEP produced a report on [sustainable land management best practices and case studies](#) gathered from experiences across sub-Saharan Africa, as well as a [sustainable land management toolbox](#), which provides an overview of tools and technologies that support implementation of sustainable land management. The tools are mostly information technology based, intended to support organisation of data and information for decision-making in land evaluation, suitability and similarity analysis, land capability classification, and agroecological zoning.



Expanding integrated water resource management approaches

In the dryland regions of sub-Saharan Africa, access to water is a major challenge for smallholder farmers. Lack of small- and large-scale infrastructure to augment water supply results in an inadequate supply for household and irrigation use.

Climate change and climate variability exacerbate water supply and quality constraints. In many RFS countries, increasing temperatures, decreasing annual rainfall, and increasing evaporation rates are affecting seasonal availability of water. Shifts in climate variability and increases in severity and frequency of extreme weather events have resulted in recurrent droughts and severe water scarcity in most RFS countries.

Securing adequate supply and quality of water for upstream and downstream users is a major priority

for the RFS programme. Most RFS projects have a watershed- or catchment-level focus and have adopted approaches that reflect the relationship between water, land, and the communities that depend on them.

For **Senegal**, a country with 700 kilometres of coastline, rehabilitation and protection of aquatic ecosystems is vital for the country's coastal farmers.

The RFS project, implemented by IFAD and the United Nations Industrial Development Organization (UNIDO), has been working with [mangrove user associations](#) in the Saloum Delta to restore mangrove ecosystems and rehabilitate 800 hectares of land in targeted watershed areas. The project has also installed anti-salt dikes to recover 200 hectares of land previously abandoned because of high salinisation.

Involvement and support of mangrove user associations is a critical element of ensuring the sustainability of RFS project outcomes. By engaging mangrove user associations in all stages of planning, management, and implementation, the country project team is building local ownership and capacity so that these community-based organisations can play an integral part in the restoration process and lead future conservation efforts.

In **Burundi**, the project is planting bamboo to stabilise riverbanks and restore the ecological functioning of the wetlands. The project has introduced an innovative technique for producing bamboo seedlings in nurseries and has produced and planted 49,063 bamboo seedlings, protecting more than 147 kilometres. In addition to protecting riverbanks, bamboo improves water quality by decreasing sedimentation and reducing pollution.



ABOVE: Women from 17 economic interest groups attended the first training-of-trainers session on modern oyster farming techniques in Fimela in the Fatick region of Senegal. © Yakhya Gueye, Wetlands International Africa.


RIGHT: The RFS Senegal project is working to restore mangrove ecosystems to support sustainable livelihoods in the Saloum Delta. © Yakhya Gueye, Wetlands International Africa.





COUNTRY HIGHLIGHT: KENYA

The bamboo has other positive co-benefits for the community and ecosystem. It contributes to the project's global environmental benefits by increasing carbon sequestration. By reducing sedimentation, the bamboo also protects existing river biodiversity and increases habitat diversity. On an economic level, bamboo is transformed into artisanal products and sold to generate additional household income.

 **49,063**
Bamboo seedlings
produced and planted, **147** km²
protecting more than

Rehabilitation and protection of water resources is central to the RFS **Kenya** project. The Upper Tana Nairobi Water Fund is the first of its kind in Africa, allowing urban users to invest in conservation efforts for the benefit of smallholder farmers and downstream Nairobi residents.

To combat riverbank erosion, the Kenya project has provided alternative sources of water to communities and farmers to relieve pressure on riverbanks and maintain river buffer zones. Over the implementation period, the project has assisted in installation of more than 6,900 water pans and designed a drip irrigation system for 3,000 rural smallholder farmers, cutting their water use by an estimated 50 percent.

Through the project's efforts, more than 18,000 smallholder farmers are using rainwater harvesting technology for storing water and irrigating crops during the dry season, resulting in higher production, water savings, and healthier rivers with greater resistance to climate change. The success of the project has not gone unnoticed. The results of the Upper Tana Nairobi Water Fund have inspired the government of Kenya to pursue the establishment of two additional water funds in Eldoret and Mombasa.

Could avocados save Nairobi's water?

Adapted from an original article published by the [GEF](#).

Esther Wandia is an avocado convert.

Two years ago, the single mother of four decided to set up a tree nursery on her farm in Makomboki, a hilly area north of Nairobi known for tea production. Using rainwater collected from her newly installed water pans, she started growing and grafting Hass avocado seedlings to sell to neighbouring farmers.

What began as a side hustle has quadrupled Esther's annual earnings. The quarter acre of her farm allocated to avocados is now earning her more money than the acre she uses to grow tea.

What Wandia and her neighbours plant on their land matters. Runoff from their steep slopes flows to the Tana River, the water source for Kenya's capital city, where 60 percent of the population lacks reliable water access.

This is why the RFS Kenya project, the Upper Tana-Nairobi Water Fund, has been working to help thousands of farmers in the Upper Tana catchment area harvest water, conserve soil, and introduce sustainable, high-value crops such as Haas avocados, grafted mangos, oranges, strawberries, and macadamia nuts.

The Water Fund uses funding from "at the tap" downstream stakeholders—including the beverage companies Coca-Cola and East Africa Breweries Ltd—to finance "at the top" upstream investments in water conservation and sustainable agriculture. In Nairobi, the project is expected to increase the water flowing into the city by up to 27 million litres daily. The Kenya Electricity Generating Company is expected to save USD 600,000 per year from avoided

shutdowns of their hydropower facilities as result of less silt washing into the dams. Nairobi City Water & Sewerage Company is set to save USD 250,000 a year from reduced filtration and sludge disposal costs. It is projected that every USD 1 invested that the Water Fund invests will yield USD 2 in returns.

"It is cheaper to address the problem at the source than further downstream," said Anthony Kariuki, Project Coordinator of RFS Kenya. Even small steps can aggregate into major positive impacts for farmers, businesses, and communities and for the broader ecosystem. "This is how resilience builds, from the part to the whole," he said.

The RFS Kenya project is expected to increase water flowing into Nairobi by

27 million
litres
daily

For every
USD 1 invested,
the Water Fund will yield
in returns **USD 2**



Innovations introduced by the RFS Kenya project have allowed Esther Wandia to quadruple her annual earnings.
© Laura MacInnis, GEF.

Supporting transformation of rural extension services through Farmer Field Schools and other participatory approaches

RFS recognises that capacity development is key to lifting smallholder farmers out of low productivity traps and has integrated a focus on rural extension and advisory services across all RFS country projects.

RFS extension interventions aim to move away from a top-down approach to learning toward a new paradigm, one that promotes two-way exchange between extension officers and farmers and between farmers themselves.

To facilitate this transition, several RFS country projects have adopted the Farmer Field School approach pioneered by FAO (Figure 9). Farmer Field Schools differ from traditional extension services in that they emphasise experimental learn-by-doing and discovery-based learning. Direct observation and hands-on experimentation in the field enable farmers to adapt new techniques and skills to the local context. Master trainers, lead farmers, and facilitators are trained to facilitate this process in a collaborative way, drawing from and building on the knowledge and experience of the farmers themselves.

In **Burundi**, the country project uses Farmer Field Schools to introduce smallholder farmers to sustainable agricultural approaches and scale up the adoption of sustainable land management practices to restore land at the farm level. Over the course of the project, 105 Farmer Field Schools in 58

communes have helped farmers implement erosion control, grow trees, promote the use of improved cookstoves, and establish 3,513 compost structures for better soil fertility management.

In 2020, the country project held a second training-of-trainers workshop, increasing the number of operational Farmer Field School facilitators to 62. After completing the training, facilitators return to their communities, where they lead local Farmer Field School groups, serving a total of 1,987 households, 69 percent of which are female led.

The Farmer Field School approach pioneered by the RFS programme has been so successful that the government of Burundi has decided to institutionalise its methodology within national extension service plans and strategies.

The **Tanzania** project has also focused on [training master trainers using the Farmer Field School method](#) and has tailored the Farmer Field School curriculum to meet the needs of communities in the dryland regions of central Tanzania and Pemba Island in Zanzibar. The project conducted a refresher course for 38 master trainers from sector ministries and the five project districts.

The emphasis of the training, facilitated by FAO Tanzania, Sokoine University of Agriculture, and the Tanzania Forest Services Society, was on identifying sustainable land and water management practices for each project district. Topics included conservation agriculture and climate-smart agriculture, sustainable rangeland management, tree nurseries and sustainable woodland management, and water harvesting and catchment management.

To support sustainable land and water management practice in **Nigeria**, the country project team has focused on capacity development of farmers and agricultural extension officers. The team has collaborated with the Women Farmers Advancement Network to train master trainers on good agricultural practices.

More than 100 agricultural extension workers from Nasarawa and Benue states, in addition to representatives from the Women Farmers Advancement Network and UNDP, attended the [master trainer workshop in Abuja](#). The training has been followed up with a [study to identify suitable crops](#) and sustainable agricultural practices in all 70 project communities. The findings of the study were piloted in several demonstration plots showcased during [Farmer Field Days](#) in the second half of 2019.

Following the Farmer Field Days in 2019, from February to April 2020, the RFS Nigeria project conducted community-level training to teach farmers about the new crops, techniques, and technologies used in the demonstration plots. Across the 70 project communities, more than 7,000 smallholder farmers, of whom 56 percent were women, were trained in sustainable land and water management and climate-smart agricultural practices.

“**OUR YIELDS ARE ALMOST ALWAYS LOW, WITH LITTLE PROFIT EVEN FROM OUR PROCESSING AND MARKETING OF FARM PRODUCE. THE OPPORTUNITIES TO IMPROVE SEEM VERY DIFFICULT, BUT WITH THE INTRODUCTION OF THESE IMPROVED SEEDS AND GOOD PRACTICES FROM THE [RFS] PROJECT, THE FUTURE LOOKS PROMISING.**

*Jamila Sale, Farmer
Nasarawa, Nigeria*

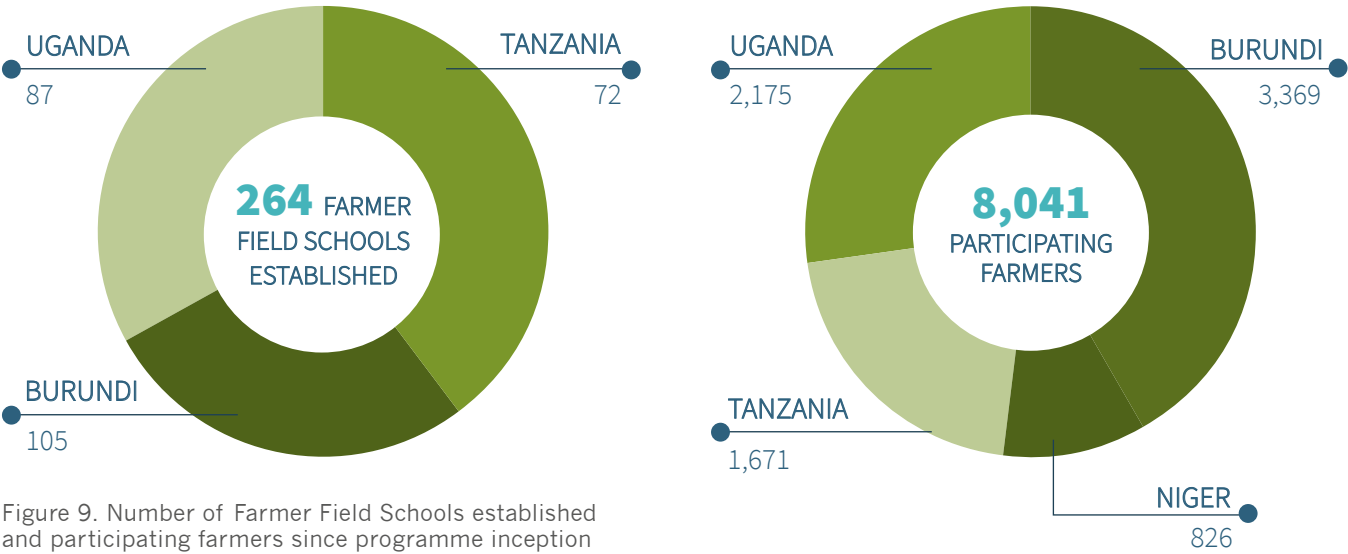


Figure 9. Number of Farmer Field Schools established and participating farmers since programme inception



Mr Jamila Sale, a farmer from Nasarawa State, expressed his joy over this year’s maize, rice, soya beans, guinea corn and groundnut bumper harvest. © Nasarawa State Agricultural Development Project, UNDP-GEF Nigeria.

Safeguarding natural resources and improving community resilience through biodiversity conservation

In response to the threat that agrobiodiversity loss poses to food and nutrition security, the RFS programme has focused on increasing the diversity of production systems by promoting the use of multiple species, breeds, and varieties and integrating the management of crop, livestock, forest, and aquatic systems. This integrated approach helps improve livelihoods and nutrition while reducing harmful environmental impacts and providing global environmental benefits.

The **Burundi** project has been a standout example of RFS's work to increase agrobiodiversity, adopting several strategies, including diversifying production systems, strengthening community management of seedbanks, and increasing access to seed diversity.

In 2019, FAO, the implementing agency of the project, [partnered with Bioversity International](#) to conduct training on assessing levels of agrobiodiversity and identifying constraints on and opportunities in the current system for biodiversity conservation using the [Diversity Assessment Tool for Agrobiodiversity and Resilience \(DATAR\)](#). This decision-making tool was created to help project actors assess diversity and design interventions that promote use of crop, livestock, and aquatic genetic diversity to increase productivity and resilience.

In 2020, the project built on this work, partnering with the Institute of Agricultural Sciences to produce and disseminate high-yielding, climate-resilient seeds for fruits and vegetables with high nutritional value. The partnership is expected to produce 3.6 tons of vegetable seeds, 100,000 avocado seedlings (Hass, Fuerte, and Simpos varieties), and 50,000 Japanese plum and passion fruit trees. In tandem with distribution of new seeds, the Institute of Agricultural Sciences will lead farmer training sessions for more than 100 farmers in market gardening and fruit plant production techniques.

Introducing new seed varieties is not the only way RFS projects are promoting biodiversity. The **Eswatini** project has identified heavily degraded areas of ecological significance and is working with chiefdoms to restore and conserve these areas to prevent further biodiversity loss.

This year, the project fenced off 30 hectares of wetlands in Ngololweni to help conserve biodiversity. Not only are wetlands important habitats for a variety of plants and animals, they are also a source of natural materials for surrounding communities. Women use grasses and reeds from wetlands to make thatched roofs, mats, and other craft items for home use and to generate income.

Since the wetlands were fenced off, the flora has started to regenerate. Following awareness raising initiatives to improve local knowledge of the vital importance of wetlands and various conservation approaches, community members have started sustainably harvesting reeds once again. Next year, the project has plans to build cattle drinking troughs and community washing areas, which will help distribute the benefits of the wetlands to other community members while promoting sustainable use of resources.

Integrating trees into smallholder food systems through agroforestry

To counteract the damage of deforestation, the RFS programme promotes agroforestry and reforestation interventions as critical components in achieving food and nutrition security and providing global environmental benefits. Integrating trees into agricultural landscapes and planning land use around forest ecosystems restores degraded land by increasing soil fertility, controlling erosion, increasing soil water retention, and improving ground water quality. Rehabilitating forests and growing trees on farms also provides communities with access to diversified food and non-food products that contribute to food nutrition and security and generate new streams of income.

In **Burundi**, a country that lost 5 percent of its forest cover between 2001 and 2019, FAO is using Farmer Field Schools to raise awareness of the importance of forests and [teach smallholder farmers agroforestry techniques](#) such as contour planting to reduce soil erosion and improve soil health.

Through Farmer Field School groups, the RFS Burundi project has constructed 180 kilometres of contour lines in the project area. The groups have also been

essential in facilitating production and planting of 2,465,003 tree seedlings covering 8,907 hectares.

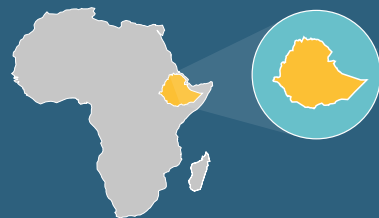
In **Niger**, the country project has been working with project communities to restore land through mechanical and ecological interventions. After sites have been mechanically prepared through, for example, dune stabilisation, community members plant trees to assist in biological recovery of the sites. The project has propagated and planted 607,972 trees in three project regions. A recent analysis conducted by FAO indicated that the RFS Niger project will have increased carbon storage capacity by 5.26 million Mt CO₂e over the next 20 years, largely thanks to assisted natural regeneration and tree growing.



The RFS Burundi and Niger projects have propagated and planted over
3 million Trees



A nursery in the Maradi region of Niger grows tree seedlings under controlled conditions in order to ensure high quality. The nursery also provides an important opportunity for tree growing demonstrations and extension activities. © Maurice Ascani, ProDAF.



COUNTRY HIGHLIGHT: ETHIOPIA

Students in Ethiopia ‘green’ their schools with the help of RFS

The RFS Ethiopia project recognises the critical importance of harnessing the power of the country’s youth population. The project, implemented by UNDP in partnership with the government of Ethiopia, includes a cross-cutting focus on increasing environmental awareness of youth and engaging young beneficiaries in ‘green’ development pathways.

The project has **established 36 school environmental clubs** across 12 districts. With 784 members, the school clubs’ goal is to increase the knowledge and understanding of school-age youth of the importance of the environment and the factors that threaten the health of their local ecosystems. The clubs also work to build the capacity of students to engage in climate change adaptation and mitigation interventions, with the ultimate goal of equipping them with the skills to become environmental stewards in their communities.

Over the past year, the RFS Ethiopia project held practical training sessions for school environment clubs in three districts—Angollela, Doba, Duguna Fango—attended by 127 participants, including 69 girls. Students were taught the environmental benefits of planting trees on school grounds and trained in how to plant and care for seedlings. A total of 25,370 different types of seedlings were planted across three school districts.

25,370 
seedlings

planted across three school districts



In the Angollela woreda, the RFS Ethiopia project provides school environment clubs with training, equipment and seedlings for “greening” school grounds. © Belayneh Melak, UNDP Ethiopia.

Diversifying livelihoods: providing new sources of income to the most vulnerable communities

To help farmers escape from low productivity traps, RFS is working not only to increase the productivity of farming activities in a way that rehabilitates and conserves natural resources, but also to develop new off-farm income-generating opportunities to decrease community reliance on natural resources and diversify incomes. By gaining access to new streams of income, farmers can re-invest in farm activities or small businesses and build savings, which in turn builds resilience against the effects of climate change, weather events, and external shocks.

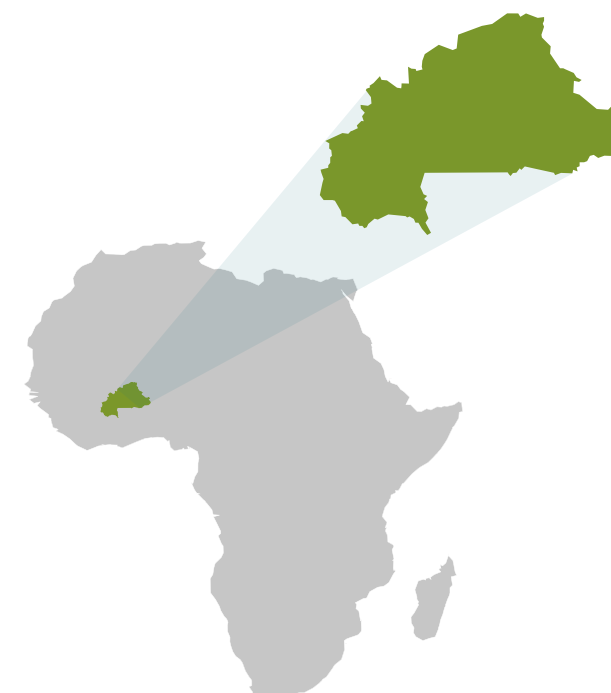
For women, earning an independent income can lead to significant improvements in entrenched power imbalances, redefining the way communities value the economic contributions of women. By providing more household income for food, health, and education, increasing women’s earning power also has significant knock-on effects for the entire community, which is why many income-generating activities implemented by the RFS programme target women. These activities are expanded upon in Chapter 5: Targeting gender.

In **Uganda** and **Burkina Faso**, the country projects are funding community-led micro-projects that will jump-start the development of new streams of income.

The Uganda project is processing grant applications from 10 organisations for small projects focused on restoration of ecosystem services, forest cover and biodiversity, water harvesting and conservation, erosion control, sustainable livelihood approaches, post-harvest management, and business skills development.

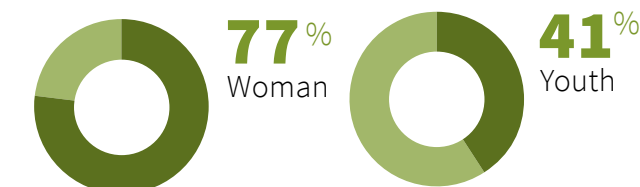
The **Burkina Faso** project has approved financing for 418 micro-projects, reaching 3,134 beneficiaries, 77 percent of whom are women and 41 percent youth. Overseen by the Green Economy and Climate Change Directorate and the Nord Regional Chamber of Agriculture, the grant investment process began with 418 business development plans. The micro-projects span 23 sectors or products, primarily concentrated in production and processing of *néré* (26 percent), baobab (21 percent), and shea (15 percent). The project also supports an additional 900 entrepreneurs in the non-timber forest products sector, including 120 renewable energy projects, in developing their business development plans.

In **Burundi, Eswatini, Ethiopia, Ghana, Kenya, Malawi, Nigeria** and **Senegal**, country projects have focused on promoting beekeeping as an alternative income-generating activity. Widespread support for beekeeping stems not only from the opportunity to generate income through honey and beeswax sales, but also from the essential role that bees play in agricultural systems and the surrounding environment.



418 micro-projects
financed in
Burkina Faso

3,134 beneficiaries
reached





COUNTRY HIGHLIGHT: NIGERIA

For women in Benue state, beekeeping offers income and independence

When the RFS Nigeria project initiated a [beekeeping training programme](#) for women in 10 communities in Buruku and Obi, their first task was to convince the women that beekeeping was not exclusively the domain of men.

Through the training, the women were shown that, with modern beehives and handling techniques, there was little to fear and much to gain.

In addition to teaching the women how to build, colonise, and manage hives, trainers shared information about local honey and beeswax value chains and connected the women with potential buyers. By encouraging and enabling participants to commercialise what they produce, the sessions equipped the women with the tools and know-how

to generate an alternative stream of income for themselves and their families. The RFS project is hoping to expand the sustainable honey and beeswax value chain in the region by introducing communities to good production practices and directly linking producers with end markets.

With this additional income stream, the women will be able to improve their families' wellbeing, paying for better healthcare, for example, and education for their children. As they gain financial independence, the project aims to see this translated to higher status and greater decision-making power within the community. Women may start to be seen beyond the traditional household roles and valued as sources of economic development in their communities.



Members of women's groups in Obi and Buruku in Benue State were taught how to construct beehives using locally available materials. © Benue State Agricultural Development Project, UNDP-GEF Nigeria.

The **Nigeria** project has targeted beekeeping along with other income-generating activities, including [dairy goat farming](#), as a way to build community resilience (see page 81). Through this initiative, the project has trained 1,389 people and provided each with a starter pack of materials, equipment, animals, and physical infrastructure; 323 rams, 349 goats, and 717 beehives have been distributed across seven project states.

In **Eswatini**, beekeeping has been integrated into reforestation and tree growing interventions to encourage holistic approaches to sustainable forest management. In addition to [training 100 youth entrepreneurs during last year's "21 Days of Y'ello Care" event](#), the project has established 12 demonstration sites to teach farmers about honey production and commercial beekeeping. Both initiatives have included training sessions to equip extension officers with the knowledge and tools to provide sustained support to entrepreneurs and ensure that apiary sites adhere to best practices.

To ensure income stability and sustainability of the apiaries beyond the lifespan of the project, the project team has partnered with the non-profit organisation Bulembu Ministries to facilitate linkages between honey producers and lucrative end markets. It is hoped that these linkages will expand sustainable honey value chains in the region, supporting the growth of green jobs that contribute to food security, household incomes, and healthy ecosystems in Eswatini.

Engaging the private sector in PPPs and value chain development

For smallholder farmers who produce for household consumption, gaining entry into informal or formal agri-food value chains has the potential to increase incomes substantially and provide opportunities for growth. For farmers already operating in informal value chains, entry into formal agri-food value chains can provide exposure to new markets, opportunities

to raise higher value crops, skills upgrading, and greater income security. Developing agricultural value chains and increasing access and participation for smallholder farmers is therefore a critical path for RFS to address transformation in African agriculture.

At the regional level, the **Regional Hub** is focused on connecting local producers with regional and global value chains. In the second half of 2019, Regional Hub partners AGRA and UNDP organised a [regional training workshop](#) on greening agricultural value chains. Over the course of the workshop, participants, including representatives from most RFS country projects and Regional Hub partners, used value chain mapping approaches to select priority value chains, identify where and how to integrate resilience-building practices, and brainstorm ways to increase the capacity of value chain stakeholders.

In a continuation of these efforts, AGRA and UNDP are establishing a regional facilitation platform that will mobilise and connect private sector actors and identify opportunities for local produce to be sold on the global market.

To engage in-country actors in this process, AGRA and UNDP are providing [catalytic grants to support activities that contribute to green value chain development](#) at the national level. The first instalments of the grants were planned for disbursement by the end of 2020. The regional facilitation platform will provide an opportunity for recipients of the grants to connect with other value chain actors and regional economic bodies (Southern African Development Community, East African Community, Economic Community of West African States, Common Market for Eastern and Southern Africa) to expand their reach and access new end markets.

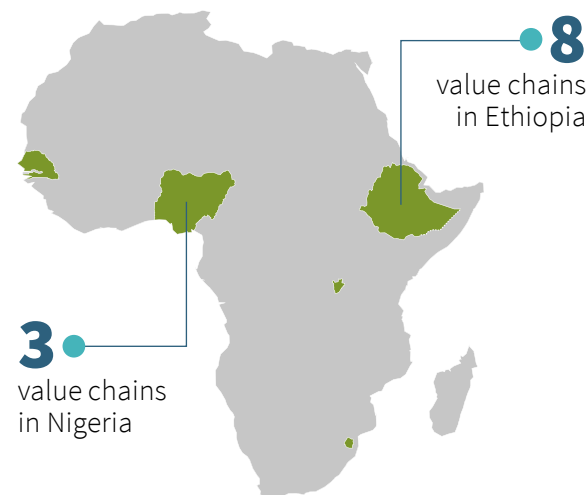
Over the 2020 reporting period, country projects have been harnessing the potential of the private sector by developing PPPs or more comprehensive public-private-producer partnerships, an approach pioneered by IFAD that ensures that smallholder producers are respected as partners.

11 sustainable value chains

have been developed by RFS country projects

The **Nigeria** project has established [PPP platforms](#) to facilitate discussions between government and private sector representatives on policy implementation for development of priority value chains, including rice, groundnuts, and soya beans. These platforms also provide an opportunity to develop relationships between value chain actors, including major companies from the private sector: Al-Hamsad Rice Mill Limited, Dantata Foods and Allied Products Limited. Banking institutions, including Sterling Bank and Jaiz Bank, have also been engaged in the PPP platforms and are working to increase smallholder access to finance through alternative banking services.

Value chains require private investment to grow, but formal banking institutions often view lending money to smallholder farmers as too risky. To reduce the risk of lending to smallholder farmers, the **Niger** project set up a cost-sharing financing mechanism that connects banks and micro-finance institutions with groups of smallholder farmers, who then share responsibility for repaying the investment. By spreading the responsibility over a large group of people, the mechanism reduces the credit risk. This scheme has been used successfully to finance small-scale irrigation systems and micro-businesses loans for rural entrepreneurs.



The project has also facilitated technical assistance and training to [increase risk management capacity](#) of targeted financial institutions. Twenty participants from the banking sector attended the training, which focused on identifying, assessing, and managing agricultural credit risks.

To increase private sector investment in integrated landscape management, the RFS project in **Ethiopia** has focused on three innovative financing mechanisms: environmental mitigation plans, value chain support schemes, and private sector social responsibility at the landscape level.

This year, the project held a series of discussions at the district level to explore the potential of each mechanism. Following the discussions, Menze Gera District successfully engaged a contracted highway construction company to fulfil its environmental mitigation plan by rehabilitating more than seven hectares of farmland. Angollela Tera District focused on promoting private sector social responsibility, resulting in five bottling companies planting more than 3,600 trees at an estimated value of USD 12,500. Building on this work, the project hopes to leverage further resource mobilisation opportunities that arise from the approval of the Payment for Ecosystem Services bill, expected later this year.



COUNTRY HIGHLIGHT: KENYA

The Upper Tana Nairobi Water Fund makes a business case for investing in water

The Upper Tana Nairobi Water Fund is working to protect one of the most strategically important natural resources in Kenya. The Tana River supplies 95 percent of the water for Nairobi's 4 million residents and half of the country's hydropower output. Beyond Nairobi, the river supplies the country's most important agricultural regions and is the primary water source for an additional 5 million people living in the watershed.

To finance rehabilitation and conservation of the Tana River, the Upper Tana Nairobi Water Fund has established an endowment fund—the first of its kind in Africa. The fund pools money from public and private sources to finance conservation efforts for the benefit of smallholder farmers upstream and downstream Nairobi residents. Building on seed funding from GEF and IFAD, including through the RFS programme, the fund secured strong private sector support from the outset, raising USD 1.6 million in investments from companies such as Frigoken, Coca-Cola, British American Tobacco, East African Breweries Limited, Caterpillar, and UPS Foundation.

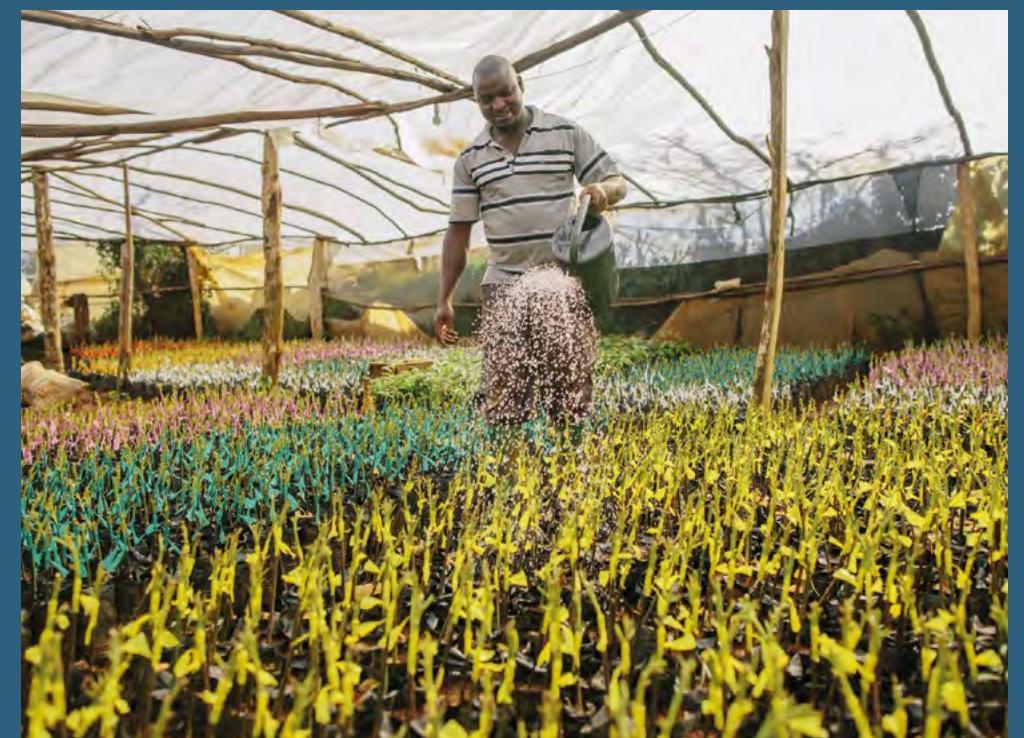
As private sector investors and partners, smallholder farmers have also been invited to the table. The

project has gone beyond a PPP strategy and pursued a public-private-producer partnership, in which smallholder farmers are encouraged to invest as principal water users. As of September 2020, farmers had contributed more than USD 150,000 to the Upper Tana Nairobi Water Fund endowment fund.

The endowment fund is crucial to the project's exit strategy. Funds that are raised for the Upper Tana Nairobi Water Fund during the project's lifecycle are invested in the open market. The interest that accrues from that investment will fund the operations and activities of the fund after initial project funding ends. "We are bringing in resources that already existed but are now channelling them into a shared governance space," explained Project Coordinator Anthony Kariuki.

The water fund approach has been so successful that the Kenya Water Towers Agency has endorsed a proposal for the government of Kenya to allocate funding to support conservation work in three more water towers in the country. IFAD and GEF are developing this initiative in partnership with The Nature Conservancy, Kenya Water Towers Agency, and Kenya Forest Service for funding under GEF Phase 7.

Francis Njoroge Karuru, a youth farmer working with the Upper Tana Nairobi Water Fund, waters his Hass avocado seedlings, which he supplies to the Water Fund for distribution to other farmers in the watershed. © Bobby Neptune, The Nature Conservancy.





CHAPTER FOUR

Track

Monitor, learn, respond



© Roshni Lodhia, The Nature Conservancy

When resources are allocated to development initiatives in the agriculture, natural resources and environment sectors, it is essential to know whether the project or programme has reached targeted beneficiaries and achieved its intended goals. Monitoring, assessment and evaluation systems help RFS country projects, and the programme as a whole, track progress and performance against indicators related to household income, natural resource management, climate change mitigation, biodiversity and food security.

Well-designed and -executed M&E systems can lead to effective programmatic learning and adaptation. As one of three GEF Integrated Approach Pilots, the RFS programme is developing and applying innovative approaches for implementing monitoring processes, integrating data and showcasing accurate progress across a large integrated programme. Ongoing M&E activities support RFS teams in tailoring and regularly adapting project activities to achieve the desired impact. The RFS M&E system continues to evolve with programme implementation, adapting to challenges as they arise and capitalising on opportunities to improve performance at national and regional levels.

The Regional Hub is responsible for establishing a programme-wide M&E framework for tracking global environmental benefits, GEF core indicators and overall outcomes of the programme. The Regional Hub has also played a central role in introducing country teams to innovative monitoring tools and solutions and building capacity in national institutions to apply appropriate tools and methodologies for their own project-level M&E.

Harmonising M&E across the RFS programme

As a large programme with an extensive geographical scope, RFS presents a unique set of challenges when aligning M&E frameworks across each country project and the programme as a whole.

With a programme this large and diverse, the first challenge has been accommodating the differences between country projects—each project has a unique context and objectives, requiring different tools, approaches and indicators—while ensuring that there is enough alignment between monitoring approaches and frameworks to track programme effects and contributions to global environmental benefits.

Addressing this challenge requires a range of support, from aligning definitions of key terms to identifying indicators of progress to developing capacity.

This harmonisation effort, led by the PCU, has required consistent collaborative engagement with country projects and Regional Hub partners to establish linkages not only between project- and programme-level M&E, but also with broader GEF monitoring frameworks, including the new core indicators and sub-indicators established at the GEF-7 replenishment.

REGIONAL HUB: MONITORING & EVALUATION

RFS builds a common understanding of resilience

At the time RFS was designed, centring a programme around “resilience” was a novel approach to identifying, assessing and monitoring shocks and stresses. Initially, the level of understanding and application of concepts regarding resilience among the implementing agencies and countries varied. In traditional discourse, the concept of resilience was narrowly defined as resilience to climate change and did not take into account wider considerations that reflected the complexities of the food-environment nexus.

During the inception phase of the programme, RFS broadened the understanding of resilience and exposed stakeholders to methodologies and tools that enabled them to apply more holistic definitions of resilience to complex human-environment interactions. Several approaches, tools and monitoring frameworks were discussed, but no single one was imposed across the programme, a strategy that partners largely appreciated.

To ensure a country-led approach, agencies and governments were asked instead to apply a broader resilience lens to identify specific resilience considerations relevant to each country’s circumstances. Throughout the programme, this approach to integrating resilience thinking has helped avoid a “one size fits all” model that runs counter to the ethos of RFS.

To support the alignment of country project M&E frameworks with programme-wide tracking, the PCU organised a dedicated [M&E workshop](#) in November 2019 at the ICRAF campus in Nairobi, Kenya. Attended by 34 people, including country project representatives, Regional Hub partners and IFAD, the workshop contributed to the adoption of new indicators and targets that will improve the programme’s overall tracking and reporting of impacts at the regional level.

Extensive consultations with country projects during and after the workshop informed finalisation of the updated programme M&E framework in 2020. The new framework addresses monitoring challenges identified during implementation and proposes updated targets and new indicators (for example, for tracking outcomes related to value chain development).

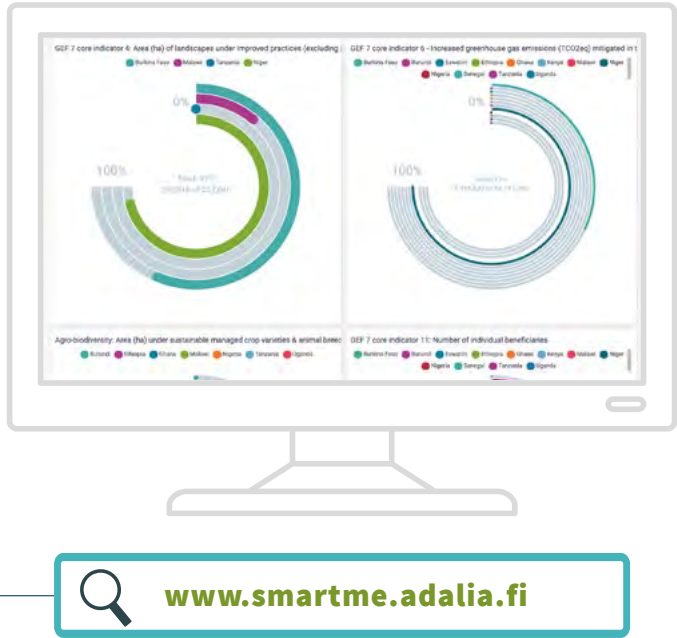


ABOVE: The M&E workshop provided an opportunity for M&E officers from across the programme to learn new skills and tools, share M&E approaches and collaborate on the identification of shared indicators and targets. © Loice Abenda, The Nature Conservancy.

RIGHT: Regional Hub partners and country project M&E officers gathered in Nairobi to participate in an M&E workshop to align monitoring approaches and frameworks across the entire programme. © Sheila Murithi, ICRAF.



To ensure M&E data are easily accessible for the entire programme, the updated M&E framework will be showcased through an online monitoring system, SmartME, which is linked to the RFS Knowledge Centre and will serve as a platform through which all RFS stakeholders can access and compare data from multiple projects and at the regional level. During the M&E workshop, ICRAF, the Regional Hub partner overseeing development of **SmartME**, trained the country project teams on how to use the online system. The training also provided an opportunity for country projects to give feedback on how the platform can best support monitoring at project level.



Online information systems: helping RFS country projects track and share progress in real time

Within the country projects, activities take place over large and often remote implementation areas, creating an added challenge when it comes to consistently gathering data to track the impact of project activities. To ensure data collection is accurate, consistent and continuous across geographical areas and over the duration of the project, country projects are developing online information systems aligned with national M&E frameworks that are designed to make it easier for stakeholders, including government ministries, research institutions, national statistics offices and universities, to access and share information.

The **Kenya** project has been establishing systems for capturing, analysing and communicating the effects of Upper Tana Nairobi Water Fund activities on the watershed. In 2020, the project fully operationalised the District Health Information System 2, which compiles and analyses all data collected from the project area. It includes data from 28,759 farmers, disaggregated according to age, sex, geographical location and the year that they started working with the project.

To ensure sustainability of M&E progress, the project has been working closely with the Kenya Water Resources Authority, the Nairobi City Water and Sewerage Company and Jomo Kenyatta University of Agriculture and Technology to

institutionalise best practices in hydrological data collection, analysis and communication.

In 2020, the project helped install real-time data collection tools in all seven critical water monitoring stations that supply water to the city of Nairobi. A further 28 river gauging stations have been fitted with telemetric equipment that automatically relays data on water level, salinity, conductivity and temperature to servers at Nairobi City Water and Sewerage Company and Jomo Kenyatta University where the data are captured, cleaned and analysed. Together with the Water Resources Authority, the project is collecting and analysing water quality and flow data. Results demonstrate declining turbidity trends across the watershed—33.6 percent less than the 2013 baseline data.

Data from the RFS Kenya project shows

33.6% decline
in turbidity trends across
the Upper Tana watershed



At data monitoring stations along the Tana river, RFS is working with the Kenya Water Resources Authority to collect and analyse data. © Roshni Lodhia, The Nature Conservancy.

As part of the **Ethiopia** project's commitment to harmonise national systems for monitoring and evaluating the country's ecosystem services, the project has been working on an **Integrated Web-Based and Geographic Information System- (GIS-) Embedded Information Management System**. The system, formally launched in November 2019, aims to provide accurate, timely information about the impact of nature-based interventions on ecosystem health at the landscape level.

Managed by the Ethiopian Environment, Forest and Climate Change Commission, the system uses *WoredaNet*, a government-owned and -run Internet network system. Data collected by centres at the district level will be supplemented with satellite-based data quarterly to show changes in land use, land cover, degradation level, soil fertility and underground water level.

Development and operationalisation of the information management system will contribute significantly to capacity development and harmonisation efforts in M&E at the national, regional and local levels. At the local level, project

coordinators and development agents are being trained in data collection and have been provided with 60 smart phones to facilitate instant uploading to the system. At the national level, the Environment, Forest and Climate Change Commission is training stakeholders in using the web-based system for better communication, management and decision-making. As of June 2020, targeted training has increased the capacity of all 12 districts and the federal government in monitoring environmental indicators by more than 50 percent.

At the launch event, Environment, Forest and Climate Change Commissioner, Professor Fikadu Beyene, celebrated the development of the system as a significant achievement and a key component in ensuring that "lessons from project interventions are learned and shared in policy and institutional dialogue platforms". By facilitating the easy exchange of data between sectors and levels of government, the information management system will provide policymakers and practitioners with real-time information to help guide investments in conservation and sustainable use of the country's natural resources.

Integrating new tools and building capacity to monitor resilience in communities and ecosystems

One of the great strengths of the RFS programme is the wide range of monitoring expertise made available to country projects through the **Regional Hub**. Programme-wide workshops and one-on-one technical sessions provide platforms for country projects to collaborate with Regional Hub partners on tested approaches, methodologies, tools and frameworks for monitoring the dimensions of agroecosystem resilience, from agrobiodiversity to land degradation to household wellbeing.

The variety of M&E tools available to the country projects fits with the no “one size fits all” philosophy of the programme. By introducing the country projects to a large variety of tools, but not prescribing any predetermined model for monitoring resilience, RFS seeks to accommodate the M&E contexts, needs and challenges of each country, supporting a diverse, tailored approach to monitoring resilience.

In November 2019, the programme-wide M&E workshop in Nairobi provided an excellent opportunity to expose country projects to new tools and

approaches. To build capacity in implementing the tools, Regional Hub partners held various training sessions and one-on-one capacity development clinics.

Conservation International, for example, led a training session on using GIS and remote sensing technologies to create baseline land use and land cover maps. **Bioversity International** trained country project teams on using DATAR, a tool that allows users to integrate data on crop, livestock and aquatic diversity into decision-making processes to increase farm productivity. These and other tools and methodologies discussed at the workshop, such as Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists (SHARP), Food Insecurity Experience Scale (FIES), the Ex-Ante Carbon Balance Tool (EX-ACT) developed by FAO, Women’s Empowerment in Agriculture Index and outcome mapping, are helping country project teams collect and analyse data and assess project impact on the environment, communities and boundary partners.

The training sessions resulted in a major increase in adoption of these tools across the programme. To help support these countries in their implementation processes, follow-up training sessions were planned for EX-ACT, DATAR and outcome mapping in 2020.



At the programme-wide M&E workshop, country project teams were introduced to a variety of M&E tools and approaches and were provided with hands-on support from Regional Hub partners. © Sheila Murithi, ICRAF.

M&E tool or approach	BURKINA FASO	BURUNDI	ESWATINI	ETHIOPIA	GHANA	KENYA	MALAWI	NIGER	NIGERIA	SENEGAL	TANZANIA	UGANDA
Earth Observation for Sustainable Development Consortium												
Ex-Ante Carbon Balance Tool												
Self-Evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists												
Food Insecurity Experience Scale												
Land Degradation Surveillance Framework												
Multidimensional Poverty Assessment Tool												
Women’s Empowerment in Agriculture Index												
Diversity Assessment Tool for Agrobiodiversity and Resilience												
Outcome mapping												
Vital Signs, Trends.Earth, Resilience Atlas												

Table 1: Monitoring and evaluation tools utilised by country projects

The use of common tools between country projects (Table 1) not only streamlines and consolidates collection of high-quality, comparable data across the programme, but also links country projects to broader databases that RFS implementing agencies and partners have established with data from other initiatives around the world. One such example is the Land Degradation Surveillance Framework (LDSF) global database that ICRAF maintains, which aggregates data on soil health and land degradation from several countries and regions.

Measuring land degradation: Land Degradation Surveillance Framework

Developed by ICRAF scientists, the LDSF is an innovative framework that has been used for longer than 15 years to assess and track changes in land and soil health, including vegetation cover, land use, land degradation and soil characteristics. With co-financing from IFAD and ICRAF, country projects have adopted the LDSF to systematically collect land health data using a robust indicator framework and consistent sampling.

In partnership with ICRAF, the **Kenya** and **Eswatini** projects have been applying the LDSF in project areas and building capacity in maintaining the database. In **Eswatini**, LDSF baselines are being combined with predictive maps to improve tracking of agricultural land and rangeland performance over time, informing both project and government interventions. In **Kenya**, the country project team has deployed the LDSF at five monitoring sites and will introduce the framework in two additional counties in 2021.

Integration of the framework provides a valuable example of how the programme’s implementation structure, which draws on the experience, tools and growing evidence base developed by international agencies, such as ICRAF, can help create synergies between global and local scales. Local biophysical LDSF data collected by RFS projects will contribute to the global database maintained by ICRAF, helping other countries with similar soil conditions address their own land degradation challenges using proven rehabilitation measures. By building public decision support dashboards with data compiled from LDSF and several other monitoring tools, Eswatini and Kenya are providing valuable information not only to local farmers and policymakers, but also to non-RFS stakeholders in other countries around the world.

Measuring household wellbeing: Multidimensional Poverty Assessment Tool

In addition to tools and frameworks focused on resilience and landscape health, RFS projects are using social surveys and qualitative analysis to track project impact on the human dimensions of resilience. Developed by an international initiative led by IFAD, the Multidimensional Poverty Assessment Tool provides RFS project teams with a holistic understanding of human wellbeing in project communities. The tool consists of 143 questions covering a range of focus areas, including gender, social equality, education, housing, sanitation, health and farm and non-farm assets (Figure 10). After baseline data are collected from households in the project area, the tool produces summary scores for each focus area that are comparable across communities, projects, countries and timeframes, allowing for easy monitoring of the programme's impact.

The Multidimensional Poverty Assessment Tool has been successfully used in **Burkina Faso, Senegal, Kenya, Eswatini, Tanzania** and **Malawi** to better understand rural poverty at the household level.

In Kenya, for example, a digital survey was used to [collect data to determine the baseline condition of more than 1,000 households](#) in the project area. To assess progress made in household welfare as a result of the project's activities, a mid-term follow-up survey was planned for the second half of 2020.

Measuring food system resilience: SHARP, FIES and the Household Dietary Diversity Score

In many sub-Saharan countries, governments measure food system resilience through proxy indicators related to food security or adoption of sustainable land management practices. To encourage RFS countries to adopt holistic monitoring systems that reflect the multidimensional nature of "resilience", FAO introduced country project teams to a range of tools developed specifically for measuring resilience of food and pastoral systems, including SHARP, FIES and the Household Dietary Diversity Score.

Adoption of SHARP is a good example of how these tools are being used to broaden understanding of resilience in project areas. Both the **Uganda** and **Burundi** country projects have adopted SHARP

to assess the resilience of farmer and pastoralist households to climate change.

In **Uganda**, self-assessment surveys at the household level helped the country project achieve greater understanding of challenges facing farmers and pastoralists in the highly vulnerable Karamoja region. Baseline data collection focused on land, water and cropping information; gender and livelihoods; agroecological and social resilience status; and risk and vulnerability levels in the project area. The survey results were used to identify gaps and weaknesses in household and institutional responses to climate variability. This assessment was then integrated with climate data to assist the RFS project and supporting institutions in prioritising actions to build the resilience of agroecosystems.

Following the presentation of SHARP and the results from the Uganda project during the programme-wide M&E workshop in November 2019, five new countries—**Senegal, Niger, Malawi, Kenya, Ethiopia**—committed to adopting SHARP to monitor resilience in 2020. Seven new countries—**Senegal, Niger, Malawi, Ghana, Nigeria, Kenya, Uganda**—committed to using FIES to monitor food security.

Monitoring ecosystem health using GIS and remote sensing technology: Vital Signs, Trends.Earth, Resilience Atlas

In recent years, the focus on monitoring and assessment in agriculture and food security projects has shifted to using remote sensing and satellite-based tools to track progress. As one of the Regional Hub partners working on monitoring and assessment for the RFS programme, Conservation International has developed Trends.Earth and the Resilience Atlas to provide real-time open-source data to help projects track changes in land productivity, soil nutrients, weather patterns and ecosystem services without requiring data collection on the ground. During this reporting period, updates were made to the Resilience Atlas to include high-resolution land cover datasets from the Earth Observation for Sustainable Development (EO4SD) Consortium.

RFS country project teams from **Nigeria, Ethiopia, Burkina Faso, Eswatini, Niger, Senegal** and **Tanzania** have adopted these tools and close to 100 country project representatives have been trained on how to use them to improve the monitoring of project impacts.



COUNTRY HIGHLIGHT:
NIGERIA

Vital Signs helps the RFS Nigeria project assess sustainability of agricultural systems with on-the-ground monitoring

Given that satellite and remote sensing data often lack the level of detail needed for evidence-based decision-making, Conservation International's Vital Signs tool uses local field teams to gather on-the-ground measurements of a variety of indicators. These data, when combined with existing satellite data, provide a more accurate picture of the relationship between agriculture, ecosystems and human wellbeing.

In Nigeria, [Conservation International is helping introduce Vital Signs](#) as a primary tool for assessing the impact of project interventions on the sustainability and resilience of agroecosystems in the project area. To support the use of Vital Signs in tandem with other remote sensing tools, Conservation International trained 27 state and national M&E officers in using spatial analysis tools. The training provided hands-on experience in Trends.Earth, Resilience Atlas, Google Earth Engine and Vital Signs, equipping participants with the skills necessary to establish baseline datasets in each of the 70 project communities (currently being finalised by Conservation International).

At the community level, the trained M&E officers will collect Vital Signs data and enter them into an online database. Currently under development, the online database will provide an easy-to-use platform for project team members and decision-makers at the federal and state level to access real-time updates from the field. This information can then be used to supplement remote sensing data from Trends.Earth or the Resilient Atlas to provide a more accurate picture of changes in land cover, degradation, soil fertility and underground water levels.

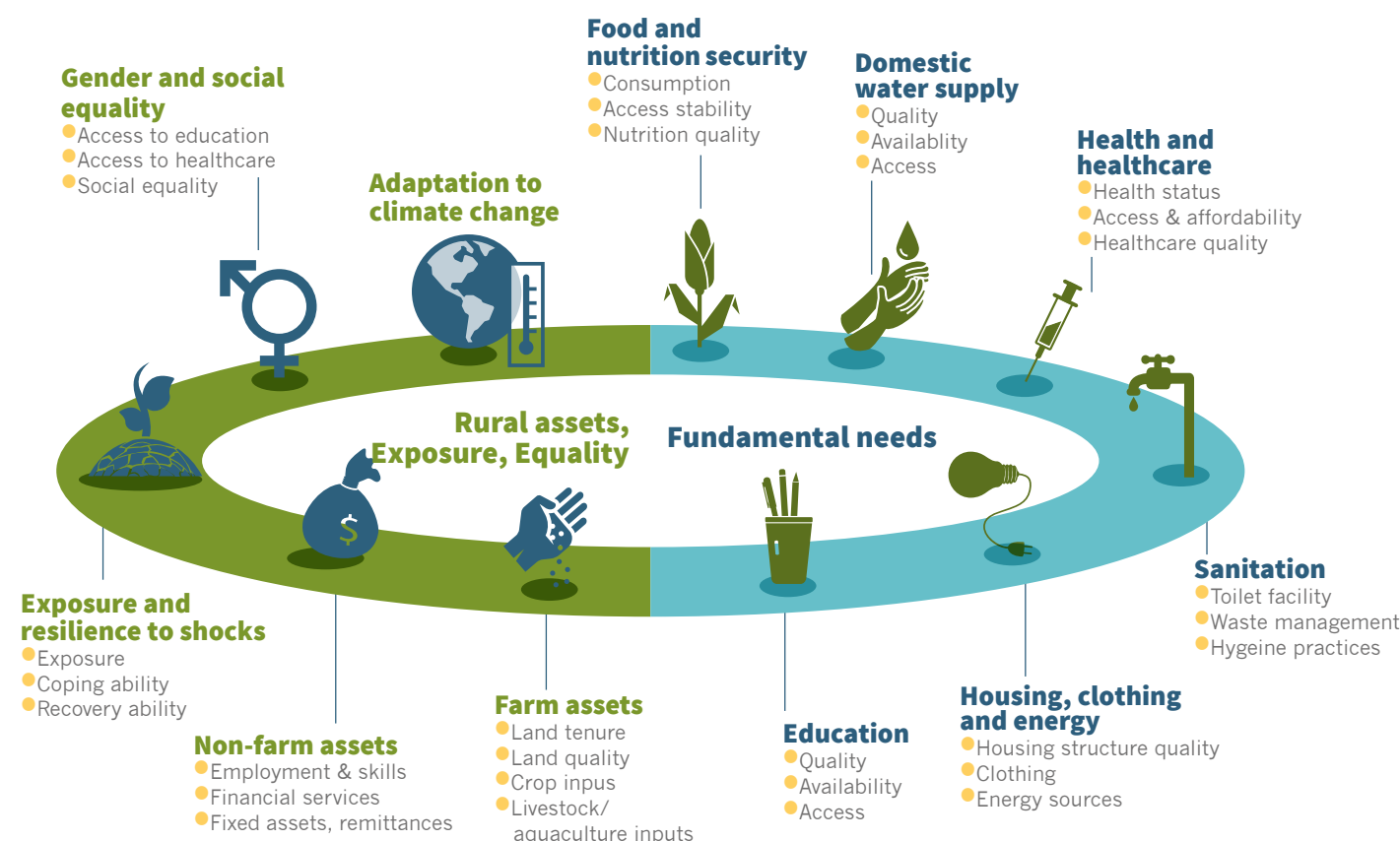


Figure 10: The Multidimensional Poverty Assessment Tool is used to gather responses to 143 questions across 11 survey modules to provide a holistic picture of human wellbeing.

Monitoring behaviour change: Outcome mapping

Led by the Regional Hub through ICRAF, in partnership with Bangor University and IFAD, the RFS programme has been supporting country project teams in using the outcome mapping methodology to assess project contributions to institutional development and behaviour change.

At the 2019 RFS Annual Workshop in Bolgatanga, Ghana, the outcome mapping team, led by Dr Eefke Mollee of Bangor University, introduced RFS country projects and partners to major concepts associated with outcome mapping and facilitated a participatory exercise through which country project teams assessed the level of intentional design within their evaluation frameworks. After the Annual Workshop, an outcome mapping framework was developed for the programme that built on feedback collected from the country projects (Figure 11). Support for

implementing the framework has grown through one-on-one conversations between ICRAF and project M&E officers and through the programme-wide M&E workshop in Nairobi.

To further strengthen outcome mapping capacity development and tailor training to country project needs, a comprehensive in-person training was scheduled during the 2020 RFS Annual Workshop. Due to the pandemic, this training was transformed into a [virtual e-learning experience](#) for four countries that expressed interest in learning more about outcome mapping: **Niger, Nigeria, Senegal** and **Uganda**.

From July to September 2020, the Regional Hub held virtual training sessions, co-financed by ICRAF and Bangor University, each customised for the respective country project teams. The objective of the training series was to help RFS country project teams build the skills necessary to integrate outcome mapping into their M&E plans and activities.

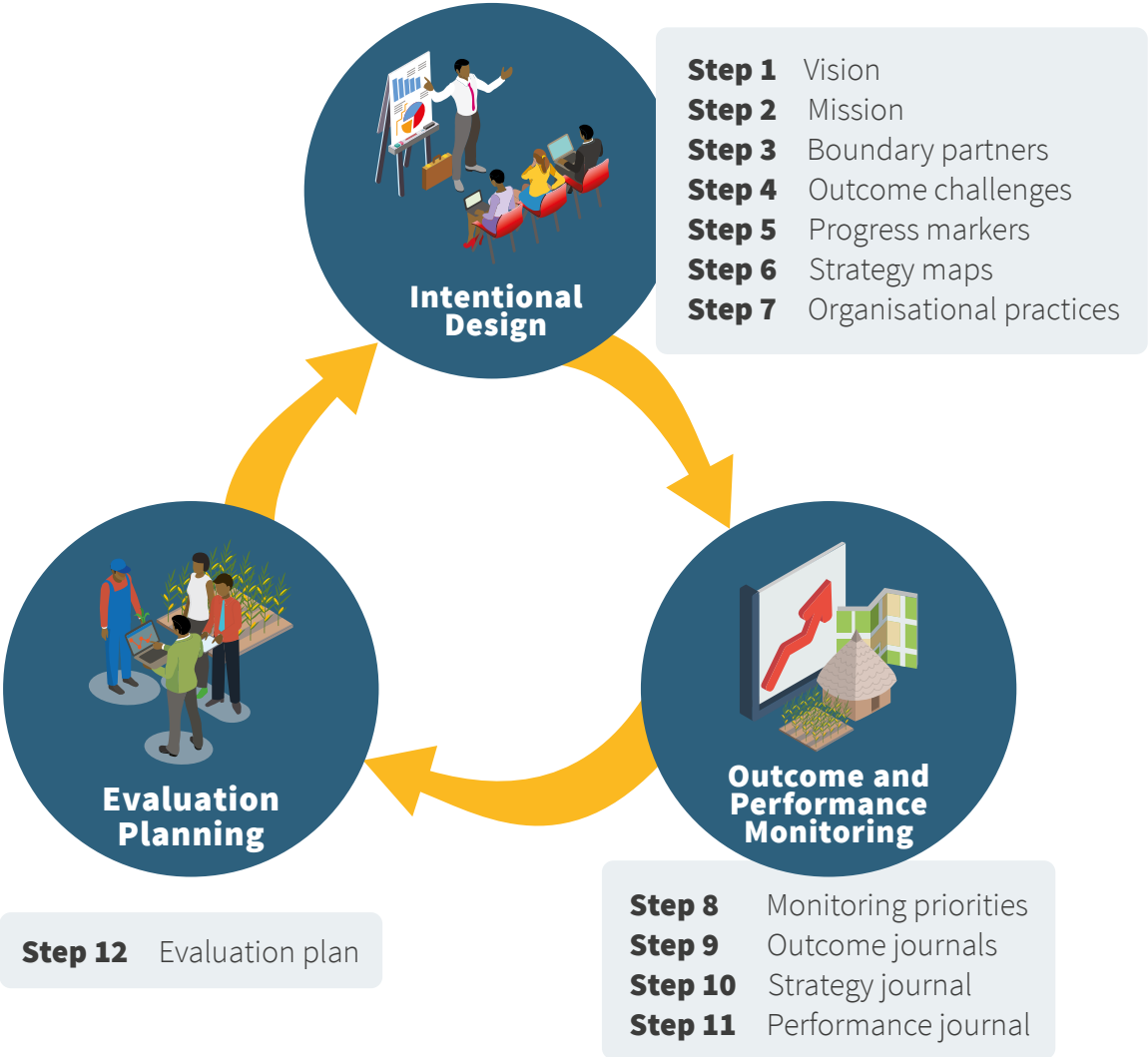


Figure 11: The outcome mapping methodology consists of three phases that can help projects identify and catalyse the desired behaviour changes required to achieve project goals.

5.8 million
Mt CO2e



have been avoided or sequestered through RFS activities

Monitoring RFS impact on the carbon balance: Ex-Ante Carbon Balance Tool

During the RFS M&E workshop in Nairobi in November 2019, several RFS country projects expressed interest in receiving training on FAO tools to meet their reporting and M&E requirements. EX-ACT was one of the tools countries were particularly interested in, given its relevance in assessing carbon balances. EX-ACT is an appraisal system developed by FAO that provides estimates of the impact of agriculture and forestry development projects, programmes and policies on the carbon balance.

Given the challenges that the COVID-19 pandemic posed to in-country training, the FAO team, in collaboration with the FAO Regional Office for Africa and the EX-ACT team, organised a [two-day virtual training workshop](#) on 3 and 4 June 2020 for the **Eswatini, Malawi** and **Kenya** project teams.

The objective of the training was to strengthen country project team skills in calculating carbon emissions at the national or regional level. Calculation and monitoring of carbon emissions over the lifespan of projects will allow country project teams to track the effect of their project activities on carbon emissions, helping them report on global environmental benefits related to climate change mitigation.

Some country projects have integrated EX-ACT into their M&E frameworks. In **Kenya**, the project is using EX-ACT to assess the effects of land use change

in the project area. The three M&E officers who attended the EX-ACT training in June are tasked with maintaining an up-to-date record of the amount of carbon and other greenhouse gases that have been avoided or sequestered due to project activities. As of June 2020, project interventions had resulted in approximately 5.8 million Mt CO2e avoided or sequestered by the end of the project, surpassing the project's expected impact of 1.6 million Mt CO2e.

Monitoring agrobiodiversity: Diversity Assessment Tool for Agrobiodiversity and Resilience

Developed by Bioversity International, DATAR is an information technology tool to assess crop, livestock and aquatic genetic diversity at the farm and community level. It enables RFS projects to assess biodiversity constraints in project communities and design interventions to promote crop and animal biodiversity to increase agricultural productivity and agroecosystem resilience to shocks and stressors. To build the capacity of country project M&E teams and promote the use of the tool, Bioversity International presented the tool at the programme-wide M&E workshop in Nairobi and held discussions with national teams to emphasise the importance of using DATAR to monitor agrobiodiversity. Eight RFS country projects agreed to adopt DATAR.

The RFS **Burundi** project was an eager, early adopter of DATAR, partnering with Bioversity International to [train 78 government staff, including Farmer Field School facilitators](#), in the use of the tool to assess levels of agrobiodiversity and identify constraints on and opportunities within the current system for biodiversity conservation.

Through the DATAR training sessions, participants have gained hands-on experience in using the tool to identify and characterise local crop varieties and breeds and to identify ways to improve access to, selection and sharing of crop and animal genetic diversity at the community and national levels. The RFS Burundi project team has also provided training on community seed-banking—a critical strategy for conserving seed diversity and increasing access to high-quality seeds.

A woman with a baby on her back is working in a field. She is wearing a black dress and a colorful patterned cloth around her waist. She is holding a large bunch of green leafy plants. In the background, another person is visible, wearing blue pants. The field is filled with green plants and dark soil.

CHAPTER FIVE

Targeting gender

In sub-Saharan Africa, women account for roughly half of the agricultural labour force, yet their productivity levels are lower than men's due to unequal access to land, credit, inputs and extension services.

Climate change, land degradation and biodiversity loss affect men and women differently. Women often have less decision-making power than men. Power imbalances translate to differences in how resources are distributed within households, leaving women more vulnerable to water and food shortages.

Ultimately, this disparity between men and women affects not only women, but the community as a whole, undermining agricultural productivity, socioeconomic development and food security.

IFAD estimates that providing women with the same access to productive resources, skills, tools and technologies as men could **increase production on women's farms by as much as 30 percent**. Ensuring women's equal involvement in community-based sustainable land management and natural resource management increases land rehabilitation, reverses desertification and improves socioeconomic conditions.

In line with GEF's ambition to ensure gender equality and promote women's empowerment across its operations, RFS contributes toward closing the gender gap in agriculture by integrating gender perspectives and concerns into the design, implementation and monitoring of all its projects.

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Integrating gender considerations into project implementation and M&E

As a cross-cutting theme within the RFS programme, gender mainstreaming in country project implementation is a continual process that is built upon year after year. Ongoing analyses and assessments that identify and account for differences in needs, roles and responsibilities, as well as opportunities for equal engagement of women and men, support this process.

At design, RFS proposed seven indicators for monitoring gender mainstreaming across country projects based on the following key dimensions: 1) economic empowerment of women and youth; 2) decision-making power and representation of women; and 3) equitable workload balance. However, as implementation of the programme progressed, it became clear that, while this approach resulted in strong data on women's access to services and participation in decision-making platforms, it offered little quantifiable data on how women are benefitting from the programme.

To expand the monitoring framework, the **Regional Hub** started a consultation process aimed at not only strengthening the gender dimensions of the M&E framework, but also developing a best-practice model that would help country teams distinguish between reaching women with project interventions and realising tangible benefits for women as a result of those interventions. During the programme's annual workshop in March 2019 and the RFS M&E workshop in November 2019, ICRAF led training sessions on gender transformative approaches (in collaboration with the GEF Secretariat for the annual workshop), during which bilateral support was provided to country teams through one-on-one discussions to fine-tune gender indicators and targets. This support resulted in the RFS **Ethiopia** project integrating additional gender indicators into its M&E framework.

In the second half of 2020, the Regional Hub finalised a guidance note on gender mainstreaming to assist country teams in identifying activities, methods and approaches to ensure that men and women have equal opportunities to participate in, contribute to and benefit from the country projects. When launched in early 2021, the guidance note will increase project team capacity to identify the most relevant gender dimensions according to the theme and scope of their project.

The Regional Hub has supported **Uganda, Eswatini** and **Nigeria** in response to specific requests. In



Uganda, inputs were provided for the design of gender-responsive data collection through a survey on sustainable land management, land degradation and resilience practices. ICRAF provided feedback for the **Eswatini** team on a training for a transformation manual, which is part of a series of trainings for traditional authorities and communities on natural resource management, governance and gender equality. ICRAF's support focused on integrating gender-responsive tools and participatory exercises and expanding the gender modules.

The **Nigeria** project team was supported in commissioning an in-depth gender study to inform the project's implementation and provide a baseline for gender-related indicators. The Regional Hub provided recommendations on the structure, objectives, expected outputs and data collection tools of the study. A similar study was implemented in the 12 project districts of the RFS **Ethiopia** project in 2019 with great success. The results of the study were used to inform subsequent training of gender teams at the district and community level.

Strengthening the voices of women and youth through involvement in decision-making structures

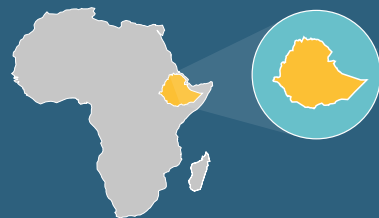
Across sub-Saharan Africa, traditional gender norms and roles limit women's participation in community-level decision-making and management of natural

resources. Through the ENGAGE pillar, country project teams are addressing gender gaps related to participation and leadership of women in decision-making at all levels of government.

At the community level, country project teams have encouraged involvement of women and youth in various multi-stakeholder platforms, including natural resource management committees, watershed management committees and local farmer and producer groups. By setting targets for female participation and representation in leadership roles, country project teams have embedded gender considerations in the institutional structure of decision-making groups.

Often, the transformation of these decision-making structures is not as simple as setting targets—it involves real behaviour change at the grassroots level. In Eswatini, the country project has worked with traditional leaders to relax the custom that bars women from speaking in meetings where men are present. This was possible thanks to open engagement with community leaders on the socioeconomic status of women in their communities. By facilitating an evidence-based dialogue, the country project was able to demonstrate a clear connection between women's empowerment and the welfare of their villages.

As a result, chief advisory committees and chiefdom development committees have committed to maintaining gender equity and inclusivity in village fora, including in natural resource management committees.



COUNTRY HIGHLIGHT: ETHIOPIA

Gender teams are sustainable platforms for mainstreaming gender considerations in Ethiopia

The Ethiopia project has a highly integrated coordination structure involving multi-stakeholder platforms at the community, district and national levels. To ensure that these platforms integrate gender considerations, the project has established **12 district-level and 58 community-level gender teams** responsible for mainstreaming gender into district development plans, conducting gender equality and family planning training and holding community conservation meetings.

Over the past year, gender specialists trained 512 gender team members, 70 percent of whom were women, on concepts related to gender equality and women's empowerment, policy support for empowering women, action plan development and mainstreaming gender in project activities.

An important outcome of the training has been the development of a gender action plan in each of the project districts. The action plans provide a framework for all gender-related initiatives, outlining detailed work plans with activities, timelines and the groups responsible for conducting activities. Activities include ensuring gender equality in school environment clubs, gender-sensitive value chain development, targeting women for diversification of agricultural products and establishing women's self-help groups for off-farm business activities.

To help monitor these activities, the RFS Ethiopia project is developing a gender-sensitive decision support tool to track changes in gender-responsive socioeconomic indicators as a result of inclusion of women in national resource management.



70
gender teams
512
gender team
members
trained

In Ethiopia, district-level gender teams ensure the inclusion of young women in a tree growing initiative implemented by the local school environment club. © Dereje Dea, Dugna Fango District Environment, Forest and Climate Change Office.



Beatrice Manyua and her husband own a tea plantation in the hills of Othaya, Nyeri County, Kenya. To help her maintain her tea and food crops all year-round, the RFS Kenya project has provided Mrs Manyua the materials she needs to construct a water pan at a subsidised rate.

© Roshni Lodhia, The Nature Conservancy.

Involvement of women and youth in decision-making structures has also been strengthened in target communities in **Tanzania**. During the recent learning and exchange webinars in July 2020, RFS Tanzania Project Coordinator, Joseph Kihaule, emphasised the project's inclusive approach to natural resource management: "Land is crucial to everyone, so the techniques we use in land use planning involve many stakeholders—men, women and youth. The people own this process."

Mr Kihaule underscored the project's efforts to secure broad-based participation in land use planning activities, especially of women and youth. The project has ensured that women and youth not only participate, but also take active leadership roles in the multi-stakeholder platforms; six of 17 village natural resource management committees have female secretariats and nine village land use planning committees have youth chairpersons.

Building resilience by improving access to credit and financial services

Many RFS projects are using small grants and subsidies to target women-led micro-projects. In **Kenya**, the Upper Tana Nairobi Water Fund project

has introduced a gender inclusion and pro-poor strategy that grants an additional 50 percent subsidy on all materials (including drip kits, biogas and water pan liners) that the Water Fund supplies to female-headed households.

In 2020, the **Uganda** country project awarded USD 80,000 in small grants to 200 community members, 60 percent of whom were women, to implement small, sustainable land management and integrated natural resource management projects. Women lead two of the eight community-based organisations awarded the grants. Following a similar approach, the **Burkina Faso** project recently validated the financing of 418 micro-projects, 72 percent of which are women led.

Village savings and loans associations are another avenue through which country projects are improving the agency of women, providing a platform for groups of people to pool savings and access small loans and emergency insurance. These groups are most often targeted at women, who face structural barriers in accessing financial services. In **Ghana**, the RFS project has invested in establishing 54 village savings and loans associations in 50 communities.

In **Niger**, the RFS project is supporting Mata Masu Dubara ("indigenous women" or "women on the move") groups. CARE International originally established these exclusively female groups, similar



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to village savings and loans associations. Mata Masu Dubara groups are small self-managed groups, each with about 30 members, that pool member savings and issue small short-term loans with low interest rates. The success of the Mata Masu Dubara groups has made it possible for women to borrow money to invest in collective and individual income-generating activities, particularly small livestock rearing.

Taking a similar approach, the RFS **Ethiopia** project has established 114 self-help groups serving 1,181 communities. Like village savings and loans associations, self-help groups are vehicles for rural communities to pool savings and draw money for small loans for emergencies or business development. In Ethiopia, self-help groups have provided a successful model for increasing women's access to basic financial services—women account for 74 percent of self-help group membership and fill 390 self-help group leadership roles.

Empowering women through alternative income-generating activities

Through targeted interventions, the RFS country projects are encouraging female participation in high-value, sustainable agri-food value chains. By providing women's groups with access to finance, developing knowledge and new skills and connecting them with end markets and high-quality inputs, the RFS programme is creating access for women to independent sources of income.

The income generated from these activities contributes directly to household food and livelihood security, improves health outcomes and increases resilience to external shocks, such as the current COVID-19 crisis, and gradual changes, such as climate change. Indirectly, by providing women the opportunity to earn and control an independent income, the programme hopes to increase women's decision-making power in households and communities.

In **Eswatini**, the RFS project has been increasing participation of women in five priority value chains—honey, legumes, horticulture, goats and indigenous chickens. To complement these activities, the project has also partnered with a private organisation, Lulote, to provide business skills development and training to youth and women in the Sithobela and Matsanjeni rural development areas.



COUNTRY HIGHLIGHT: ESWATINI

Indigenous chicken farming provides a new, sustainable source of income for women in Eswatini

Mrs Takhona Mdluli is one of many farmers who has benefited from the Eswatini project's focus on expanding female participation in priority value chains. After [receiving intensive training on the rearing of indigenous chickens](#) for consumption and sale, Mrs Mdluli was able to increase production, connect with new markets and increase her monthly income.

"With the new knowledge, I am now able to secure a source of income that has made me become a better individual, as I am now able to maintain my household. What is more exciting is the fact that I have been able to construct a modern house using the earnings that I have received," she told the RFS team that recently visited her farm to obtain insight into how the training has affected her livelihood.

For Mrs Mdluli, the training has been essential in facilitating connections with end markets and securing consistent income for her family and herself: "I have made relations with formal and informal markets that highly demand my production, [and] I am now able to sell to local restaurants, hotels and individuals who buy in bulk for consumption."

The training sessions have also provided a platform for female farmers to connect with one another, combine knowledge and resources and solve problems. Since the trainings, the community has formed a group association, Buhle Benceka, through which farmers are able to understand the needs of the community, enabling them to identify challenges and devise solutions collectively. "Rather than stating a problem, this is more about empowerment," says Mrs Mdluli.



Using the income from her indigenous chickens sales, Mrs Takhona Mdluli has been able to build a new house for her family. © Gcinile Mavimbela, Eswatini Water and Agricultural Development Enterprise.

To promote alternative income-generating activities for women in the Saloum Delta, the RFS **Senegal** project partnered with Wetlands International Africa to hold a series of training sessions on sustainable oyster production. In March 2020, 20 women, representing 17 women's groups, attended the first training-of-trainers session. The ultimate goal of the training was to equip the women with the skills and knowledge necessary to train the broader network of 1,500 women's group members within their communities.

The **Ethiopia** project has also demonstrated success in targeting women's groups to support new high-

value income-generating activities. The project has established and developed the capacity of 69 self-help groups with a total of 2,783 female members. These groups are now working to establish small-scale businesses, including selling butter, trading grain and tailoring. In the Dugna-Fango *woreda* (district), the women are earning an average of an additional USD 50 to USD 75 per month per household. Some self-help groups that were targeted for income-generating activities have been able to engage fully in off-farm activities, earning additional incomes of up to USD 76,857 annually per group.



1,500 women's group members trained in sustainable oyster farming



In the Saloum Delta, new sustainable oyster farming techniques introduced by the RFS Senegal project are helping women improve their productivity and protect the mangrove ecosystems that they rely on for their livelihoods. © Yakhya Gueye, Wetlands International Africa.



COUNTRY HIGHLIGHT: NIGERIA

RFS empowers women through dairy goat farming

Between June and August 2020, the RFS project **trained more than 1,000 women from 70 communities in dairy goat farming and production**. The training was a training-of-trainers course, said Project Officer Jonathan Maina, with the goal of empowering female representatives to train other women in their communities.

Through the training, the women developed their knowledge of dairy goats, including rearing, feeding, hygiene and health, to increase their reproductive capacity. The women were also taught about the nutritional benefits of goat's milk, which contains more calcium and magnesium than cow's milk.

Through dairy goat production, the women will be able to improve their access to nutritious food for themselves and their children, improving health

outcomes for the entire community. Moreover, the women are able to earn additional income through goat milk sales to local markets.

Mr Maina explained that the ultimate goal of the livelihood initiative was to ensure that every member of the group owned goats by the end of the project. As the goats reproduce and the herd grows, the women are able to give a goat to another woman in their community.

Celina Sanusi, a beneficiary of the training in Gombe State, was eager to learn how to improve the health of her goats so that she could use that knowledge to empower other women. "I prefer goats because they reproduce twice in one year. If I take care of my goat and it reproduces, I am able to give that goat to another women—all women benefit," said Mrs Sanusi.



1,000 women trained in dairy goat farming

The RFS Nigeria project has provided women in 70 communities with goats and training in order to catalyse growth in the region's dairy goat sector. © Gombe State Agricultural Development Project, UNDP-GEF Nigeria.



CHAPTER SIX

RFS and COVID-19

“ COVID-19 HAS BEEN A WAKE-UP CALL TO THE WORLD ON IMPLICATIONS OF MISHANDLING OUR FOOD SYSTEMS, ESPECIALLY BIODIVERSITY.

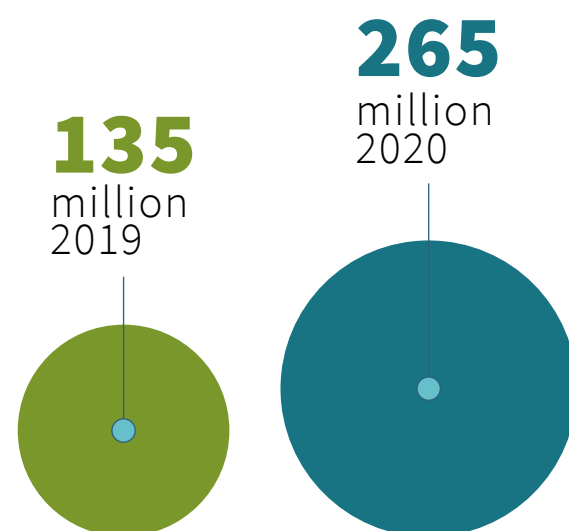
Charles Sebukeyera
Regional Science Policy Coordinator, UNEP

The COVID-19 pandemic was slow to hit Africa, leaving many unknowns as to how the virus would affect health systems that are, in many cases, already overburdened, underfunded and under-resourced. Even less known is the impact that the global economic downturn will have on African economies and food systems in the years to come.

Although COVID-19 posed the biggest challenge this year, it was not the only one. Swarms of desert locusts threatened crops and livelihoods across the Horn of Africa, one of the most food-insecure regions

in the world. RFS communities in Ethiopia faced the double burden of trying to control the desert locust invasion in the midst of a pandemic.

Given the effect that these crises are expected to have on food security across the continent, the mission of the RFS programme is more important than ever. Our priority is to support project communities in their work to build the sustainability and productivity of local food systems and ecosystems in each of the 12 RFS countries—increasing their resilience in the face of crises now and in the future.



The number of people facing **acute food insecurity** in low- and middle-income countries is expected to **double due to COVID-19.**



COUNTRY HIGHLIGHT: ETHIOPIA

A crisis within a crisis: desert locust swarms threaten Ethiopia project communities

A wetter than usual rainy season created the perfect conditions for [East Africa's biggest locust swarm in 70 years](#). In Ethiopia, a country where 8.5 million people face acute food insecurity, over 6 million people live in areas where food production has been impacted by desert locust swarms. As the locusts continue to destroy crops, these communities are at risk of slipping deeper into food insecurity.

Desert locusts have been reported in three RFS project *woredas*—Raya Azebo, Tuliguled and Doba. As the crisis evolves, these communities are experiencing varying degrees of locust-related losses of staple crops and livestock productivity.

Farmers in Raya Azebo, through considerable organised community efforts, have been able to protect the *woreda* from significant impact on their crops. With help from the regional government, community members sprayed insecticide and used steel tools to disrupt the locusts, preventing further damage to their crops.

In Doba, desert locusts have been found on 14,600 hectares of farmland, roughly 20 percent of the *woreda's* total land. The district-level Agriculture Office estimated that the locusts had impacted 20,775 households in Doba at the end of August 2020. The destruction of sorghum and onions has had the greatest impact on the livelihoods of farmers, together affecting more than 6,700 households.

The disruptions to normal supply chains due to COVID-19 restrictions, coupled with the destruction of staple food crops and pastoral farmlands by the desert locusts, has left an additional 1 million individuals in need of emergency food assistance.

In Raya Azebo, the spraying continued. As the second round of infestation occurred in RFS communities in the second half of 2020, local governments and farmers remained vigilant in their efforts to protect their land. Through collective action, these communities are demonstrating extraordinary resilience in the face of numerous obstacles.



By regularly spraying insecticide, farmers in Raya Azebo have been able to protect the *woreda* from significant impact on their crops © Hadis Micheal, Raya Azebo District Environment, Forest and Climate Change Office.

Understanding the impact of COVID-19 on the RFS programme

The spread of COVID-19, and the various government responses, have affected the RFS projects in different ways and at different rates. Given the many uncertainties, it was important to assess what constraints the country projects were facing, how government restrictions were affecting project teams and beneficiaries and whether the pandemic was limiting the achievement of programme goals and global environmental benefits.

To gain a deeper understanding, the **Regional Hub**, in collaboration with IFAD and the GEF Secretariat, conducted a short survey of RFS project teams in May 2020. The survey received 52 responses from projects and implementation partners highlighting the effects that each country project was experiencing and the different strategies that were emerging as projects adapted to new working environments.

FACING NEW CHALLENGES IN A CHANGING WORK ENVIRONMENT

As governments responded to the spread of the virus by instituting various travel restrictions, social distancing requirements and work-from-home orders,

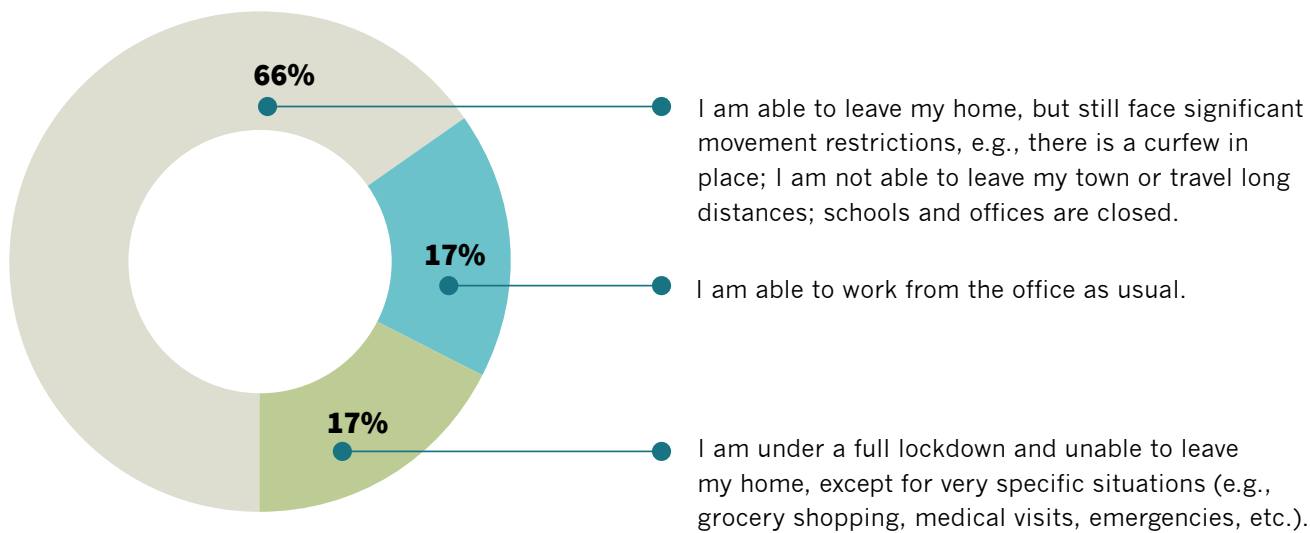


Figure 12. Travel and movement restrictions experienced by RFS project teams

the ability of the RFS project teams to conduct business as usual was limited, with only 17 percent of project team members able to work from their offices (Figure 12).

Many of those working from home have faced challenges that have affected their ability to work effectively. Sixty-nine percent have had to take on additional household responsibilities, such as caring for relatives or home-schooling children, and 54 percent lacked access to essential facilities to enable working from home, such as a personal computer, reliable power supply, stable internet connection and a quiet working space.

To support the country project teams in adapting to working from home, the PCU developed and distributed a [guidance note](#) that included information on how to manage teams remotely, how to communicate protective measures for COVID-19 effectively and how to transition face-to-face events to virtual platforms.

Throughout the year, face-to-face activities were unsurprisingly the most severely affected. Many trainings, field missions, workshops and knowledge-sharing events were put on hold or transitioned to virtual platforms (Figure 13). Among the affected events was the 4th RFS Annual Workshop and its accompanying training sessions, originally set to take place in Senegal in March 2020.

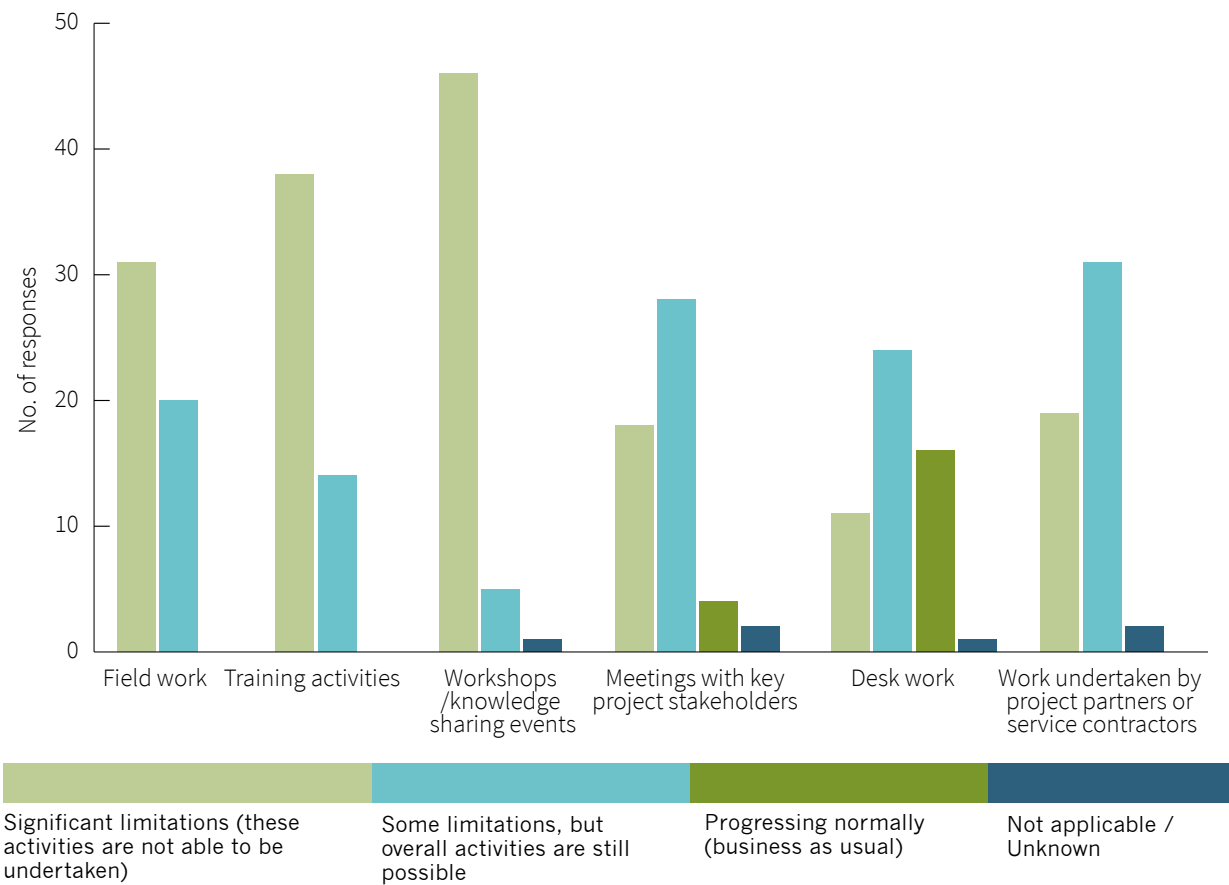


Figure 13. Effect of COVID-19 restrictions on project activities

Postponement of activities has had financial implications. Some country projects anticipate an increase in spending because of the unforeseen expansion of activities, for example, increasing the number of face-to-face trainings and workshops to meet group size restrictions. In **Niger**, an emergency plan of approximately 1.5 billion CFA francs (USD 2.8 million) has been drawn up to cover the adjustment of the annual work plan and budget.

Alternatively, 88 percent of project members expect to underspend significantly in 2020. Several partners and country team members have emphasised the need for a no-cost project extension beyond 2022. The PCU has taken note of this and will propose the assessment of a no-cost project extension during the programme midterm review to be conducted in 2021.

SMALLHOLDER FARMING COMMUNITIES AND COVID-19

Smallholder farming communities are feeling the direct and indirect impacts of the pandemic (Figure 14). Sixty-three percent of team members surveyed believe that the pandemic is significantly impacting their project beneficiaries.

Government restrictions on service delivery and the delay or cancellation of RFS project activities has meant that face-to-face training, extension services and technical support were put on hold in many countries. In **Eswatini, Burkina Faso, Ethiopia, Tanzania, Malawi, Nigeria, Uganda, Niger, Kenya** and **Senegal**, the country project teams reported that delays in training and workshops would lead to a lack of guidance that could reduce 2020's harvest.

How is COVID-19 affecting RFS project communities?

Senegal

- Our beneficiaries live in rural areas with some of the highest poverty rates in the country. The past agricultural season, prior to the onset of COVID-19, was calamitous, resulting in widespread food insecurity since the end of March 2020.
- All of the weekly markets have been closed due to COVID-19, which means our beneficiaries are no longer able to sell produce or buy essential inputs.

Nigeria

- Beneficiaries are being (or will certainly be) significantly affected. Already some of our beneficiaries have missed out on the dry season farming, which would have added to their household income and provided opportunities to learn.
- Farmers are unable to buy inputs or sell their produce due to limited access to markets. On some farms, livestock are suffering from food shortages due to restrictions.
- We are anticipating an increase in hunger and poverty because communities will not be able to meet their food production needs.

Uganda

- COVID-19 has affected planting schedules, farm employment, food prices and the incidence of domestic violence.
- Karamoja is the most vulnerable region in Uganda. The current situation has made the food security situation even worse.
- Government is likely to put more emphasis on emergency interventions to save lives and livelihoods.
- The capacity of implementing partners is likely to reduce due to financial constraints, thereby increasing the unmet needs of the target communities.

Eswatini

Some beneficiaries are casual workers who have already been laid off. They usually sell their produce through informal markets, but are unable to do so now.

Ethiopia

- Movement restrictions have affected the transfer of knowledge and skills to the household and community level.
- The local markets are not adequately providing agricultural inputs. This, coupled with a lack of field-level technical support, will impact the incomes of project beneficiaries.

Kenya

- Because the planting season and all field-based activities have been stopped, beneficiaries will miss a full season of support from the RFS Kenya project.
- Our farmers supply many consumers, including hotels, offices, supermarkets and other businesses. With the partial or complete closure of these businesses, farmers have reduced options as to where they can sell their produce. For example, farmers who used to sell milk and other dairy products to hotels are now forced to pour milk away. Those who sell eggs have been forced to sell them at cheaper prices.
- Beneficiaries are also incurring a lot of additional expenses. Cases of rural-urban migration due to job loss are on the rise. The burden of care increases in these households.
- Despite the pandemic, food security will remain the focus of most governments in Africa. However, overall government spending is likely to decline due to a possible economic depression in most countries. This will affect institutional capacities and the level of funding support.

Burundi

Beneficiaries are significantly affected. Farmers cannot access seeds and other required agricultural inputs.

Tanzania

The postponement or cancellation of project activities due to COVID-19 will have a significant effect on the beneficiary communities as no training can be conducted in the current situation.

Malawi

The capacity building of project beneficiaries will be greatly affected as all training sessions, workshops and meetings have been suspended.

Figure 14. Direct and indirect effects of COVID-19 on RFS beneficiary communities

In **Burundi, Burkina Faso, Ethiopia, Malawi, Nigeria, Senegal** and **Uganda**, country project teams reported that travel restrictions and market closures disrupted agricultural supply chains. Border closures and curfews led to delays in national and regional transportation networks, which in turn limited supply and increased prices of essential agricultural inputs such as seeds and fertiliser.

Market closures left farmers with few options for selling their produce. In **Kenya** and **Eswatini**, for example, many of the project's farming communities supply businesses, including hotels, offices and supermarkets. With the partial or complete closure of these businesses, some food value chains faced a problem of oversupply—farmers were left with fresh produce they could no longer sell.

Many country project teams expressed concern that smallholder farming communities may face increasing food insecurity and poverty if the agricultural sector does not rebound quickly from these shocks (Figure 14). In **Eswatini**, the country project team shared stories of casual agricultural workers who had already lost their jobs. In **Kenya**, job losses have increased rural-urban migration, placing further pressure on Kenya's overcrowded informal settlements.

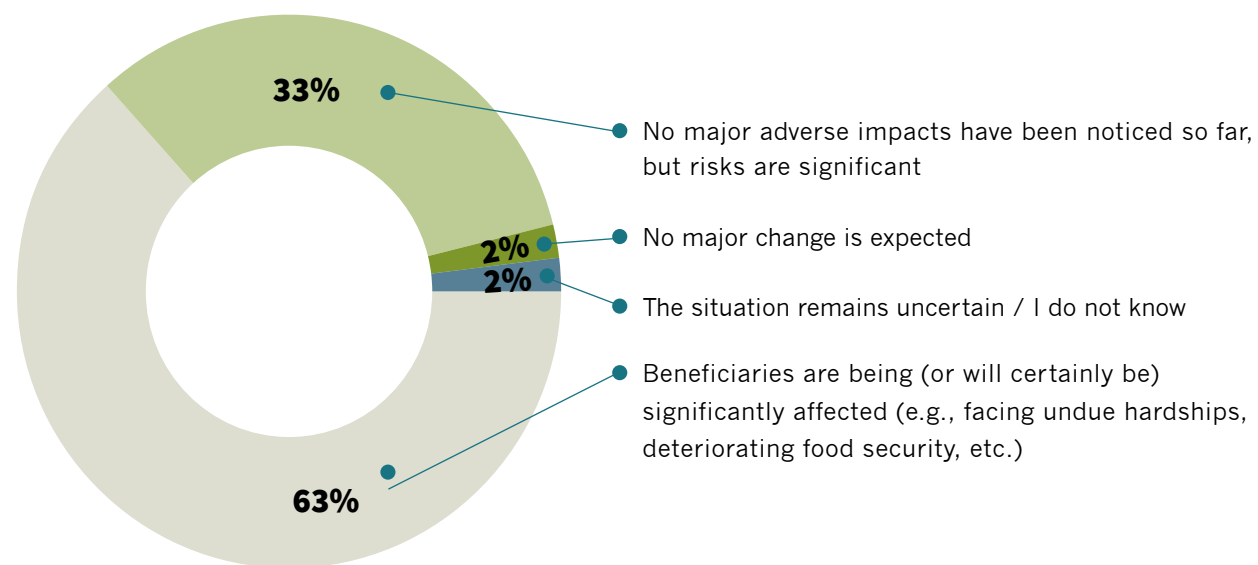


Figure 15. Perceived impact of the pandemic on project communities

Adapting to the “new normal”

To mitigate the effects of the pandemic on programme beneficiaries and outcomes, RFS country projects and the Regional Hub took significant steps to innovate and adapt. Most projects amended their workplans accordingly. Many developed emergency plans, introducing awareness campaigns, transitioning to virtual training and using mobile phone communication systems to support their beneficiaries.

ADJUSTING WORKPLANS TO ALLOW FOR CONTINUED PROGRESS WHILE ADHERING TO COVID-19 RESTRICTIONS

As Tesfaye Haile Dargie, former Project Coordinator for the RFS Ethiopia project, stated in April 2020, “let us use this pandemic as an opportunity to apply innovative approaches”. Throughout the year, the RFS project teams mirrored Mr Dargie’s sentiment in their attitudes and actions. Across the board, there was a shift to virtual meetings wherever possible. In areas where movement has been allowed, meetings, training sessions and land restoration activities

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LET US USE THIS PANDEMIC AS AN OPPORTUNITY TO APPLY INNOVATIVE APPROACHES.

Tesfaye Dargie
Former Project Coordinator, RFS Ethiopia

have continued with smaller subgroups to respect gathering size limitations and social distancing.

In **Niger** and **Burkina Faso**, country projects have increased the number of training sessions and limited capacity to 15 people. Any trainings that were planned to take place inside have been moved outdoors. In **Malawi**, workshops and meetings were suspended, while outside activities, including farm training sessions and soil and water conservation activities, continued as planned.

Likewise, in **Burundi**, some activities continued, including distribution of cookstoves and vegetable seeds, community sensitisation activities and income-generating activities on family farms.

Certain implementation activities have also continued due to their status as essential services. One example is the construction industry in **Eswatini**, where construction of small earth dams has progressed as planned.

In some cases, events have been postponed. In **Tanzania**, all consultancy work, including workshops and training, have been transferred to the subsequent fiscal year. The **Regional Hub** postponed a few events until 2021, including regional- and national-level training for DATAR.

MOVING KNOWLEDGE SHARING AND TRAINING EVENTS TO VIRTUAL PLATFORMS

The onset of the pandemic at the beginning of 2020 meant that all previously planned programme-wide knowledge sharing, exchange and training events had

to be held virtually. In March 2020, when it became apparent that the RFS Annual Workshop could not take place in person, the PCU began brainstorming how the most important workshop activities could be migrated online.

To ensure that country project teams were still given the opportunity to exchange information and update each other on progress, the PCU held [two country project learning and exchange webinars](#) in July, with presentations from **Tanzania, Senegal, Nigeria** and **Malawi**. Training events planned for the Annual Workshop were also converted to virtual events, including a two-day FAO EX-ACT training; a virtual training by FAO and ICRAF on enhancing the science-policy interface; and outcome mapping training jointly organised by ICRAF, Bangor University and IFAD.

As the RFS country projects faced new challenges because of COVID-19, these virtual learning events provided platforms for RFS team members to learn new skills, connect with one another, share successful approaches, discuss challenges and exchange valuable insights.

SUPPORTING PROJECT BENEFICIARIES THROUGH SMS-BASED SYSTEMS

In countries where government restrictions have prevented traditional provision of extension services and technical support, the **Eswatini** and **Kenya** country projects have turned to SMS-based systems to communicate with farmers.

Mobile phone technology offers an easy, affordable, effective way to bridge information gaps and connect the links of agricultural value chains—even during times of widespread lockdowns under COVID-19.

Given the promise of mobile phone use in **Eswatini's** agricultural sector, the RFS country project has been [piloting an SMS-based messaging system](#) linked to the national Agricultural Market and Information System. The SMS system has been successful in communicating disease outbreaks and weather information and linking farmers to other actors along agricultural value chains.

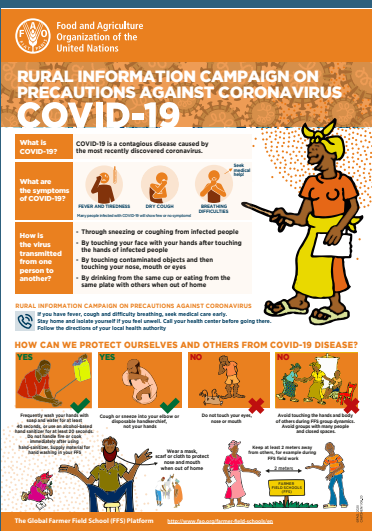
FAO supports Farmer Field Schools during COVID-19 pandemic

To support Farmer Field School facilitators and master trainers in adapting training activities to new government restrictions and emerging health concerns, the Global Farmer Field School Platform Team developed [a handbook](#) and webinar series on running Farmer Field Schools during the pandemic.

The handbook contains guidelines on reducing the risk of COVID-19 community transmission when running Farmer Field Schools and other agricultural training activities based on World Health Organisation recommendations. It also guides Farmer Field School facilitators and master trainers on how to [use established Farmer Field School networks to disseminate basic protective measures and build effective responses to COVID-19](#) in their communities. The handbook provides 21 learning activities, jointly designed by education and technical specialists, to help facilitators integrate COVID-related topics into their Farmer Field School curricula. In June 2020, the Global Farmer Field School Platform Team conducted two webinars to accompany the launch of the handbook. RFS project teams joined Farmer Field School facilitators, trainers and project

coordinators from around the world to hear from experts on how to adapt Farmer Field School activities and implement COVID-related activities. Country experiences, challenges and lessons were shared from Pakistan, Angola, Malawi and Kenya.

The Global Farmer Field School Platform Team is also collaborating with the African Forum for Agricultural Advisory Services and the FAO e-learning team to develop three e-learning courses for policymakers, Farmer Field School project managers and Farmer Field School project formulators. In September 2020, the Global Farmer Field School Platform Team held a virtual workshop to receive the first round of feedback on the e-learning courses.



At the Lyndiane Health Centre Garden Group in Ziguinchor, Senegal, Farmer Field School Chair Saly Bodian uses FAO's COVID-19 flyer and handbook to build awareness amongst the 35 farmers within her Farmer Field School group. © Salam Sawadogo, Development in Gardening Senegal.



Farmers in the Upper Tana region use mobile phones to receive weather advisories, conservation messages and order supplies, such as water pan filters, from the RFS project team. © Roshni Lodhia, The Nature Conservancy.

During the pandemic, the messaging system has not only helped farmers receive information, but has also supported the organisations that are mandated to provide and disseminate that information. During the government lockdown, the project quickly communicated messages that previously required face-to-face communication or phone calls, enabling the team to provide essential information and extension services, while remaining safe and adhering to the government's COVID-19 regulations.

In **Kenya**, when community work stopped in mid-March because of government travel and social distancing restrictions, the project team started exploring ways of continuing conservation work without in-person support. The Upper Tana Nairobi Water Fund had already established an SMS platform for communicating area-specific conservation messages and weather advisories to more than 26,000 farmers. For the project team, this platform seemed like a great opportunity to pilot a mechanism for distributing project materials through partners who were able to operate because of their essential service status.

Through the SMS platform, communities were able to request water pan liners, which the project then procured and delivered. To maintain social distance and avoid crowding, three farmers were scheduled each day to collect the liners at central locations communicated to them via SMS.

Given the success of the pilot, the Kenya project is working to scale up the platform's reach and expand the distribution system to include tree seedlings and other project materials in 2021.

MONITORING PROGRESS DURING COVID-19 WITH SATELLITE AND REMOTE SENSING TOOLS

With the COVID-19 pandemic affecting the monitoring of development projects and programmes around the globe, the RFS programme has been working hard to adapt existing systems to the rapidly changing work environment.

As one of the **Regional Hub** partners working on M&E for the RFS programme, **Conservation International** developed Trends.Earth, the Resilience Atlas and Vital Signs protocols to [help country projects track indicators of resilience without data collection on the ground](#). These protocols build on remote sensing and satellite-based technologies to provide real-time, open-source data at a variety of spatial resolutions, helping projects track changes in land productivity, soil nutrients, weather patterns and ecosystems services.

In an effort to continue M&E capacity development during this time, Conservation International developed a series of short videos and PowerPoint tutorials for country project teams on how to prepare geospatial layers and conduct land degradation analysis. The virtual capacity development initiative also includes lessons on best practices and guidelines for remote sensing and how to validate findings with stakeholders.

With this additional support, RFS project teams were able to track progress against project and programme indicators even during times of restricted movement and uncertainty.



CHAPTER SEVEN

2021: A new year with much to look forward to

For much of the programme, 2021 will mark a return to normalcy. As government restrictions are lifted, many of the activities postponed because of COVID-19 will be allowed to continue where they left off.

We look forward to several events scheduled for 2021, such as the RFS Annual Workshop and a regional DATAR training, as opportunities to connect and build upon the collaborative relationships that make the programme so effective.

A major RFS milestone—the midterm review—will take place in 2021. A programme-wide assessment will be conducted along with most project-level midterm reviews. By examining progress toward project targets and implementation timelines, the latter will provide opportunities for course corrections in line with the programme’s commitment to balance ambition with realism.

Overall, new partnerships, events, activities and milestones will bring us closer to achievement of the programme’s targets and goals. As we head into 2021, the country projects and Regional Hub will build on the progress made in 2020, supporting the long-term sustainability and resilience of sub-Saharan Africa’s food systems.

What are the RFS country projects most looking forward to in 2021?



BURKINA FASO

“The work that we are doing gives us hope because we see that the enthusiasm of our beneficiaries is growing. In a context of climate change marked by food crises, the activities carried out help improve the resilience of populations and ensure their financial autonomy.

The government of Burkina Faso is particularly interested in our work with public partners to facilitate integration of environmental issues into agricultural policies, particularly in the development of the third National Plan for the Rural Sector and Burkina Faso’s second nationally determined contribution.”

Koudrègma Zongo
Project Coordinator, Participatory Natural Resource Management and Rural Development, Neer-Tamba project



BURUNDI

“In 2021, we expect to catch up on field activities, especially those requiring physical contact. Considering beneficiaries’ enthusiasm to learn and apply their training to improve their livelihoods and restore landscapes, the work of the project and its partners gives us hope for the future. By way of example, the participation rate in Farmer Field Schools is more than 80 percent, with a 75 percent adoption rate of good practices.”

Salvator Ndabirorere
Project Coordinator, Support for Sustainable Food Production and Enhancement of Food Security and Climate Resilience in Burundi’s Highlands



ESWATINI

“After the experiences gained during the COVID-19 pandemic, we are looking forward to increasing the climate, food and nutrition resilience of households. It is gratifying to see the tremendous improvements in the households we visited at the start of the project. Most have taken up climate-smart methods of farming.

In 2021, we are looking forward to seeing a decrease in the households that still require food aid. We are seeing a lot of households saying ‘thanks, but no thanks’ to food aid in the communities where we work.”

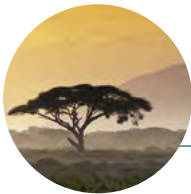
Lynn Kota
Project Coordinator, Climate-Smart Agriculture for Climate-Resilient Livelihoods



ETHIOPIA

“Now that government restrictions are lifted, we are planning to undertake supervisions, meetings and workshops in 2021 with care. We are looking forward to conducting project review and experience-sharing activities with the participation of all project districts, regional states and other stakeholders.”

Birara Chekol
Project Coordinator, Integrated Landscape Management to Enhance Food Security and Ecosystem Resilience



KENYA

“Changing the lives of farmers through sustainable land management and natural resource management has seen our farmers conserve the environment and also improve yields and incomes, making them self-reliant. This makes us hopeful for a better future where, as a country, we are food secure.

In 2021, we look forward to seeing the Upper Tana Nairobi Water Fund fully transition into a trust. The Endowment Fund continues to receive funding from various public and private sector donors, and the Upper Tana Nairobi Water Fund will continue to actively engage counties to ensure sustainability of the trust in years to come.”

Loice Abende
M&E Officer, Upper Tana Nairobi Water Fund



MALAWI

“In 2021, we are very much looking forward to the development and implementation of the five sub-catchment management plans. This work will help to conserve the sub-catchments, lead to sustainable irrigation schemes downstream and improve agricultural production in the region.”

Munday Makoko
Project Coordinator, Enhancing the Resilience of Agroecological Systems Project



NIGER

“In 2020, our work on land restoration saw tangible results on smallholder farmer incomes, agricultural production and synergies across relevant platforms. In 2021, we are looking forward to continue the project’s work on the land.”

Abdoullaye Soumaila
Project Coordinator, Family Farming Development Programme



NIGERIA

“Despite the difficulties brought forth by COVID-19, project communities are requesting more and more interventions and wider coverage. Authorities in the project states and local communities are recognising the relevance of the benefits extended to them and their people by the project.

In 2021, the team will continue to support sustainable agricultural practices through training extension workers on climate-smart agriculture, training farmers on how to operate processing equipment installed at agricultural centres, showcasing new agricultural technologies through demonstration plots, expanding agroforestry systems and continuing erosion control activities to combat land degradation in farmers’ plots.”

Rhoda Dia
Project Coordinator, Integrated Landscape Management to Enhance Food Security and Ecosystem Resilience in Nigeria



SENEGAL

“In 2020, soil conservation and restoration work has made it possible to recover exposed land. The same is true for mangroves, where the biodiversity of ecosystems has been improved. The income-generating activities linked to mangrove conservation have helped improve the producer incomes.

In 2021, [the Agricultural Value Chains Resilience Support Project] plans to finalise the training of producers on integrated and sustainable approaches for the development of resilient smallholder agriculture. At the same time, we will continue the operationalisation of the National Strategic Investment Framework for Sustainable Land Management”

Hamath Dione
M&E Officer, Agricultural Value Chains Resilience Support Project



TANZANIA

“Being continually engaged in activities that contribute to poverty alleviation for our smallholder farmers makes us feel hopeful for the future. In 2021, we are excited to begin work on interventions that will improve water availability within project sites. The planned interventions include construction of small water dams and charcoal dams, drilling of deep and shallow boreholes and construction of rainwater harvesting facilities.”

Joseph Kihaule
Project Coordinator, Reversing Land Degradation trends and increasing Food Security in degraded ecosystems of semi-arid areas of central Tanzania

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**WE ARE SEEING
A LOT OF
HOUSEHOLDS
SAYING ‘THANKS,
BUT NO THANKS’
TO FOOD AID IN
THE COMMUNITIES
WHERE WE WORK.**

Lynn Kota
Project Coordinator, Climate-Smart Agriculture for Climate-Resilient Livelihoods



UGANDA

“We look forward to 2021 with optimism in deepening the project impact on target communities and the environment. The project has recently established new partnerships with the Adventist Development and Relief Agency, the Ecological Christian Organization and the International Institute of Rural Reconstruction to work with 7,500 households in the Karamoja sub-region. In 2021, we will work with these new partners to establish 252 new Farmer Field Schools and expand the number of communities under sustainable land management and climate-smart agriculture.”

Kennedy Igbokwe
Project Coordinator, Fostering Sustainability and Resilience Food Security in Karamoja sub-region



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