The Nature Conservancy

ACHIEVING FOOD SECURITY AND PROTECTING HABITAT

The Nature Conservancy aims to reduce unplanned habitat conversion, improve soil health, and minimize harm to freshwater resources by sustainably intensifying smallholder agricultural production, influencing agriculture siting in east and southern Africa, and influencing major institutional players in agriculture and food systems that are working to achieve UN Sustainable Development Goals in Africa.

AGRICULTURE IN AFRICA

Over the next few decades, Africa will face unprecedented challenges to meet its food demand, as the continent with highest projected population growth by 2030 (median projection of 1.68 billion people). Due to the food demand, the agricultural systems will put more pressure on land, soil, and freshwater resources compared to any other continent.

Africa's agricultural systems are dominated by small-scale farmers with 80% of landholdings smaller than two hectares. Agricultural yields have stagnated for decades due to land degradation and poor access to farmer support services, while climate change worsens the situation with increased frequency and intensity of droughts, floods, and storms. With business as usual, increasing farm productivity is projected to meet only 12% of anticipated food demand in 2030.[1] The rest would have to be met through imports or expansion of the agricultural footprint, leading to conversion of natural habitat, depletion of soil health, and contamination and degradation of freshwater resources.

Despite the shortfalls in yield, investment in increasing the productivity of African agriculture is significant and growing. Many African agricultural systems integrate cropping, livestock, and agroforestry more successfully than in other parts of the world, creating resiliency to climate change. Additionally, the "science infrastructure" (e.g., systems for tracking and mapping land and water use, soil health, and habitat loss) has improved significantly in the last two decades, driven by innovation in remote sensing technology. Finally, rapid economic growth in many African countries has improved infrastructure and market access for farmers.

TNC argues that appropriate agricultural siting and a suite of practices to intensify agricultural production, can in certain circumstances successfully meet the expected demand for food while reducing the conversion of natural habitat and degradation of soil and water resources.

1 Global Harvest Initiative (p.15) http://www.globalharvestinitiative.org/GAP/Productivity%20and%20Innovation.pdf

THE NATURE CONSERVANCY'S PORTFOLIO OF AGRICULTURAL LANDSCAPES

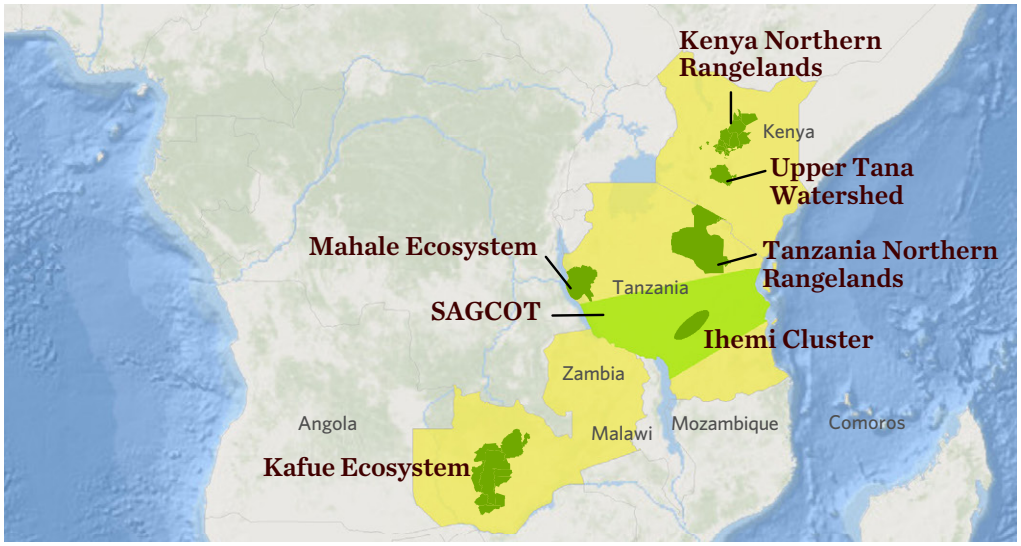
TNC's work in Africa has been rooted in the intersection between human landscapes and nature. The current portfolio of landscapes across the continent covers a great variety of agricultural production systems, environmental settings, micro-climates, and institutional stakeholders. These landscapes are a rich source of field settings in which to conduct pilot experiments, track the impact of different approaches, and gather evidence through which to influence policy and operation of value chains.

TNC TARGET LANDSCAPE	AREA (IN MILLIONS OF HECTARES)	PRODUCTION SYSTEM
Kenya: Northern Rangelands (Samburu)	1.46	Pastoralists, mainly cattle, and some small-holder farmers that range from low-income, low-yield subsistence farmers to reasonably capitalized and productive small farmers serving urban markets.
Kenya: Upper Tana Watershed	0.98	Densely populated area; smallholders share the agricultural landscape with commercial tree plantations and tea estates. Much farming is on slopes, increasing risk of soil erosion. Agroforestry systems are common.
Tanzania: Northern Rangelands	3.41	Pastoralists, mainly cattle, and some small-holder farmers that range from low-income, low-yield subsistence farmers to reasonably capitalized and productive small farmers serving urban markets.
Tanzania: SAGCOT, Ihemi Cluster	1.53	Most diverse of the production systems and includes: tea estates, timber plantations, small- and medium-sized farmer, and interspersed intact forest.
Tanzania: Mahale Ecosystem	1.81	Dominated by smallholder farmers, who are mostly subsistence due to remoteness of the area. This landscape has the highest rainfall and the most primary forest.
Zambia: Kafue Ecosystem	6.73	The least varied production system, which is dominated by corn. Dry climate and heavy presence of wildlife across the landscape.

TOTAL AREA: 15.92 MILLION HECTARES

TNC Africa Agriculture Geographies

- Countries Where We Work
- TNC Africa Agriculture Projects
- SAGCOT Corridor





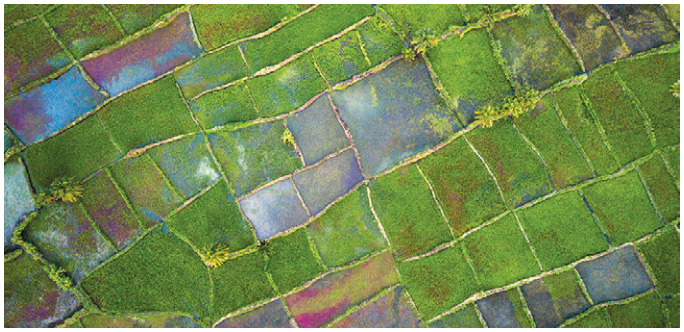
OVERVIEW OF THE STRATEGY

TNC's ambitious goal is to empower African producers with information to make decisions about where to intensify agriculture, restore habitats, and protect habitats. The right combination of planning, incentives, policy frameworks, and farming practices can help direct the sustainable intensification of agriculture. The long-term imperative is to influence the widespread adoption of sustainable growth and intensification practices in sub-Saharan Africa in order to increase agricultural productivity and food security while decreasing the rate of natural habitat conversion, as well as degradation of soil and water health.

SHORT-TERM OUTCOMES BY 2022 TO DEMONSTRATE RESULTS OF AGRICULTURAL INTENSIFICATION

- **Reduction in habitat loss**: Avoided conversion of **3.61 million hectares** of habitat at risk from expansion of the agricultural footprint within the six target landscapes.
- **Improved soil health: 1.05 million hectares** of cropping and grazing land under improved soil management through impacts of soil health and soil conservation methods.
- **Improved quality of freshwater resources: 431,000 hectares** of cropping and grazing land impacted by water management program.

LAND-USE PLANNING (PROTECT)



TNC is conducting a comprehensive analysis of each agricultural landscape in its portfolio to understand the trade-off between habitat protection and expansion of the agricultural footprint. With spatial analyses and socio-economic surveys in place TNC will be in a position to participate productively in national and international conversations around food security in Africa, as recognized experts on the science and practice of land-use planning.

SPATIAL ANALYSES OF TARGET LANDSCAPES

Initial spatial analyses of the six target landscapes have already identified areas that should be prioritized for protection. These analyses will be expanded to identify areas that are suitable for expansion of the agricultural footprint and existing agricultural areas which can benefit from intensification (e.g., cropping intensification, forestry initiatives, and improved rangeland management). The evaluation will consider data such as soil conditions, vegetation cover, history of production yields, stocking densities of rangelands, and available freshwater resources. The result of this work will be direct reduction in habitat conversion in high conservation value areas in target landscapes, as well as a tested spatial planning tool for decision-makers.

SUSTAINABLE AGRICULTURAL INTENSIFICATION METHODS (TRANSFORM)

To complement zoning, TNC will work with farmers and producers to implement agricultural intensification methods, with a strong focus on soil health, soil conservation, and water management.

Although TNC's aim in the long-term is improvement of agricultural practices across national-level systems, the short-term priority is transformation of agricultural systems in our portfolio of landscapes and the Southern Agricultural Growth Corridor of Tanzania (SAGCOT). SAGCOT is a public-private partnership initiated in 2010 with a 20-year goal to boost agricultural productivity and mitigate associated environmental impacts through commercialization of smallholder agriculture.

AMPLIFYING IMPACT (INSPIRE)

Advances in soil or freshwater management achieved in the target landscapes and the SAGCOT corridor will be shared with partners that are well-suited to influence large numbers of smallholder farmers and will demonstrate that sustainable intensification can reduce hunger and ensure reliable access to nutritious food while minimizing loss of wildlife habitat. TNC will seek to channel agricultural development to low impact areas in east and central Africa and influence the decisions of companies as they operate their supply chains in Africa.

Healthy soil, defined by improved organic content over time, retains water and nutrients more easily, resulting in healthier and more resilient plants, which are the basis of improving crop yields and pasture quality in rangelands. Conserving soils by minimizing erosion is critically important for reducing sedimentation in streams and for increasing productivity. Improving soil management and soil conservation has a positive impact on productivity at all scales of agriculture, but particularly on smallholder agriculture, where yield gaps are largest and increased income is the most needed.

CAMPAIGN FUNDRAISING GOAL (2018–2025): $17 MILLION

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Solutions for Wildlife and People: TNC Africa was founded a decade ago with wildlife conservation and the protection of habitat for wildlife at its heart. The large landscapes to which it is committed for the long term are shared by people and wildlife, and there are trade-offs and tensions around land use in those landscapes that require thoughtful management based on a strategic vision. nature.org/Africa

Growing Food in a Finite World: As part of a global organization, TNC Africa is uniquely positioned to call upon experts from across the world to implement a shared strategic vision around agriculture and land-use that realizes the promise of a sustainable future.

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