IFAD
Investing in rural people

CLIMATE ACTION REPORT 2024

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CLIMATE ACTION REPORT 2024

GREEN HORIZONS – A YEAR OF CLIMATE ACTION FOR PEOPLE, RESILIENCE AND BIODIVERSITY

FOREWORD

As we complete the final year of IFAD's Twelfth Replenishment, the world is at a pivotal moment in our shared efforts to combat climate change and biodiversity loss.

The urgency is undeniable – climate change and the erosion of biodiversity present significant threats, particularly to the smallholder farmers whose livelihoods are so intimately tied to natural resources.

Every day, they face challenges from erratic weather, declining crop yields and loss of biodiversity.

This biodiversity – the rich diversity of life on Earth – is not a luxury, but a critical foundation for sustainable agriculture. It underpins the resilience of ecosystems, helping them withstand climate shocks, pest infestations and disease outbreaks.

By protecting biodiversity, we strengthen the resilience of smallholder farmers and help them adapt to more stable and sustainable practices for the future.

This year's *Climate Action Report*, therefore, is not just a record of IFAD's successes but a guide to ensuring that smallholder farmers can thrive through the interwoven principles of biodiversity, resilience and adaptation.

The report also highlights the critical need for governments, international organizations, civil society and the private sector to come together in support of smallholder farmers. Acting in concert, we can raise greater awareness, mobilize increased resources, and implement more ambitious and effective policies that enable farmers to adapt and thrive, even in the face of climate change.

The stories told in this report are proof of the remarkable resilience of smallholder farmers and of the importance of IFAD's role in supporting them. To me, this is a powerful and necessary note of hope.

The farmers IFAD works with are not just food producers: they are the pillars of global food systems, the backbone of rural economies – and yes, **key guardians of our biodiversity**.

Investing in their success is both a moral obligation and a sound economic strategy.

Alvaro Lario
President of IFAD

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INTRODUCTION

This document, aimed at policymakers, development professionals and stakeholders, explores the interconnected challenges of climate change, ecological destruction, disease, pollution and socioeconomic inequality. It highlights the compounded impacts on rural communities in developing countries and underscores the urgent need for sustainable solutions. Climate change, ecological destruction, disease, pollution and socioeconomic inequality are pressing global challenges facing humanity in the twenty-first century. These crises are not isolated problems but are interwoven, exacerbating each other and creating amplifying feedback loops that pose a grave threat to both the environment and human well-being.

Most of the world's extremely poor people, over 80 per cent, live in rural areas of developing countries, where half of the global population lives and where hunger and poverty are widespread.[1] Climate change, conflict and financial exclusion make rural communities, especially small-scale producers, more vulnerable and unstable, leading to forced migration.[2] Marginalized groups, such as women, youth and Indigenous Peoples, suffer most from these problems.[3] Small-scale farmers, who are essential for local food security, nutrition and poverty reduction, produce up to 70 per cent of the food consumed in low- and middle-income countries.[4]

The potential cost of climate change effects at 3 °C of warming has recently been estimated at up to 10 per cent of GDP, with the worst effects of up to 17 per cent in poorer, low-latitude countries;[5] however, limiting global warming to 1.5 °C could reduce the global economic costs of climate change by two thirds. Another study recently revealed that even with significant reductions in carbon dioxide emissions starting now, the global economy is projected to suffer a 19 per cent income reduction by 2050 due to climate change, surpassing six times the cost of mitigation efforts required to limit global warming to 2 °C.[6] The countries least responsible for climate change are predicted to suffer income loss that is 60 per cent greater than that in higher-income countries and 40 per cent greater than that in higher-emission countries. They are also the ones with the least resources to adapt to its impacts. The costs of adaptation in developing countries are projected at US$215 billion annually this decade, but adaptation planning and implementation seem to be levelling off, posing significant risks for the most vulnerable populations.[7] Despite the importance of small-scale farmers to global food security, climate finance is simply not reaching them. Only 0.8 per cent of global climate finance during 2019/2020 went to small-scale producers – the very people who are least able to cope with the impacts of a global crisis that is not of their making.[8]

At the same time, the world faces the related crisis of biodiversity decline. Recent studies have found that global biodiversity declined between by 2 and 11 per cent during the twentieth century due to land-use change alone,[9] and projections show that climate change may become the main driver of biodiversity decline by the mid-twenty-first century. Outcomes depend on the scenario, suggesting that policies can make a difference and highlighting that renewed policy efforts are needed to meet the goals of the Convention on Biological Diversity. At COP28, the United Nations Framework Convention on Climate Change and

1 IFAD, *Rural Development Report 2021: Transforming food systems for rural prosperity* (Rome: IFAD, 2021).

2 United Nations, *The Sustainable Development Goals Report 2022* (New York: Department of Economic and Social Affairs of the United Nations, 2022).

3 Data from IFAD impact assessments undertaken between 2019 and 2021.

4 IFAD, *Rural Development Report 2021: Transforming food systems for rural prosperity* (Rome: IFAD, 2021).

5 Waidelich, P., Batibeniz, F., Rising, J., Kikstra, J.S. and Seneviratne, S.I., "Climate damage projections beyond annual temperature", *Nature Climate Change* (2024) Vol. 14, pp. 592–599, https://doi.org/10.1038/s41558-024-01990-8.

6 Kotz, M., Levermann, A. and Wenz, L., "The economic commitment of climate change", *Nature* (2024) Vol. 628, pp. 551–557, https://doi.org/10.1038/s41586-024-07219-0.

7 United Nations Environment Programme (UNEP), *Adaptation Gap Report 2023: Underfinanced. Underprepared. Inadequate investment and planning on climate adaptation leaves world exposed* (Nairobi: UNEP, 2023).

8 Climate Policy Initiative, *The Climate Finance Gap for Small-Scale Agrifood Systems: A growing challenge* (San Francisco: CPI, 2023).

9 Pereira, H.M., Martins, I.S., Rosa, I.M.D., et al., "Global trends and scenarios for terrestrial biodiversity and ecosystem services from 1900 to 2050", *Science* (2024) Vol. 384, pp. 458–465, https://doi.org/10.1126/science.adn3441.

Convention on Biological Diversity presidencies issued a joint statement pushing for a shared effort to address both climate change and biodiversity loss, stating that only by doing so will the goals of the Paris Agreement and the Global Biodiversity Framework be achieved. A recent United Nations Indigenous Peoples statement emphasized the need to increase Indigenous Peoples' access to climate and biodiversity finance, supported by a study commissioned by the United Nations Permanent Forum. The study addresses the lack of direct financing and offers recommendations for changes and solutions. Urgent investment in sustainable, inclusive and resilient rural livelihoods is crucial to break the cycle of crises.

In this context, IFAD's work is more vital than ever. Presenting the latest findings, case studies and actionable recommendations, this report emphasizes IFAD's crucial role in fostering resilient, inclusive and sustainable rural livelihoods, and offering practical strategies to combat these issues. The stories in this year's *Climate Action Report* showcase some of the agency's most recent and impactful work globally. They are an antidote to climate fatalism, showing that there are real and tangible solutions to improve the lives of hundreds of millions of people across the world, and point towards a world back in balance with the environment.

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CHAPTER 1

IMPACT

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INTRODUCTION

Rural development is a powerful catalyst for transformative change, particularly when it empowers both poor rural women and men. While economic growth alone may not suffice, investing in the resilience and market participation of small-scale producers can yield enduring impacts. IFAD is dedicated to achieving its 40 per cent climate finance target across its portfolio. Under the Twelfth Replenishment of IFAD's Resources (IFAD12), this equates to roughly US$1.4 billion in climate finance directed towards smallholders over three years.

As of 31 December 2023, 37.3 per cent of approved projects under IFAD12 were validated as climate finance, approaching the 40 per cent target, with projections for 2024 indicating potential overachievement. This figure is even higher when using the Rio markers, with 91 per cent of the portfolio scoring CC2 or CC1.[10] In IFAD12, 26 per cent of projects scored 2 (principal) on the biodiversity Rio marker, while 35 per cent scored 1 (significant), indicating that biodiversity is at least part of the project scope in over 60 per cent of IFAD projects.

The latest Multilateral Organization Performance Assessment Network report highlights IFAD's effectiveness in addressing global challenges, especially climate change.

The report emphasizes IFAD's relevance in targeting impoverished rural communities, increasing allocations to fragile countries and catalysing climate finance for rural populations. Over the past decade, IFAD's environmental and climate change adaptation performance has significantly improved, as noted in the *2023 Annual Report on the Independent Evaluation of IFAD*. This improvement, evident in project evaluations and country strategy assessments, showcases IFAD's commitment to integrating climate and environmental considerations across all interventions. Biodiversity and nature-based solutions are also gaining prominence in IFAD's portfolio. In 2023, IFAD introduced new biodiversity standards, ensuring 100 per cent of investments do no harm to nature, along with a new biodiversity indicator to capture positive impacts. An ongoing review of 30 IFAD12 investments shows positive ex ante impacts on biodiversity using the ABC Map tool.

10 In the Rio markers system, a project can score 0, 1 or 2. For CC2 (climate change 2), the project must demonstrate climate change (adaptation and/or mitigation) as the project's **principal** objective. For CC1 (climate change 1), the project must demonstrate climate change (adaptation and/or mitigation) as the project's **significant** objective.

TABLE 1
IFAD12 CLIMATE FINANCE BY YEAR AND CUMULATIVE CLIMATE FINANCE

Year	Climate finance total (US$)	IFAD PoLG (US$)	Climate finance (% of PoLG)	Projects building adaptive capacity (%)
2022	246 813 000	820 426 504	30.1	72
2023	255 942 095	528 634 038	48.4	85
Total	**502 755 095**	**1 349 060 542**	**37.3**	**78**

Source: Mainstreaming Dashboard and the Open Budget Index for IFAD PoLG.
Note: PoLG, programme of loans and grants.

TABLE 2
REGIONAL BREAKDOWN ON CLIMATE FINANCE IN IFAD12 (2022–2023)

Region	Adaptation finance (US$)	Mitigation finance (US$)	Total climate finance (US$)	IFAD PoLG (US$)	Climate finance (% of PoLG)
Asia and the Pacific	71 607 500	2 400 000	74 007 500	255 348 115	29.0
East and Southern Africa	168 703 000	5 254 000	173 957 000	468 365 000	36.8
Latin America and the Caribbean	18 115 000	4 135 000	22 250 000	29 800 000	74.7
Near East, North Africa and Europe	75 981 535	7 000	75 988 535	108 198 838	70.2
West and Central Africa	131 125 565	25 426 495	156 552 060	487 348 589	32.1
Total	**465 532 600**	**37 222 495**	**502 755 095**	**1 349 060 542**	**37.3**

Note: PoLG, programme of loans and grants.

KEY IMPACT FIGURES

FIGURE 1
ADAPTATION FINANCE, MITIGATION FINANCE AND TOTAL CLIMATE FINANCE IN IFAD12 (2022–2023)

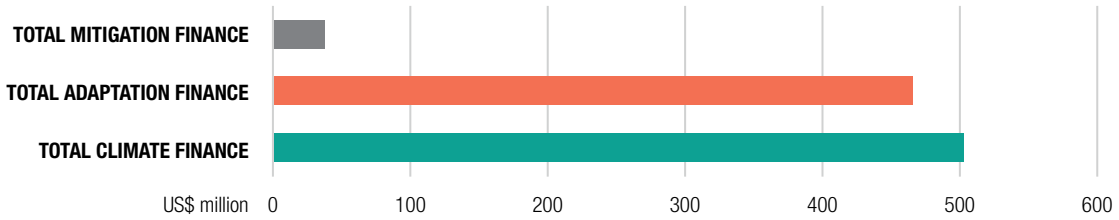


FIGURE 2
PERCENTAGE OF PROJECTS BUILDING ADAPTIVE CAPACITY IN IFAD12 (2022–2023)

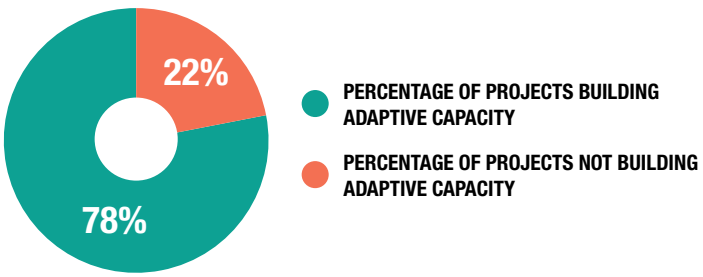
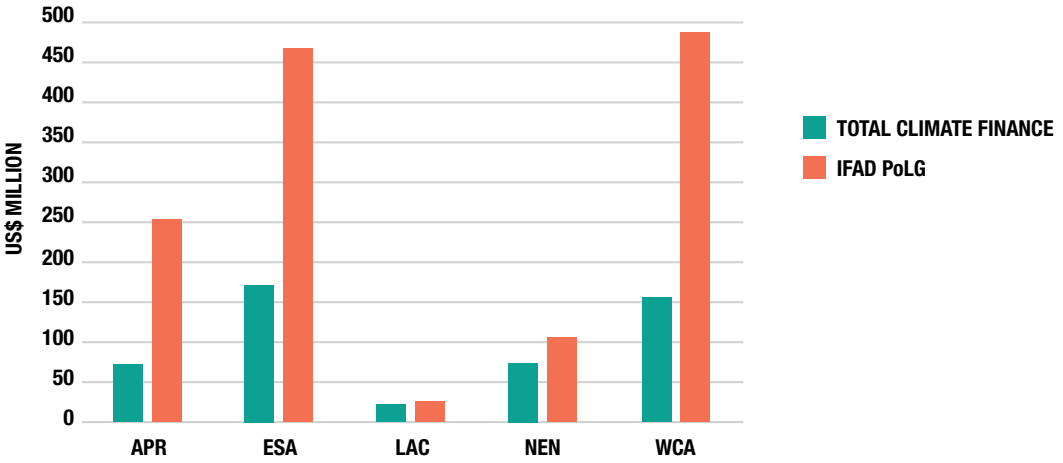


FIGURE 3

TOTAL CLIMATE FINANCE PER REGION VERSUS TOTAL VOLUME OF IFAD FINANCE APPROVED IN IFAD12 (2022–2023)



Note: APR, Asia and the Pacific; ESA, East and Southern Africa; LAC, Latin America and the Caribbean; NEN, Near East, North Africa and Europe; WCA, West and Central Africa.

FIGURE 4

BREAKDOWN OF ADAPTATION FINANCE BY SECTORS AND SUBSECTORS

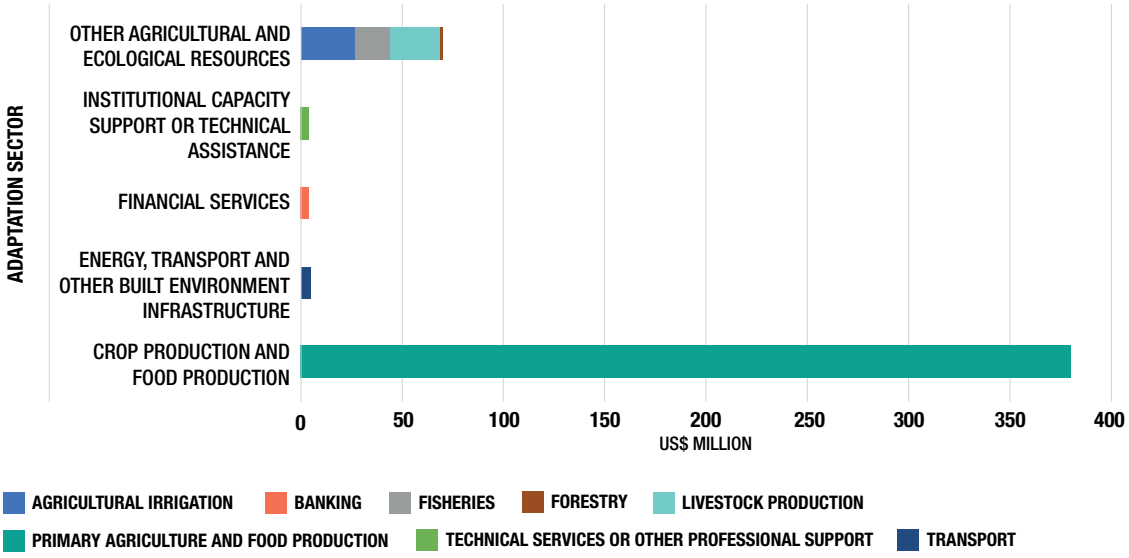
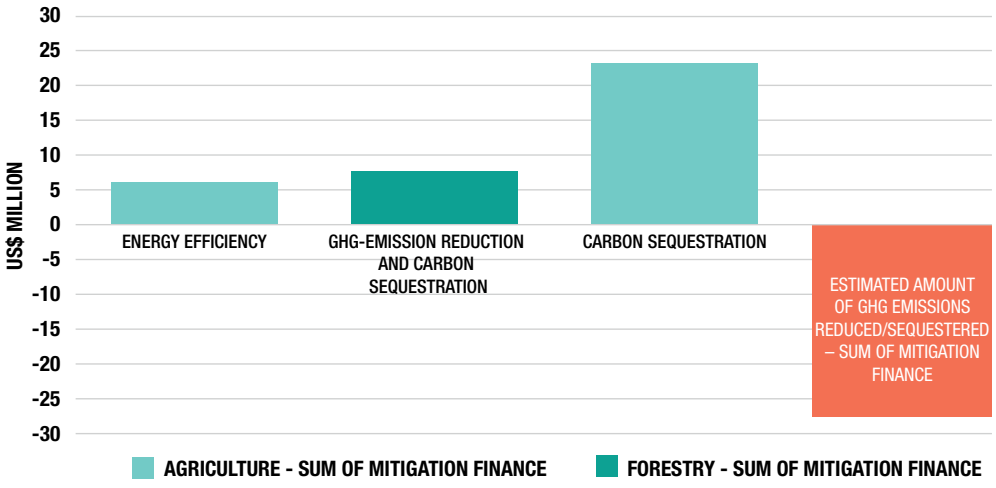


FIGURE 5

BREAKDOWN OF MITIGATION FINANCE BY CATEGORIES AND SUBCATEGORIES



Note: GHG, greenhouse gas.

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EVALUATION

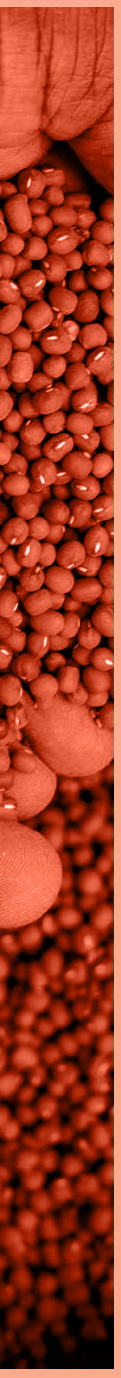
Building resilience for poor rural people is key to ending poverty and hunger (Sustainable Development Goals 1 and 2) and achieving IFAD's goal of sustainable, resilient livelihoods. Measuring the impact of resilience and climate adaptation efforts is crucial. Beyond tracking financial investments, assessing outcomes such as food security, income stability and reduced climate vulnerability ensures resources are effectively used and interventions make a real difference in rural communities and in the lives of poor rural people.

PROJECT SPOTLIGHT

THE **KENYA** CEREAL ENHANCEMENT PROGRAMME – CLIMATE-RESILIENT AGRICULTURAL LIVELIHOODS WINDOW

Kenya, spanning 582,646 km^2 and with a population of 51.5 million in 2024, grapples with a high population growth rate driven by high fertility rates. Poverty has reduced from 52.2 per cent to 36.1 per cent between 1997 and 2015/2016, yet Kenya ranks 146 out of 186 countries in the Human Development Index. Arid and semi-arid lands (ASALs) cover over 80 per cent of the land area and are home to 36 per cent of the population, who face severe poverty and developmental challenges. The agricultural sector, contributing to over 25 per cent of GDP, is heavily affected by climate change, with 98 per cent of crop production rainfed and 50 per cent of animal production taking place in ASALs. Food security remains a pressing issue, with Kenya categorized as food-insecure according to the Global Hunger Index. Climate change exacerbates these challenges, accelerating land degradation and fragmentation and hindering food security and smallholder income.

The Kenya Cereal Enhancement Programme – Climate-Resilient Agricultural Livelihoods Window (KCEP-CRAL) project, funded by the Adaptation for Smallholder Agriculture Programme (ASAP) Trust Fund and an IFAD loan, aims to reduce rural poverty and food insecurity in ASALs. Its two objectives focus on transitioning smallholder farmers to commercially oriented, climate-resilient practices and empowering local communities for sustainable natural resource management. The project's components include climate-smart productivity enhancement, post-harvest management and financial services linked to on-farm investment. KCEP-CRAL promotes improved farming practices such as good agricultural practices and conservation agriculture, alongside financing crop



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insurance for semi-arid conditions. Expected impacts include improved food security, increased farm productivity and enhanced capacity for agricultural services. The project anticipates outcomes such as increased crop yields and improved water availability on small-scale farms, contributing to resilience against climate risks and reducing weather-related losses. In addition, KCEP-CRAL builds on successful IFAD interventions in the country, such as the Upper Tana Water Fund Project, emphasizing green infrastructure and agroforestry techniques to stabilize soil, enhance farmer earnings and improve water quality and habitats.

The Resilience Design and Monitoring Tool in Kenya: Through IFAD, KCEP-CRAL designed the Resilience Design and Monitoring Tool (RDMT), aimed at providing a framework for building the resilience of rural households and providing a step-by-step guide to designing for and monitoring the performance of resilience-building interventions during KCEP-CRAL implementation. The RDMT measures the resilience capacity enhancement process at two levels: the extent to which project interventions aimed at enhancing resilience capacities are being adopted by the target groups (adoption index) and whether the adoption of these interventions is producing the expected resilience capacity results (resilience index).

The resilience indices of the programme beneficiaries are measured and aggregated at the control, contaminated and treatment levels. The results showed a significantly higher resilience index for the treatment group (35.3 per cent) compared with the contaminated group (14.4 per cent) and the control group (12.7 per cent). The difference of 22.6 percentage points between the treatment and the control groups is attributable to the project interventions.

As shown in figure 6, lower results in terms of resilience-building are seen in the south-eastern wards.

In addition, the project adoption indices have been calculated at the ward level for the treatment group, which provides important information on where the project should focus its efforts to increase the level of adoption of resilience interventions.

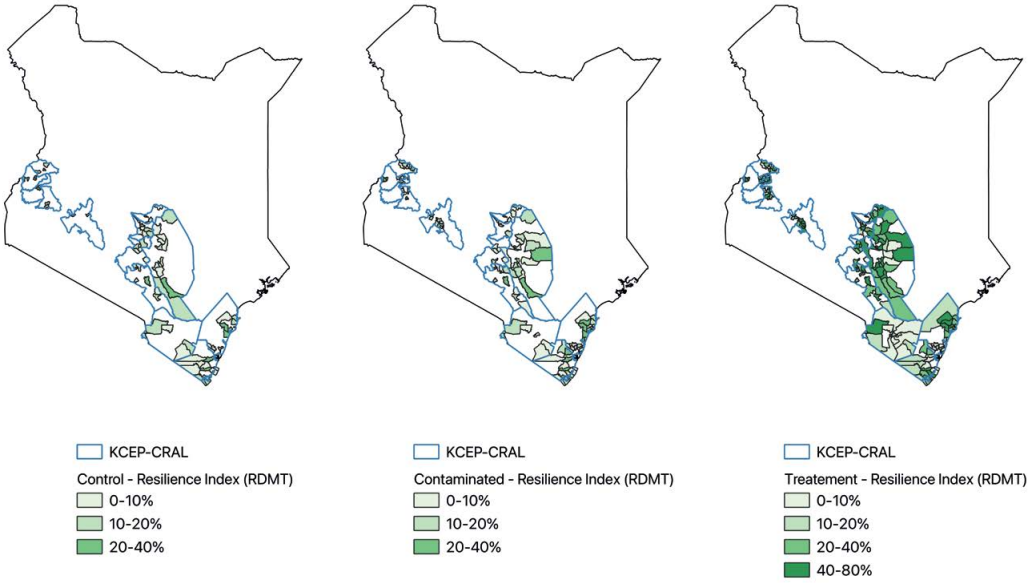
BIODIVERSITY BENEFITS

- The KCEP-CRAL project aims to improve natural resource management capacity, which indirectly benefits biodiversity by promoting sustainable agricultural practices and reducing land degradation.
- The adoption of improved farming practices, such as good agricultural practices and conservation agriculture, not only enhances crop quality and yield but also ensures environmental sustainability, thereby contributing to biodiversity conservation.
- The project builds on the success of previous interventions such as the Upper Tana Water Fund Project, which emphasized green infrastructure such as forests and wetlands as a means to prevent water issues, leading to the planting of over 3 million trees across 150,000 hectares. This afforestation effort stabilizes soil, enhances farmer earnings and improves water quality and habitats, thereby directly benefiting biodiversity.

RESILIENCE BENEFITS

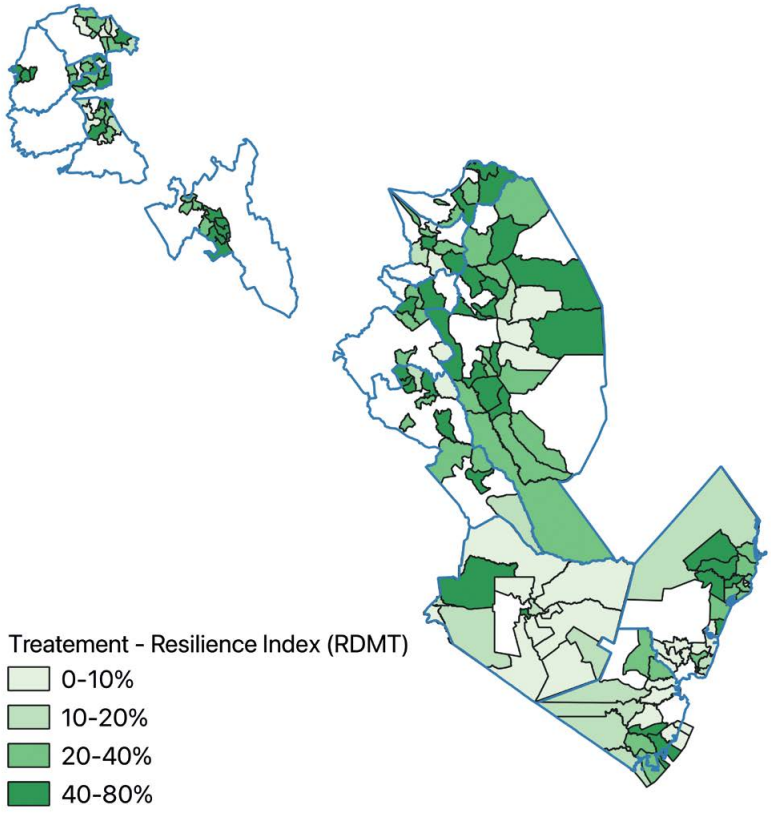
- By transitioning smallholder farmers to commercially oriented, climate-resilient agricultural practices, KCEP-CRAL enhances their resilience to climate change impacts, such as erratic rainfall and droughts, which significantly affect agricultural productivity in ASALs.
- Through components such as climate-smart productivity enhancement and natural resource management, the project aims to improve farmers' capacity to adapt to climate variability and extreme weather events, thereby enhancing their resilience to climate risks.
- The project's focus on promoting efficient water management, including the availability of water on small-scale farms, contributes to building resilience against water scarcity, a prevalent challenge exacerbated by climate change in ASALs.

FIGURE 6
KCEP-CRAL RESILIENCE INDICES BY WARD



Note: KCEP-CRAL, Kenya Cereal Enhancement Programme – Climate-Resilient Agricultural Livelihoods Window; RDMT, Resilience Design and Monitoring Tool.

FIGURE 7
KCEP-CRAL ADOPTION BY WARD



Note: KCEP-CRAL, Kenya Cereal Enhancement Programme – Climate-Resilient Agricultural Livelihoods Window; RDMT, Resilience Design and Monitoring Tool.

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IFAD AND ESA PARTNER FOR INCREASED DATA CAPABILITIES

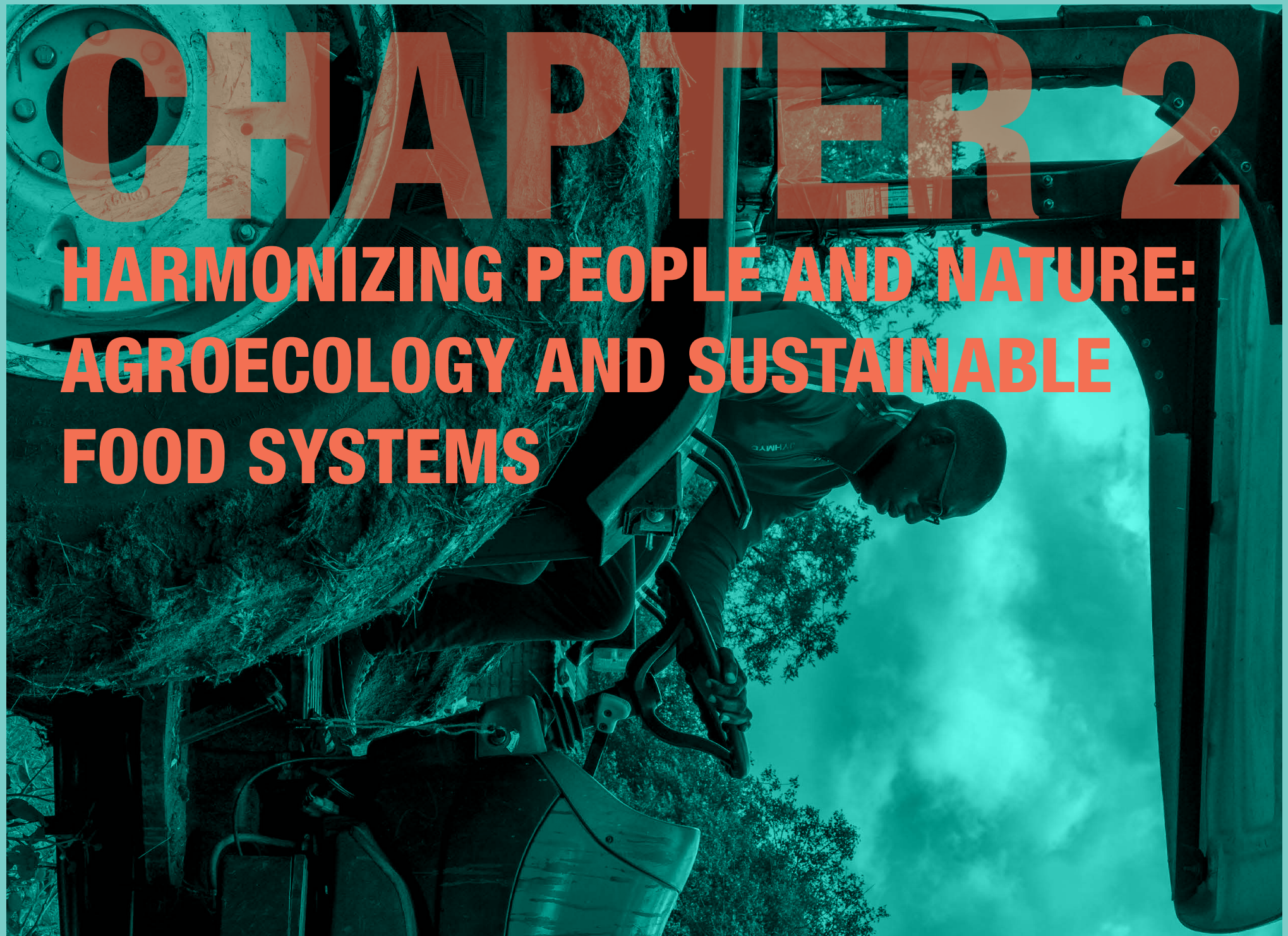
Harnessing space technology for climate-resilient agriculture

IFAD and the European Space Agency (ESA) have stepped up their partnership to help vulnerable small-scale food producers increase their ability to grow food and adapt to climate change by using state-of-the-art spatial technology and data.

The expanded partnership will see ESA's top-notch remote-sensing expertise and data incorporated into IFAD's agricultural programmes and project design, refining geographical targeting and monitoring natural resources, such as pastures, forests, water and soils, all of which are vital to the livelihoods of small-scale farmers and pastoralists. Remote sensing is often used to study from a distance any object or phenomenon, for instance how land cover changes. Data about the Earth's surface are gathered through various sensors and instruments, typically mounted on satellites, aircraft or drones.

IFAD and ESA have a long-standing informal partnership, dating back to 2010 with the production of land cover maps in Madagascar. Recently, the two institutions worked together on pasture condition maps in Kyrgyzstan, erosion maps in Lesotho and identifying the areas most vulnerable to the effects of climate change in Tajikistan.

IFAD and ESA's Global Development Assistance Initiative conducted a study on the detection of terraces developed by the Murat River Watershed Rehabilitation Project in **Türkiye**. The project aimed to improve rural livelihoods by rehabilitating vulnerable steep slopes in upland villages of the Murat River watershed. The terraces were designed to reduce soil erosion and increase vegetation cover. An algorithm trained to detect and delineate terraces using satellite imagery was able to detect over 4,650 hectares of developed terraces. The study went into detail and found positive trends in environmental indicators for five sites. The project resulted in more vegetation cover, less bare soil and more soil moisture on the terraces.



CHAPTER 2

HARMONIZING PEOPLE AND NATURE: AGROECOLOGY AND SUSTAINABLE FOOD SYSTEMS

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THE INTERSECTION OF PEOPLE, NATURE AND SUSTAINABLE FOOD SYSTEMS

IFAD acknowledges the crucial interplay between ecosystems and human systems, understanding that sustainability is fundamental for transformative change. IFAD wholeheartedly embraces the fact that ensuring the long-term viability of climate responses hinges on the restoration or preservation of ecosystems. Rural households are particularly vulnerable as their production systems and livelihoods rely directly on healthy and biologically diverse ecosystems.[11] About 70 per cent of the world's poor people depend on wild species; one fifth of people rely on wild plants, algae and fungi for food and income; and 2.4 billion people rely on fuelwood.[12]

Agroecology is a promising integrated and holistic approach to achieving food systems transformation, systemically addressing the issues related to food and agricultural production and commercialization systems within an enabling political environment. Agroecological practices are increasingly adopted by producer organizations, including family farmers, smallholders, Indigenous Peoples and traditional communities, to sustainably conserve and protect biodiversity and natural resources, develop knowledge through co-creation and sharing, and improve governance. Defined by the 10 Elements of Agroecology, agroecological approaches empower small-scale producers, in particular women and youth, and strengthen their participation in the shaping of sustainable food systems.

IFAD's recent stocktake revealed that, remarkably, 96 per cent of agroecology projects positively contribute to IFAD's climate change priorities and 93 per cent have biodiversity-related activities, compared with only 18 per cent and 25 per cent respectively of non-agroecology projects.

To act on these findings, IFAD has developed an agroecology framework based on the Food and Agriculture Organization of the United Nations' approved elements, analysing 207 projects completed between 2018 and 2023. Notably, projects supporting agroecology also align better with IFAD's priorities for nutrition, youth and climate change mainstreaming, in conjunction with a consistent focus on gender equality. Climate adaptation-focused funding, such as the enhanced Adaptation for Smallholder Agriculture Programme (ASAP+), significantly enables agroecology approaches, underlining the need for increased climate financing. Analysis further indicates high carbon sequestration potential in activities such as coastal wetlands management and agroforestry, prominently featured in projects supported by IFAD.

11 IFAD, "No biodiversity, no farmers, no food security", 6 December 2022, https://www.ifad.org/en/web/latest/-/no-biodiversity-no-farmers-no-food-security.

12 Sobrevila, C., *The Role of Indigenous Peoples in Biodiversity Conservation: The natural but often forgotten partners* (Washington, DC: World Bank, 2008).

PROJECT SPOTLIGHT

RURAL SUSTAINABLE DEVELOPMENT PROJECT IN THE SEMI-ARID REGION OF **BAHIA**

The semi-arid Caatinga biome in north-eastern Brazil is home to thousands of endemic plant,[13] fish, reptile, amphibian, bird and mammal species,[14] including the rare three-banded armadillo, a species that, until its sighting in 2022, had not been seen in the state of Ceará since 2008. However, extreme poverty and a dependence on natural resources for livelihoods are leading to the overexploitation of natural resources. Particularly, overgrazing and logging for fuelwood have resulted in the degradation and deforestation of the Caatinga biome. In this semi-arid area of the country, climate change is causing prolonged drought and further exacerbating these trends, leading to water scarcity, desertification and important losses in crops and livestock. This has resulted in trends such as migration for seasonal work or permanent rural–urban migration, mainly among the youth population due to the lack of opportunities. Indigenous Peoples, ethnic minority communities such as the *quilombolas* (or Afro-descendants) and traditional collective grassland communities such as the *fundos de pasto* all face challenges such as land tenure, marketing, organizational limitations and limited access to technical assistance, despite family farms dominating

13 Almeida, R.F., Guesdon, I.R., Pace, M.R. and Meira, R.M.S., "Taxonomic revision of *Mcvaughia* W.R.Anderson (Malpighiaceae): Notes on vegetative and reproductive anatomy and the description of a new species", *PhytoKeys* (2019) No. 117, pp. 45–72, https://doi.org/10.3897%2Fphytokeys.117.32207.

14 Santos, J.C., Leal, I.R., Almeida-Cortez, J.S., Fernandes, G.W. and Tabarelli, M., "Caatinga: The scientific negligence experienced by a dry tropical forest", *Tropical Conservation Science* (2011) Vol. 4, No. 3, pp. 276–286, https://doi.org/10.1177/194008291100400306.

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production units but occupying minimal farmland. Barriers to improving incomes and livelihoods for rural populations include unequal land distribution, limited market access, weak farmer associations, climate change, reliance on social programmes and patriarchal societal structures that exclude women and youth from decision-making roles. The Pro-Semi-arid Project (PSA) empowers vulnerable rural populations in Bahia's semi-arid region to adapt to climate change and live sustainably.

PSA empowers vulnerable rural populations in Bahia's semi-arid region to adapt to climate change and live sustainably. It boosts small-scale family farms' productivity through agroecological methods, fosters income generation and enhances market access, with a focus on women and youth. Operating through local partnerships, PSA uses a territorial approach to reach farmers efficiently. It promotes agrobiodiversity through backyard gardens and supports a creole seed and breed programme. The project works with 20 traditional collective grassland communities, or *fundos de pasto*, to provide training on land restoration and biodiversity conservation, re-establish soil cover with native vegetation, develop nurseries for the production of seedlings, promote sustainable agroforestry systems using native species and combat bush fires. These activities are complemented by the introduction of more efficient and renewable energy technologies such as eco-stoves and bio-digesters, reducing demand for wood.

PSA not only boosts productivity through sustainable farming practices but also adds value through processing and access to markets that recognize the biodiversity and agroecological nature of the produce. 54 per cent of PSA products undergo processing, leading to increased income for 70 per cent of beneficiaries. Its innovative commercialization includes support for organic and fair-trade certification and promotes participatory guarantee systems, ensuring sustainable practices through peer-reviewed certification. The project has developed various tools, including the economic-ecological analysis method known as LUME, to showcase the effectiveness of the agroecological approach. Research conducted using LUME indicates promising results: a 19.5 per cent increase in average agricultural income due to sociotechnical innovations introduced through project initiatives. Moreover, monetary agricultural income saw an average rise of 18.3 per cent, attributed to selling a greater diversity of products, adding value to processed goods and accessing new short commercialization circuits.

The project's activities have also led to an average 17.6 per cent increase in added value. Despite a minor 4.3 per cent uptick in production costs, this was significantly outweighed by a fourfold increase in added value. A significant reduction in the purchase of inputs in the markets stands out, attributed to knowledge gained in technical assistance training, which in turn stimulated the implementation of innovative practices, such as the production of own inputs from available ecological resources such as manure, seeds, water, straw, forage, grains and plants from the Caatinga biome. The efficiency gains achieved in the conversion of inputs into products and the maintenance of production costs at a relatively low level contributed to the expansion of autonomy and, therefore, the sustainability of agroecosystems.

BIODIVERSITY BENEFITS

- Promotion of agrobiodiversity through diversified production systems and creole seed programmes.
- Restoration of the Caatinga biome through land restoration, native vegetation re-establishment and sustainable agroforestry.

RESILIENCE BENEFITS

- Increased resilience to climate change through sustainable agroecological practices and reforestation efforts.
- Mitigation of climate change through alternative energy facilities and reduced deforestation.

DATES

2014–2024

FINANCING

Total project financing of

US$5.81 million

sourced from IFAD, the Government of Brazil and other beneficiaries

TARGET GROUP

Poor or extremely poor smallholder family farmers,

especially women and youth, and traditional communities such as the *quilombolas* (Afro-descendants) and the *fundos de pasto* (traditional collective grassland communities)

OPERATING IN

2 municipalities

with high incidences of poverty in the northern semi-arid area of Bahia, benefiting

75,000 poor rural families

PROJECT COMPONENTS AND APPROACHES

- Promoting the capacities of the target population, mainly through the participatory formulation and implementation of business or workplans.
- Funding agricultural production, agroprocessing and non-agricultural businesses.
- Empowerment of vulnerable rural populations through an agroecological approach.
- Promotion of productive capacity and income-generation opportunities.
- Facilitation of access to markets, services and technical assistance, with a focus on women and youth empowerment.
- Implementation through partnerships with local government, farmers' organizations, civil society groups, research institutes and the private sector.
- Innovative territorial approach operating through groups of nearby farmers, associations with similar needs.
- Strategies for increasing productivity, promoting agrobiodiversity and restoring the Caatinga biome.

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IMPACT

Enhanced nutrition security, with increased production and consumption of nutrient-rich produce. Backyard gardens with diverse crops and small-scale irrigation systems increased production for

80%
of beneficiary households

improving nutrition security significantly

Increased access to differentiated markets, value addition and improved market access for farmers. Certification of agroecological produce and participation in support groups enabled access to markets and public policies, benefiting

64%
of beneficiaries

Agroecological logbooks raised awareness of women's roles, leading to increased participation in decision-making and management positions in farmers' associations, with

70%
now held by women

Enhanced

resilience
to climate change

through diverse production systems and alternative energy facilities

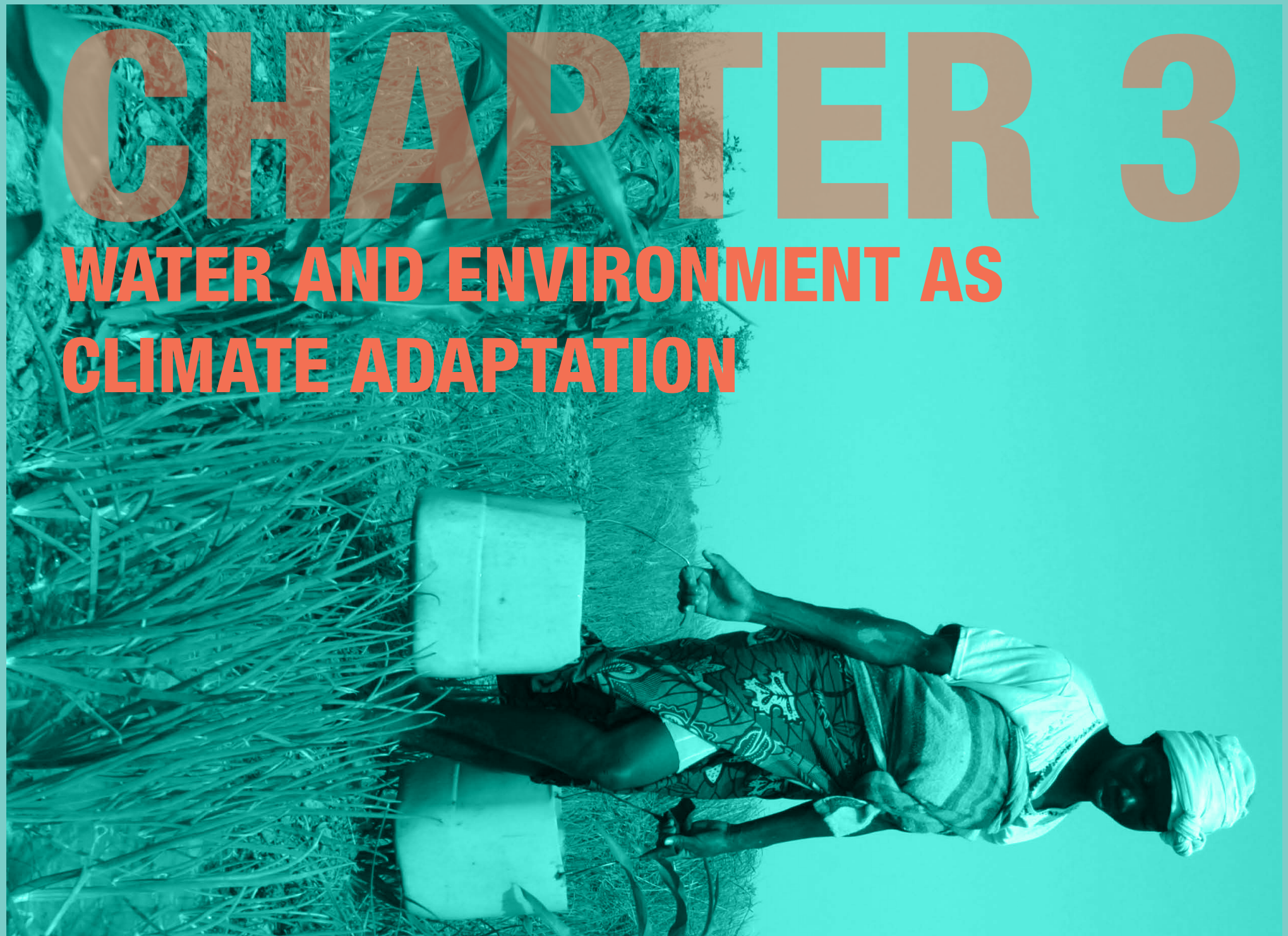
Ecosystem restoration, including the restoration of the Caatinga biome and habitats for endemic wildlife, with

93%
of beneficiaries

adopting technologies for ecosystem restoration

CHAPTER 3

WATER AND ENVIRONMENT AS CLIMATE ADAPTATION



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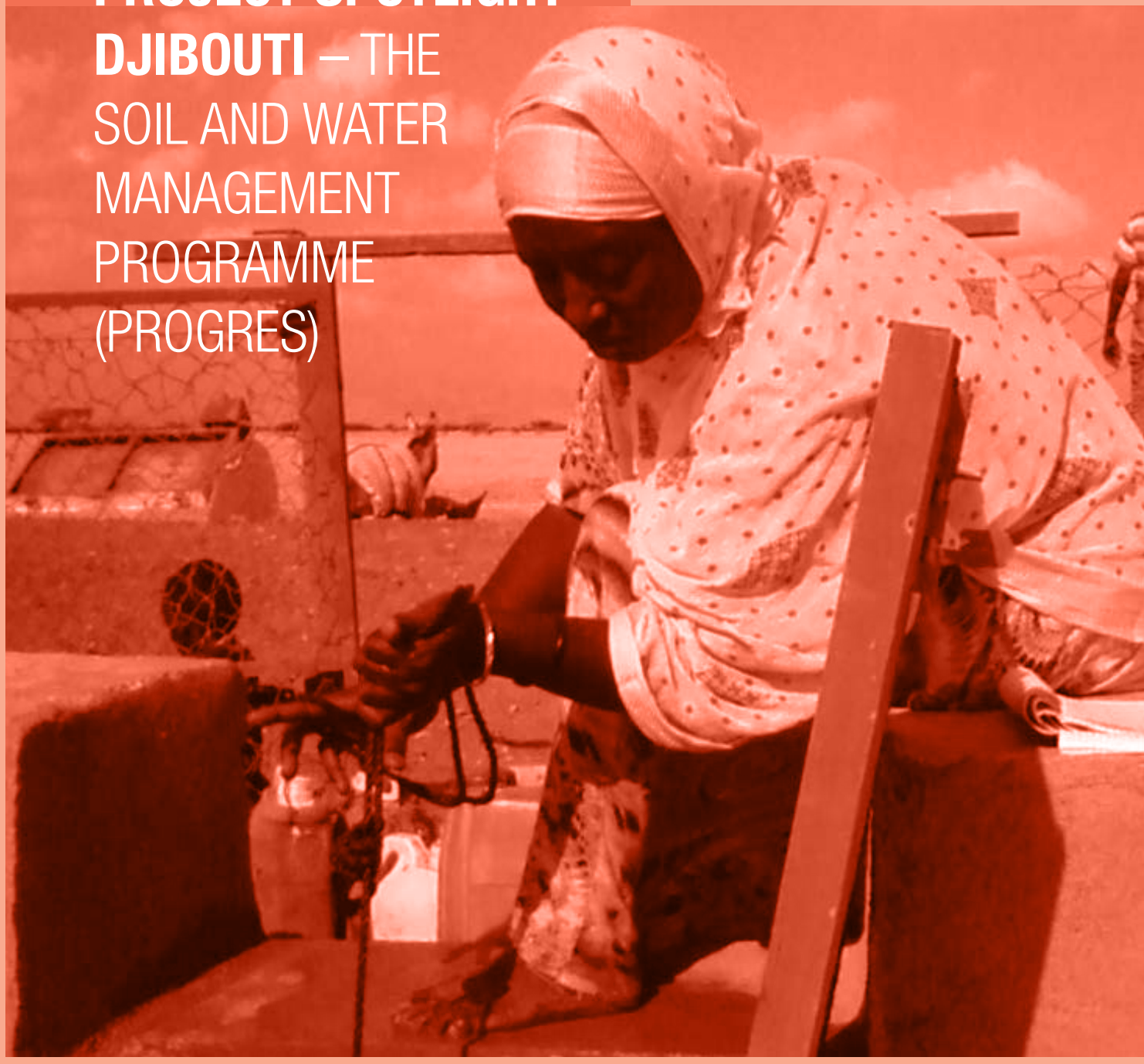
INTRODUCTION

IFAD targets interventions in water and other natural resources as climate adaptation to enhance the resilience of rural communities against climate change. By focusing on sustainable management of these resources, IFAD helps secure water supplies, improve agricultural productivity and safeguard ecosystems. These efforts are crucial in mitigating the adverse effects of climate change, ensuring food security and promoting sustainable livelihoods for smallholder farmers.

PROJECT SPOTLIGHT **DJIBOUTI** – THE SOIL AND WATER MANAGEMENT PROGRAMME (PROGRES)



Djibouti, located in the Horn of Africa, is one of the world's most water-scarce countries. The problem of physical and economic water scarcity, which currently affects the entire population of the Near East and North Africa, as well as South Asia and significant parts of China, is only going to get worse in a changing climate.

Djibouti is home to pastoralist communities that rely heavily on pastures for their livelihood. But over the years, these pastures have suffered dramatic degradation due to various factors, such as overgrazing and erratic rainfall patterns. This degradation has disastrous consequences for pastoral communities, whose livelihoods depend on the health of these ecosystems. Pasture degradation, exacerbated by the impacts of climate change, results in increased desertification and vulnerability to longer periods of drought, leading to reduction of both availability of fodder for livestock and nutritional quality of grass. The consequences extend beyond the local economy, also affecting food security, the national economy and the environment.

In the face of this problem, the regeneration of pastures has become essential. Resting, which consists of limiting access to pasture for herds during certain periods, and assisted natural regeneration, which promotes the natural growth of plant species, have emerged as promising approaches to reversing pasture degradation. The Soil and Water Management Programme (PROGRES), financed by IFAD, replicated the approach of pastoral resting, combined with improvements in access to water, by constructing a system of cisterns and excavations (or *retenues*) that harvest and store rainfall along livestock

©IFAD/Baraqiita Said

routes and around the targeted communities. This new water-harvesting infrastructure represents an invaluable public asset for humans and animals, who can now access drinking water for longer periods of time. It has also created opportunities for socioeconomic development.

PROGRES aims to improve the lives of rural and nomadic communities by providing sustainable access to water and natural resources and increasing the resilience of these communities to climate change. In Djibouti, access to water is key to generating wider benefits in terms of environmental protection, access to basic services and economic development at the local level. Thanks to the construction and rehabilitation of water points in the targeted communities, the programme supported better nutrition through the creation of 250 home gardens, providing essential vegetables such as tomatoes and potatoes, alongside dietary counselling.

Highlighting a participatory and inclusive approach, PROGRES actively engages local communities in decision-making processes. Each community develops a hydraulic and pastoral development plan to strategically manage water infrastructure and pastoral lands, integrating the imperative for pasture regeneration. Through initial assessments of pasture degradation and regeneration potential, vulnerable areas are identified, shedding light on the factors contributing to ecological decline. Sustainable pasture management practices are reinforced, with an emphasis on community involvement in the demarcation and protection of resting sites and transhumance routes.

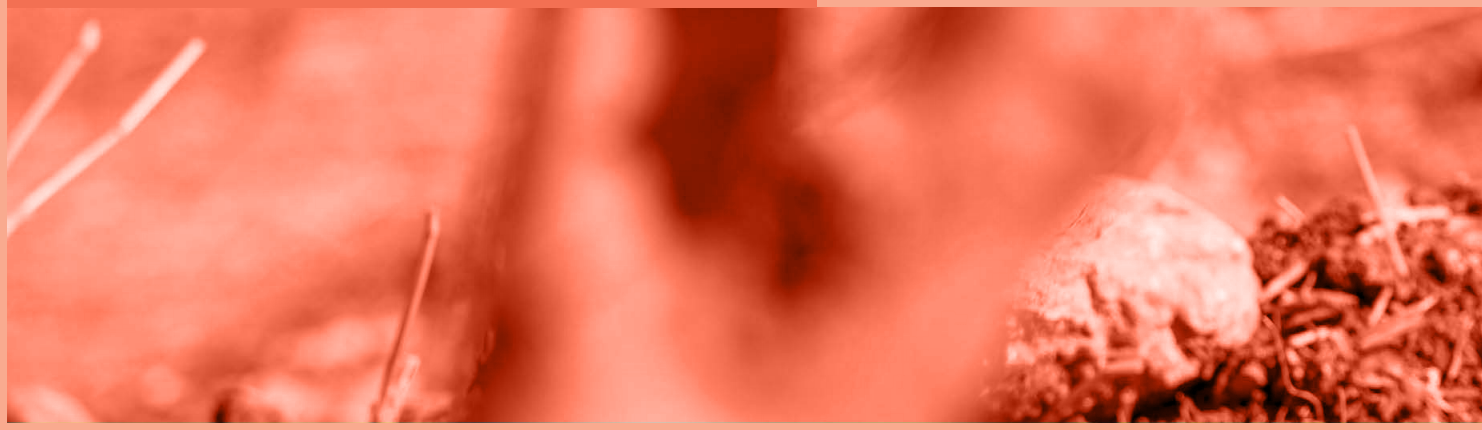
Furthermore, PROGRES implements various techniques to promote ecological restoration and social sustainability. Criteria for resting techniques are established based on ecological and social considerations, ensuring the method's long-term viability. Field activities encompass seed collection and nursery management, water and soil conservation, assisted natural regeneration and tree planting, including planting *Acacia nilotica*. *Acacia nilotica* is a multi-purpose tree: it provides timber, shade, food, fodder, honey, dye and gum, and can be used for fencing. It also contributes to soil protection and fixation, acts as a windbreaker and as a haven for biodiversity, and its regeneration is a benefit for all. Project beneficiaries undergo extensive training to enhance their skills in restoration, environmental conservation and livestock rearing, and this holistic approach aims to empower communities, foster environmental stewardship and ensure the sustainable implementation of restoration efforts.

BIODIVERSITY BENEFITS

- Efforts to create mobile nurseries, to train community members under technicians from the Djibouti Ministry of Agriculture and to establish protected "resting sites" have borne fruit, with significant regeneration of forest and rangeland ecosystems.
- Assisted natural regeneration efforts in regions such as Madgoul and Andabba have significantly contributed to the regeneration of range ecosystems, promoting the growth of diverse plant species and enhancing biodiversity.
- Direct plantation of local species, such as *Acacia nilotica*, in flood-prone areas has promoted the natural regrowth of vegetation and supported habitat restoration for various species.
- Assistance with natural regeneration involves the protection and promotion of the growth of spontaneous young plants, coupled with grazing bans, actively contributing to the natural regeneration of ecosystems and fostering biodiversity.

RESILIENCE BENEFITS

- Implementing techniques, such as the construction of stone bunds, digging recharge trenches and creating half-moon basins around shrubs, aim to reduce soil erosion, capture runoff water and improve water availability, thereby enhancing resilience to drought and water scarcity.
- Correcting gullies with the construction of dry-stone sills helps to reduce the speed of runoff water, preventing soil erosion and enhancing the ability of ecosystems to withstand the impacts of heavy rainfall and flooding.
- Evaluating the nature of land tenure in rangelands guides decision-making on resting activities, ensuring activities are aligned with legal ownership, customary rights and user consultation, thereby enhancing resilience through harmonious integration within legal and customary frameworks.
- Direct plantation of species with high pastoral value, such as *Cenchrus ciliaris* and other palatable grasses, increases the success of resilience-building efforts in rangelands, enhancing the capacity to withstand environmental stressors.



DATES

2017–2024

FINANCING

IFAD financing of

US$10.1 million

COFINANCIERS (INTERNATIONAL)

World Food Programme financing of

US$1 million

and Adaptation Fund financing of

US$2.3 million

COFINANCIERS (DOMESTIC)

Government of Djibouti financing of

US$3.28 million

PROJECT COMPONENTS AND APPROACHES

- Expanding and adding to the network of hydraulic structures and regeneration of plant cover.
- Promoting exchanges and social organization around improving rural living conditions.
- Strengthening local capacities, diversifying economic activities and improving basic services.
- Developing innovative activities to raise pastureland productivity.
- Fostering sustainable management of rangelands, thus preserving the foundations of life of nomadic rural populations.

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IMPACT

The number of direct beneficiaries is

11,075 households,

or approximately 66,400 people, representing 68 per cent of the population of the targeted routes

To date, pastoral activities cover

5,600 hectares

of resting pastures
(100 per cent of the final objective) and

165 hectares

of assisted natural regeneration
(103 per cent of the final objective)

The productivity of resting pastures increased considerably, going

from 70 kg

of dry matter per hectare per year

to 355 kg

of dry matter per hectare per year, demonstrating the successful restoration technique alongside the reseeding and pruning of trees by the project participants

The direct benefits

of PROGRES include increased availability of water, enhanced productivity of herds and a boost in economic activities

Indirect benefits

include better community planning, health improvements, local skills development and increased resilience to climate change

CHAPTER 4

BUILDING COMMUNITY GROWTH IN FRAGILE CONTEXTS

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CULTIVATING CLIMATE-RESILIENT COMMUNITIES

While major projects often require a crisis to secure funding, IFAD advocates for proactive investment in restoration and adaptation, recognizing both the economic and the ecological rationale behind such measures. Farmers are faced with the daunting task of increasing food production in increasingly extreme climate conditions, posing significant challenges to crop cultivation. Without effective adaptation measures, whole populations are at risk of food and nutrition insecurity, particularly in sub-Saharan Africa. IFAD's track record demonstrates that its investments make smallholder farmers more resilient to multiple shocks, including those caused by climate change.

IFAD recognizes the interplay between climate change and conflict. The impact of climate change on inequalities, which may fuel conflict, is highlighted in the latest Intergovernmental Panel on Climate Change synthesis report (the sixth assessment report).[15]

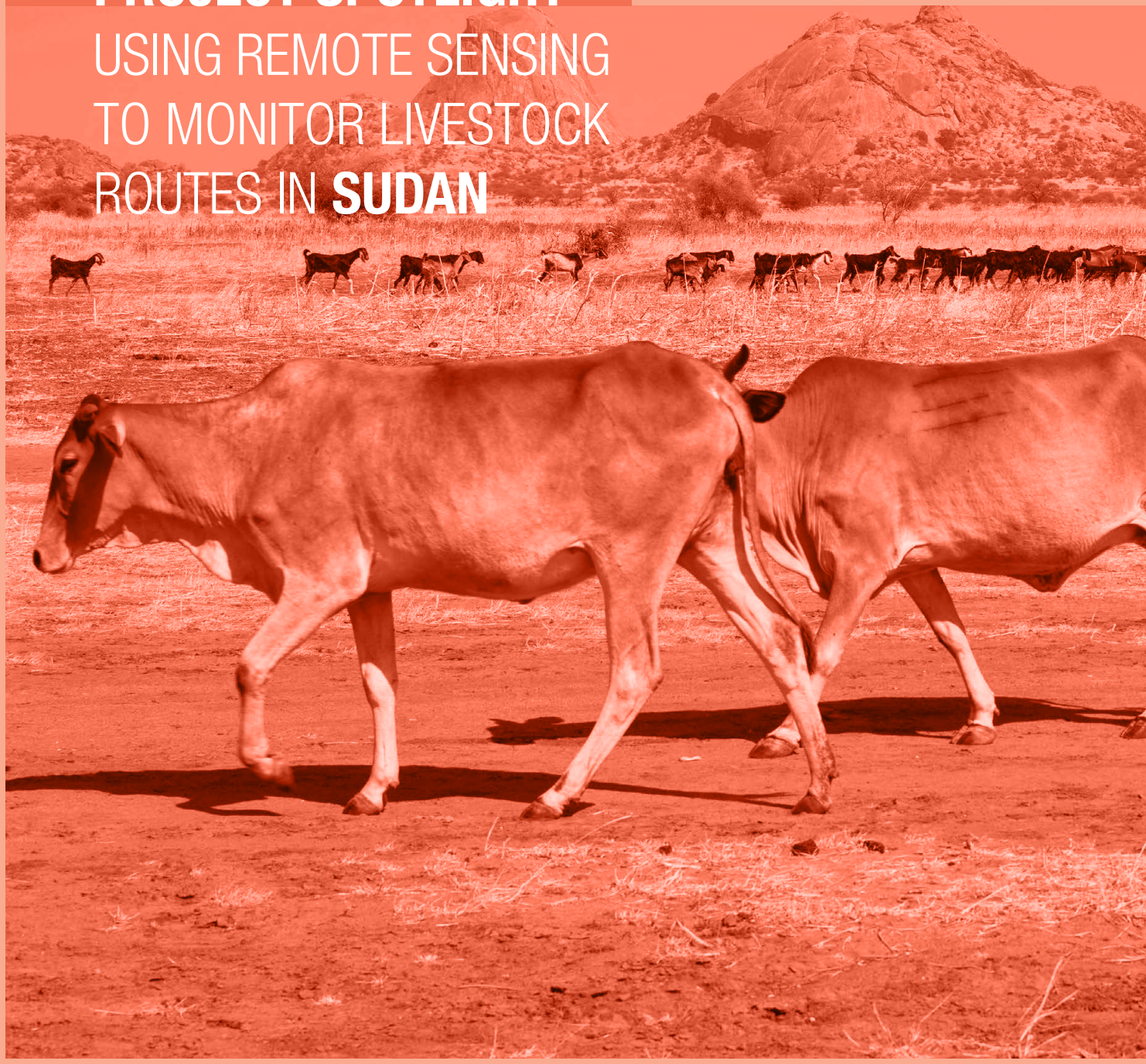
Under IFAD11 and IFAD12, the Fund has committed to deploying at least 25 per cent of its core resources to countries in the World Bank's list of fragile and conflict-affected situations. This target was exceeded under IFAD11, and the IFAD12 midterm review shows that 34.5 per cent of core resources are planned for allocation to fragile and conflict-affected situations. To complement these funds, IFAD has used supplementary funds and grants and leveraged climate finance.

Investing in climate resilience, alongside economic empowerment and social inclusion, is integral to IFAD's strategy in addressing local conflict factors. This approach is evident across IFAD's operations in various regions, including the Sahel, the Horn of Africa, the Caribbean and parts of Asia. For example, in Haiti, IFAD's portfolio includes the Inclusive Blue Economy Project, which supports climate-resilient investments in infrastructure and livelihoods amid social violence, weak governance and exposure to natural disasters. This project aims to transform coastal rural communities' management of natural and marine resources, particularly benefiting women and youth, to reduce poverty and enhance climate resilience. By conserving these resources, the project provides sustainable income sources while combating malnutrition, ultimately contributing to long-term socioeconomic stability in the region.

15 IPCC, *Climate Change 2023: Synthesis report; Contribution of working groups I, II and III to the sixth assessment report of the Intergovernmental Panel on Climate Change* (Geneva: IPCC, 2023).

PROJECT SPOTLIGHT

USING REMOTE SENSING TO MONITOR LIVESTOCK ROUTES IN **SUDAN**



IFAD and the European Space Agency (ESA) conducted a study to explore how remote sensing data can be used to assess whether livestock routes are effective in ensuring safe passage and grazing for pastoralists.

Every year, pastoral communities in central Sudan migrate south in search of pasture to feed their animals during the dry season. They travel several hundred kilometres, crossing areas with large tracts of arable land. Conflicts often occur during the migration. Farming communities plant crops on the routes traditionally used by pastoralists, blocking them. Pastoral livestock, on the other hand, can wander into fields and damage crops. Climate change can exacerbate these conflicts, especially when the routes pastoralist communities use are unknown to or unacknowledged by farming communities.

Since 2004, IFAD-financed projects have been working with farming and pastoralist communities to agree on, demarcate and jointly manage routes that ensure safe passage for livestock and reduce conflict. The routes are designed to prevent livestock from trespassing on arable land and to prevent crop encroachment from blocking the routes.

The study was carried out by IFAD and ESA's Global Development Assistance Programme in collaboration with IFAD's Sustainable Natural Resources and Livelihoods Programme. Due to the ongoing war, it was only possible to analyse one stock route in Sudan's Sennar state.

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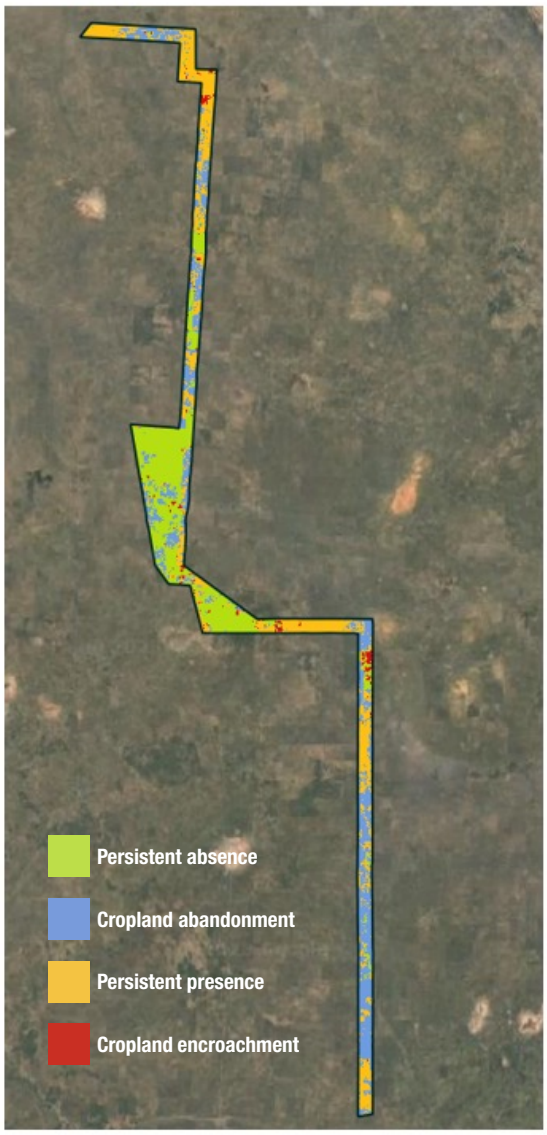
A national geographic information system expert used GPS to map the stock route, which is marked by earth mounds, and collected field data on the types of crops grown around the stock route. These data were used to create crop maps from 2017 to 2023 using Sentinel satellite data.

The study found that land-use mapping and crop maps can be used to monitor the annual dynamics of how the stock route is used and whether crop encroachment is occurring. From 2017 to 2022, crops were grown on 70 per cent of the stock route, meaning that only a third of the route was free for grazing and passaging. In 2023, crop cultivation was abandoned on a third of the route. New encroachments have hardly occurred.

This approach can help local authorities better assess and mediate potential points of conflict. IFAD and the Sustainable Natural Resources and Livelihoods Programme are exploring how best to use this technology to gain a bird's-eye view of the situation to prevent farmer–herder conflicts in the future.

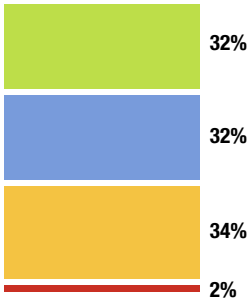
FIGURE 9

LAND-USE DYNAMICS IN THE BUFFER STOCK AREA (2017–2023)



Persistent absence indicates areas previously used as cropland that remain unchanged and uncultivated. **Cropland abandonment** refers to land that was once cropland but has been given up and is no longer used for cultivation. **Persistent presence** means the area is consistently clear and accessible. **Crop encroachment** indicates new crop fields have been established, potentially expanding into new areas.

Share of buffer



CHAPTER 5

FINANCING A SUSTAINABLE FUTURE

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BRIDGING THE FINANCE GAP

Investing in resilient infrastructure in low- and middle-income countries yields substantial benefits, with studies indicating a net benefit of US$4.2 trillion, translating to four dollars in benefit for each dollar invested. Early action on adaptation yields a "triple dividend" of avoided losses, economic gains, and social and environmental benefits. For instance, investing US$800 million in early warning systems in developing countries could prevent US$3 billion to US$16 billion in damage annually.[16] However, connecting finance with adaptation efforts is challenging, particularly for smallholder farms. Lending to small-scale farmers is difficult due to small loan sizes, higher transaction costs and narrower profit margins. While private financiers are interested in environmental investments, challenges such as a lack of shared language and trust, and a scarcity of bankable climate projects in developing countries, hinder effective partnerships.

Addressing these challenges requires efforts on both the demand and the supply sides of finance. IFAD's white paper for COP28 outlined four approaches: Benefit, Bundling, Building for Bankability, and Blending. Benefit ensures equitable resource access and multi-stakeholder governance. Bundling involves aggregating and prioritizing investments based on cost-benefit analysis, aligning with national plans and mitigating issues of ticket size through initiatives such as the Inclusive Green Financing Initiative (IGREENFIN I). Building for Bankability enhances project viability through sound planning and strategic partnerships. Blending encourages combining private and public funds to finance projects that might be too risky or unprofitable for commercial investors alone. By blending funds from ASAP+ with projects under its programme of loans and grants (PoLG), IFAD can leverage innovative practices.

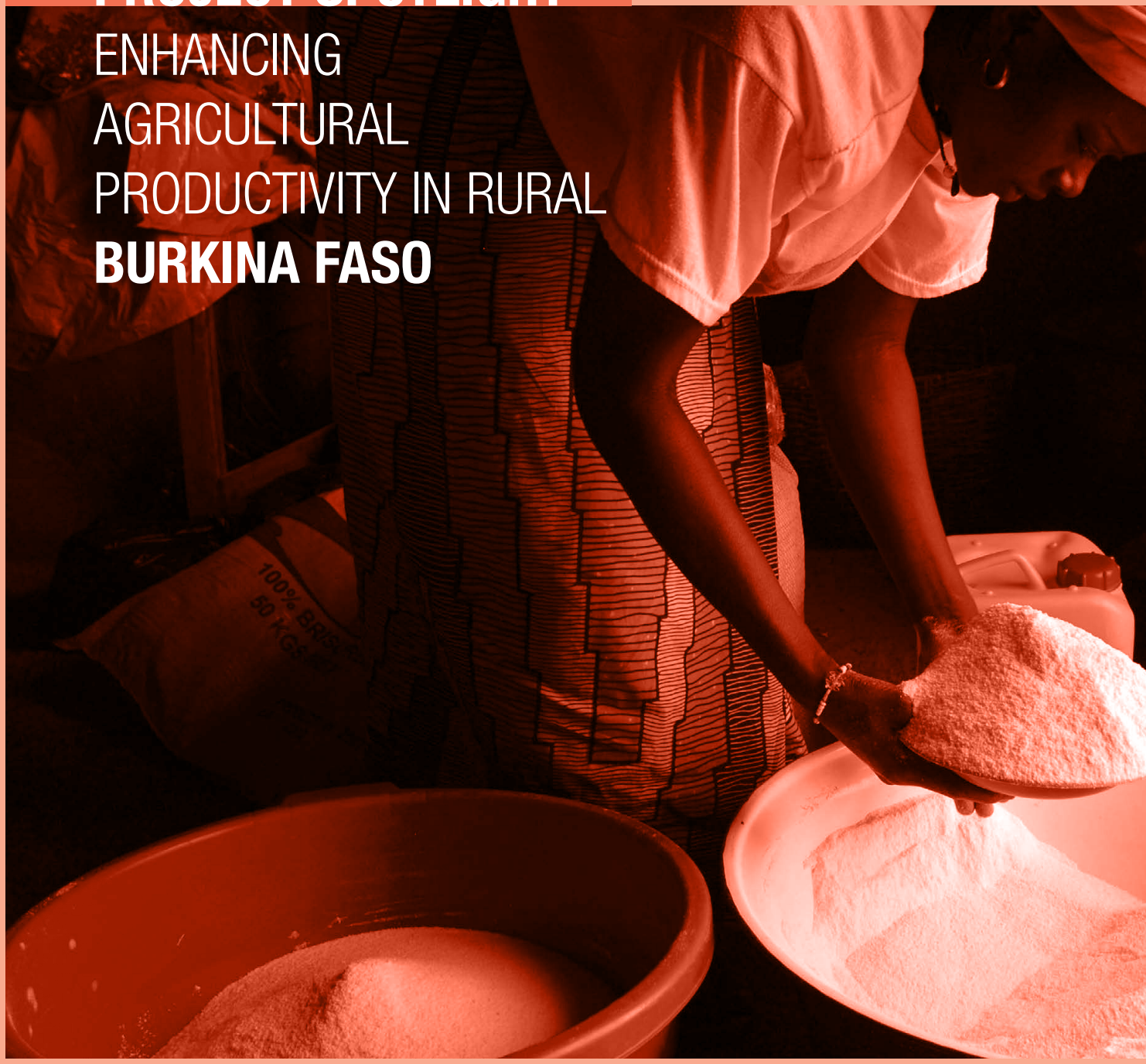
Investing in ecological restoration not only enhances resilience but also yields economic benefits akin to an insurance policy.

Since 2023, IFAD has been collaborating with the European Institute of Innovation for Sustainability to develop integrated cost-benefit assessments of ecosystem restoration and agroforestry investments in Eswatini and Kenya. Efforts are under way to better align financial strategies with climate and nature goals, integrating strategies, monitoring biodiversity finance and leveraging innovative tools to gauge impact accurately. Recent initiatives, such as listing IFAD sustainable bonds on the stock exchange, underscore the institution's commitment to bridging the adaptation gap for those who need it most.

16 See Global Commission on Adaptation, *Adapt Now: A global call for leadership on climate resilience* (Rotterdam: Global Center on Adaption, 2019).

PROJECT SPOTLIGHT

ENHANCING AGRICULTURAL PRODUCTIVITY IN RURAL **BURKINA FASO**



The Agricultural Value Chains Promotion Project (PAPFA) in Burkina Faso exemplifies the power of investment in rural infrastructure and adaptation. It aims to enhance smallholder farmers' productivity, add value to agricultural products and promote entrepreneurship to stimulate growth in rural areas. Targeting the regions of Boucle du Mouhoun, Cascades and Hauts-Bassins, the project focuses on four key agricultural value chains: rice, onions, sesame seeds and cowpeas. By building on the achievements of previous projects,[17] PAPFA seeks to support smallholder farmers, basic farmers' organizations, umbrella organizations and agroentrepreneurs involved in these value chains.

The project reached 50,501 beneficiaries (87 per cent of its target, including 105 per cent target participation among women and 134 per cent target participation among youth), providing production support to 24,485 individuals, access to business development services to 2,672 smallholders and value chain development support to 8,947 participants. PAPFA reduces women's workload by supporting irrigation in the market gardening sector and has built day-care centres near the market gardening perimeters.

17 PAPFA builds upon the success of projects such as the Agriculture Commodity Chain Support Project (PROFIL); the Rural Business Development Services Programme (PASPRU); the Agricultural Diversification and Market Development Project (PAFASP); and the Participatory Natural Resource Management and Rural Development Project in the North, Centre-North and East Regions (or Neer-tamba Project).

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Running from 2017 to 2024, PAPFA is a US$71.7 million initiative, with US$38 million financed by IFAD and contributions from international cofinanciers, governments and beneficiaries. The project has made strides in thematic adaptation training and water-saving market gardening schemes, enhancing the adaptive capacities of small-scale producers. Despite challenges such as rising raw material costs, PAPFA's efforts align with the Burkina Faso Ministry of Agriculture's sectoral policies and incorporate innovative approaches such as the Gender Action Learning System (GALS) methodology. Through these efforts, PAPFA contributes to the structural transformation of Burkina Faso's economy by fostering sustainable and inclusive rural development.

PARTNERSHIPS FOSTERING INNOVATION

Given the inherent risk and uncertainty associated with innovation, there is a need for collective creative thinking to generate conditions for small-scale farmers that are conducive to innovating and adopting new technologies, processes or organizational methods. Here are a few recent ways that IFAD is pushing innovative approaches for the benefit of its target group:

- IFAD has announced closer ties with the World Food Programme Innovation Accelerator. This collaboration will involve sharing knowledge and expertise, testing ideas, consulting experts and exploring ways to work together to scale up innovations that have proven effective, as well as joint resource mobilization opportunities.
- IFAD is reinforcing its partnership with Global Action, a not-for-profit association that pursues free quality education at the global level. The partnership aims to support youth-led innovation and enhance capacity in idea generation and innovation among young people.
- IFAD also ramped up its partnership with the European Institute of Innovation for Sustainability through a scholarship programme. Students from 86 countries of the Global South will learn how to originate and test ideas geared towards providing better support to small-scale farmers and Indigenous Peoples in a sustainable, inclusive and equitable manner.
- The IFAD Innovation Day 2023, held in collaboration with innovation hub Cariplo Factory, with Global Action and with the Fund for Innovation in Development, showcased progress, opportunities and potential areas for strategic partnerships and cofinancing to scale up innovation for rural communities in need. The event received support from the governments of Colombia, Finland, France, Germany and Norway, along with the media partnership of Adnkronos. A marketplace was featured, exhibiting innovative solutions funded by IFAD that aim to achieve sustainable and inclusive rural development.

CHAPTER 6

UNITING FORCES

COLLABORATIVE SOLUTIONS

Sustainable socioeconomic development hinges on the active participation of local populations in management and decision-making processes. As Javier Escalera Reyes put it, "The participation of local citizens is a critical factor in creating a sense of territory and, ultimately, in increasing the resilience of the system as a whole." IFAD-supported projects have embraced community-driven approaches, achieving positive outcomes by extending demand-driven extension services to marginalized farmers. These efforts have been most effective when paired with capacity-building support for farmer organizations, community-based facilitators, and trainers.

Collaboration on a broader scale with governments is equally crucial. IFAD's ability to work both with farmers' organizations and at the international level ensures policy coherence across its initiatives. For example, the Government of Egypt selected IFAD to lead a multibillion-dollar food and agriculture pillar in its National Climate Change Strategy 2050. At COP27, Egypt launched its Nexus of Water, Food and Energy programme, with IFAD spearheading the food and agriculture component. This initiative aligns investments under a water–food–energy nexus, with IFAD collaborating alongside the African Development Bank and the European Bank for Reconstruction and Development.

Leveraging approximately US$2 billion for the food pillar, IFAD has formed a coalition of partners to support sustainable agriculture projects. Additionally, its involvement in large-scale regional initiatives, such as the Great Green Wall, highlights its leadership in fostering partnerships. IFAD, in collaboration with organizations like the Sahara and Sahel Observatory, has organized workshops under programmes such as the Global Environment Facility's Least Developed Countries Fund, further showcasing its commitment to driving sustainable progress in critical regions.

SEED GUARDIANS CELEBRATED FOR THEIR ROLE IN SAFEGUARDING AGROBIODIVERSITY

The Creole Seed Project, supported by PSA, recognizes the fundamental role of local communities in safeguarding agrobiodiversity and the role of traditional knowledge associated with sustainable use in diverse local production systems. At the Second Agrobiodiversity Fair, "Patrimony of the Semi-arid Peoples at the Service of Life", held in November 2019, 125 women and men acting as seed guardians from 22 municipalities in the region of Bahia, Brazil, exhibited 1,083 plant species and varieties including beans, corn, roots, fodder and other species. For each of the five categories, three guardians were selected, celebrating their crucial roles in preserving agrobiodiversity.

Adelice Pereira, from the municipality of Jacobina, Bahia, was one of the winning guardians, and she proudly relates the importance of the cultivation of creole seeds for family agriculture: **"This tradition came from my grandmother. Today I cultivate more than 200 native species of seeds."**[18]

18 For more information, see "Seed Guardians – How families in Brazil are increasing biodiversity with help from the past", 20 May 2021, https://www.youtube.com/watch?v=yrHrEz-Iq7A.

PROJECT SPOTLIGHT

LAO PEOPLE'S DEMOCRATIC REPUBLIC – PARTNERSHIPS FOR IRRIGATION AND COMMERCIALISATION OF SMALLHOLDER AGRICULTURE

The Lao People's Democratic Republic, which is vulnerable to natural disasters such as floods, droughts and landslides, faces significant agricultural and economic impacts due to climate change. The country's low socioeconomic development exacerbates its limited adaptive capacity, making climate resilience a critical need. The Partnerships for Irrigation and Commercialisation of Smallholder Agriculture (PICSA) project addresses this challenge by enhancing local agricultural productivity and sustainability. Implemented by the Ministry of Agriculture and Forestry, with support from IFAD and other cofinanciers, PICSA targets smallholder farmers in 19 districts across four provinces. The project focuses on building capacity for rural women, strengthening agricultural value chains, and improving nutrition through home and school gardening. By introducing modern irrigation systems and promoting eco-friendly practices, PICSA aims to boost food security, income stability and overall household resilience, contributing to the country's poverty reduction strategy and National Plan of Action on Nutrition.

The Lao People's Democratic Republic faces significant challenges from climate change, including frequent floods, droughts and landslides that threaten its predominantly agricultural economy. PICSA was launched to address these vulnerabilities and to enhance climate resilience among smallholder farmers.

Mr Keopaseurth, a vegetable farmer, has been a leader of a production group since 2021. Before PICSA's intervention, fluctuating garlic prices and limited technical knowledge constrained his productivity. With PICSA's support, he received training in furrow

©IFAD/GMB Akash

irrigation techniques and a grant to establish a greenhouse, enabling year-round production. Shifting focus from garlic to green onions, his group sold 2,800 kg of green onions, earning LAK 73 million (approximately US$4,000) in April 2023. On just 2 hectares, Mr Keopaseurth's share was around US$420, showcasing a significant improvement in income and resilience.

Similarly, Mrs Muk expanded her cultivation area from 0.5 to 1.4 hectares after joining PICSA in 2022. Growing tomatoes, cabbages and cucumbers, she now sells produce three times a week to the provincial market and directly from her farm gate. The vegetable production group's land doubled from 15.5 to 30 hectares, highlighting enhanced agricultural capacity.

PICSA's impact extends beyond individual success stories. By forming water user groups, linking producers to enterprises, and promoting home and school gardening, the project builds comprehensive community resilience. Investments in small-scale, water-saving irrigation technologies, such as solar pumps and drip lines, have further fortified smallholders against climate risks. Additionally, the EX-ACT analysis of the total carbon balance for the project is -53,048 tCO_2-eq over 20 years, indicating an increase in carbon capture. This outcome is attributed to project activities such as the adoption of climate-smart agricultural technologies and practices. Through these interventions, PICSA not only boosts food security and income stability but also ensures sustainable and inclusive socioeconomic development, aligning with the country's national strategies for poverty reduction and nutrition improvement.

DATES

2015–2025

IFAD FINANCING

US$25.64 million

TOTAL IFAD LOANS

Original loan

US$13 million

Additional loan

US$8 million

TOTAL COFINANCING

Asian Development Bank

US$30.4 million

Green Climate Fund

US$24.7 million

Private sector

US$1.6 million

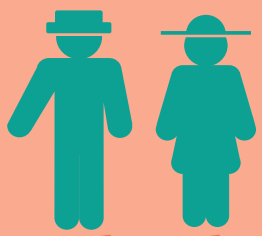
DOMESTIC COFINANCING

US$9.2 million

PROJECT COMPONENTS AND APPROACHES

- **Intensified agricultural development**: Enhances market linkages and water resource use to boost high-value crop areas. Sub-components include training district staff and village authorities, training water user groups, providing extension services and establishing a Farmer Group Investment Facility.
- **Value chains developed**: Strengthens agricultural value chains through three sub-components: establishing multi-stakeholder platforms, creating an Agro-Enterprise Investment Facility and improving access.
- **Improved nutritional practices**: Promotes better dietary intake among vulnerable groups by increasing access to nutritious food and providing nutrition education. Interventions are focused on Xayaboury and Luang Prabang Provinces, complementing national nutrition strategies, with additional support in other provinces from Asian Development Bank–EU funding.

IMPACT



The project benefited

101,813 individuals

directly and 161,531 when both direct and indirect beneficiaries are counted

Secured

US$6,883,000

in climate adaptation finance from IFAD, covering

68.8%

of the project amount and surpassing the corporate target of 40 per cent, enabling robust adaptation strategies for smallholder farmers

Allocated

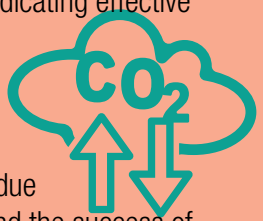
US$17,010,000 towards climate finance,

with US$15,590,000 for adaptation and US$1,420,000 for mitigation, ensuring both immediate and long-term resilience for smallholder communities

Over 20 years, the project is expected to achieve a total carbon balance of

-53,048 tCO_2-eq,

averaging -2,652 tCO_2-eq annually, indicating effective greenhouse gas emission reductions



New irrigation systems, improved residue management, perennial cultivations and the success of household gardens contributed to these

carbon reductions,

as well as enhancing **food security** and **livelihood diversification**

Introduced small-scale, **water-saving technologies**

such as solar pumps and drip lines, improving water efficiency, crop diversification and smallholder resilience to climate change

Enabled local communities to make

informed decisions

on planning, implementation and monitoring through training for village heads, committees and district staff, ensuring tailored adaptation measures

CHAPTER 7

PLANNING – IFAD13 DIRECTIONS

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PLANNING: CHARTING THE PATH FORWARD WITH IFAD13

IFAD is nearing its climate finance target of 40 per cent for IFAD12, with 37.3 per cent (cumulative between 2022 and 2023) of approved projects as of 31 December 2023 and current projections of validated projects showing a percentage surpassing the 40 per cent target.

The next funding cycle of IFAD13 aims to mobilize US$2 billion in new financing to support a programme of work worth at least US$10 billion and improve the lives of over 100 million people.

Building on this momentum, IFAD13 (2025–2027) includes a pledge to further integrate climate considerations across all investments, increasing the share of climate finance from 40 per cent to a minimum of 45 per cent. Furthermore, beginning with IFAD13, additional climate contributions (ACCs) will be implemented to mobilize more dedicated and predictable climate finance to assist the most vulnerable rural communities in developing countries in adapting to climate impacts.

SNAPSHOTS FROM THE NEXT 10 YEARS: PROJECTS EXHIBITING INNOVATIVE DESIGN FEATURES

Project name	Description
Pakistan – Sindh Coastal Project	Pakistan's vulnerability to climate change is addressed through three key components targeting rural communities. The project emphasizes gender and youth inclusivity, economic empowerment and efficient project management. Collaboration with other programmes and larger investments in climate adaptation infrastructure are key strategies for sustainable development and resilience.
Benin – Market Gardening Development Support Project	This transformative initiative aims to enhance food security, reduce rural poverty and fortify climate resilience in southern Benin. By empowering vegetable producers, promoting market integration and providing training, the project benefits 17,000 households and creates 3,000 new jobs in horticulture value chains. Collaboration with IFAD's ASAP promotes climate-resilient practices.
Cabo Verde – Rural Socio-economic Opportunities Programme	Despite limited resources, Cabo Verde has developed innovative solutions for agriculture and water management, offering lessons for climate-vulnerable regions such as the Sahel. IFAD's support for projects such as the Rural Socio-economic Opportunities Programme facilitates the adoption of low-cost technologies such as hydroponic systems and photovoltaic energy, reducing water consumption and energy costs for rural populations.

As IFAD moves towards IFAD13, the examples in this report highlight both progress and a roadmap for future action. From regional initiatives like the Great Green Wall to global workshops, IFAD shows that coordinated, multi-level efforts are key to achieving impact. These stories remind us that sustainable solutions are possible when biodiversity, resilience and adaptation are prioritized.

The lessons from this report inspire continued commitment, ensuring today's investments build a more resilient and sustainable future for smallholder farmers and their communities.

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