

# Re-imagining Africa's food future at the intersection of agriculture and conservation

September 11 2020, by Alice Ruhweza, Jeff Worden, Brighton Kaoma

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Sipalo Mubita, a farmer and extension agent for conservation farming, harvesting maize in Sioma, Zambia. Credit: WWF

With more than half of the world's acutely food insecure people living in Africa, achieving food security is critical to the continent. Across

Africa, agriculture is the primary source of livelihoods and the majority of households consume at least a portion of the food they produce. All too often, however, the way food is produced, distributed and consumed in Africa is at odds with the natural capital on which both people and wildlife depend. Unsustainable agricultural practices are driving biodiversity loss and leading to increased human wildlife conflict, land conversion and the loss of critical habitats, declines in water quality and quantity, soil degradation, and increased pollution. With Africa's population expected to grow to 2.5 billion by 2050, there will be even more growing pressure to convert more land for agricultural production, further threatening wetlands, forests, grasslands, soil health, water quality, and the resilience of the smallholder farming communities that depend on them.

Furthermore, Africa holds 60 percent of the world's remaining arable land, and this land will be at the forefront of the tension between balancing short-term [food](#) production and long-term investment in [natural capital](#). Current challenges with agricultural production and [food security](#) have been exacerbated by COVID-19, with an additional 12 million people being pushed into acute food insecurity in sub-Saharan Africa since February 2020. COVID-19 has exacerbated food insecurity and threatened our development. It has upended our economic models and emphasized the cracks in our social, political, and [economic systems](#). But it has also highlighted the importance of nature and the central role of nature and natural capital in our health and wellbeing.

As we begin the process of rebuilding, we must seize the opportunity to redesign our food systems and promote the health and wellbeing of both people and planet. To do this, we must rethink land use, refresh farming practices, re-envision the [value chain](#) and reimagine a food system that has people and nature at its center. We need to address the dual challenge of increasing food production, reducing climate footprint and conserving our natural capital, and find a solution that is both resilient

and sustainable. A solution that works with rather than against nature for the benefit of both people and planet. Key questions we need to consider are: What will Africa's sustainable food future look like? What are the implications for high-value conservation landscapes where agriculture and conservation intersect? How can we reduce human-wildlife conflict and biodiversity loss while enabling sustainable agricultural intensification, alongside alternative livelihoods like sustainable tourism, to deliver benefits to both people and nature?

A new report by WWF, *Re-imagining Africa's Food Future*, seeks to tackle these questions head-on with a review of the key drivers and challenges facing sustainable agriculture in two high-value conservation areas: the Kavango Zambezi Transfrontier Conservation Area (KAZA) and the Southern Kenya Northern Tanzania (SOKNOT) Integrated Transboundary Wildlife Corridor. Both of these landscapes are critical wildlife areas and clear examples of the increasing tensions between natural capital and agricultural production, and the potential for reimagining food systems in a way that supports both people and nature.

About these conservation areas:

The KAZA landscape covers nearly 520,000 square kilometers, is home to 20 national parks, 85 forest reserves, 22 conservancies, 11 sanctuaries, 103 wildlife management areas and 11 game management areas. KAZA is a mixed land use landscape, with approximately 70 percent of the land under some form of wildlife management, including 20 percent under full state protection, and about 29 percent available for agriculture—predominantly by smallholder farmers. Population in the landscape is estimated at 2.7 million people, most of whom live within the areas not demarcated for wildlife conservation. These communities are typically poor, with a relatively small number of people directly benefiting from the tourism industry. Low and variable rainfall constrains agricultural production, and the most vulnerable communities

rely on subsistence farming, frequently clearing trees for crops and fuel, and hunting wildlife illegally for food and bushmeat trade.

The SOKNOT landscape hosts three ecosystems and the largest and most diverse annual migration of mammals in the world. It is made up of eight state-managed protected areas and 32 community-managed conservation areas, which protect critical habitat and ensure connectivity and movement of migratory wildlife populations between Kenya and Tanzania. The SOKNOT landscape contributes \$3.2 billion annually to the economies of Kenya and Tanzania through wildlife tourism, while providing an estimated 3 million jobs and \$10 million to community conserved areas. The SOKNOT landscape also contains the Mau Forest Complex, the main watershed and source of water for the population of western Kenya. Most of the landscape is classified as arid and semi-arid, with annual rainfall ranging between 200 and 850mm per year.

Population in the landscape is estimated at between 3 and 4 million people with about 80 percent of food needs largely met through local crop and livestock production. Staple foods include maize, beans, cassava and other grains and legumes such as sorghum and cowpeas. Biodiversity in SOKNOT is facing increasing challenges due to the intensification of both crop and livestock production. While Kenya and Tanzania work together to manage this critical landscape, there is no formal transboundary institutional framework established, representing both a critical need and an opportunity to develop a landscape-wide sustainable food system and conservation initiative.

Characterized by high biodiversity and critical natural capital on the one hand, and high vulnerability, mixed subsistence cropping and livestock systems, low productivity, and imbalanced supply chains on the other, these landscapes highlight some of the key challenges to the development of sustainable food systems in the region. The KAZA and SOKNOT landscapes in particular showcase the complex tension point where agriculture and conservation meet.

## **Opportunities for Change**

The report shares important lessons that can inform strategies to reduce human-wildlife conflict and biodiversity loss, while enabling sustainable agricultural intensification alongside alternative livelihoods like sustainable tourism, to deliver benefits to both people and nature.

### **1. Rethink How Food is Produced**

The conversion of land to accommodate the expansion of agriculture is the most significant cause of ecosystem disruption and biodiversity loss. To address this head on, we must recognize the legitimacy of nature as a land use. We must support integrated land use planning that builds on the synergies between healthy ecosystems and healthy people. And we must recognize the essential services provided by nature and ensure these are protected and strengthened through appropriate land use planning and the effective implementation of those plans.

### **2. Refresh Farming Practices**

There is merit in exploring different approaches to sustainable agriculture, such as agroecology, which seeks to optimize the interactions between plants, animals, humans and the environment while taking into consideration the social aspects that can help shape a sustainable and fair food system. For widespread adoption of such practices, there needs to be clear benefits for players on the ground, namely smallholder producers. It will be imperative to demonstrate compelling evidence of the long-term potential of sustainable farming practices to improve profits and livelihoods.

### **3. Re-envision the Value Chain**

Some of the biggest challenges with the current value chain are low agricultural productivity, an over-dependence on a few staple crops (e.g. maize , sorghum) and high food loss due to poor storage options. A first step in re-envisioning the value chain could be to establish a network of support from various actors, including development partners, to pilot models of sustainable value chains for smallholders with support measures in place to ensure fair and on-time payments and decrease post-harvest losses.

Re-imagining our food systems will be critical. We must move beyond our current extractive system of "mining" natural capital and exploiting producers to an agricultural production system that recognizes the value of both people and nature. Africa has an unprecedented opportunity to develop new and sustainable food systems that link local producers and consumers as part of "healthy" production systems that reduce degradation, prevent biodiversity loss and build resilience to climate change. To succeed, we must harness the power of data and innovation, re-examine the relationship between cities and the food needs of rapidly growing urban populations, embrace the power of consumers to transform [agricultural production](#) systems and sustain ecosystems, and support the formulation of economic and development policies that correctly account for the value of natural capital and incentivize investment in sustainable, nature-positive agriculture. This transformation is a must, an imperative. Our very lives depend on it.

*This story is republished courtesy of Earth Institute, Columbia University*  
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Provided by Earth Institute at Columbia University

Citation: Re-imagining Africa's food future at the intersection of agriculture and conservation (2020, September 11) retrieved 25 April 2024 from <https://phys.org/news/2020-09-re-imagining-africa-food-future-intersection.html>

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