

Scaling and Sustaining Mapping Approaches for Secure Tenure (MAST)

USAID's Mapping Approaches to Secure Tenure (MAST) combines collaborative, participatory land mapping with flexible technology to temporarily fill service gaps in land administration and to supplement official land information systems, with the end goal to ultimately improve long-term governance of community land and resources. MAST aims to enable communities to document and secure their land and resources rights in support of a range of development objectives, from women's empowerment and food security to climate change mitigation and biodiversity preservation.

MAST's participatory mapping principles and methods emphasize on-the-ground engagement and training to empower citizens with information and tools to enable land documentation and verification of land rights and to build their capacity to maintain land information and manage their land and resources. Through MAST, community members can verify their land holdings and efficiently collect information necessary to create a basis for their land claims, resolve ongoing land disputes, and eventually enhance tenure security. This evidence can include names and photographs of people using and occupying land, names of neighbors who share a border, and details about land use. Individuals, households, and community groups can then use that information to update land use plans, propose new land agreements and investments, obtain land documents, and verify land administration processes over time.

USAID has adapted MAST to strengthen tenure security and improve resource governance in local communities throughout Mozambique, Tanzania, and Zambia, among other countries, providing solid foundations for further land mapping and property formalization, both systematically and on an on-demand basis. How can communities, governments, and other stakeholders continue to use, fund, and scale MAST after initial investments? This document provides a brief overview of lessons learned on the sustainable utilization and scaling of MAST, as well as best practices for ensuring continued use of the approach.

Using and Scaling the MAST Approach: Examples from the Field

Tanzania:

- **Adoption:** Land registration in rural Tanzania often moves slowly due to limited administrative capacity and inefficiencies in the land documentation process. To more efficiently map and register customary land rights for smallholder farmers, USAID first tested the MAST approach through a small pilot in southern Tanzania in 2015. Critically, this pilot secured buy-in from the

national government through close collaboration with land officials and designing the MAST approach to work in tandem with local land laws.

- **Scaling:** MAST was further adapted and expanded with USAID support under a Feed the Future [Land Tenure Assistance](#) activity. This work focused on improving participation and efficiencies in village land use planning, simplifying and reducing costs for land certification, adapting data management and technology tools to district and village land information needs, and further streamlining the overall process. Notably, the project proposed and tested a cost-recovery model in its final two years, through which villagers were required to pay the equivalent of \$13 for land ownership documents and registration (USAID, 2022). Between 2016 and 2021, the project expanded MAST to support participatory land use planning and deliver nearly **100,000 land ownership documents** in 65 Tanzanian villages.
- **Sustaining:** The political, social, and economic successes of MAST and the LTA project encouraged other **donors** and **nonprofits**, such as the United Kingdom's Foreign, Commonwealth & Development Office and the Jane Goodall Institute, to [adapt MAST](#) for their own cross-sectoral work. USAID/Tanzania also supported the establishment of a **local “LTA NGO,”** whose mission is to enable sustainable land registration and land use planning using MAST tools and methods. The LTA NGO is experimenting with different business models, including philanthropic funding and fee-for-service land registration.

Zambia:

- **Adoption:** Demographic changes and accelerated economic growth have led to increased land conflict and pressure on resource management in Zambia. There is therefore high demand for customary land documentation throughout the country; yet, the national government has not developed a legal framework to formally register land rights. USAID's [Integrated Land and Resource Governance](#) activity adapted and expanded the MAST approach to address this gap, supporting progressive chiefs to register customary land rights to strengthen tenure security and improve the capacity of Zambia's customary land administration.
- **Scaling:** Through utilizing a “best practices” framework and open source technology, the ILRG activity adopted MAST to support programming goals in USAID priority geographies beyond tenure security, including economic growth, increased agricultural productivity, women's economic empowerment, and biodiversity conservation. As of November 2022, the ILRG project has used MAST in Zambia to help local communities map, inventory, verify, and document nearly **35,000 parcels** in over **900 villages**, registering the land rights of more than **163,000 people**.

- **Sustaining:** MAST data is administered through a local platform and also is now stored on Zambia's National Spatial Data Infrastructure, allowing for more efficient **information sharing** between stakeholders in land administration. Secure data access will be critical for the development of an official documentation system if the Zambian Government develops a legal framework for customary land rights in the future. Additionally, MAST's training methods and its approach to **gender and social inclusion** are now adopted by the Zambian National Titling Program.

Mozambique:

- **Adoption:** A majority of rural Mozambicans are either unaware of their land rights or lack the political, economic, or technical means to effectively assert those rights (USAID, 2021). USAID's [ILRG](#) mechanism has adapted MAST in Mozambique via a platform called CaVaTeCo to map and register communal and individual land rights throughout the country.
- **Scaling:** The local MAST approach supports the recognition of community land rights and land use planning, and fosters agreement on community land rights between communities, private sector partners, and local governments. Verified community land information is stored and updated in an open-source database and land information platform that is adaptable to many different contexts. The system offers robust data access and security through cloud-based storage that allows widespread deployment in Mozambique. Relatively easy set-up of MAST for new projects, partners, and geographies has led to its use by **nine different organizations** in five provinces across Mozambique's northern, central, and southern regions. Implemented for various use cases, including women's empowerment, economic growth, conservation, and agricultural productivity, local partners have used MAST to map and register land rights for over **40,000 beneficiaries** in parallel with other development goals, as of November 2022.

Best Practices & Key Lessons for Scaling and Sustaining the MAST

Approach:

- **Scaling and Sustainability are Often Subject to Funding and Local Capacity:** The scaling of MAST, both within a country and internationally, is largely subject to the availability of funding and the capacity to deploy the approach. In turn, the sustainability of land registration and governance resulting from MAST is significantly dependent on the administrative capacity of local and national land governance systems. Investment in long-term capacity building and continued support for land administration can help assure that land rights registration via MAST is sufficiently protected into the future.

- Explore “Cost Recovery” Business Models for Scaling and Sustainability:** Long-term funding has been a primary barrier to sustaining land administration for the long-term. “Cost recovery” business models can help reduce dependencies on donor or government subsidization of land registration via MAST. The LTA NGO in Tanzania, for example, is currently working to refine a beneficiary contribution model, through which villagers pay a small fee to help cover the costs of registering their land documents and subsequent transactions (USAID, 2020). Of note, these cost recovery models can include fees for secondary land administration costs only, following initial, systematic documentation of land rights.
- Engage National and Local Leaders as Champions:** Customary land documentation is often viewed as a prerequisite to economic growth, but in some cases it is considered a threat to traditional power structures. So buy-in from national and local leaders has often been critical for further adoption and/or sustained use of MAST. In [Tanzania](#), for instance, early government support for MAST facilitated its widespread implementation and led to the integration of MAST approaches and data with national land governance systems. By contrast, in Zambia, customary land rights are governed by traditional leaders, and local chiefs have sometimes refused to distribute customary land certificates following the mapping process.
- MAST is Flexible; Consider It for Cross-Sectoral Programming:** MAST is “fit-for-purpose,” meaning that it can be adapted to different combinations of spatial, legal, and institutional frameworks, as well as to various types of development programming. This means that in addition to scaling MAST by growing the number of users pursuing land documentation, projects can scale laterally by adding new use cases. In Mozambique, for example, the approach has been adopted by commodity [producers](#) and [exporters](#) through public-private partnerships with USAID to help socially and economically empower smallholder women farmers. In Tanzania, the LTA team has received requests from a dozen nonprofits and projects to use MAST within a [range of sectors](#), from environmental conservation to water resource management. And in Zambia, the IRLG team has applied MAST to biodiversity, democracy and governance, and women’s economic empowerment programming.
- Data Management and Related Technology Requires Dedicated Expertise and Resources:** MAST is flexible, allowing use of commercial, open source, or “blended” data management and technology solutions as deemed feasible and given countries’ planned investments in national land information systems. However, organizations should ensure local partners have the necessary technical expertise to adapt, manage, sustain, and troubleshoot MAST data collection and storage.

Learn More

Questions? Contact the EEI/LRG team at landmatters@usaid.gov. Additional resources are also available on the *LandLinks.org* [MAST Learning Platform](#).

References

- U.S. Agency for International Development. “A Decade in the Making: The Evolution of Mobile Applications to Secure Tenure (MAST).” LandLinks, July 2022.
www.land-links.org/wp-content/uploads/2022/07/Case-Study-Evolution-of-MAST-July-2022.pdf.
- . “Feed the Future Tanzania Land Tenure Assistance (LTA) NGO Business Plan,” August 31, 2020.
pdf.usaid.gov/pdf_docs/PA00X5N8.pdf.
- . “Integrated Land and Resource Governance (ILRG),” June 15, 2021.
www.usaid.gov/mozambique/fact-sheets/integrated-land-and-resource-governance.

CLEARANCE	Status	DATE	
DDI/EEI: JSingh	Cleared via email	3/1/23	
DDI/EEI/LRG: SBrooks	Clear	1/27/23	
DDI/EEI/NE: CGill	Clear w/comment	3/1/23	
DDI/for PO & EEI Comms: SJolly	Clear w/edits/comments	2/3/23	
AFR Communications: WWilliams	Info	2/14/23	

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