

# WATER AND AGRICULTURE

## Turning crisis into resilience: Water and Soil Accelerator scales up sustainable farming in Southern Africa

*The Water and Soil Accelerator aims to speed up adoption of sustainable practices in rainfed agri-food systems. Article by Sue Matthews.*

Dr Christian Thierfelder/CIMMYT



Just over two years ago, on 29 February 2024, the President of Zambia declared a national disaster and emergency as much of the country was experiencing the worst drought since records began. Attributing the drought to El Niño conditions, he noted that a million hectares of the 2.2 million hectares of planted maize had been severely affected, impacting more than one million farming households.

Likewise, the President of Malawi declared a state of disaster covering 23 of 28 districts in March 2024, and made another such declaration 18 months later, initially for 11 districts and then extended in November 2025 to the entire country. Projections

had indicated that more than four million people faced acute food insecurity in the intervening months up to March 2026.

La Niña then made its comeback, and the 2025–2026 rainy season brought devastating floods to parts of both countries in December and January. Fields of maize and other crops, such as rice and beans, were washed away or inundated, and the loss of fertile topsoil meant that future plantings would be compromised.

Just imagine how crippling this is to rural communities, where most of the population is engaged in smallholder farming

and dependent on it for their livelihood. Yet climate change is expected to increase the frequency and intensity of droughts and floods, and even without these extreme events, increasingly erratic rainfall will make harvests unpredictable. On top of that, altered temperature regimes and rainfall patterns will shift growing cycles and reduce the suitability of key crops in some areas.

Fortunately, there are measures that smallholder farmers can take to boost their climate resilience and agricultural productivity. At the same time, governance systems can be strengthened to improve watershed management, so that landscapes deliver a more reliable water supply and soil erosion is controlled.

With this in mind, the regional branch of the International Water Management Institute (IWMI) is leading a three-year, rapid-response initiative to scale up the adoption of sustainable practices from farm to landscape in the rainfed agri-food systems of Zambia and Malawi. Known as the Water and Soil Accelerator (WASA), the vision is to connect at least one million farmers and value chain actors to the tools and information they need to enhance water retention, soil regeneration and landscape management across one million hectares of land.

IWMI's Director for Water, Growth and Inclusion, Dr Inga Jacobs-Mata – who served in key leadership roles at the Water Research Commission and the CSIR before joining IWMI in April 2019, initially as Country Representative – is the overall Project Lead. But WASA is very much a collaboration between IWMI and two other organisations in the CGIAR stable, the International

Maize and Wheat Improvement Center (CIMMYT) and Alliance Bioversity & CIAT (ABC), which represents the 2019 merger of Bioversity International and the International Center for Tropical Agriculture (CIAT).

All three organisations have been working in Zambia and Malawi for some time. For example, IWMI led the two-year programme Ukama Ustawi (roughly translating to 'partnership' and 'prosperity'), which by 2024 had engaged with more than 164 000 maize farmers on climate-smart agriculture practices, while CIMMYT was technical lead for the Accelerated Innovation Delivery Initiative (AID-I), designed to address the agricultural impacts of high fuel and fertilizer prices that had been exacerbated by the Ukraine conflict. And all have roles in CGIAR's current Scaling for Impact programme, dedicated to scaling innovations that tackle global poverty, food insecurity and climate risks.

While the three organisations are providing technical support, project oversight and a guiding hand, most of the on-the-ground activities are being carried out by consortia that were brought together through the co-design process of developing the WASA project. Following a series of meetings and consultations with government agencies, technical experts and development partners to assess needs and agree on management priorities, IWMI convened a multi-stakeholder Co-creation Workshop in Zambia in October 2024. Subsequently, a call for proposals was issued, with applicants encouraged to form consortia that integrated at least three of WASA's eight thematic focus areas (see box).

## Thematic Focus Areas

1. **Sustainable Water Management:** Efficient and equitable water use and management from farm to landscape level.
2. **Green Infrastructure:** Nature-based solutions to enhance storage and infiltration, manage water flow, reduce erosion and improve ecosystem health, including the potential for mechanisation to support green infrastructure.
3. **Enhancing Agronomy, Crop Type and Coverage:** Methods and approaches to improve crop management by incorporating climate-resilient crops and agricultural approaches that enhance soil health and water retention, infiltration or storage alongside productivity gains.
4. **Capacity Building and Technical Support:** Innovative capacity strengthening, dissemination, knowledge sharing and extension mechanisms for farmers, public and private sector partners in water, soil and land management practices.
5. **Collective Action on Natural Resource Management:** Strengthening land, vegetation, and soil and water management through local institutions, private sector and cooperatives.
6. **Climate Information Services and Risk Management:** Providing farmers with access to climate information and early warning systems, as well as enhancing the access to and availability of mitigating choices in production to ensure early action to climate warnings.
7. **Enabling Environment, Financing, Investment and Stewardship:** Supporting agricultural water stewardship and inclusive innovative financing mechanisms, including climate finance and microfinance, de-risking mechanisms, carbon credits, etc.
8. **Gender Equality and Social Inclusion (GESI) and Land Tenure and Rights:** Ensuring equitable resource access, promoting gender equality and social inclusion, and securing customary or formal land tenure. This cross-cutting theme is integrated into all activities, ensuring that there are no unintended negative impacts on gender, inclusion and land tenure security for marginalised groups.

Almost 30 applications in the form of concept notes were submitted, and once these had been assessed, shortlisted candidates interviewed, and full proposals evaluated by a review committee, five consortia were selected for funding. These are the:

- Catholic Relief Services (CRS)-led consortium operating in Malawi, with partners including Illovo Sugar Malawi, MwAPATA Institute and Churches Action in Relief and Development.
- Conservation Farming Unit (CFU)-led consortium operating in Zambia, with partners including Viamo, AgriPredict and Contractsure Services Limited.
- Total Land Care (TLC)-led consortium operating in both Malawi and Zambia, with partners including African Fertilizer and Agribusiness Partnership, Farmers' Outgrower Foundation, PELUM Malawi and Mediae.
- Solidaridad-led consortium operating in Zambia, with partners including Kvuno, Greencare Eco Solutions, AgriPredict and Mediae.
- One Acre Fund (OAF)-led consortium operating in Zambia, with partners including Golden Valley Agricultural Research Trust (GART), Green Cycle Ltd, Mediae and PASAP.

from grassroots to government – and financial viability will be secured through market-driven approaches, with a strong focus on enabling youth- and women-led enterprises.



Dr Christian Thierfelder/CIMMYT

*Crop diversification by rotating maize with legumes like groundnuts, soybeans, cowpeas and pigeon peas may improve soil fertility, and provides substantial nutritional and economic benefits.*

"An additional element to WASA is embedding a business incubator to support farmers and agriSMEs," says IWMI South Africa's Research Officer: Inclusive Agricultural Finance, Ms Mahlatse Nkosi. "Our main focus in doing this is to ensure long-term sustainability while covering last-mile delivery. Through the facilitation of market linkages and improving ease of access to finance, the hope is that co-benefits derived from the project are sustained beyond the project's conclusion."

Market linkages could take the form of supermarkets who purchase the farmers' produce, either directly from them or through an agri-dealer acting as middleman. And the focus isn't just on farmers' outputs but on their inputs too, ensuring that SMEs will be positioned by project end to supply them with affordable, high-quality inputs such as seed and compost. The farmers can expect to see higher yields and profits if they plant diversified, climate-smart crop varieties and improve soil health and water-holding capacity, using conservation agriculture and rainwater harvesting technologies such as minimal tillage, mulching, tied ridges and swales.

It's worth noting that WASA's resources will not be used to pilot new technologies or conduct basic research, but to accelerate the integration of validated interventions. Many of the smallholder farmers might even have been exposed to the technologies through farmer training days organised by other initiatives in the past, but it is moving beyond such knowledge transfer to adoption that is most important for WASA to achieve its goals.

"We're not reinventing the wheel – they are innovations that have already been tried and tested, and they have been proven to work," says Nkosi. "We now just want to push the envelope a bit and get their use more widespread."



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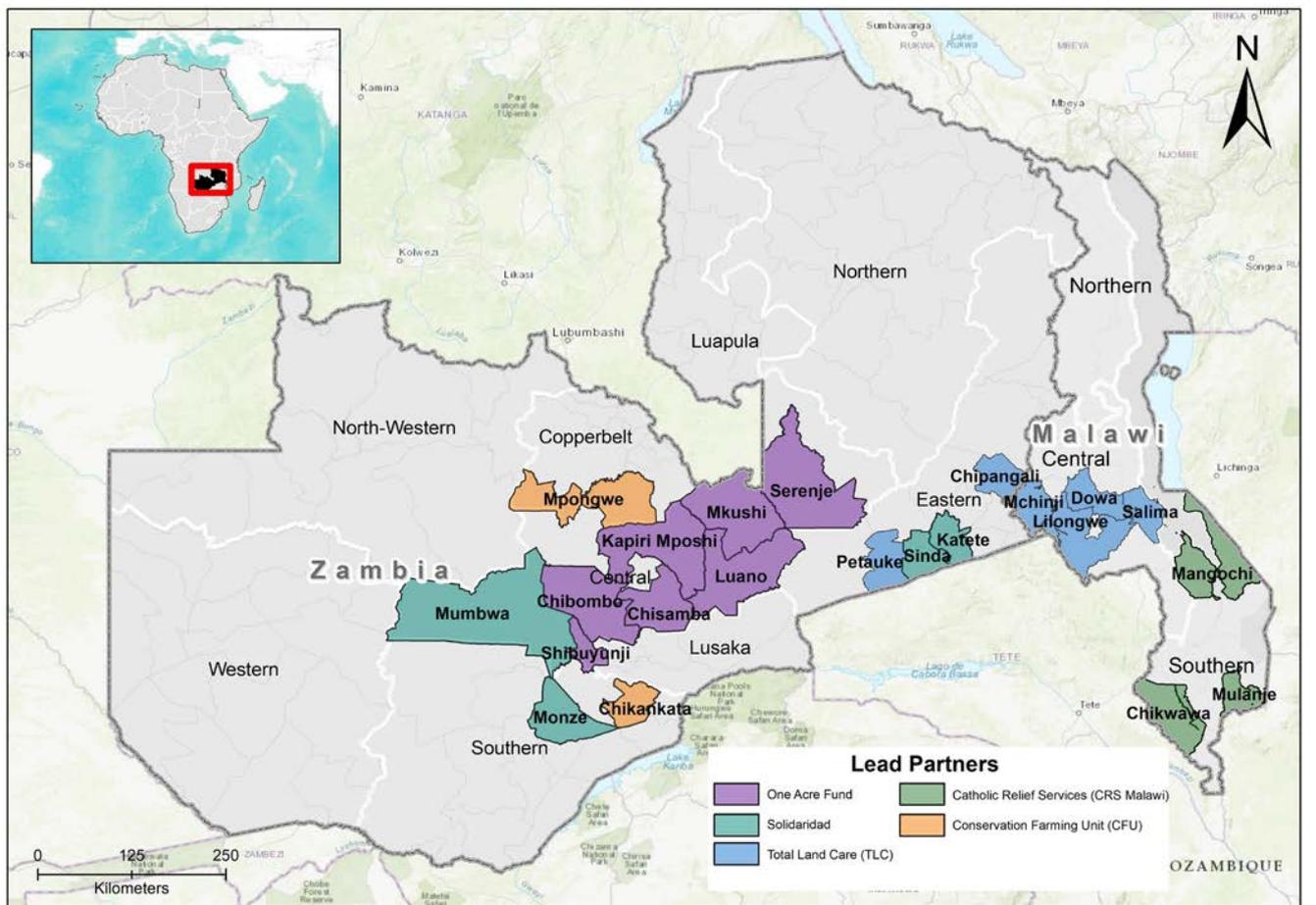
*Smallholder farmers learn how mulching with maize residue can moderate soil temperature, retain soil moisture, reduce weed growth and provide habitat for beneficial organisms.*

The advantage of using this consortia-based delivery model is that existing networks and partnerships – relying on established trust and community relationships – can be harnessed to promote the adoption of sustainable practices and ensure interventions are locally relevant. The experience gained by the consortia partners also bodes well for the longevity of interventions beyond the project's closure.

Indeed, from the outset WASA defined a sustainability and exit strategy, which is built on the four interconnected pillars of institutional embedding, financial viability, knowledge transfer and community ownership. This not only involves formal partnerships with government agencies, extension networks and district authorities, but also training and support for community-based natural resource management (CBNRM) groups and farmer cooperatives that could take ownership of landscape restoration and resource governance. Knowledge transfer and capacity development are prioritised at all levels –



Women-led enterprises will be supported through a business accelerator to be launched this year.



The five consortia operating in Malawi and Zambia have been assigned various targets aligned with key results areas and indicators in WASA's Monitoring, Evaluation, Learning and Impact Assessment (MELIA) Framework. The targets are the minimum contributions each must make by June 2027 to reach the project's vision of one million smallholder farmers adopting improved soil and water management across one million hectares of land.