

Science

FINDINGS

INSIDE

The Value of Certification 3
 The Future of Community Forests 5
 Community Forests in the United States 5

“Science affects the way we think together.”
 Lewis Thomas

What Can We Learn From Community Forestry in Tanzania?



IN SUMMARY

The USDA Forest Service has long worked with international partners. In that tradition, the Forest Service and Mpingo Conservation & Development Initiative (MCDI) launched a partnership to support community forestry in Tanzania. Starting in 2017, Susan Charnley and Greg Frey, researchers with the Forest Service’s Pacific Northwest Research Station and Southern Research Station, respectively, built on that partnership through a research collaboration with MCDI. They investigated factors that contribute to financially viable community forests. They also assessed whether Forest Stewardship Council certification benefited these community forests.

A survey of community forest managers revealed that certification is costly. However, communities valued and were proud of the status and recognition that certification provided. Certification also improved administration and attracted visitors to community forests. It was a helpful marketing and fundraising tool, and communities occasionally received price premiums when selling certified timber. Tanzania’s policy and legal framework, productive area size, merchantable timber volume, and market access are factors that influence the success of community forests in the country.

Charnley and Frey are now researching community forests in the United States to learn how these forests can contribute to conservation and rural prosperity and achieve financial viability. Lessons learned from MCDI’s experience, along with their research findings, can guide future community forests.

A worker uses a portable sawmill to make planks from a tree harvested from a community forest in Tanzania. Management of the community forest is supported in part by a partnership between the USDA Forest Service and a nongovernmental organization, the Mpingo Conservation & Development Initiative. USDA Forest Service photo by Susan Charnley.

“To advance forest conservation and community development in Tanzania by facilitating sustainable and socially equitable utilization of forest resources.”

—Mission of the Mpingo Conservation and Development Initiative

With a community forest, the local community plays a meaningful role in its management and governance. Management priorities often include sustainable forest use, conservation, and local community benefit. Many low- and middle-income countries have community forests,

including Nepal, Mexico, Brazil, and Tanzania. The United States has community forests too, although they are not well documented. Ensuring the long-term financial viability of community forests can be challenging because objectives other than profitability often are prioritized. Collaboration between the USDA Forest Service and a nongovernmental organization in Tanzania has yielded insights regarding the financial viability of community forestry that may be helpful to others.

In 2022, Tanzania had 4.7 million acres of forest designated as village land forest reserves, or community forests, managed by local villages. The country’s 2002 Forest Act paved the way for the creation of these

forests by authorizing villages to formally designate community forests on village lands. Village governments, comprised of elected officials, are responsible for managing their community forests consistent with locally developed forest management plans that promote sustainability.

In 2004, Mpingo Conservation & Development Initiative (MCDI), a Tanzanian nongovernmental organization, formed to provide technical and financial support to villages developing and managing community forests in southeastern Tanzania. In the subsequent 5 years, four villages formed community forests.

“When we started, communities were unwilling because they were unsure of the benefits they’d get,” explains Jasper Makala, cofounder of MCDI and current executive director. “But when the first villages began benefiting from the community forests, [after hearing about it] through word-of-mouth, nearby communities were willing and interested to get engaged.”

One benefit was the use of revenue from timber harvests to build local schools or fund other community projects. The community forests in southeastern Tanzania are comprised of miombo woodland and patches of coastal forests containing commercially valuable hardwood tree species and abundant biodiversity. One of the most valuable trees is mpingo, also known as East African blackwood (*Dalbergia melanoxylon*). The modest, scruffy appearance of the 13- to 50-foot-tall mpingo tree belies its exceptional commercial value. Woodwind instruments, such as clarinets, piccolos, and bagpipes, are made from mpingo. The lack of comparable substitute materials means mpingo is in high demand. The species takes 70 to 100 years to reach maturity, so sustainable management is necessary to prevent overharvesting.

Over the next 10 years, MCDI helped 17 more villages form and sustainably manage community forests. “Our key activities included supporting them in their management planning,” Makala says. This includes working toward financial self-sustainability and meeting sustainability standards set by the Forest Stewardship Council (FSC)¹ for small or low-intensity managed forests.

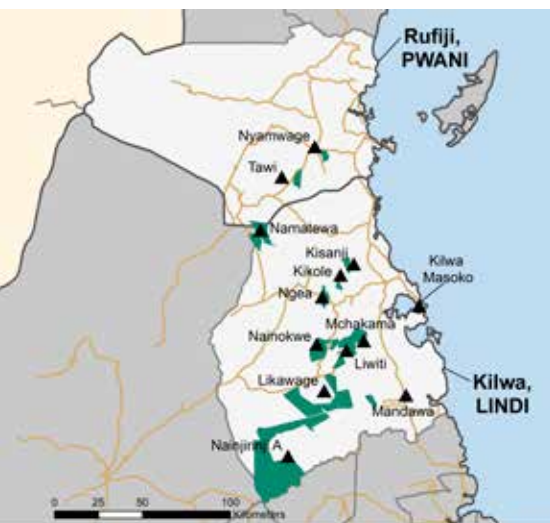
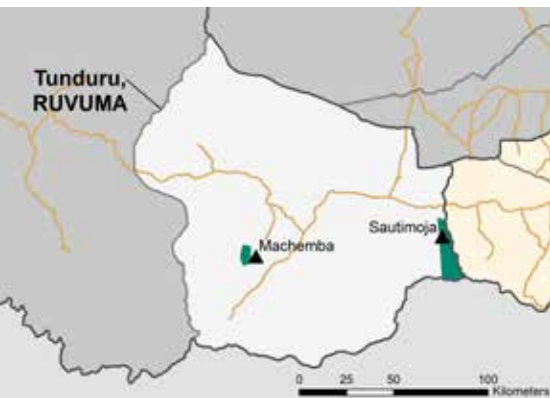
Founded in 1993, the FSC is a voluntary certification program for forest management in which governments, companies, or nonprofit organizations may participate. In 2009, MCDI obtained a group certificate for the first two community forests it worked with. This was the first, and to date the only, FSC certificate for community-managed natural forest stands in Africa. The number of community forests included in the group certificate has since grown.

Although FSC certification incurs additional management and audit costs, villages may receive a higher price for the sale of certified



A recently felled mpingo (*Dalbergia melanoxylon*) tree in Tanzania. The wood is valued internationally for making woodwind instruments such as clarinets and bagpipes. USDA Forest Service photo by Susan Charnley.

timber. Makala hoped the community forests could become financially self-sustaining, thereby reducing reliance on donor funding. Unfortunately, for the first several years of the initiative, the hoped-for price premiums seldom materialized.



▲ Villages
 ■ Community forests
 — Regions
 ■ Districts
 ■ Study area regions
 ■ Study area districts
 ■ Water bodies
 — Roads

Sources: Mpingo Conservation & Development Initiative (MCDI); FAO-UN Africover Project

The Mpingo Conservation & Development Initiative (based in Kilwa Masoko) works with villages in the Kilwa, Ruvumi, and Tunduru districts of southeastern Tanzania to support community forests. USDA Forest Service map by Abigail Kaminski.

¹ Name is used for informational purposes only and does not imply endorsement by the U.S. Department of Agriculture.

PNW Science Findings

Providing scientific information to people who make and influence decisions about managing land.

PNW Science Findings is published monthly by:

Pacific Northwest Research Station
 USDA Forest Service
 1220 SW 3rd Ave., Suite 1400
 Portland, OR 97204

Send new subscription and change of address information to:

SM.FS.pnw_pnwpubs@usda.gov

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The Value of Certification

In 2015, MCDI's work came to the attention of John Kerkering, the East Africa regional advisor with the USDA Forest Service's International Programs. Although the Forest Service was founded to manage forests in the United States, it also cooperates with partners internationally on technical pursuits such as sustainable forest management and biodiversity conservation.

"The purpose of International Programs is to internationalize the Forest Service and build relationships with other partners overseas where there would be a mutual benefit of technical cooperation and cultural exchange," Kerkering explains. MCDI was an appealing partner because it is a local, grassroots organization working directly with communities to promote conservation and economic development.

In 2016, Susan Charnley, a research social scientist with the USDA Forest Service's Pacific Northwest Research Station, consulted Kerkering about potential projects in East Africa that could benefit from research engagement. "This was a pilot project to see if cooperation between R&D [Research & Development] and International Programs could be fruitful," says Charnley. "The pilot project would be in the arena of social science, with a focus on East Africa. I was selected to participate since I'm a social scientist and have worked in East Africa before." After talking with Kerkering, Charnley took a scoping trip to visit potential projects and partners in Kenya and Tanzania with Cynthia Mackie from International Programs, who was leading development of the new partnership with Research & Development.

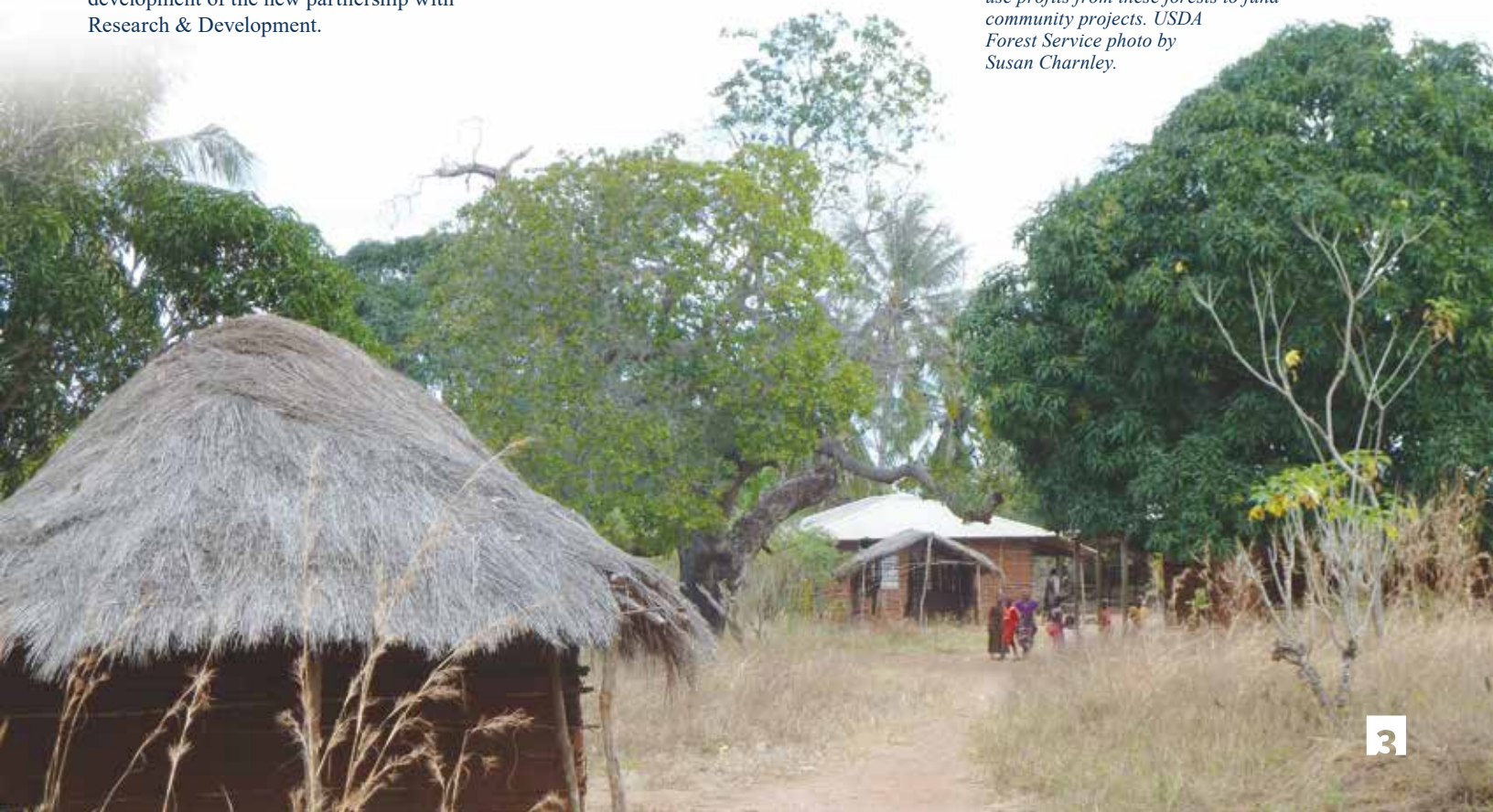
Key Findings

- In Tanzania, factors that can help support profitable timber production from community forests include large forest area, plentiful merchantable timber, good governance, support from local and regional governments, secure land tenure, tangible community benefits, and long-term support from partner organizations.
- Benefits generated by community forests, whether monetary or in-kind (i.e., development projects), motivated communities to engage in sustainable forest management. However, diverting large sums of timber revenue from forest management activities to community projects can threaten the economic sustainability of community forest enterprises. Therefore a balance is needed.
- Certification of community forests can help communities ensure safe working conditions, strengthen forest tenure rights, conserve forests, sustain multiple community benefits, and protect culturally important sites. However, financial barriers to community forest certification threaten the ability of communities to obtain these benefits.
- In Tanzania, the financial viability of community forest enterprises certified by the Forest Stewardship Council is challenged by low demand for domestic timber, competition with illegally harvested wood, poor infrastructure, and weak connections to international markets. These barriers may be overcome by developing more international markets and internal demand, producing more high-value forest products, and broadening partnerships with stakeholders.

When the team learned about MCDI, "we determined that would be a great place to focus our interests," Charnley explains. One reason was the strong working relationship that International Programs had developed with MCDI. Since 2015, International Programs has provided financial and technical assistance related to geographic information system (GIS) programs and data, biodiversity monitoring, and forest inventory. Adding a research component to the relationship made sense and was welcomed by MCDI.

To flesh out the research team, International Programs requested applications from interested early-career scientists. Greg Frey, a research forester with the Forest Service's Southern Research Station was selected because of his previous work on community forestry issues in Latin America. They quickly found that Frey's economics and Charnley's

The village of Liwiti, Kilwa District, manages one of 18 community forests in southeastern Tanzania that is certified as meeting the sustainability standards of the Forest Stewardship Council, an international nonprofit organization. Villages use profits from these forests to fund community projects. USDA Forest Service photo by Susan Charnley.





Staff with the Mpingo Conservation & Development Initiative survey a member of a village natural resource committee about his opinion on the value of maintaining Forest Stewardship Council certification for the community forest. USDA Forest Service photo by Susan Charnley.

anthropology expertise were complementary when working with community members and organizations.

In 2017 and 2018, the team visited MCDI to explore research questions, discuss MCDI's data needs and develop a research project. "We wanted to understand whether MCDI and the communities should continue maintaining FSC certification regardless of the costs associated," explains Makala. "Additionally, we wanted to find out if FSC certification and community forest management can be sustainable." Up to this point, MCDI had covered the costs of certification and subsidized community forest management activities with development partner funds.

The researchers designed a survey to be administered in Swahili by MCDI staff in the 14 villages that had FSC-certified community forests. From July through November 2018, staff surveyed 132 community forest managers who were members of their village natural resource committees, which are responsible for community forest management. Their questions focused on the value and benefits of certification. For example, staff asked managers whether the cost and difficulty in performing the activities required for FSC certification outweighed the benefits. They also asked managers to share

their thoughts on the benefits and challenges of FSC certification.

"We were thinking more broadly about costs and benefits than strictly monetary values, but we knew that monetary values were one part of it," explains Frey. "We also wanted to capture other types of costs and benefits that these communities might perceive that don't show up on a ledger sheet."

Additionally, Charnley and Frey sought to identify criteria that resulted in financially viable community forests. To accomplish this, they analyzed MCDI's financial data on community forest management activities for fiscal years 2013 through 2018 and the biophysical and social attributes of the 14 community forests. They interviewed select MCDI staff, district government employees, and a member of an international partner organization to learn how they defined success and the criteria that characterize and influence it.

Frey took the lead in the economic analysis, using the Green Value Tool to evaluate the financial viability of the endeavor. Originally created by the Earth Innovation Institute with technical and financial support from the Forest Service for use in Latin America, it's now used in other countries.

Community forest managers were asked to rate seven perceived benefits. Better recognition of their community by the district, regional, or national governments, and pride in having an FSC-certified community forest rose to the top, whereas the price premium for FSC-certified timber and attractiveness to buyers were the lowest ranked benefits.

These findings were somewhat surprising: "We did not expect the communities to value certification to the extent of mentioning the nonmonetary benefits," Makala explains.

Charnley adds, "We found in just about all cases, the managers thought the benefits were worth the extra effort. Even though everyone was aware they were unable to sell their logs at a price premium, there were other reasons that they valued certification."

Forest managers did cite several drawbacks to certification, however, including the additional workload to maintain certification and the cost of certification that must be covered by MCDI using donor funding.

"Even the most successful village was barely viable at that time," Frey says. "From a profitability standpoint, almost all the villages were operating under a net loss. They were pulling from outside donors to make ends meet." One reason for this is that 50 percent of timber revenues fund village projects that benefit the community and build local support for community forests.

Several factors helped the FSC-certified community forests be financially self-sustaining. "An obvious one was some of these community forests had a larger resource base and more marketable trees to work with," explains Charnley. "The bigger the community forest, the more a village can attract buyers and conduct harvests. And if 50 percent of the revenue goes to the community to reinvest in community projects, that's going to be a bigger success than a community that has suffered from a lot of illegal logging in the past and doesn't have a strong resource base to draw on."

Financial viability can also depend on factors that are beyond a village's control. "For a small community, if they try to sell domestically, there are not that many buyers within those countries who are willing to pay any premium for certified timber," explains Frey. "The villages just don't have the scale or the connections to market their wood internationally."

Governance also played a role in the success of the community forests. "So much of forest management depends on local leadership and



A timber harvest crew with staff from the Mpingo Conservation & Development Initiative and a representative of the timber purchasing company. Certification by the Forest Stewardship Council (FSC) requires that forestry staff and workers are trained to manage the forest per FSC standards.

local actors,” Charnley says. “If the natural resource committees and village leadership were really committed to this effort, and they got backup support from the district councils, that made a big difference.”

After considering the benefits and drawbacks revealed by the survey, MCDI decided to maintain its group FSC certification. (Of note, 98.5 percent of the forest managers surveyed said they wanted to continue certification.) These findings helped us “adjust the management of the forest but also in managing expectations,” says Makala.

The Future of Community Forests

Four years after the 2018 visit, Makala is pleased with the progress that has occurred: MCDI now supports 98 communities with more than 1.7 million acres of community forests. Of that, 618,000 acres in 18 community forests are FSC certified.

“The interest from communities is more than we can afford, and communities are now supporting each other to start their community forests,” Makala says. “One community borrowed money from another village so they can get started and will pay them back when they begin selling forest products.”

MCDI is trying to promote the sale of other less-known tree species within community forests to diversify the forest products that villages sell. It’s working with an international marketer to better market forest products internationally. MCDI also invested in a portable sawmill and solar kiln for drying lumber to increase its value and profitability.

Yet, affording FSC certification remains challenging. Charnley says FSC is aware of this: “They’re certainly cognizant of this problem, and FSC has tried to make certification more accessible in the context of small-scale forestry.” Charnley and Frey’s research provides additional insight about how to do this. One way is to better engage public and private stakeholders at different scales who benefit from community forest certification in supporting it.

Community Forests in the United States

Charnley and Frey are now looking to study how community forests can promote forest conservation and rural prosperity in the United States. Based on his observations in southeast Tanzania, Frey says that becoming financially self-sustaining is a common challenge: “In a lot of cases for any forest to be self-sustaining, it will take a real concerted effort to figure out the ways to make that happen.”

LAND MANAGEMENT IMPLICATIONS

- To increase the likelihood of success for community forests that depend on timber production to finance their operations, the funding and governance partners may want to first evaluate whether the conditions fundamental to financial viability are present and design their investments accordingly.
- Even if a timber operation is not financially viable on its own or may require years to accrue the management skills and market connections to become viable, investment may still be worthwhile from a conservation perspective.
- An initial assessment of the potential costs and benefits of certification for community forests can help optimize financial viability. It is important to critically assess whether price premiums for certified timber are a realistic expectation and under which conditions.
- Long-term partnerships with organizations willing to provide financial or technical support for certified community forestry operations are beneficial. Raising awareness of the benefits of certification for potential partners may help mobilize their support.
- Collaboration within the USDA Forest Service between Research & Development and International Programs holds promise for furthering the agency’s effort to promote sustainable forestry around the world.

“The whole question of financial viability is just as pressing as in Tanzania,” seconds Charnley. “A lot of these community forests are struggling with how to maintain themselves without grant funding. They face the same challenges as in Tanzania. Learning about some of the different strategies adopted by the villages in Tanzania can be beneficial here.”

For agencies or nonprofit organizations wanting to establish community forests, Makala offers this advice: “Continuous engagement with rural communities is needed to build trust and relationships. As a result, they can value the nonmonetary benefits of the intervention while expecting more monetary benefits to come in the future.”

“To encourage and facilitate the active participation of the citizen in the sustainable planning, management, use and conservation of forest resources through the development of individual and community rights, whether derived from customary law or under this Act, to use and manage forest resources.”

—An objective of the Tanzania Forest Act of 2002

For Further Reading

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