Case Study Catalogue

The Food and Land Use Coalition

Case Study Catalogue

Across sub-Saharan Africa, actors are already showing the world how to transition to sustainable food and land use systems. This includes governments committing to green growth strategies, businesses working with local communities to conserve vital ecosystem services, and farmers and entrepreneurs combining local knowledge with cutting edge technology to sustainably increase agricultural yields. This Case Study Catalogue is a compilation of some of the best and most innovative examples from across the region.

These examples have a key role to play in transforming food and land use systems. They demonstrate what is technically and economically possible by pioneering new models for a sustainable future. They provide a template to inspire others. Critically, they are already delivering real impact in the field.

The challenge is to harness the new opportunities that global and local trends create and combine them with the right "enabling environment" – the fundamental reforms, policies, incentives and increased investment – that allow a shift to sustainable food and land use systems to scale across the region. Without this enabling environment, the success stories in this compendium will remain the exception, not the rule.

The structure of this Case Study Catalogue maps to the structure of the **People, Health and Nature: a Sub-Saharan African Transformation Agenda.**

Each case study is included in the relevant Critical Transition or Purposeful Approach Section in which it appears in the paper.

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SYSTEMIQ

AGRA Growing Africa's Agriculture

The Food and Land Use Coalition

Executive Summary

1

Ethiopia's Climate-Resilient and Green Economy Strategy

Under its Climate-Resilient Green Economy initiative, the Ethiopian government seeks to drive economic growth to reach middle-income status by 2025, while limiting 2030 greenhouse gas (GHG) emissions to around 150 MtCO2e – less than half the estimated emissions under a conventional development path.

Improving crop and livestock production practices and protecting and re-establishing forests are central elements of the initiative, along with expanding electricity generation from renewable sources and leapfrogging to modern and energy-efficient technologies.[1]

A crucial decade for food and land use in sub-Saharan Africa

2

Business-friendly policies and regulations in Rwanda

Rwanda has dramatically improved its ease of doing business and attracted significant private sector investment as a result.

Business-friendly policies include: eliminating the need for new companies to open a bank account to register for VAT; eliminating mortgage registration fees; developing an online one-stop shop for name-checking, registration fee payment, tax registration and company registration procedures; and reducing the time required to obtain registration certificates.[2]

Secure land tenure is also critical to ensure private investor confidence and to enable farmers and entrepreneurs to access credit, improve productivity and scale their activities. The government's nationwide digital-based land registry system has identified owners and established an approved title for over 11 million individual parcels of land on more than two-fifths of the total land area since launching in 2008.[3] As a result, the time taken to set up a company in the country has reduced from 43 days to just four – and at a significantly lower cost.[4]

These reforms enabled Rwanda to jump eleven places to 29th out of 190 countries in the World Bank's global "Doing Business" Index in late 2018. The number of businesses registered in the country each year has increased more than twentyfold, from 582 in 2006 to 13,120 in 2016.[5] And net foreign direct investment inflows have increased from US$10.5 million in 2005 to US$293.5 million in 2017.[6]

3

The Marshall Plan with Africa

The Marshall Plan with Africa is a political initiative spearheaded by the German government, which seeks to support African governments to deliver on the Agenda 2063. The Plan seeks to develop a shared vision for the future between Europe and Africa, with agreements and investments to support this. Priorities include enhancing value-adding activities for young people, investing in entrepreneurship, boosting value-adding activities in the region and reforming trade at international levels to create equitable outcomes for all.

The Plan emphasises the need for African solutions to meet Africa's challenges, while recognising the need for unprecedented international action and investment to secure the future prosperity and stability of Africa and the wider world.[7]

Critical Transition 1:
Equip farmers to sustainably boost agricultural yields

4

Technoserve in Uganda

In Uganda, non-profit organisation Technoserve worked with seed company Equator Seeds Ltd. to pilot the use of drones in monitoring and optimising the agricultural practices of their 30,000 contractor farmers to increase yields and incomes sustainably.

The pilot was designed to deliver significant benefits for both farmers and Equator Seeds as monitoring capacity improved. Yields were forecast to increase by 100 per cent while input costs decreased – for example, pesticide use would decline by 60 per cent.

The pilot was forecast to increase annual profits for the 270 pilot farms by an average US$2,150. Overall, 30,000 farmers stand to make over US$3,000 in their first year of maize production and US$1,500 in their first year of soy seed production. This would equate to a US$67 million increase in smallholder farmers' income.

Equator Seeds was also forecast to enjoy profits of US$6.5 million, delivering a return of US$20 for each US$1 of programme investment. The company could stand to make US$300 million in profits in just one year.[8]

5

Novella Agroforestry Project

The Novella project is a public-private partnership between the International Union for Conservation of Nature (IUCN), Unilever, the Union for Ethical BioTrade (UEBT), World Agroforestry (ICRAF) and FORM International, which enables smallholder cocoa farmers in Ghana and Tanzania to grow varieties of the Allanblackia tree, which bear fruit containing oil that is useful in food manufacturing.

While they are young, the cocoa trees provide the shade the Allanblackia need to grow. Once they've grown to maturity, the Allanblackia in turn act as shade trees for cocoa. The trees also provide harvests at different times of the year, generating regular income for smallholders.

Within less than 10 years, around 10,000 smallholder farmers had planted 100,000 Allanblackia trees. If scaled, ICRAF estimates that the scheme could generate US$2 billion a year for smallholders, roughly half the value of west Africa's cocoa crop.[9]

6

The Upper Tana-Nairobi Water Fund

The Upper-Tana Nairobi Water Fund in Kenya deploys contributions from public and private donors, including major water consumers, to provide nearly 15,000 farmers with the training, tools and resources they need to conserve water, protect the health of the Tana River and enable higher crop yields and more stable incomes.

The conversion into agriculture of forests on the hillsides and wetland areas surrounding the Tana River has compromised the landscape's ability to store runoff water and soil. When rain falls over farmed land, the soils are now washed into the river, reducing the productivity of farmland and sending sediment into the river, causing water quality issues.

Through the fund, farmers are equipped to adopt practices like agroforestry, generating additional income streams, and maintaining vegetation buffer zones along riverbanks that improve the resilience of their farmland, in turn improving the health of the river.

Investors in the fund, such as the Kenya Electricity Generating Company and Coca Cola, recognise their dependence on the Tana River for their operations. In addition, the project can support thousands of livelihoods and impact millions more – an important outcome for partners including the International Centre for Tropical Agriculture (CIAT), the Global Environment Facility (GEF) and the International Fund for Agricultural Development (IFAD).

The fund found that a US$10 million investment in water fund-led conservation interventions could return US$21.5 million in economic benefits over 30 years.[10]

7

The Regional Sahel Pastoralism Support Project

The Regional Sahel Pastoralism Support Project seeks to improve access to essential inputs, vaccination services and markets for pastoralists and agro-pastoralists in the Sahel region of West Africa. The project sought to boost productivity and resilience to meet mounting demand for meat in the region and support the livelihoods of pastoralists.

The livestock trade plays a critical role in the regional economy – linking Sahelian countries to the Atlantic coastal countries which are net importers of animal products, providing an income for an estimated 80 million people and supplying a significant portion of the meat and milk consumed in West African urban areas. Yet high rates of poverty and severe climatic vulnerability are undermining livelihoods and stability in the region. Over half of all pastoralists have been displaced due to drought, famine and conflict. This is generating increased violence, extremism and even terrorism.[11]

The project pools the expertise of a range of partners from public and private sector, pastoral civil society organisations and multilateral and financial organisations. Together, partners will work to: build more sustainable and efficient veterinary services to decrease disease among herds; improve pastoralists' access to natural resources including water and rangeland resources which often extend across national boundaries; ensure producers' access to competitive, inclusive markets for ruminant livestock; and improve crisis preparation and prevention – including technical assistance and generating opportunities for livelihood diversification.

The project aims to benefit over two million people directly, including pastoralists, service providers and national and regional institutions.[12]

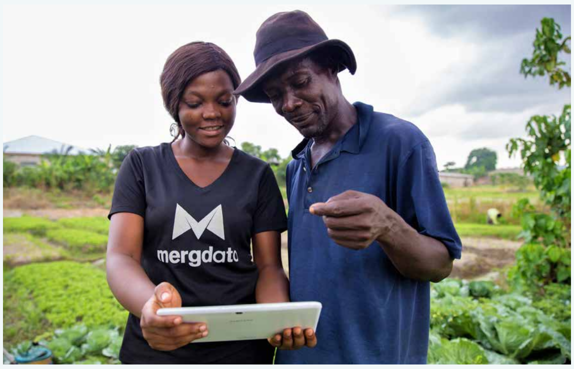
8

One Acre Fund

One Acre Fund is a non-profit social enterprise which provides a bundle of services that address a range of hurdles faced by smallholder farmers. The fund helps farmers to access input markets by providing them with high-quality seeds and fertiliser on credit, with a flexible repayment system that is compatible with the cyclical nature and embedded risks in farming. In addition, farmers receive training throughout the season on agricultural techniques to sustainably increase their yields. Moreover, One Acre Fund helps to facilitate market access for farmers by offering crop storage solutions and providing farmers with information on market fluctuations so that they can time crop sales to maximise profits.[13]

What's more, these inputs and services are delivered to locations within walking distance of every farmer served by the Fund so that those in remote locations can still benefit from the Fund's activities.

One Acre Fund works with 800,000 farmers across sub-Saharan Africa in six countries. The fund's market-based model enables farmers to increase their incomes and build paths to prosperity, while sustaining the fund. Farmers enrolled in the programme see US$91 increases (42 per cent) to their annual income, while 70 per cent of One Acre Fund's field expenses are financed through farmer loan repayments, leaving 30 per cent donor-funded.[14]



9

Farmerline

Farmerline supports farmers to adopt and scale commercial, sustainable agricultural practices in four countries, seeking to enable young people to create sustainable agribusinesses from the bottom up. The company does this through Mergdata, a mobile and web application for last-mile engagement, as well as a network of agents and partners. As a local start-up, Farmerline also generates job opportunities and tax revenues for domestic markets in sub-Saharan Africa.

Farmerline provides farmers with weather forecasts, market prices, new farming techniques, advice on agrochemical applications and finance via SMS and voice messages in local languages. Farmers can also connect to global markets and buy inputs and services through a software platform – increasing the reach of the company's services and empowering farmers through improved access to information.

Farmerline reaches 200,000 farmers and mapped over 1 million acres of farmland across thirteen countries today. Those who use its services have seen a more than 50 per cent increase in their income.[15]

10

Serendipalm

Ghanaian palm oil producer Serendipalm works with over 700 farmers to adopt organic agricultural methods, increase productivity, and improve livelihoods for farmers and the local community.

The company trains farmers with existing palm oil crops in organic farming and practices, provides them with interest-free loans and pays for their certification as fair-trade producers. Serendipalm negotiates a premium price with farmers for their crops and secures them reliable access to markets as the sister company of Dr Bronner's, the USA's biggest natural soap brand, which sources its palm oil from the company.

In addition, the company invests in key services in consultation with the local community, including education, health, maternity services and water management systems.[16]

Critical Transition 2:
Strengthen local markets for nutritious, sustainably produced food for domestic and international consumers

11

FarmCrowdy

FarmCrowdy, Nigeria's first digital agriculture platform, connects small-scale farmers with sponsors from around the world, enabling people to venture into agriculture while empowering local farmers and boosting production and food security in Nigeria.

Sponsors invest in farm cycles from inception to harvest, equipping farmers to invest in productivity-enhancing tools and practices, sell their produce at market and scale their operations. In addition, farmers are given on-the-ground advice and training in agricultural practices. Farmers and sponsors all receive a percentage of the profits.

So far, the platform has connected more than 25,000 small-scale farmers with over 4,000 unique sponsors. While many of these are professional investors who otherwise might not have done so; this also enables Nigerians to venture into farming and agriculture through the app. Launched by young entrepreneur Onyeka Akumah, the platform not only facilitates increased investment and market opportunities for farmers but is itself generating jobs and driving growth in the sector.[17]

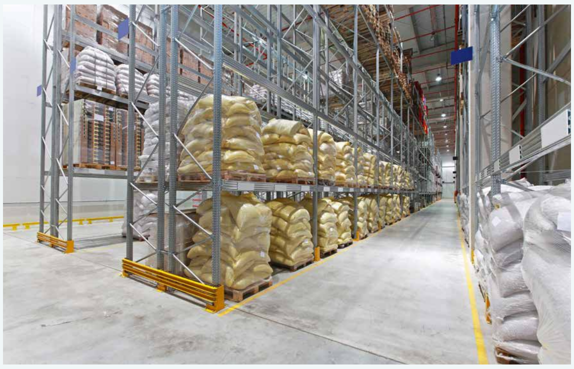
12

Generation Africa

Generation Africa is an initiative founded by telecoms company Econet and crop nutrition company Yara that aims to inspire at least one million young African entrepreneurs to join the agri-food sector by 2025 and strengthen the ecosystem of support for entrepreneurs and small businesses.

Generation Africa brings together the partners required to develop a supportive environment for business. The initiative seeks to provide a platform for initiatives supporting young entrepreneurs to link together into a wider movement. It has also launched a competition for young agri-food entrepreneurs across Africa, with a US$50,000 reward each for two winners (one man and one woman).

Through a combination of activities like these and broader advocacy and partnership efforts, Generation Africa seeks to inspire and equip individuals to enter agriculture, innovate and scale to transform the sector and benefit from the rapid growth of the region's food and beverage markets.[18]



13

ARCH Emerging Markets Partners: cold chain storage in East Africa

ARCH Emerging Markets Partners is a private equity organisation which is currently fundraising for a US$100m East Africa cold chain solutions fund. The fund will invest in developing large-scale cold chain businesses in five countries across the East African region, supported by strong local operations partners involved in the logistics network. Contemporary and innovative technology will be employed to maximise the energy efficiency of storage centres.

Through this venture, ARCH aims to help to prevent fresh produce from perishing, raising rural incomes and enhancing food security in the region while opening the possibility of global exports for storage clients. From a commercial perspective, ARCH seeks to tap into rapidly growing food demand and agribusiness activity in the region.

What's more, the business model is supported by developments in the sector. For example, farmer co-operatives can aggregate produce for storage providers to collect from, creating economies of scale and reducing inefficiency in the collection process. E-commerce providers can also act as important partners by investing in the logistics ecosystem, creating distribution centres for aggregation and matching supply to demand to make investments more worthwhile.

14

Twiga Foods

E-commerce platforms also open opportunities to enhance supply chains in the region. For example, agri-tech start-up Twiga Foods supplies fresh fruit and vegetables from Kenyan smallholder farmers to small- and medium-sized vendors, outlets and kiosks in the capital, Nairobi. Farmers deliver their produce to Twiga Foods collection centres, receiving payment via mobile money within 24 hours. Having launched in 2014, the platform serves over 8,000 farmers and over 5,000 vendors.

The mobile-based cashless platform enables Twiga Foods to offer higher prices and a guaranteed market for farmers, along with lower prices and a reliable supply to vendors. By matching demand to supply, the platform reduces post-harvest losses and waste. Consumers also benefit from accessing fresher products at lower prices thanks to a more efficient supply chain.[19]

The emphasis that e-commerce platforms place on logistics represents a significant opportunity to enhance farmer connectivity and value chain efficiency as companies like Twiga Foods expand across the region.[20]

15

AACE Foods

AACE Foods is a Nigerian company that processes, packages and distributes nutritious food grown in West Africa to meet consumer needs, improve farmer livelihoods, boost nutritional outcomes, displace imports and increase the value of exports from the region. Founded in 2009, the company sells a selection of locally processed spices, seasonings, breakfast cereals and flours to retail, wholesale, commercial and institutional buyers.

The company has partnered with key international development agencies to develop a local supply chain sourcing from over 10,00 farmers. In addition, AACE Foods provides training and storage technology for farmers, and facilitates microfinance for its suppliers. This secures a reliable source of raw materials for the company as well as improving the lives of smallholder farmers.

By 2020, the company aims to bring 20,000 smallholder farmers into Nigeria's agricultural supply, train 2000 women micro-entrepreneurs and operationalise its factory by installing higher capacity equipment and sterilisation capabilities. This will enable the company to develop more complementary food (introduced to infants alongside breastfeeding to provide nutrients) and ready-to-eat snacks, while expanding the scale and scope of its involvement with smallholder farmers.[21]

16

Yolélé Foods

New York-based chef Pierre Thiam is using his position as a tastemaker to increase New Yorkers' appetite for super-nutritious grain fonio. The grain grows in the Sahel region, is resilient to drought conditions and its roots help to secure topsoil to prevent the spread of deserts. It has historically been eaten across the region but not beyond.

By developing export markets for fonio in both Western and West African markets, Pierre hopes to create more jobs in the Sahel region. He has established a brand – Yolélé Foods. Through the brand, he is working with farmers and partners to cultivate a resilient, organic agricultural system around the grain that supports livelihoods and ecological landscapes.

In addition, Yolélé Foods aims to create fonio processing in the region to manage large harvests and so that countries can access a greater slice of the value chain.[22]

17

Local Sourcing at Heineken

In 2015, Heineken signed a Partnership Agreement to integrate smallholder cassava farmers into its value chain in Nigeria. Heineken subsidiary Nigerian Breweries guarantees to purchase 55 per cent of the cassava starch generated by Psaltry factory, which in turn sources the cassava tubers from local smallholder farmers. The starch is then converted to maltose syrup by Nigerian Breweries for use in brewing and soft drink production, reducing the need for imported sugar.[23] The company aims to increase the raw material that is sourced locally to 60 per cent by 2020.

Not only does this generate opportunities for local farmers and processors, it has helped Heineken's business. The choice to source locally was based on the need to mitigate foreign exchange challenges. Meanwhile, Nigerian Breweries has been able to improve its operations, including developing higher yielding hybrid sorghum varieties.[24]

18

Farm to Market Alliance

The Farm to Market Alliance is a public-private sector consortium of eight agri-focused organisations formed to make markets work better for farmers through value chain interventions that support farmers to benefit more from demand for their produce.

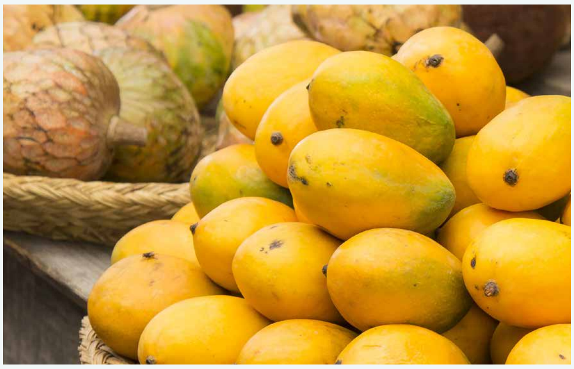
The Farm to Market Alliance supports African farming families to transition to commercial agriculture by addressing the major challenges that smallholder farmers face. The programme empowers smallholders to become reliable market players through a network of service delivery centres that provide a one-stop shop for farmers to access four key assets: (i) predictable markets, (ii) affordable finance, (iii) technologies and quality inputs, and (iv) handling and storage solutions.

Since launching in 2015, the programme has engaged over 150,000 farmers in Kenya, Rwanda, Tanzania and Zambia. The programme has generated US$17 million in crop purchases by commercial buyers and crowded in over 60 local private sector players, significantly increasing transactions between them.

Core partners in the Alliance include the World Food Programme, the Alliance for a Green Revolution in Africa (AGRA), Bayer Crop Science AG, International Finance Corporation, Syngenta Crop Protection AG, Rabobank, Grow Africa, and Yara International ASA.[25]

19

Marketplace for Nutritious Foods



The Global Alliance for Improved Nutrition (GAIN) supports SMEs to develop nutritious foods for consumers in Kenya, Mozambique and Tanzania through its Marketplace for Nutritious Foods programme. In so doing, GAIN aims to create the enabling environment for long-term improvements in nutritional outcomes and farmer livelihoods.

Through the programme, GAIN coordinates a network of local entrepreneurs, investors and institutions working in agriculture to share lessons learned and exchange knowledge about market opportunities and policy changes to improve the availability of nutritious foods. Through its Innovation Accelerator, GAIN also provides financing and technical assistance for entrepreneurs developing viable and profitable nutritious food innovations to scale.[26]

20

Africa Improved Foods

Africa Improved Foods (AIF) produces nutritious food products (mineral and vitamin-rich porridge) for the local population, especially pregnant and lactating mothers as well as children in Rwanda, from locally sourced crops. By improving access to nutritious food, AIF is trying to address stunting and malnutrition in Rwanda and neighbouring countries, where almost 40 per cent of children under five suffer from stunted growth (which costs Rwanda 11.5 per cent of GDP).[27]

By producing its products locally, AIF supports farmer livelihoods. The 25,000 farmers who sold their maize to AIF in 2018 received training to improve quality through the company and its partners. The farmers (most of them women) get a reliable income so they are able to start investing in the local economy. Further along the value chain, the company's factory generates jobs, increases demand for regionally sourced packaging, equipment and services, and increases the value of Rwanda's exports. According to Chicago University, AIF will contribute almost US$900 million to the economic development of Rwanda.

AIF has a range of partners whose support is critical to its success, helping with:

- **Investment in R&D:** the research capacity of life sciences company DSM has helped AIF to bring pioneering, fortified foods to market
- **Public procurement:** though servicing UN World Food Program and local government contracts, for example, for health centres and hospitals, AIF can operate at the scale needed to have significant impact and ultimately to become commercially viable
- **Concessional finance to de-risk investments:** IFC's US$26 million loan-investment in AIF in 2015 was made possible through funding from the private sector window of the Global Agriculture and Food Security Program, de-risking commercial investors.
- **An enabling business environment:** AIF's ability to operate across the value chain has been enhanced by business-friendly policies introduced by the Rwandan government, including the standardisation and simplification of tax procedures and land tenure reform.[28]

21

Sustainable Diets for All (SD4A)

Sustainable Diets for All is an advocacy programme led by Hivos and the International Institute for Environment and Development (IIED), which supports civil society organisations and low-income communities to advocate for better food production, trade and consumption.

Working in Uganda, Zambia, Kenya, Bolivia and Indonesia, the programme brings together stakeholders from across local food systems, including farmers and other food producers, processors, vendors and consumers to share ideas and identify solutions to local challenges.

By creating platforms for civil society organisations and low-income communities to engage with actors across value chains and government positions, the programme helps to facilitate inclusive food systems that promote healthy and diverse consumption patterns based on strong market linkages for SMEs and sustainable production practices.[29]

Critical Transition 3:
Work at the landscape level to preserve and grow natural capital

22

AFR100

AFR100 (the African Forest Landscape Restoration Initiative) is a country-led effort to bring 100 million hectares of land in Africa into restoration by 2030. The Initiative seeks to build resilience in countries while delivering on international agreements, including the Bonn Challenge, the New York Declaration on Forests and the African Resilient Landscapes Initiative (ARLI).

To date, 27 countries have committed 111 million hectares to restoration, exceeding the original target. More than US$1 billion in development finance and US$545 million in private investment has been committed to support these efforts.[30]

23

Smallholder Forestry Vehicle

The Smallholder Forestry Vehicle is an investment mechanism that enables private investment in smallholder forestry in Africa, while reducing capital costs for forestry companies that provide technical support and market linkages to smallholders. The Vehicle is under development by Komaza, a Kenyan smallholder forestry company that has partnered with 14,000 farmers, over half of whom are women, to plant and harvest 3,800 hectares of trees.

Komaza works with farmers and their communities to assess the suitability of unused, degraded plots for reforestation and helps them to secure land use rights for tree growing on these plots. Once enrolled, farmers are paid market price for harvested trees in exchange for contributing land and labour. The Company will buy back the tree production contracts prior to final harvest. Farmer compensation is set by a transparent algorithm that establishes a minimum compensation price but rewards better-than-expected tree growth and market prices. The Company also provides training, planting inputs, maintenance support, harvesting services and a guaranteed market for the trees.

The Vehicle delivers a series of benefits. First, it helps to fill a crucial investment gap in forestry in Africa by selling a portfolio of tree production contracts to a Special Purpose Vehicle (SPV) after one year of tree growth. Second, it increases farmer wealth and climate resilience by providing non-climate dependent income and creating opportunities for crop diversification. Third, it maximises the impact of these investments through a strong cooperation model between operating companies and farmers. Finally, it reduces transaction costs for investors and reduces some of the risks of plantation forestry.

At scale, each Smallholder Forestry Vehicle could restore 15,000 hectares of degraded land, providing 50,000 farming households with US$1,500 in climate resilient savings each and achieving a 17 per cent gross internal rate of return. In addition, smallholder forestry projects beyond those managed by Komaza could raise financing using this approach.[31]

24

Mangroves Together

On Kenya's southern coastline, villagers from Gazi and Makogeni set aside the fish trade for three days of every rainy season, to come together and plant mangroves instead. The village organisation, Mikoko Pamjoa (Swahili for "mangroves together") is part of a project catalysed by the Kenya Marines and Fisheries Research Institute, which involves communities planting 4,000 seedlings – equivalent to 0.4 hectares – every year at degraded sites, as well as conserving existing forest.

The community has benefited from increased fish catches. In addition, the sustainably managed forest protects the long-term availability of mangrove wood, which is critical for the construction of villagers' houses, furniture, boats and to use as firewood. Gazi has even seen ecotourism flourish as a result of the restored forest. The villagers have built a 450-metre boardwalk among the trees where visitors can see six of the nine mangrove species native to Kenya. The community also runs a restaurant serving Swahili food to tourists. Finally, the mangrove forests act as carbon sinks. The villagers have been verified to sell 3,000 tonnes of CO2 per year over 20 years. This has earned the Gazi community US$25,000 between 2014 and 2016.[32]

25

The Great Green Wall Initiative

The Great Green Wall Initiative is an African-led initiative that aims to restore 100 million hectares of currently degraded land in the Sahel, where droughts and famine have affected millions of people since the 1970s and from where millions are expected to migrate in the next two decades.

The project brings together partners from across the world to provide finance, technical assistance and communications support to collectively raise ambition and enhance abilities to deliver on this. In addition to tree planting projects, the initiative incorporates interventions to support livelihoods, improve food security, enhance health and address gender inequalities.

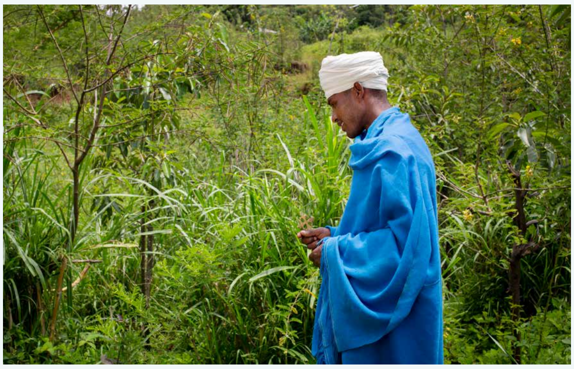
The project aims to generate 10 million jobs in rural areas, provide food security for 20 million people, increase the resilience of millions of people and sequester 250 million tonnes of carbon by 2030.[33] Once complete, the Wall will also be a natural wonder of the world, as the largest living structure on the planet.[34]

26

Organisation for the Development of the Senegal River

The governments of Senegal, Mauritania and Mali have established a set of institutions and agreements to enable land- and water-use planning that fairly distributes the benefits of the Senegal River to all. These include the Organization for the Development of the Senegal River, which manages the basin and the Permanent Water Commission, which allocates water rights among Member States and different sectors including industry, agriculture and transport.[35]

This cooperation stems from the member states' appreciation of their collective dependence on the functioning river basin. The initial Convention Concerning the Status of the Senegal River was signed in 1972, following a series of devasting droughts that caused famine in the region.[36]



27

Land Restoration in Ethiopia

In 2007, the Ethiopian government started a land restoration campaign to plant 60 million trees as part of the Bonn Challenge. The pledge recognised the threat of land degradation to the country's food security, as well as the opportunity to create jobs and to enhance the forestry sector's contribution to agricultural production systems, water and energy. In 2014, the government raised this commitment to 22 million hectares by 2030 – more than one sixth of the entire country.

By 2036, the government aims to recover and rehabilitate up to 33 million hectares of degraded land and to ensure that agricultural productivity does not occur at the cost of Ethiopia's great forests, wetlands and other vital ecosystems that serve as the home for millions of people, wildlife and the bedrock of resilient systems.

Critically, the country's 2018 National Forest Law recognises the rights of communities and acknowledges their role in managing natural forests and establishing plantations.[37]

28

BioCarbon Engineering

BioCarbon Engineering uses drone-enabled technology to plant seeds quickly and accurately across diverse landscapes, including remote and challenging terrain.

The system uses satellite and drone-collected data to determine the best location to plant each tree. Then, planting drones fire a biodegradable seedpod into the ground with pressurized air at each predetermined position at 120 seedpods per minute. The seedpods are filled with a germinated seed, nutrients, and other vital components. These penetrate the earth, and, activated by moisture, grow into healthy trees.

Two operators equipped with 10 drones can plant 400,000 trees per day. Just 400 teams could plant 10 billion trees each year, with the capability to scale to tens of billions of trees annually. The fully automated and highly scalable technology plants 150 times faster and 4-10 times cheaper than current methods. Through this pioneering technology, the company aims to plant 500 billion trees by 2060.[38]

29

Africa Tree Fund

The Tree Fund incentivises forestry organisations and farmers to plant millions of commercial-use trees by providing debt and in some cases equity finance at an affordable rate. By taking planted trees as collateral, the Fund can offer much lower interest rates than those of unsecured loans and so has the potential to transform the financing of tree planting for production and long-term conservation.

Portfolio modelling suggests a gross fund Internal Rate of Return (IRR) to investors of 5 per cent after losses, reducing to 1.5 per cent after management fees and other fund costs are considered. The Fund is run by the Nature Conservancy with support from Partnerships for Forests.[39]

Critical Transition 4:
Capture gains from equal rights

30

Supporting Vanilla-producing Communities in Madagascar

A partnership between Unilever, its supplier Symrise and German government department GIZ supports vanilla farming communities in Madagascar with improved education, agricultural training and value-adding opportunities, while securing Unilever's vanilla supply. The programme aims to improve the livelihoods of 4,000 vanilla farmers in the Sava region of Madagascar and to improve the lives of 24,000 people across 32 communities.

The programme supports farmers to sustainably increase yields and diversify their crops through training in sustainable agriculture and business management. This strengthens farmers' economic independence by helping them to earn more money from vanilla and other crops, improve their food self-sufficiency and sell their crops during lean periods. The programme also provides improved access to fair financial services to support stable incomes. In addition, the programme equips primary schools with teaching kits and teacher training on environmental education. The programme aims to establish a learning platform of rural agricultural colleges for vocational training for adolescents.

Separately, Symrise has opened an extraction facility for vanilla in the region, increasing the capacity for local processing and the increased value that this brings to the region. This has generated 200 factory jobs in a poor area and improved livelihoods in the local economy.[40]

31

Naasakle

Naasakle is a social enterprise which supports female shea nut pickers and processors in northern Ghana. Demand for shea is growing exponentially (experiencing a 1200 per cent increase between 2005 and 2015). Shea nuts are traditionally viewed as a "women's crop" in the region – women pick the nuts that have fallen on the ground – yet women are traditionally cut off from their fair share of the profits as men control the sales of the nuts.

Naasakle sources and processes shea nuts from more than 5,000 women pickers, paying them up to 25 per cent more than the price usually paid by middlemen and traders. The company then sells shea butter in bulk to wholesale and packaged beauty products to retailers.[41]

32

Boosting tef production in Ethiopia and beyond

Just under 1 million tons of tef are produced in Ethiopia each year, representing a quarter of the country's total cereal production. Tef is a staple for millions of Ethiopians, who often eat it in the form of injera, a sour pancake, at two meals each day. High in protein, gluten-free, resilient to both pests and harsh climate conditions, tef offers the opportunity to improve food security in the dry and upland areas of sub-Saharan Africa. Research efforts are working to increase the productivity of the crop as foreign demand grows. Commercial production has begun in the United States and South Africa, and international markets are opening up. Restaurants selling injera have long been established in New York, Washington, London and Rome – but the growing popularity of health foods is bringing tef into the mainstream.[42] The international health food market is estimated to be worth US$7 trillion.[43] This represents a massive opportunity for sub-Saharan African entrepreneurs. One thousand indigenous edible plants similar to tef remain largely untapped in sub-Saharan Africa, which could be leveraged to meet growing foreign demand for health foods and shift domestic diets towards healthier options.

However, the ability of Ethiopians themselves to benefit from tef's growing success has been limited by a patenting agreement that points to the imbalances in international markets. Since the 2000s, Dutch agronomist Jans Roosjen has held the patent for processing tef flour in a series of European countries. The agreement was made through a partnership between the Ethiopian Institute of Biodiversity Conservation and Roosjen's health foods company, which subsequently went bankrupt. Even after his company's bankruptcy, Roosjen was still able to market tef products with new companies, preventing the Ethiopian government and entrepreneurs from utilising their own tef genetic resources. While Roosjen's patent has been declared void in Holland, it still applies in Belgium, Germany, Britain, Austria and Italy. The unfair agreement was partly the result of the Ethiopian negotiators' lack of experience and misplaced trust in the Dutch firm's motives. The imbalance in negotiating power and the impact on Ethiopia's export prospects highlight the need for legal and knowledge-sharing frameworks to ensure that developing countries in sub-Saharan Africa and elsewhere can derive the same benefits as richer countries and private companies through engagement in international markets.[44]

33

Kenya Tea Development Agency

Owned by 54 tea companies which in turn have 550,000 small tea farmers as individual shareholders, the Kenya Tea Development Agency Ltd. (KTDA) provides farmers with comprehensive agricultural services, including access to inputs and agri-extension, transportation, warehousing and processing of produce, packaging, distribution, trading, insurance, marketing and financing.

Not only can farmers increase the quality and quantity of their yields through these activities, they also strengthen their position and leverage in the value chain by aggregating produce and accessing market information. The KTDA tea farmers represent over 60 per cent of the country's total tea production and 13 per cent of global tea exports, with demand and prices forecast to increase.[45]

34

Blue Skies

Fruit company Blue Skies works directly with farmers across four countries in sub-Saharan Africa to provide them with living wages and equip them to engage in environmentally sustainable agricultural practices.

The company adds value at source by making finished products – from cut fruit to fruit-based ice-cream and confectionary – in the country or region, before being exporting these for sale around the world.[46]

The company has grown its operations to cover four countries in sub-Saharan Africa, employing over 4,000 people and generating revenues of US$130 million for the year ending December 2017.[47]

35

Global Living Wage Coalition

In Malawi, the Global Living Wage Coalition works with over 35 supply chain organisations to secure a living wage for tea supply chain workers as part of the Malawi Tea 2020 Programme. Through dialogue and collaboration, the programme has secured commitments from eleven tea buying companies and retailers, including Marks and Spencer, Tesco and Unilever, to achieving a Malawi tea industry where workers earn a living wage and smallholders a living income.

This commitment is underpinned by analysis on the living wage gap today, the development of a collective bargaining agreement process in the Malawi Tea Sector, and interventions to support worker livelihoods, including the fortification of midday meals.[48]

Taking a purposeful approach to sub-Saharan Africa's food and land use systems

Accelerating the demographic transition to stable fertility rates

36

Sexual and Reproductive Health Services in Rwanda

Rwanda has made significant progress in improving access to and use of family planning over the past decade, with contraceptive use increasing from 17 per cent to 53 per cent between 2005 and 2015.[49] The fertility rate fell from 5.1 to 4 in the same period.[50]

While there is more to be done – the country aims to increase total demand for contraception for married women to 82 per cent by 2020 – the impact has been considerable as women and communities have benefited from increased opportunities to engage in voluntary family planning.

The success of the programme is attributed to the commitment of the government at the highest levels, as well as community-led behavioural programmes. Family planning is a national priority with a clearly defined agenda, evaluation and funding stemming from the national government and leadership from President Paul Kagame himself.[51]

37

SWEDD

The Sahel Women's Empowerment Demographic Dividend regional initiative (SWEDD) works across ten countries in the Sahel to accelerate the demographic transition to stable fertility rates and reduce inequality in the region, where fertility rates are among the highest in the world. It does so through a combination of social and behavioural change, and technological and resource support. The initiative works closely with communities – including Muslim scholars and religious and traditional leaders – to generate demand for reproductive, maternal, neonatal and child health and nutrition services by promoting social and behavioural change and empowering women and adolescents. Interventions include: a media campaign highlighting the benefits of voluntary family planning; national programmes to promote sexual and reproductive health rights and schooling for girls; and the provision of contraceptive products, sexual and reproductive health services and qualified health workers.

For example, the initiative supports efforts to improve supply chains for sexual and reproductive health products, including regional standardisation and quality control. It also provides training programmes and resources to boost the number of midwives and other sexual and reproductive health workers in the region.

Finally, the initiative seeks to increase awareness among political decision-makers of the opportunities in accelerating the demographic transition and to equip them to implement policies that support this. It does so by providing platforms for policymakers to share knowledge and by boosting policy development and implementation capacity.[52]

38

Agroforestry in Niger

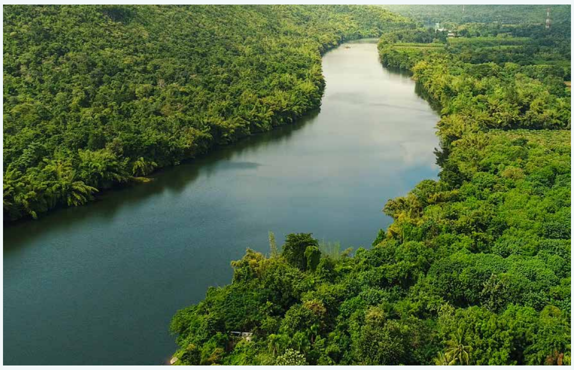
Farmers in the Maradi and Zinder provinces of Niger have boosted yields, restored degraded land, increased agrobiodiversity and improved their livelihoods through a combination of improved land and water management with agroforestry.[53]

Since the 1990s, farmers have interplanted nitrogen-fixing trees on cropland, or allowed the roots and stumps to regenerate rather than removing them. A 10- to 20-fold increase in tree and shrub cover and the restoration of 250,000 hectares of severely degraded land have caused biodiversity and soil health to measurably improve.

Farmers' annual incomes have improved too. Grain yield increases of 20 per cent since 2010 have caused farmer incomes to grow by US$1,000/year for over 1 million households, doubling real farm incomes and stimulating demand for off-farm services. Meanwhile, the amount of food available to farmers and their families has increased.

Moreover, this transition required very little investment. Instead, the government's revision of legislation on tree ownership granted farmers more control over their resources – providing them with the incentive and the means to care for the long-term health of their trees.

Estimates suggest that the approaches adopted in Niger could be scaled to a further 300 million hectares in sub-Saharan Africa. This could provide another 285 million people with an additional 615 kcal per day. The programme is already expanding across the Sahel, as news of its success spreads.[54]



39

Rainforest Foundation UK

Rainforest Foundation UK works at community, provincial and national levels to promote forestry projects that protect the rainforests of the Congo Basin. In 2016, five communities representing over 10,000 people and 30,000 hectares of rainforest in the country's western Equateur Province were granted legally binding land titles. As much as 75 million hectares of forest in the DRC (three times the size of the UK) could potentially come under community control in the future.[55]

40

Logging-on: digital land registration in Rwanda

Rwanda's digital land registration programme is supporting the population to access stable and transparent property rights. Starting in 2008, Rwanda's national land registry mapped and prepared title documents for every one of the country's 10.4 million parcels of land. By 2017, seven million people had collected their titles and registrations of sales, purchases and other kinds of transfers were rising.[56]

The digital registry system has supported national land- and water-use planning and helped to streamline the country's tax gathering and justice system. Conflicts around tenancies and property boundaries have decreased, reducing the strains placed on land courts to adjudicate on disagreements. The increased ease and confidence with which businesses can now invest in land has helped Rwanda to rise to 29th place in the World Bank's global "Doing Business" Index.[57] With easily accessible, secure land titles, registered individuals – an estimated 90 per cent of whom are from low-income households with small parcels of farm land – have improved access to credit and greater incentives to invest in land.[58]

Ensuring that women benefit equally – and that they are not inadvertently put at risk of aggression as a result of their enhanced landholding status – will be critical to ensure the long-term, equitable success of the project.

Other countries in the region are following suit. Kenya, South Africa, Ghana and Tanzania are among countries that have committed to or begun the implementation of digital land registry systems. Start-ups are also developing the technology to support these systems. For example, Ghanaian start-up Bitland aims to map the whole of Ghana digitally using blockchain to provide a publicly available ledger of land ownership – including customary land titles.[59]

41

The Access Initiative

Civil society network, the Access Initiative, brings together organisations, groups and individuals working to ensure that citizens have the right and ability to influence decisions about the natural resources that their communities depend on.

The network provides tools and opportunities to share experiences in evidence-based advocacy, to help to build the capacity of communities and their partners. For example, one of the Initiative's projects is STRIPE, centred on air and water pollution. The project provides a toolkit for civil society to work with communities to analyse the gaps in law and practice in the release of pollution information and to demand information on the performance of public and private companies to meet national standards on pollution.

Other offerings of the Initiative include tools to enable the public to participate in policy dialogues, projects to build new environmental courts and tribunals, coupled with legal assistance for victims of environmental harm, and campaigns to support the development of regional standards for Access rights.[60]

Funding dramatic infrastructural improvements

42

Nacala Growth Corridor

In the fertile northern province of Nampula in Mozambique, the government is working with partners across sectors to strengthen connections across rural and urban areas and improve the enabling environment for increased investment in agribusiness. Through these efforts, it seeks to boost productivity and value-adding activities for domestic and export produce. The province's capital, Nampula, which sits at the centre of the Growth Corridor has re-emerged as a business hub with key opportunity areas in agro-processing.

Efforts in the Corridor have focussed on improving infrastructure, including better transport links between cities, rural communities and the Nacala port in the east of the province. Business-friendly policies and reforms include reduced bureaucracy and the introduction of fiscal incentives for investment in agri-business. There are now eight cashew processing firms in the province alone. One cashew processing plant established near Nampula city in 2016, employs 650 workers, about 90 per cent of whom are women. In late 2017, a maize processing plant opened in the city with capacity to process 100 tonnes of maize each day (although this was an Indian venture, rather than a domestic enterprise).

As policy-makers, businesses, investors and development partners look to replicate these plans in Mozambique and abroad, it will be critical to involve local communities and protect communities' land rights. Criticism of the Nacala Growth Corridor has centred on the absence of protection for locals from foreign investor land-grabs and an over-emphasis on export commodities rather than food crops. These issues will need to be addressed to secure the long-term sustainability of efforts like these.[61]

43

Ethiopia's Productive Safety Net Programme

Ethiopia's Productive Safety Net Programme provides millions of households with cash and food payments for engaging in public works including building local infrastructure or protecting the environment. Payments to poor and vulnerable households with limited labour capacity are unconditional.[62]

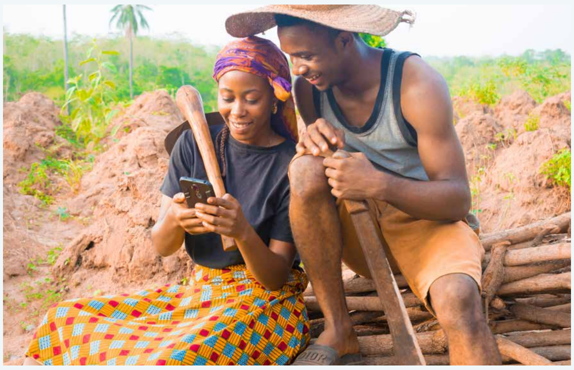
44

Hello Tractor

Africa's "Uber for the Farm", Nigerian social enterprise Hello Tractor enables smallholder farmers to connect with tractor owners via a digital platform and SMS service. Farmers can hire a tractor or other equipment inputs to affordably boost yields and reduce post-harvest losses. This reduces the costs of farming, improving livelihoods, helping to fill the infrastructure gap that characterises much of rural sub-Saharan Africa and lowering the barriers to entry for young people to engage in agriculture.

What's more, tractor owners and dealers also benefit through services like request management, tractor and fleet management and monitoring performance. And Hello Tractor provides employment for young people from rural areas to act as booking agents to help reach farmers without reliable access to a smartphone.

The company has captured 75 per cent of private commercial inflows to Nigeria, has expanded to five markets across Africa and supported over 250,000 farmers.[63]



45

Africa Agriculture Trade Investment Fund

The Africa Agriculture Trade Investment Fund finances agricultural businesses and local financial institutions using a three-tiered structure with different risk and return profiles at each level.

The Fund is a public-private partnership that brings together donors, government, finance institutions and private investors to increase investment into value chain enhancement activities to support the poorest in the region.

Partners can invest in the fund at three different levels. Governments provide first loss guarantees, while two additional investment tiers are characterised by different risk-return profiles to crowd in a range of investors. Investments are typically US$5 million but can be US$3.5 million if there is a particularly compelling business case.

The Fund has disbursed US$160 million since 2011. Investments include a US$20 million investment in Ghanaian inputs distributor and off-taker WEINCO, which helps to provide producers with guaranteed income. A US$30 million investment in agricultural supply chain manager ETG will help the company to connect smallholder farmers to global commodity markets.[64]

46

Livelihoods Fund for Family Farming

Launched by Danone and Mars in 2015, the Livelihoods Fund for Family Farming (L3F) uses investments from a range of partners to support sustainable farming projects that deliver benefits to partners from multiple sectors. In so doing, the fund seeks to address the interlinked challenges of environmental degradation, climate change and rural poverty.

Partners in the fund provide upfront financing through off-take commitments to project developers on sustainable farming projects. These partners have various incentives for supporting project development. For example, investors in an agroforestry project to sustainably boost livestock farming productivity could include businesses that seek higher and more stable yields, governments looking to manage natural resources such as watershed levels in a landscape under threat by unsustainable farming practices, and carbon credit buyers seeking high-quality carbon credits.

With the provision of off-take revenues, the project developer is able to aggregate smallholder farmers, providing them with the training, equipment and technical assistance needed to boost yields sustainably and diversify their livelihoods. The project therefore generates social, economic and environmental benefits that benefit both smallholder farmers and off-takers.

The benefits for businesses mean that private investors can provide more patient capital and be more flexible on liquidity. Meanwhile, the fund is able to generate a financial return as private and public off-takers pay a fee in exchange for the benefits they gain from public goods and externalities linked to the projects.

The fund aims to deliver 10-15 per cent returns through €120 million investments over 10 years. Overall, it aims to impact 200,000 farmers directly and two million people more broadly.[65]

47

CDC and SunCulture

CDC, the UK development finance institution, is championing a blended finance solution to mobilise capital for rural infrastructure in sub-Saharan Africa through its investment in SunCulture. SunCulture is a solar irrigation company serving smallholder farmers growing high value fruit and vegetables in Kenya with products for spray/ mist irrigation, drip irrigation and solar pumping. This technology enables farmers to increase productivity while reducing costs and greenhouse gas emissions by diminishing water, fuel and fertiliser inputs.

The company's new solar-powered water pump – the "RainMaker" – can be accessed through a pay-as-you-go financing model for smallholders who may not have the ability to purchase this kind of infrastructure up front due to the high cost of borrowing and limited working capital. Rainmaker users reported yield increases of on average of 300 per cent per year. Farmer incomes also rose thanks to the time and effort saved for water collection (on average 17 hours per week) and the avoided expenditure of fuel for electric pumps.[66]

48

AgDevCo Smallholder Development Unit

AgDevCo's Smallholder Development Unit provides up to US$800,000 for smallholder out-grower schemes to support initial set-up and operational costs. This helps farmers to reach economies of scale and catalyse relationships with agribusinesses, which can help them to reach commercial scale.

The Unit provides up to US$800,000 in match funding with agribusinesses to support the launch and scale of out-grower schemes. This includes covering operational costs, demonstration plots, training, input credit and support in gaining certificates.

By 2020, the fund aims to support 25 agribusiness out-grower schemes, reaching 500,000 farmers half of whom are women.[67]

49

Gola Rainforest Cocoa in Liberia

In the Gola Rainforest region of Liberia, Partnerships for Forests and partners are working to develop a rainforest-friendly Gola Rainforest Cocoa brand and product that is produced within biologically diverse agroforestry systems in the Greater Gola landscape.

Cocoa farmers will be trained in sustainable practices that increase yields while conserving forests, including agroforestry and the production of forest-smart beans. Work on the value chain will aim to ensure a sustainable supply of beans for market and develop safe and secure transport that maintains the quality of the cocoa.

The intervention will impact 300 farmers directly and 1,700 indirectly, growing to around 9,500 people accessing direct investment and technical support over time. Smallholder cocoa yields are expected to increase by 30%, with a corresponding impact on livelihoods. In addition, the intervention will reduce ecological degradation, based on the principles of sustainable land-use and integrated forest management and conservation across 200,000 ha of forest.

By demonstrating success through this model, partners hope to provide a model for other forest commodities in the landscape, as well as for the production of cocoa across Liberia.

Partnerships for Forests is a UK funded programme operating in Central, West and East Africa, South East Asia and Latin America that seeks to catalyse investments in which the private sector, public sector and communities can achieve shared value from sustainable forests and sustainable land use.

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Case Study Catalogue

The
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