AGA KHAN FOUNDATION

CLIMATE RESILIENCE 2023

Improving Quality of Life


AGA KHAN FOUNDATION

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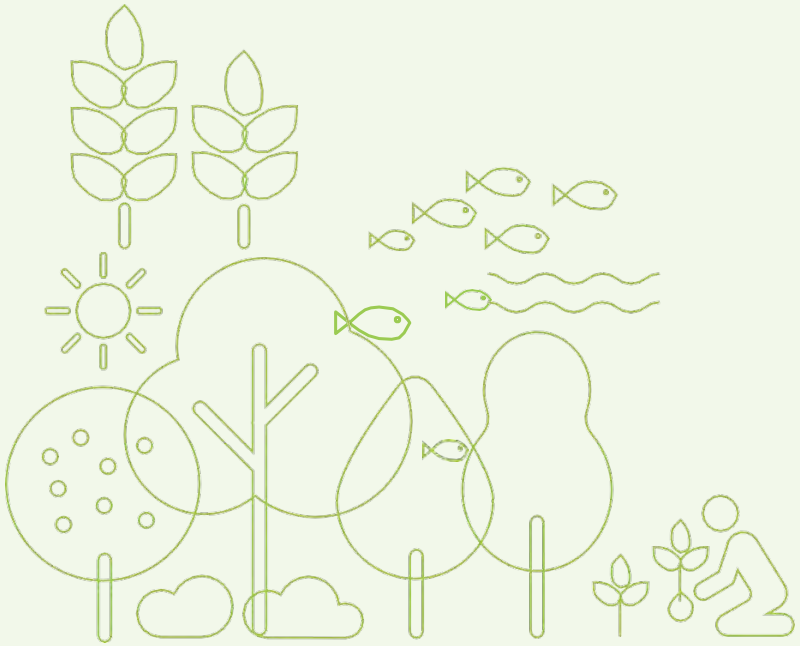
Executive Summary

The Aga Khan Foundation (AKF) is a leading global development organisation working to tackle the root causes of poverty by combining local knowledge with global best practices, thus bringing about transformative and long-lasting improvements to quality of life.

AKF is significantly accelerating its response to the global climate crisis, working with communities to strengthen their resilience to climate change, so they not only survive but thrive.

This report highlights AKF's key achievements in Climate Resilience over the course of 2023.

- **AKF's 2023 Climate Resilience report** brings together key data and insights on **programme activities catalysing climate and broader benefits to quality of life** (forestry, farming, energy, economy, education).



- **AKF planted a record 8.2 million trees in 2023** - double other strong years. Among 13 countries in which it occurred, the results are primarily in Afghanistan, India, Pakistan, Tajikistan, and Tanzania. Most of this result is due to **agroforestry** (including fruit trees) and **afforestation** through block plantation, and notable results for revival and gap filling, mangroves, and micro-forests.

- Within the context of climate-smart agriculture, **regenerative farming is scaling up**, e.g., 125,000 farmers in India in 2023, and AKF has defined **seven key principles for roll-out globally in 2024.**

- In 2023, **AKF invested in 582 clean energy assets**, including **206 solar irrigation systems**, **two micro-hydels**, and **374 biodigesters**, adding a further **1.94 megawatts of clean energy capacity.**

- **The Accelerate Prosperity initiative supported 190 green start-ups and SMEs in 2023**, a subset of which received growth financing, and other AKF efforts raised green economy skills, internships, etc.

- **AKF is scaling up its climate education efforts through the network of 50,000 teachers** it supports across 10 countries under the Schools2030 initiative.

- In 2023, **AKF continued sharing its climate-related best practices, as a public good,** with practitioners around the world through its **Learning Hub platform (akflearninghub.org).**

AKF's Programme Approach to Climate Resilience

In line with its decades-long approach to development, AKF's approach to climate resilience centres on community-led interventions.

AKF collaborates with communities to strengthen their resilience to climate change, so they not only survive but thrive.

AKF's interventions are therefore aimed at *both* building resilience to climate change *and* improving quality of life.

AKF's unique approach to building climate resilience is based on the following cross-cutting principles:

Adaptive Capacity

AKF works with some of the world's most vulnerable communities to build their capacity to cope with and adapt to the impacts of a changing climate.

Agency

AKF recognises that communities have agency, that they are resilient, and that they hold vast indigenous and traditional knowledge.

Community Leadership

AKF supports communities and their institutions to further community led and community owned interventions.

Evidence

AKF promotes approaches that combine scientific knowledge with indigenous and traditional best practices for evidence-based climate action.

Gender Equality

AKF integrates gender equality considerations that suit each context to build climate resilience capabilities of women, men, boys, and girls.

Leadership by Example

AKF actively shares its climate resilience best practices from its long history of working directly with communities with practitioners globally.

Nature-based Solutions

AKF integrates nature-based solutions for climate action.

Quality of Life

AKF supports interventions that *both* build climate resilience for sustainable development *and* improve quality of life.

FORESTRY

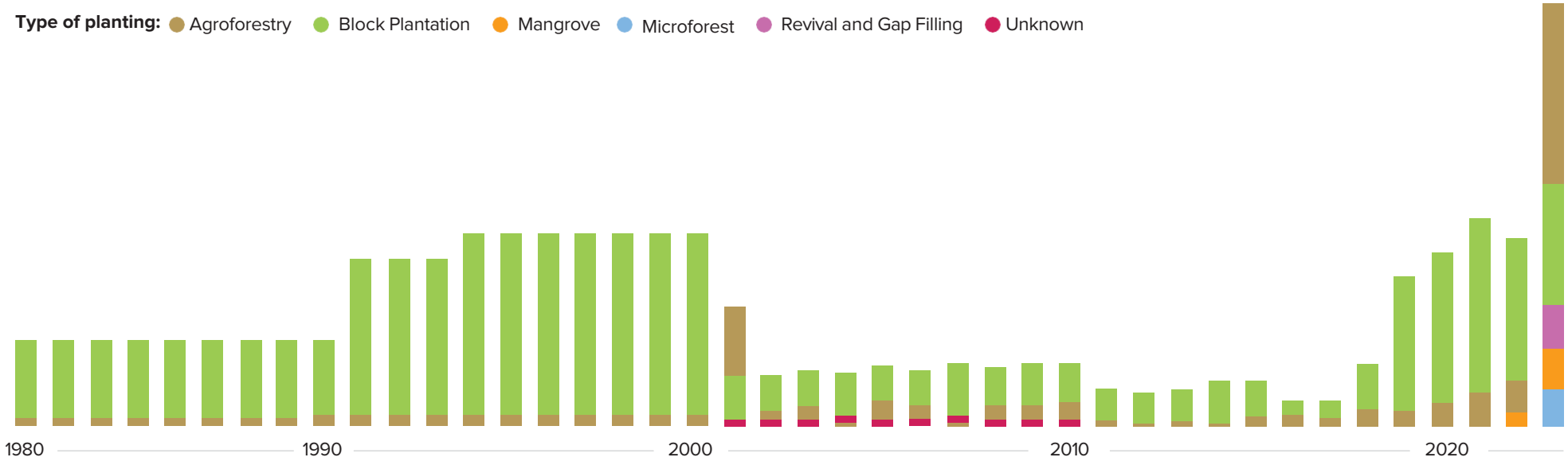
In 2023, AKF planted 8.2 million trees.

AKF has a long history of establishing forests across its geographies, having **planted 66 million trees since 1982.** AKF works **with communities and local governments** on forestry-related initiatives through **agroforestry, afforestation**, and **reforestation**. In 2022, of all the trees planted by the Aga Khan Development Network (AKDN), 90% were planted by AKF, making its role in forestry interventions of critical importance.

In 2022, AKF committed to growing at least **50 million additional trees by 2030.**

- In 2023, **AKF planted over 8.2 million trees:** 6.2 million by end October 2023 across eleven countries, with an additional 2.0 million by the end of the year.
- The trees planted by AKF in 2023 represent a **283% increase compared to 2022.**
- In 2023, the leading countries in tree planting were **Afghanistan (40%), India (21%), Pakistan (16%), Tajikistan (7%),** and **Tanzania (6%).**
- In 2023, AKF planted **307 different species of trees** across Asia and Africa, with a significant proportion being **indigenous and endemic species.**

Trees planted by AKF from 1982 to 2023



Agroforestry

is a farming system that **integrates trees within agriculture and livestock operations. AKF co-develops agroforestry solutions with farmers** to increase a variety of trees on their farms, supplement their diets, diversify and improve their incomes, and build their resilience against climate change while stimulating soil health and increased carbon sequestration.

Afforestation

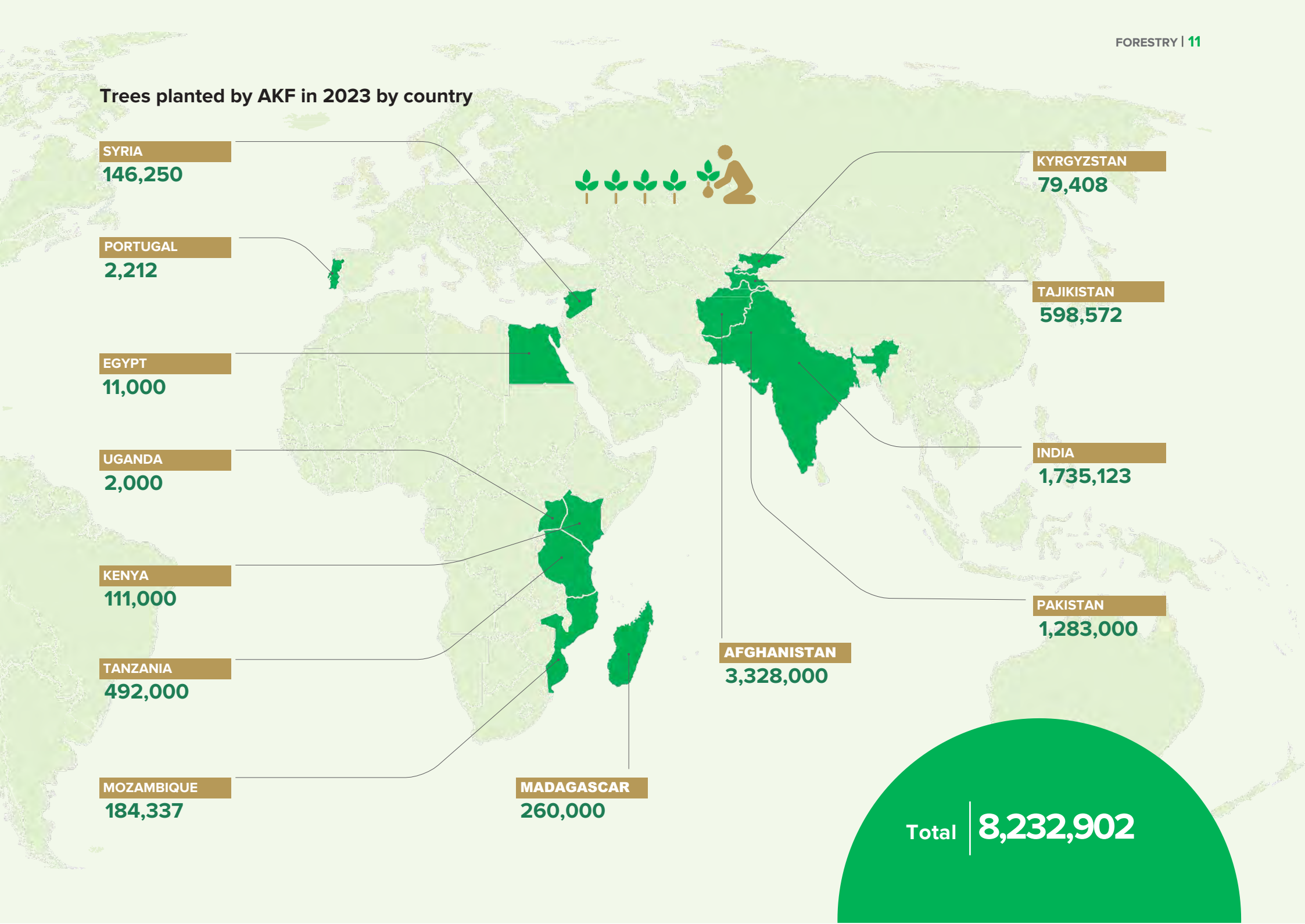
refers to **the establishment of a forest where it did not exist before**. AKF conducts afforestation activities mainly on public and community lands, working **with local authorities and government forest services.**

Reforestation

is the process of **replanting forests after deforestation.** AKF works **with communities and local authorities** to rehabilitate and maintain healthy forest ecosystems so their ability to support biodiversity and livelihoods is restored.

AKF works with communities and local governments on forestry-related initiatives through agroforestry, afforestation, and reforestation.

Trees planted by AKF in 2023 by country



SYRIA
146,250

PORTUGAL
2,212

EGYPT
11,000

UGANDA
2,000

KENYA
111,000

TANZANIA
492,000

MOZAMBIQUE
184,337

MADAGASCAR
260,000

AFGHANISTAN
3,328,000

PAKISTAN
1,283,000

INDIA
1,735,123

TAJIKISTAN
598,572

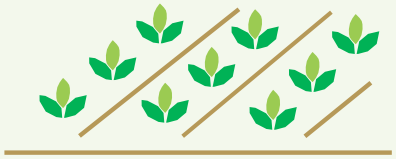
KYRGYZSTAN
79,408

Total | **8,232,902**

Trees planted by AKF in 2023 by type

Agroforestry
(including fruit trees)

3,405,190



Block Plantation
(afforestation)

2,547,930

Revival and Gap Filling
(reforestation)

997,753

Microforests
(afforestation)

526,192

Mangroves
(afforestation, reforestation)

755,837

Total
8,232,902

AKF's Journey from Planting to Growing

The AKDN Climate Commitment underscores a strategic transition from "planting" to "growing" trees. This shift signifies a holistic approach that encompasses detailed planning, efficient management, and rigorous monitoring of planting sites. The overarching goal is to **ensure not only high survival rates but also broader environmental benefits.**

In 2023, AKF collaborated with the AKDN to pioneer the **AKDN Planting Activity Register.** This **state-of-the-art digital platform records data on planting sites** cataloguing details like species composition, exact geo-locations, and land topography, and thus enabling a detailed analysis of planting initiatives. Data collected through this centralised reporting tool will be linked to a **real-time dashboard**, ensuring accessibility to all staff across the AKDN.

A complementary digital tool for collecting on-site data from monitoring visits is currently under development. The tool will both guide on-site data collection and leverage remote sensing technology. **It will equip AKF to track survival of planting sites, evaluate impacts on biodiversity, water, and soil, and estimate rates of carbon sequestration.** The platform will inform decision-making around site selection and site management, within a broader landscape approach to climate and environmental stewardship, as well as species selection based on location, topography, and climate.

GROW
THE MICROFOREST INITIATIVE

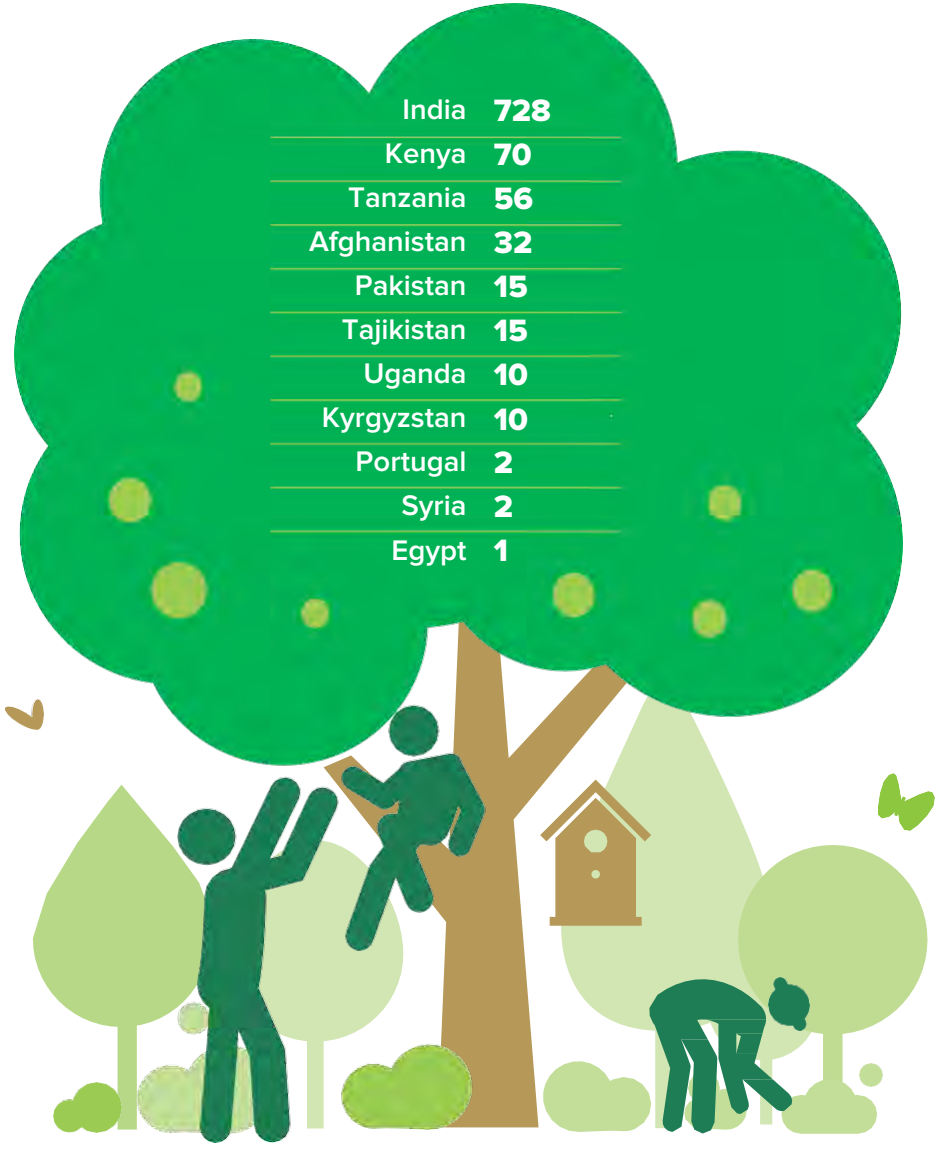
GROW MICROFORESTS

GROW - The Microforest Initiative is AKDN's initiative to grow, together with local communities, microforests as a Nature-based Solution to combat climate change in all its geographies. Inspired by the Miyawaki method, GROW microforests are **small, dense, and highly biodiverse forests that prioritise indigenous and endemic species and grow at a faster rate** than other forest plantations. They foster climate resilience by sequestering carbon, changing the micro-climate of an area, creating a habitat for wildlife, and improving soil and air quality, among other benefits. As a Nature-based Solution, **they bring about environmental and climate benefits while at the same time facilitating livelihoods gains and quality of life improvements.**

- In 2023, AKF planted an additional **939 GROW microforests** across **11 countries.** To date, since 2017, AKF has planted a total of **1,318 microforests.**
- In 2023, **AKF established GROW microforests for the first time in eight countries**, namely, Afghanistan, Egypt, Kenya, Kyrgyzstan, Portugal, Syria, Tajikistan, and Uganda in addition to those already present in India, Pakistan, and Tanzania.

GROW page on AKF's Learning Hub

Microforests planted by AKF in 2023



GROW Microforests: From India to Afghanistan to East Africa... and beyond!

AKF's GROW microforest journey began in India in 2017 when the Aga Khan Rural Support Prorgramme in India (AKRSPI) piloted the concept, establishing the first four microforests in the district of Barwani in Madhya Pradesh. Over the next five years, following successful adoption by communities and local authorities, **the number of microforests established in India increased swiftly from four in 2017 to a total of 1,089 by the end of 2023.**

In 2023, AKF worked with communities in Afghanistan to plant microforests in response to increased periods of climate change-induced drought. **Women were engaged by building their capacity to plant and maintain microforests** as a practical adaptation strategy to enhance their resilience and mitigate against climate change.

Further afield, **in Kenya and Tanzania, AKF collaborated with teachers and students to grow microforests in schools.** In these two countries, out of the 126 microforests planted in 2023, 108 were in schools.

Community driven, **AKF's GROW microforests are often established in partnership with other AKDN agencies,** including Aga Khan Schools, Diamond Trust Bank, Global Encounters, Ismaili CIVIC, Serena Hotels, University of Central Asia, and others.

Towards Integrated Forest Fire Management in Portugal

In 2023, AKF undertook a study of forest fires in rural parts of Portugal, which identified a series of efficient solutions for forest fire prevention. As a result, starting in 2024, AKF will be incorporating integrated forest fire management into its climate resilience programming in Portugal. This will include integrating goats and sheep into forested areas to prevent excessive growth of bushes under forest trees, as well as establishing seed banks for native plants, growing native breeds of vegetation, reducing rural fire risks by training of sapper shepherds, and conducting community-level fire prevention and awareness raising activities.

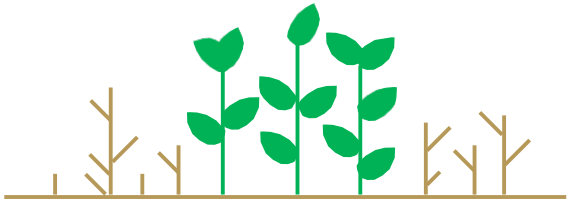
REGENERATIVE FARMING

In 2023, AKF embarked on a transition to regenerative farming and focused on learning, adapting, and refining its approach.

Drawing on global expertise, but requiring a definition that applies in diverse contexts, **AKF defines regenerative farming as the systemic combination of operations, techniques, and practices in cropping, livestock, and forestry that restore soil, water, air, and biodiversity resources, and foster their ecosystem services.** AKF therefore views regenerative farming as a holistic approach that ultimately builds the resilience of farmers against climatic, environmental, and economic changes.

In 2023:

- **The Aga Khan Rural Support Programme in India (AKRSPI) scaled regenerative farming practices to 125,000 farmers,** leading to the Government of India recognising AKRSPI as a Technical Support Agency for natural farming.
- **AKF in India was recognised as a resource organisation for regenerative farming** by other civil society organisations in the state of Uttar Pradesh.
- AKF completed a **successful regenerative farming pilot in Kenya** initiated in 2022.
- **Farmers** supported by AKF who have shifted to 100% natural local inputs **reported saving up to 95% of their input costs** and **significantly reducing their health costs.**
- **AKF embarked on a transition towards regenerative farming globally.** Throughout the year, AKF focused on learning, adapting, and refining its approach to regenerative farming across its geographies to reflect local circumstances and incorporate the experiences and feedback received from farmers.



AKF is supporting farmers to transition gradually towards regenerative farming. To do so, AKF is promoting **seven key principles in regenerative farming**, three of which are considered non-negotiable:

Non-negotiable

1. **100% local and natural inputs**
   (incl. natural pesticides, organic fertilisers, local seeds)
2. **Livestock integration**
   (incl. on-farm livestock rearing, feed and fodder crops, on-farm livestock waste recycling)
3. **Tree integration**
   (incl. agro-silvo-pastoral systems)

Flexible

4. **Minimised soil disturbance**
   (minimal to zero tillage)
5. **Maximised biodiversity**
   (complex crop associations and rotations)
6. **Minimised greenhouse gas emissions**
   (incl. biochar, soil cover, perennial crops, direct rice seeding)
7. **Optimised water and energy use**
   (incl. solar energy, biogas, rainwater harvesting, precision irrigation)

Why Regenerative Farming?

- Enhanced soil quality
- Reduced carbon emissions
- Improved farmer health
- Increased agricultural productivity and income
- Lower production costs
- Improved household climate and economic resilience

Instructional video about Biofoliar

Instructional video about Biospray

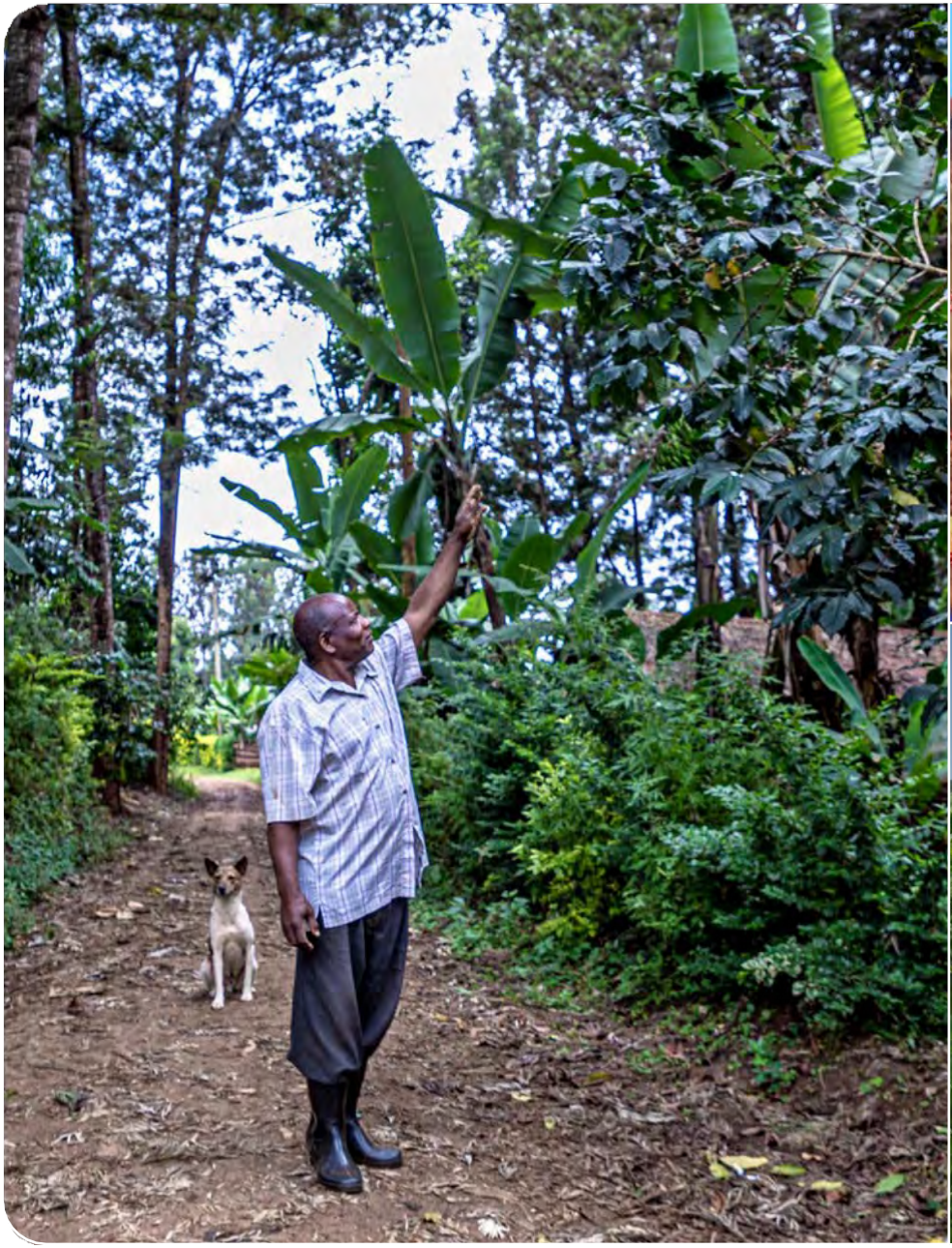
Scaling and Replicating Maendeleo: Regenerative Farming in Africa

Maendeleo is AKF's flagship regenerative farming project in Africa. Initiated in Kenya in 2022 jointly with Industrial Promotion Services (IPS), part of the economic development arm of the AKDN, **Maendeleo is supporting farmers to transition gradually to regenerative farming practices and improve their climate resilience.** Meaning 'progress, development, or improvement' in Swahili, in 2022 Maendeleo introduced regenerative farming practices to **over 3,000 smallholder farmers in Kirinyaga County in Kenya.**

Maendeleo works through Green Champions who are recruited from the Kenya National Youth Service, which supports youth skilling. **AKF trains the Green Champions on its Regenerative Farming Curriculum** for a duration of six months. In turn, the Green Champions use the Farmer Field School approach to engage groups of smallholder farmers on regenerative farming.

AKF's Regenerative Farming Curriculum comprises 30 Small Integrated, Innovative, and Impactful Modules (SIIIMs) and continues to grow. AKF builds farmer capacity on a variety of SIIIMs while ensuring it is farmers themselves who decide which practices are most relevant to their context.

In 2023, following the successful experiences and adoption by farmers in Kenya, **the first cohorts of Green Champions were trained in Egypt and Tanzania**, in preparation for implementation in 2024.




MOMENTS

In the Words of Farmers from Kirinyaga County...

“SIIIMs have helped my plants to produce **greener, fresher leaves**. They have **increased my yield** and helped me grow **better quality fruits.** I am now supporting other farmers who come to me for information on the biospray [natural pesticide].”

Rosemary Waweru

“**The results are very clear on my crops**. They are **healthier** and I’ve been able to **eliminate many more pests**, especially the aphids on my vegetables. I now want to use the SIIIMs to help me get rid of the coffee berry disease.”

Patrick Chomba

“I’ve been preparing the biospray and chicken foliar [natural fertiliser] with the help from my Green Champion. I noticed big changes and was really pleased with the results. I was able to **increase my yield of vegetables, nearly doubling my normal production** for that section. **The size of the kale leaves was bigger, deeper green, and tender, all qualities preferred by my customers** at the local vegetable market.”

Nancy Wambura Kinyua

SUCCESS STORIES: Building Climate Resilience through Regenerative Agriculture

Women-led Bioinput Production in Asia

One of the three non-negotiable principles of AKF's approach to regenerative farming is **the use of 100% local and natural inputs**. AKF has worked together with farmers to develop **locally adaptable recipes** for **biofoliar** (natural foliar fertiliser), **biospray** (natural pesticide), biofungicide (natural fungal disease treatment), and **biostore** (natural grain storage) that use only natural ingredients that are readily available on farms.

While these recipes are simple enough for farmers to produce themselves, in India, AKRSPI has taken the approach one step further to engage women in scaling up regenerative farming practices. **In 2023, AKRSPI supported women's groups to set up enterprises that manufacture bioinputs, with 90% produced by women**. These bioinput enterprises address increasing demand, reduce farmer costs, and provide profitable income generating activities for women in rural communities.

In 2023, AKF replicated a similar model in both Kyrgyzstan and Pakistan where it piloted farmer-produced bioinputs with farmer groups run mostly by women. The farmers in the pilot reported positive results including reduced costs and improved health and quality of produce.

Towards More Climate Friendly Livestock Rearing

Livestock farming plays a key role in the livelihoods of many communities that AKF works with, but it is also a significant contributor of GHG emissions. **AKF is working with communities to make the rearing of livestock more efficient and productive for farmers while reducing emissions.**

In 2023, AKF successfully piloted a climate friendly livestock approach in Kyrgyzstan which involves the use of **artificial insemination to improve cattle genetics** thus promoting breeds which produce milk more efficiently and reduce methane emissions. AKF trained a group of artificial insemination technicians who provide services to farmers.

In a similar vein, **throughout 2023, AKF continued its technical partnership with the National Dairy Development Board's Ration Balancing Programme in India.** Poor animal feed quality results in livestock producing more methane during digestion. Ration balancing ensures that livestock get the right amount and balance of high-quality nutrients to maintain good health, growth, and optimal productivity. As a result, **farmers benefitted from increased milk production and lower feeding costs**, while observing a 13% reduction in methane emissions per kilogram of milk.

Also in 2023, **AKF supported communities in Syria to revive the old-age tradition of pigeon towers** whereby pigeons feed in the fields during the day and use the towers as nests and breeding sites, thus providing farmers with a source of protein and natural fertiliser in the form of manure.

In Africa over the course of 2023, AKF focused on developing a new integrated fodder system to help farmers with the challenge of increased scarcity and inflated prices due to climate change. The system allows livestock farmers to manage their fodder system by visualising it graphically, enabling them to make more informed choices about cost reduction opportunities and to optimise their production of healthy and diverse fodder.

CLEAN ENERGY

In 2023, AKF continued investing in small scale community-based clean energy solutions to connect remote communities to affordable and reliable sources of energy and combat climate change.

AKF views clean energy as energy that comes from renewable sources and does not emit greenhouse gases. In the geographies where AKF works, the availability, reliability, sufficiency, and affordability of clean energy are all limited. Without access to sustainable energy sources, the full socio-economic potential of many communities cannot be realised thereby reducing people's quality of life and ability to adapt to climate change. Without access to clean energy, natural resources such as forests are under continuous threat.

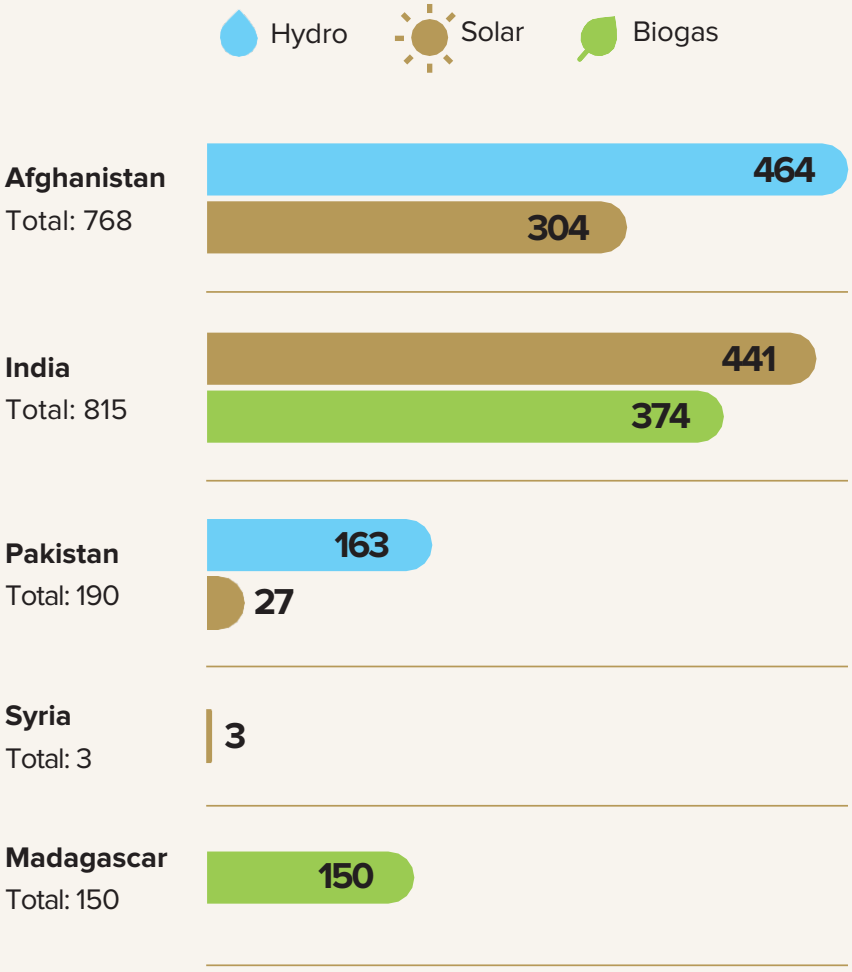
As of end 2023, AKF has 1,926 operational clean energy assets including 627 micro-hydels, 775 solar energy solutions, and 524 biodigesters. Through these assets, AKF adds over 36 megawatts of clean energy capacity, generating over 27,000 megawatt[3] hours of clean energy per year.

In 2022, AKF committed to installing 17 megawatts of additional clean energy capacity, adding 21,461 megawatt hours per year by 2030.

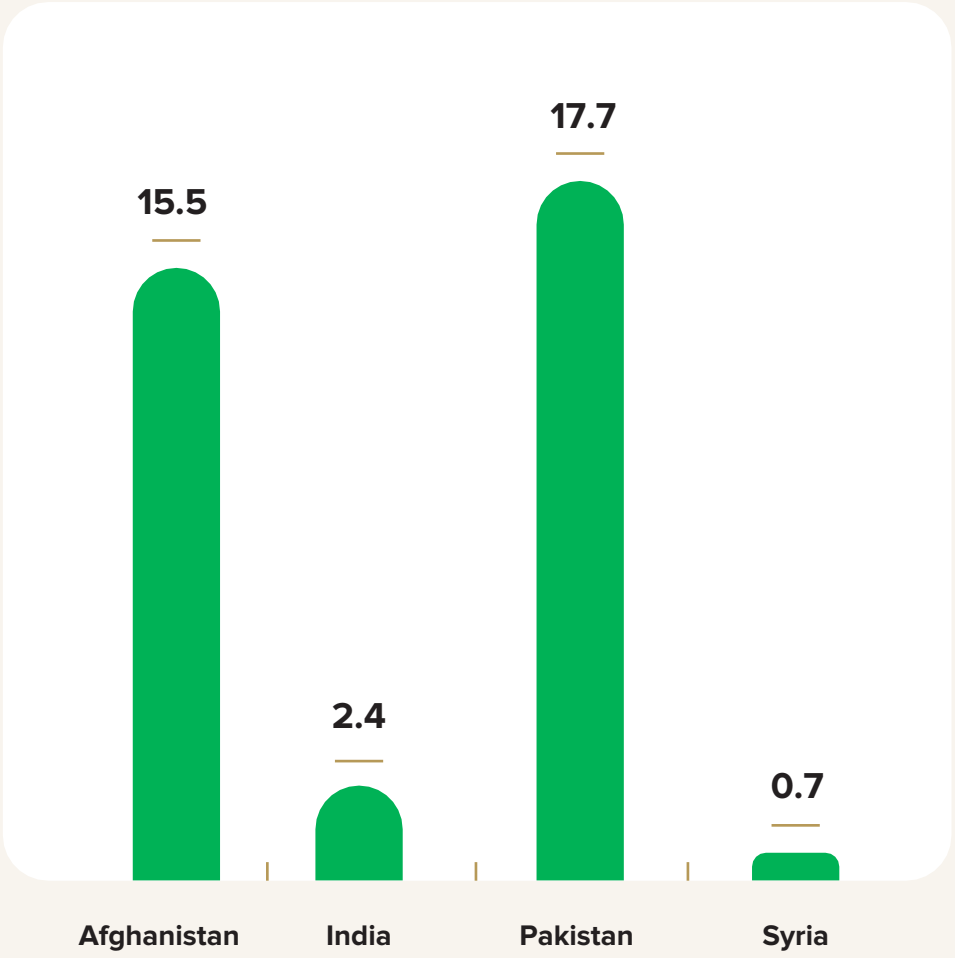
- **In 2023, AKF invested in 582 clean energy assets, including 206 solar irrigation systems, two micro-hydels, and 374 biodigesters, adding a further 1.94 megawatts of clean energy capacity.** AKF's 206 solar energy solutions cover over 2,600 hectares of land and benefit over 12,600 farmers.
- In 2023, AKF continued to explore and expand **clean energy technologies linked to key economic sectors** such as agriculture through a series of pilot projects, notably in Afghanistan and Syria.
- Under its **Energy Plus Initiative**, which seeks to address gaps in the energy cluster from the generation to the utilisation of energy, **in 2023 AKF brought together AKDN agencies including Industrial Promotion Services (IPS) and the Aga Khan Agency for Habitat (AKAH) and partnered with the European Union** to launch a holistic approach to clean energy.
- **Each year, 27,000 tonnes of carbon dioxide equivalent (tCO2e) are avoided** as a result of the clean energy assets installed by AKF to date.

[3]A typical rural household utilises two megawatt hours per year.

Number of operational clean energy assets by country and type (1992-2023)

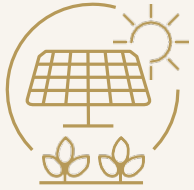


Megawatts of capacity installed (solar and micro-hydels) by country (1992-2023)



AKF's clean energy solutions include community-managed micro-grids, solar irrigation, and small-scale household biogas systems:

1 - Community-managed Micro-grid Solutions: These include AKF's investments in **micro-hydel projects** and in **solar micro-grid solutions**. Once built, micro-grid assets **are fully managed and sustained by communities** through the local village-level organisations, mostly in off-grid areas. AKF also provides individual solar solutions for households and businesses.



2 - Solar Irrigation Solutions: AKF's investments in solar irrigation solutions include the installation of **solar pumps to replace diesel-powered wells**. This results in reduced GHG emissions and makes irrigation water more affordable for farmers. To ensure sustainability, AKF is also actively seeking solutions to recharge groundwater. AKF's solar irrigation projects are **managed through community and entrepreneur-led models**, depending on the context and financial viability of the approach.

3 - Small-scale Household Biogas Systems (Biodigesters): AKF supports farmers and communities in places where agriculture and livestock rearing are an established livelihood activity to re-use food as well as agricultural and animal waste products from their farms to **produce energy for household use by installing small-scale biogas systems.** In addition to increasing energy access, this technology mitigates against climate change as it **reduces the amount of GHGs that would be released into the atmosphere** from food, animal, and agricultural waste.

Community Micro-Grids in Pakistan and Syria

In 2023, under the Central Asia Poverty (CAP) Programme, AKF completed construction of the 500 kW Umalsat mini hydro unit in Silgan, Pakistan. Starting in 2024, the unit will provide **reliable, affordable, and uninterrupted electricity to 1,350 households** in the valley for lighting, heating, cooking, and commercial use.

In February 2023, AKF installed a community-based off-grid solar rooftop micro-grid system in the village of Khirais in the district of Salamieh in Syria. AKF helped install solar panels on the roof of the local community centre and supported community members to establish a cooperative to support the maintenance of the solar powered system by contributing 500 Syrian pounds ($0.20 USD) monthly per household. **Through the project, all 24 households in the village are now able to access clean energy. Critically, community members are now also able to access water through solar-powered electric pumps** which have, in turn, increased income generating activities for farmers.

Solar Irrigation Solutions in Afghanistan and India

In flood-prone northern Bihar, **AKRSPI has been working with farmers since 2016 to help them shift away from diesel and electric pumps in favour of solar irrigation, thereby reducing irrigation costs by 30% and conserving groundwater.**

In 2023, AKRSPI empowered 31 rural women to become **Irrigation Service Providers (ISPs),** each with a 5 horsepower (hp) solar pump serving neighbouring farmers. AKRSPI utilised a blended financing approach, with AKRSPI providing a grant covering 50% of the cost of the solar pump, and the remaining 50% provided as a loan by Women's Self-Help Groups and local partners. By the end of 2024, AKRSPI plans to have setup 100 ISPs (all women) in up to 15 villages in Bihar **serving 5,000 farmers across 2,500 acres of land.**

Over the course of 2023, AKF also commenced the installation of solar irrigation systems for surface water in Afghanistan and Pakistan to promote agricultural activities and tree growing on marginal lands that previously lacked access to water from gravity-fed irrigation channels. One such solar irrigation solution was installed in the village of Wardooj in Afghanistan. Covering 10 hectares of land, the project will benefit 102 households.

Clean Energy Awards

In 2023, the Aga Khan Rural Support Programmes in India and Pakistan were recognised through **national-level awards** for their climate resilience work.

- The **Energy Globe Award**, a global sustainability award, was awarded to **AKRSP** for its **commitment to clean energy in Chitral.**
- The **Nexus of Good Award**, a national-level award in India, was awarded to AKRSPI for its **solar-based irrigation work promoting women entrepeneurs** who run solar pumps.

GREEN ECONOMY

In 2023, in view of catalysing carbon neutrality, AKF strengthened its green economy framework to incorporate green and greening enterprises and jobs.

Over the course of 2023, AKF intensified efforts to foster the green economy, a reflection of both AKDN's commitment to carbon neutrality and the sector's increasing potential to generate meaningful business and gainful employment opportunities.

Green Economy
is climate resilient and economically inclusive, using practices that are low carbon, resource efficient, and adaptive to change.

Green Enterprises
are environmentally focused, either by delivering green products and services as their primary activity, or by taking significant measures to green their inputs and operational processes.

Greening Enterprises
are environmentally responsive, having begun to fulfil some characteristics of a green enterprise, such as the adoption of more sustainable inputs or more resource efficient operations.

Green Jobs
are those within green employers, whether a business, civil society organisation, or agency. They also include jobs dedicated to green functions or processes within traditional institutions or through self-employment.

accelerate prosperity

AKF channels its promotion of the green economy primarily through two global initiatives: **Accelerate Prosperity (AP)**, which in 2023 pivoted to catalysing green start-ups, scaling up existing green businesses, and facilitating the greening of traditional enterprises towards more sustainable practices, and **Future of Work,** which focuses on fostering inclusive employment opportunities for youth and women within the green and digital economies.

Green Start-ups and Businesses through Accelerate Prosperity

- In 2023, **AP supported 190 green start-ups, small, and growing businesses across Afghanistan, Kyrgyzstan, Pakistan, and Tajikistan, 15 of which received around USD 800,000 in funding** to launch and expand green solutions and green their operations.
- Over the course of 2023, **AP leveraged partnerships to support green growth,** including collaborations with:
  - The **Aga Khan Agency for Habitat (AKAH)**, to drive innovation and environmentally friendly solutions within the building and construction sector in Central and South Asia.
  - **Notre Dame University** for in-depth green sector analysis, which yielded insights into ecotourism and agricultural prospects, identifying potential for greenhouse and storage facility ventures in Tajikistan, as well as IT-enhanced green enterprises and sustainable building projects in Kyrgyzstan.
- In 2023, **AP launched pilots in Portugal and Syria with a focus on green and IT opportunities through Virtual Accelerate (VA).** The VA digital platform provides turnkey solutions to entrepreneurship support organisations to conduct incubation, acceleration, and impact investment programmes virtually, thus minimising their carbon footprint.

Green Businesses Supported by Accelerate Prosperity

Among the green businesses AP supported in 2023 were:

- **AsiaStroy Industry (Kyrgyzstan),**
  a glass recycling company that makes glass mesh and fibres for use in the construction sector, thus replacing less environmentally friendly materials such as aluminium, steel, and concrete.
- **MyWater (Pakistan),**
  the country's first bottle-less water purification as well as cooling and dispensing solution, for premium quality drinking water, distributed through both business-to-business (corporate offices, hospitals etc.) and business-to-customer (households) channels.
- **Dehkan Farm (Tajikistan),**
  one of Tajikistan's largest greenhouse companies addressing the issue of rising food insecurity in Gorno-Badakhshan, exacerbated by climate change.

Green and Greening Priorities Going Forward

Starting in 2024, as part of a new EUR 20 million five-year project co-funded by KfW and AKF, AP will roll out its **Environmental and Social Management Systems (ESMS) in Pakistan** which will promote green, greening, and IT businesses. The ESMS will enhance AP screening, selection, due diligence, and financing of green and greening businesses. After testing in Pakistan, the ESMS **will be replicated in Afghanistan, Kyrgyzstan, and Tajikistan.**

AP is also adopting **clearer criteria and assessment tools** for classifying, and designing support for, green and greening businesses across a wide range of sectors.

Green Competencies and Jobs through Future of Work

Under its **Future of Work** initiative, AKF runs **skills bootcamps for youth**, such as its **Youth Entrepreneurship and Employable Skills (YES)** programme. AKF also establishes strategic partnerships with employers to unlock job opportunities for youth at scale, with increasing priority given to promoting green jobs.

- In 2023, **AKF incorporated new climate and environmental content into the YES bootcamp** and **began developing a tailored Green Competencies Framework.**
- In 2023, **AKF began promoting greener practices among members of its Coalition of Employer**s, who offer internships - apprenticeships and on-the-job training for youth as a pathway to securing decent, digital, and green jobs.

YES Bootcamps in Central Asia

In 2023, the YES bootcamp graduated over 600 youth in Kyrgyzstan and Tajikistan. Graduates who have launched green enterprises include:

- **Ernazar Tagaev, from Jalalabad,** who started a primary wastepaper management business to collect, sort, package, and send wastepaper to Bishkek for recycling.
- **Akmaanai Myrzabek kyzy, from Osh**, who developed a start-up that produces and sells vermicompost, which has a strong local market.
- **Amina Mirmurodova and Donistamo Otambekove, from GBAO**, who specialise in sewing eco-friendly cotton bags and promoting their products online.

Promoting Green Internships and Apprenticeships

Members of the Coalition of Employers adopting greener practices will account for **over 100 of the 600 internships** supportedby AKF in 2023.

Starting in 2024, AKF will prioritise green and greening employers in its internship and apprenticeship programme. AKF plans to engage new green members, such as businesses within the Green Alliancein Kyrgyzstan.

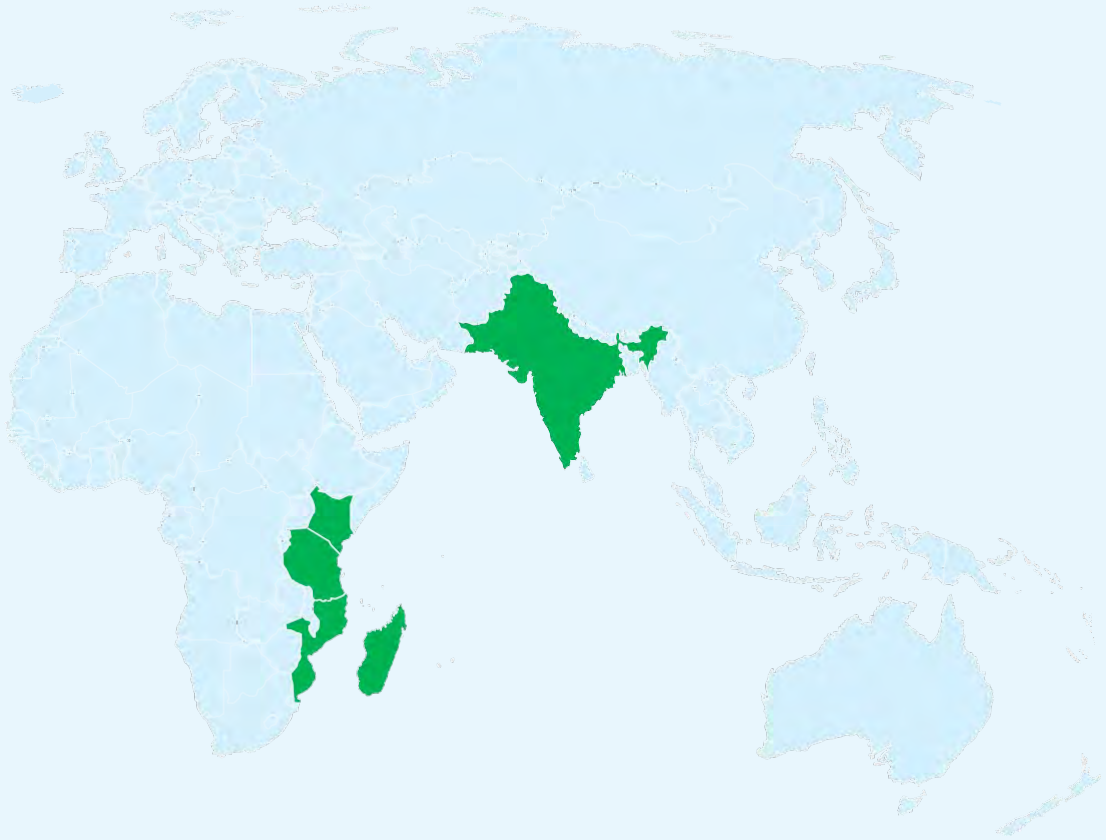
COASTAL REGENERATION

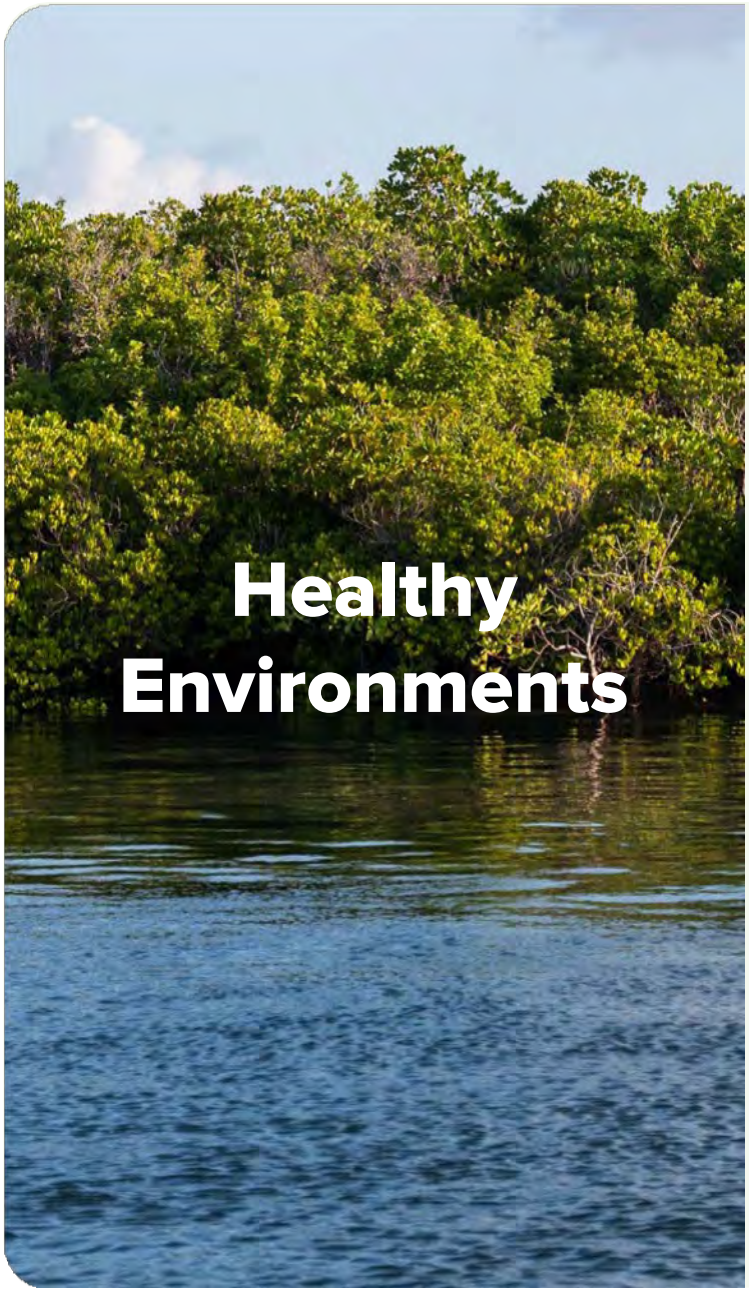
In 2023, AKF developed the concept for a flagship six-country Indian Ocean Coastal Regeneration Initiative.

Indian Ocean Coastal Regeneration Initiative

To address the converging crises of climate change, deforestation, and biodiversity loss that threaten the earth's capacity to recuperate and regenerate, and that take an enormous toll on the wellbeing and livelihoods of communities, **in 2023 AKF developed the concept for a flagship Indian Ocean Coastal Regeneration Initiative.** Centred around one of the world's most bio-diverse areas, fringed with fragile ecosystems, the initiative will focus on **six countries bordering the Indian Ocean** where AKF already has a significant and proven track record: **India, Kenya, Madagascar, Mozambique, Pakistan, and Tanzania.**

The Indian Ocean Coastal Regeneration Initiative will apply a transformative, science-based, community-led, Nature-based Solutions approach, building on the premise that **to address climate change and ensure environmental sustainability it is essential to engage communities and improve overall quality of life.** The initiative will bring together **10 solutions for healthy environments and 10 solutions for strong communities.**





Healthy Environments

1. **Mangrove restoration and protection**, including monitoring of vegetation and water dynamics;
2. **Regenerative and organic coastal farming;**
3. **Community asset building** to address environmental protection, including provision of clean boats and nets;
4. **Clean energy** including efficient alternatives to charcoal - biogas and solar cookers;
5. **Tree planting** including the establishment of new tree and plant nurseries;
6. **Sustainable water resources** including reducing coastal salinity;
7. **Coastal forest and sea grass conservation;**
8. **Biodiversity** and climate adaptation measures;
9. **Enriching dietary patterns;**
10. Tracking **carbon sequestration** and potential links to Nationally Determined Contributions and carbon finance.

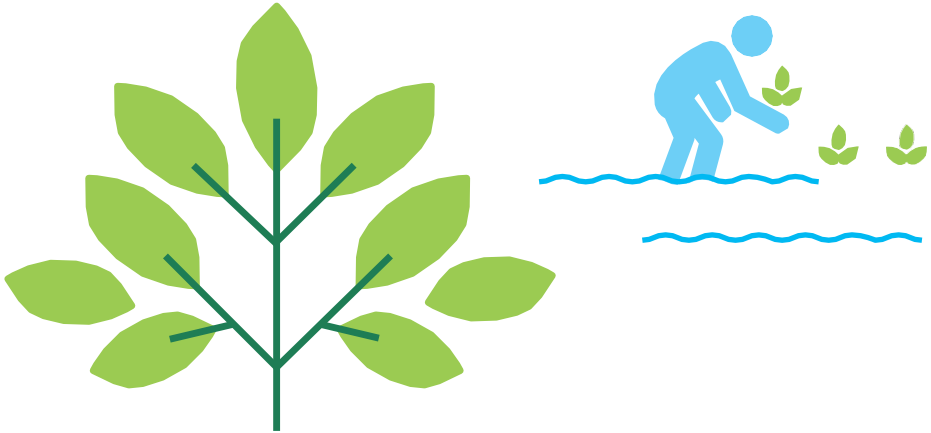
Strong Communities

1. **Community mobilisation and institution building**, including beach management units, addressing local pollution, including beach and river clean up;
2. **Microfinance** and the formation of women's savings groups;
3. Building of strong **local government partnerships** through civic structures;
4. **Micro-enterprises and skills training** for meaningful and productive employment and self-employment;
5. **Integrated farming systems**, including beekeeping, livestock and poultry, and value chain support for harvesting, processing, and marketing;
6. **Fishing, aquaculture and seaweed farming**, and other sustainable economic opportunities;
7. **Food and nutrition security;**
8. **Gender equality and social inclusion;**
9. **Early childhood development and climate education** - pedagogy and resources;
10. **Increased knowledge and capacities of practitioners and policymakers** on coastal regeneration.

Success will mean both:

- **Resilient communities** with healthier diets and nutritional outcomes, increased food security, improved prospects for livelihoods, and more control over their physical environment.
- **Expanded and thriving protected mangrove forests** with higher levels of carbon sequestration and providing protection against climate-related shocks, increased animal and plant diversity, and reduced wood cutting for charcoal using alternative energy options.

The initiative will be backed by a technical team of leading experts and premier academic institutions that will drive research, innovation, and design solutions, including **Aga Khan University, World Forestry (ICRAF-CIFOR)**, and **CIRAD (French Agricultural Research Centre for International Development),** which AKF is already partnered with. AKF will set up a **Coastal Communities Regeneration Facility** for the amplification of lessons learned to coastal areas globally, and will set up a network of local **Collaborative Research and Learning Centres** to facilitate the exchange and promotion of best practices.



Mangroves play a vital role in protecting coastal zones, promoting marine and terrestrial biodiversity, capturing carbon, and providing essential resources for local communities. However, many mangrove areas around the world have been impacted by deforestation and degradation due to various human activities, such as the expansion of agriculture, aquaculture, urbanisation and the extraction of timber and firewood. These activities have caused habitat loss, reduced biodiversity, coastal erosion, and compromised ecosystem services provided by mangroves.

Delivering Nature-based Solutions through Women's Associations: Mel do Mar in Mozambique

Mel do Mar, meaning **'honey from the sea',** is a nature-based project which **promotes women's beekeeping and honey value chain activities, while rehabilitating and protecting mangrove ecosystems** along the coast of Ilha de Moçambique in Nampula Province. Mel do Mar works through a series of women's associations to address both biodiversity and ecosystem degradation and improve gender equality and socio-economic inclusion.

To date, as part of Mel do Mar, **more than 600 women**, members of the **18 women's associations**, have replanted approximately **130'000 mangrove trees** covering an area of **51.9 hectares.**

In 2023, AKF significantly scaled up Mel do Mar by installing an additional 150 beehives for honey production, making connections with key suppliers, introducing further livelihoods activities to help diversify income streams, training participants in financial literacy, savings, and loans, as well as mangrove protection and planting, and installing mangrove nurseries to support the sourcing of a large amount of good quality seedlings.

Mel do Mar and AKF's coastal regeneration work in Mozambique will be the subject of a short film produced and distributed by BBC.com in 2024. The film will be part of a series exploring the relationship between humans and oceans and highlighting examples of how coastal communities can live in greater harmony with marine environments.

Lessons learned from Mel do Mar will inform AKF's Indian Ocean Coastal Regeneration Initiative.

CLIMATE AND EDUCATION

In 2023, AKF prioritised the critical role of teacher leadership in advancing climate action in and through education at the local and global levels.

Since the UN Transforming Education Summit in 2021, **more than 70 countries have committed to including climate education for the very first time into their national curricula by 2026.** At the same time, according to a recent report by the World's Largest Lesson that surveyed over 35,000 participants, **85% of teachers reported not having the confidence to teach climate change in their local contexts - while 90% of students prioritised climate change** as the topic they wanted to learn the most for the future.

In 2023, AKF continued working to ensure this policy reform is informed from the bottom-up rather than the top-down by **ensuring teachers and their insights, innovations, and real-world experiences remain at the centre of the educational response to the climate crisis.** AKF continued to engage in both local and global opportunities to support and recognise teacher leadership in advancing climate action in and through education.

At the local level,

AKF's **Schools2030** programme has offered a platform since 2020 across **10 countries and 1,000 public schools** to generate new **teacher-led, teacher-tested, and teacher-approved innovations for climate action** that improve holistic quality learning outcomes and inclusive learning environments. To do so, **AKF supports 50,000 educators** to assess, innovate, and showcase 'what works' to equip learners with the **knowledge, attitudes, skills, and values** to understand and respond to climate change challenges through the provision of holistic education.

Play, Pluralism, and the Planet

In 2023, AKF completed the **'Play, Pluralism, and the Planet'** pilot **through Schools2030 Tanzania** that generated new evidence about **how teachers can best design climate action solutions,** including adapting AKDN's GROW Microforest initiative into the public school education system. The evidence from this seed grant from Dubai Cares informed AKF's submission to USAID/FCDO's first-ever global call for proposals for solutions at the nexus of climate, gender, and education. **From 180 global applications, AKF was awarded the first USD 2 million award to advance climate education** through scaling the Schools2030 model in Tanzania.

At the global level,

in 2023, AKF hosted the **2nd annual Schools2030 Global Forum in Porto, Portugal, in partnership with Portugal's Ministry of Education and Porto Municipality.** The Global Forum included a **pre-COP28 event with teachers, policymakers, and funders** that discussed new ways to support pre-service and in-service teacher training for advancing the future of climate and education.

In 2024, **in partnership with the Kyrgyz Republic's Ministry of Education, the 3rd annual Schools2030 Global Forum in Bishkek** will focus on **'Climate, Education, and Culture'** as a follow-up and follow-through to the first Education Day at COP28 in Dubai, UAE, held in December 2023.

AKF has also become an **active member in the global climate education ecosystem** in order to connect the priorities and practices of teachers to the climate education policy and financing decision-making processes. In addition, AKF is working to bridge the often separate ecosystems of the international climate and education agendas by underlining the critical role that education must play in advancing meaningful and impactful efforts in climate mitigation and adaptation efforts worldwide. From 2021 to 2023, AKF engaged in five strategic ways:

1. **POLICY** - AKF became a founding member of the **UNESCO Global Education Partnership**, with 80 member states and 1,400 organisations focused on advancing climate education through 'Greening Communities', 'Greening Teacher Training', 'Greening Schools', and 'Greening Curriculum'. AKF is connecting the insights and resources emerging from the AKDN Climate Education Committee to the global decision-making processes that will inform and impact national education sector plans over the next three years.
2. **PRACTICE** - AKF became a founding member of the **Teachers for the Planet** global initiative, in partnership with Teach for All and the Learning Planet Institute, that showcased 100 new teacher-led, teacher-tested, and teacher-approved local climate education solutions at COP28, including educators from the Aga Khan Schools.

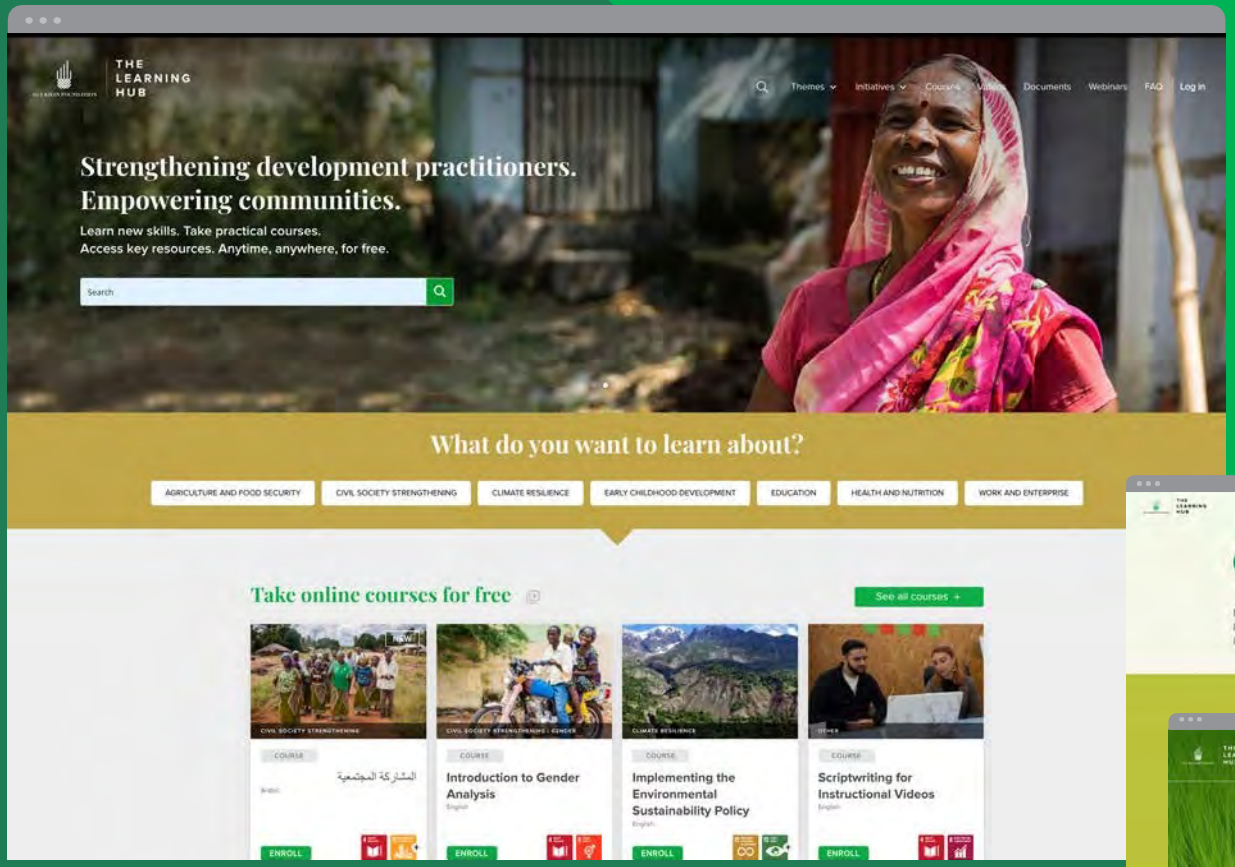
3. **CROSS-SECTORAL COLLABORATION** - AKF became the global co-chair of **Room 4 of the Brookings and Rockefeller Foundation's 17 Rooms Initiative** that focused on bridging the policy and practice gaps related to the future of climate education across the 17 UN Sustainable Development Goals (SDGs). AKF participated in high-level global education, climate, and philanthropy events throughout this year's 78th UN General Assembly to begin connecting the siloed approach to addressing the climate crisis in and through education.

4. **FINANCING** - AKF informed the creation of a **new climate education fund at the Global Partnership for Education (GPE)** to support climate-smart education systems throughout low- and middle-income countries. AKF became the only private foundation to become an accredited global grant agent of the GPE in 2023. AKF is also an active member of national and global GPE education sector planning and financing mechanisms.

5. **COP28** - AKF was a strategic partner at the world's first **Education Day at COP28** at the **RewirED Summit.** Beginning at COP27 in Egypt, AKF hosted discussions between the GPE, UNESCO, and Dubai Cares which eventually led to the announcement of the first Education Day at COP28 in the UAE on 8 December 2023. At this event, AKF co-launched a new partnership with Dubai Cares to connect schools to systems in advancing teacher leadership in climate and education across its Schools2030 schools and with a wider AKDN geographic scope from 2024-2027.

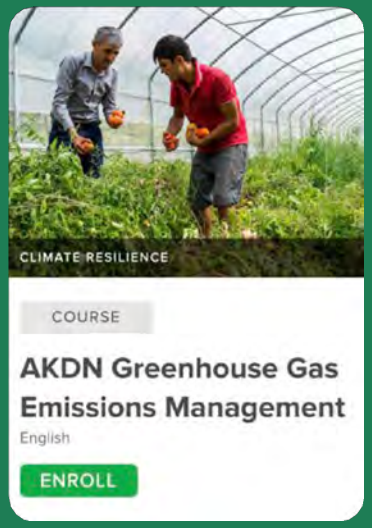
Throughout 2023, AKF was an active member of the inaugural **AKDN Climate Education Committee** where agencies are collaborating to ensure the teaching and learning materials for climate action solutions are co-created, supported, and understood by teacher leaders as critical resources and opportunities to improve holistic learning outcomes and quality learning environments for all.

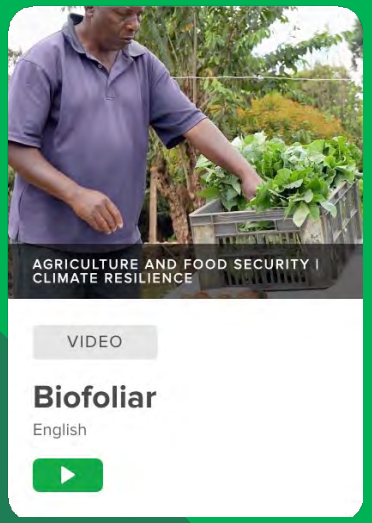
BEST PRACTICE SHARING



AKF's Learning Hub

AKF's Learning Hub (akflearninghub.org) amplifies AKF's best practices to the broader development sector by sharing them as a public good.





To further the reach of AKF's climate-related best practices, in 2023, AKF signed an MoU with Harvard University's LabXchange platform (labxchange.org) to share AKF's key climate-related learning resources with LabXchange's 1 million+ registered users - largely educators and students - at no cost to either AKF or end users.

Climate Resilience page on The Learning Hub

AKF's Climate Partnerships

In addition to the countless community-based and local civil society partners AKF works together with to forward its climate resilience agenda, in 2023, AKF's country units collaborated with the following key government, technical, and funding partners:

AFGHANISTAN

- Asian Development Bank
- European Commission
- GiZ / BMZ
- Global Centre for Pluralism
- ICIMOD
- Lanzhou University, China
- Swiss Development and Cooperation
- Unifor Canada
- University of Central Asia
- Wildlife Conservation Society
- World Bank

EGYPT

- Aswan Governorate Department of Environmental Affairs
- Drosos Foundation
- Egypt Ministry of Information and Communication
- Louis Dreyfus Foundation
- Spanish Cooperation

INDIA

- Access Bank Foundation
- Axis Bank Foundation
- Azim Premji Foundation
- Better Cotton Initiative
- Children's Investment Fund Foundation
- Gates Foundation
- GiZ
- Godrej Agrovet Ltd
- Housing Development Finance Corporation
- India National Dairy Development Board
- IndusInd Bank
- John Deere
- National Bank for Agriculture and Rural Development
- National Coalition of Natural Farming
- Standard Chartered Bank
- State Bank of India
- State Government of Bihar
- State Government of Telangana
- State Government of Uttar Pradesh

KENYA

- Aga Khan Academy Mombasa
- Aga Khan University
- Big Ship
- CABI
- County Government of Kwale
- Diamond Trust Bank
- Frigoken
- Global Encounters
- Ismaili CIVIC
- Jubilee Insurance
- Kenya Forest Service
- Kenya National Drought Management Authority
- Kenya National Youth Service
- Public schools in Nairobi, Kirinyaga County, Kwale County
- Ripple Effect
- Taka Taka
- World Agroforestry (ICRAF-CIFOR)

KYRGYZSTAN

- Aiyl okmotus (local self-governments)
- BioKG
- ECD centres in Naryn Oblast and Osh Oblast
- Euro Service, LLC
- Kyrgyz Botanical Garden
- Naryn State University
- Osh Oblast Irrigation Water Management Department
- Osh Oblast Kara-Kulja Forestry Unit
- Osh Oblast Uzgen Forestry Unit
- Padysha-Ata National Park, Jalal-Abad Oblas
- Public Schools in Bishkek, Naryn Oblast, and Osh Oblast
- University of Central Asia
- USAID

MADAGASCAR

- Blue Action Fund
- Blue Ventures
- Doctors for Madagascar
- European Union
- GiZ

- Global Affairs Canada
- Helvetas
- Innocent Foundation
- Madagascar Ministry of Agriculture
- Madagascar National Office of Nutrition
- Première Agence de Micro-Finance
- Symrise
- UNICEF
- Vitol Foundation
- Wildfowl and Wetlands Trust

MOZAMBIQUE

- Cabo Delgado Provincial Directorate for Sea, Inland Water, and Artisanal Fisheries
- Cabo Delgado Provincial Directorate of Territorial Development and Environment
- District Government of Ilha de Moçambique
- District Government of Metuge
- German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Consumer Protection
- International Union for the Conservation of Nature
- Internationale Klimaschutz Initiative
- Oikos
- Quirimbas National Park
- Universidade Lúrio

PAKISTAN

- Bank Alfalah
- Danish Ministry of Foreign Affairs (DANIDA)
- Deutsche Gesellschaft für Internationale Zusammenarbeit (GiZ)
- Foreign, Commonwealth and Development Office (FCDO)
- National Disaster Risk Management Fund
- PATRIP Foundation
- Provincial Disaster Management Authorities
- Provincial Planning and Development Department
- UBS Optimus Foundation
- United Nations Office for Project Services

PORTUGAL

- Card4B
- Center for Biotechnology and Plants of Beira Interior
- DST Solar
- EEA Grants Portugal
- Forest producers associations, nature protection associations
- General-Secretariat for Environment
- Government of Portugal
- Grassroots
- Institute of Nature Conservation
- IrRADIARE
- ISCTE - Instituto Universitário
- Ismaili CIVIC
- Municipality of Fundão
- Municipality of Sintra
- Regional Rural Development Associations
- University of Lisbon Faculty of Sciences

SYRIA

- Aga Khan Agency for Habitat
- AKDN Diplomatic Office
- AKFED Industrial Promotion Services
- Community Based Organisations
- First Micro Finance Bank
- ICARDA
- UN Office for the Coordination of Humanitarian Affairs
- UNHCR

TAJIKISTAN

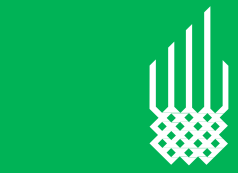
- Committee for Environmental Protection under the Government of the Republic of Tajikistan
- Departments of Environmental Protection
- District Education Departments
- District Forestry Units
- District Water Department
- Districts Subordinate to the Centre Hukumat/ Government
- First Micro-Finance Bank
- Gorno-Badakhshan Autonomous Oblast Hukumat/ Government
- Jamoats/Municipal Government
- Khatlon Region Hukumat/Government
- Kulob Botanical Institute
- Micro Loan Organisations
- Ministry of Energy and Water Resources of the Republic of Tajikistan
- Mountain Societies Development Support Programme
- Pamir Agricultural Research Station
- Pamir Botanical Institute
- Pamir Eco-Cultural Tourism Association
- State Committee for Investment and State Property Management of the Republic of Tajikistan
- State Forest Agency under the Government of the Republic of Tajikistan
- Sughd Regional Hukumat/Government
- Tajik Agrarian University
- University of Central Asia

TANZANIA

- Diamond Trust Bank
- Dubai Cares
- Hudefo
- Ismaili CIVIC
- Jubilee Insurance
- Public schools in Dar es Salaam, Lindi, and Mtwara
- Tanzania Forest Service
- Tanzania local governments
- Tanzania Ministry of Education
- UNICEF
- USAID
- Zanzibar Ministry of Blue Economy and Fisheries
- Zanzibar Ministry of Education

UGANDA

- Amfri Farms Ltd.
- Global Affairs Canada
- Ismaili CIVIC
- Makarere University
- Public schools in Kampala
- The Royal Forestry Initiative
- Uganda Biodiversity Fund
- UN Women



AGA KHAN FOUNDATION