

Why water matters for Africa's food systems: A Call to Action for irrigation investment

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The case for investment

Less than 5 percent of Africa's cultivated land is reported to be irrigated, leaving farmers, livelihoods, and economies exposed to erratic rainfall, drought, floods and associated economic shocks. Irrigation is key to agricultural intensification, enabling year-round production, allows farmers to grow higher-value, nutrient-dense crops, creates jobs and wealth and strengthens food supply chains and markets. Irrigation is, moreover, an enabler of other agricultural inputs, ensuring that productivity-increasing inputs and technologies don't go to waste as a result of dry spells but instead generate yields and farmer incomes.

Africa's irrigation potential is considerable: estimates point to roughly 33 million hectares suitable for farmer-led groundwater irrigation and 6 million hectares for additional surface water irrigation. But realizing this potential *sustainably* means aligning national investment decisions with underlying basin and aquifer conditions; agro-ecological zones; competing water demands (such as for nature, households, and industry); and infrastructure and technology possibilities. The African Union's Framework for irrigation development and agricultural water management (IDAWM) describes key underlying conditions for investment and scaling complementary irrigation development pathways.

The African Food Systems Context:

Convened under the AFS Forum 2026 the "Why Water Matters" session brought together Forum participants to assess progress, gaps, and priorities for investing in irrigation across Africa. The session drew perspectives from government, development, research, and the private sector to identify priority actions that connect water investment directly to the Forum's three pillars of Nourishing nations, Growing

jobs, and Building resilience. These discussions generated evidence-based insights and actionable messages to help mobilize coordinated investment and partnerships for transforming Africa's agrifood systems.



Sprinkler system used in Eastern Highlands on the Mozambique border to irrigate farms. Photo: David Brazier / IWMI

Nourishing nations

Improving food security and nutrition is central to the African Union's Kampala Comprehensive Africa Agriculture Development Programme (CAADP) 2035 targets, including 45 percent higher agrifood output, 50 percent lower post-harvest losses, tripled intra-African trade, and US\$100 billion in public and private investment mobilized. Meeting these targets requires strategic integration of water, as an enabler, into African agrifood systems.

The stakes are high: 72 percent of the population in Sub-Saharan Africa cannot afford a healthy diet, and the region's dependence on net cereal imports is projected to reach 54 percent by 2050. Expanding irrigation sustainably could cut this dependency to between 40 percent and 17 percent depending on various factors, including the cost of irrigation investment. Moreover, evidence shows that irrigation expansion directly combats child undernutrition, driving better diet diversity in Tanzania and reducing wasting of children in Ethiopia.

Growing jobs

Irrigation turns farming from a seasonal activity into a year-round source of income and employment, across the agricultural supply chain, from farms themselves through to agricultural equipment supply, transport, processing, and markets. Unlike in regions where mechanized irrigation displaces labor, in Africa it creates jobs across the value chain. Indeed, African startups and enterprises are already emerging in this space, to support more sustainable irrigation. Examples include the fast-growing irrigation-as-a-

service model and nascent AI-enabled systems that cut irrigation applications to levels that are optimal for crop growth.

However, women and youth face barriers in terms of access to land, finance, and decision-making—meaning public financing should target and empower women- and youth-led enterprises, and ensure that women and youth benefit from irrigation. Importantly, accelerated irrigation investment must reach beyond the farm gate to encompass storage and transport—otherwise higher production risks becoming food loss.

Building resilience

Drought is by far Africa's deadliest weather hazard. Of the more than 700,000 deaths from weather- and water-related disasters recorded across the continent since 1970, an overwhelming 95 percent were linked to drought. With the accelerating impact of climate change, the threat is more acute today: 2024 brought Malawi, Zambia, and Zimbabwe their worst drought in two decades. As a result, cereal yields in southern Africa shrank by 16 percent. The localized impact was even worse, with losses of 43 percent in Zambia and 50 percent in Zimbabwe. This compounding crisis continued into 2025, affecting over 8.5 million people in East Africa. The 2026/2027 Super ENSO might well lead to further production losses and food insecurity.

Irrigation offers a vital lifeline for communities and economies. A recent study found Ethiopian smallholder farming households with irrigation were able to retain and even increase household expenditures through a severe drought while rainfed households cut back. But all-round resilience requires water storage, groundwater management and monitoring, healthy watersheds, and early warning of hazards tied to rapid action and empowering inclusive institutions. New climate information systems can help manage weather anomalies supporting the deployment of targeted resources long before a crisis arrives, saving both lives and money.

Ultimately, long-term resilience must be integrated and locally relevant. This means combining aquifer recharge, water storage, nature-based solutions, and layered risk financing to maximize resilience per dollar. But these approaches only survive if they are locally owned. Water user associations and community-managed reservoirs can help ensure investments are maintained long after projects end.

A timely financing opportunity

The African Union aims to mobilize US\$100 billion in public and private investment by 2035 to implement the food system transformation goals of the Kampala Strategy and Action Plan (2026–2035). To achieve the food security and nutrition goals of CAADP will require the direction of substantial funds toward irrigation and water resources management. Supportive investments, including those by the African Development Bank, the World Bank Group, the Gates Foundation, and the German Government also aim at more and better irrigation development. As an example, the Africa Resilient Irrigation for a Sustainable Economy (Africa RISE) Regional Acceleration Programme led by AUDA-NEPAD aims to strengthen local institutions, engage the private sector, and mobilize blended finance for irrigation investment.

Together, these initiatives should move beyond disconnected projects and stand-alone infrastructure investments toward the development of equitable, sustainable, and resilient irrigation ecosystems that combine reliable water and energy access with secure resource rights, effective farmer services, market access, and accountable basin governance. Yet the anticipated influx of finance is far from guaranteed; it remains highly conditional on creating the enabling policies, institutions, investment frameworks, and implementation capacity needed to translate commitments into bankable and scalable irrigation investments.

Call to Action for irrigation investment

Based on these opportunities we put forward the following Call to Action for irrigation investment

1. **Monitor and safeguard.** Invest in water data, hydrological monitoring and early-warning systems to strengthen resilience and safeguard equitable benefit-sharing from irrigation.
2. **Ground the plan.** Ground long-term water resource management plans in basin and aquifer conditions, set future demand and environmental limits, and strengthen transboundary cooperation to share waters' benefits.
3. **Improve management of large-scale water infrastructure.** Manage costly, larger-scale water infrastructure as long-term national assets and modernize existing systems (automated controls, transparent water accounting) before expanding.
4. **Invest in farmer-led irrigation.** Scale climate-resilient farmer-led irrigation, including solar pumps, through blended finance targeting women- and youth-led farming enterprises, backed by secure land and water rights.
5. **Connect irrigation to the value chain.** Connect irrigation to the broader agricultural supply chain, including input supply, storage, processing, transport, digital services and markets.
6. **Empower farmers.** Put farmers, especially women and youth, at the center through skills, finance, secure tenure and empowered water user associations, channeling finance and decision-making authority directly to local governments and community groups.
7. **Integrate policies and strategies** for climate, water, energy, food and nutrition for more effective governance of irrigation development
8. **Align and finance.** Align national investment plans with CAADP, the Africa Water Vision 2063, the AU Irrigation Framework and other agricultural and irrigation investment initiatives, and close the financing gap through public, concessional and private capital.

Ministerial proposition

Africa has the evidence, technology, and financing mechanisms to act. What's missing is coordinated commitment. Ministerial dialogues should call on countries and financing partners to **make agricultural water management central to national agrifood investment plans and build country-owned pipelines linking water, energy, agriculture, markets and finance.**

Measuring success is not by hectares developed, but by farmers producing more and more diverse foods; the value and jobs created per unit of water; benefits to women and youth; private capital mobilized; basin and aquifer conditions; and services sustained after financing ends.

Scaling water investment sustainably and inclusively is how Africa nourishes its people, creates jobs, and builds resilient agrifood systems.

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