INTRODUCTION

This brief summarizes key findings and recommendations from the report Governing mangroves: Unique challenges for managing Tanzania’s coastal forests. It provides an analysis of natural resource governance, including land and resource tenure, in coastal mangrove forests in Tanzania. It forms part of a broader study that includes a global review and a national-level study of Indonesian mangroves. Not only was Tanzania the first country in Africa to develop a National Mangrove Management Plan in 1991, but its orientation to mangrove management and conservation has evolved over time in light of lessons learned on the effectiveness of earlier approaches. The report analyses national-level legal and policy frameworks and the level of institutional coordination across key government agencies. It also investigates how local-level governance arrangements for mangrove management and rehabilitation interact with the national enabling framework in the Rufiji delta. This includes an assessment of tenure rights within mangrove forests, gendered dimensions of use and management, as well as interactions between communities and government authorities in mangrove protection and rehabilitation.
Mangroves are a unique type of forest growing at the interface of land and sea throughout the tropics and sub-tropics. Although mangroves constitute only 0.5 percent of the global forest area, they play crucial ecological and socioeconomic roles. Millions of people living in and around mangrove ecosystems in the tropics rely heavily on mangroves for their food and income, as well as protection of their settlements and agricultural land. Mangrove forests are not only the natural guardians of tropical coastlines against erosion by waves, currents, and winds, but they provide fertile nursery grounds for fish and invertebrate species that later move into marine ecosystems (Wagner & Sallema-Mtui, 2016). Moreover, they store 10–15 percent of all coastal sediment carbon globally (Alongi, 2014).

Just like tropical terrestrial forests, mangrove forests have been disappearing at an alarming rate, especially during the last three decades. Between 1980 and the present, about one-fifth of global mangroves have disappeared, with the Asian and Pacific regions recording the highest decline (greater than 20 percent) and Africa recording the lowest decline (8 percent) in mangrove forest cover change (Van Lavieren et al., 2012). It is widely recognized that without deliberate efforts to restore and protect mangrove forests, the current trajectory of mangrove loss will result in negative climate impacts, unprotected coastlines, damaged coastal infrastructure, reduced coastal fisheries production, and increased food insecurity among coastal communities (see FAO, 2014a).

In recent years, there is growing awareness that the successful design and implementation of effective mangrove governance and tenure arrangements requires systematic empirical understanding of both the biophysical and socioeconomic dimensions of mangrove forests. This is especially important as more countries have begun to develop new policies and laws for mangrove management in the context of climate change. However, much of the global research has focused on the biophysical and ecological roles of mangroves to both support mangrove rehabilitation as well as understand their role in carbon sequestration. There is a dearth of research on the socioeconomic and governance conditions that facilitate successful restoration and long-term management of mangrove systems, even though the major threats to mangroves originate from human pressures.

This brief primarily focuses on analyzing tenure and governance arrangements of mangroves in the Rufiji delta in Tanzania. Tanzania’s Rufiji delta has one of the two most extensive mangrove areas within East Africa. The Rufiji estuary provides an excellent case study as it is the largest river delta in Tanzania and East Africa, has the most extensive mangrove forest area (about 22,000 ha), experiences the full range of threats facing mangrove forests in the country, and draws on different types of mangrove management approaches for protecting these valuable coastal forests.

2 The main publication contains the full set of references that support the analysis presented in this brief.

**MAIN FINDINGS**

**Status of Mangrove Forests in Tanzania.** The Rufiji estuary in Tanzania is one of the two largest mangrove areas in the East African region. Other important mangrove areas along the country’s 1,424-km coastline may be found in the Ruvu, Pangani, and Wami deltaic systems. Mangroves are also found along the coasts of the three major islands of Unguja (Zanzibar), Pemba, and Mafia. Remote sensing data provides a mixed picture of mangrove forest loss in Tanzania. Earlier studies suggest that the mangrove forest area in Tanzania has declined only slightly from 109,593 ha in 1990 to 108,138 ha in 2000. However, a later study of African mangroves utilizing satellite imagery from 1999 to 2000 indicated that there were only 80,900 ha of mangroves left. Researchers have suggested that there is a need for more ground truthing in combination with social science research methods to better understand mangrove forest loss and degradation.

**Threats.** Despite high seedling success rates for most mangrove species, as well as relatively fast growth, mangrove forests in Tanzania are facing serious pressures that threaten their survival. Adelaida Semesi characterizes ecological and socioeconomic threats to mangroves in Tanzania. She notes that ecological threats to mangroves include floods resulting in water-level alteration, bank erosion, and diversion of water courses; sand deposition from sea and land that cuts off portions of mangrove forests from salt water; resulting in their death; and sea-level rise as a result of global warming. Socioeconomic threats include cutting mangroves for fuelwood used in salt production, burning lime or smoking fish; clearing mangrove areas for salt pans involving solar evaporation; cutting poles for sale (unregulated) in Dar es Salaam, Zanzibar, and in the Middle East; and expanding agricultural activities, particularly paddy rice as well as aquaculture in the Rufiji delta. Moreover, dragging purse seines under mangrove canopies, fishing with dynamite, as well as industrial activities, oil pollution, and siltation threaten mangroves. Small-scale leases for oil palm plantations have the potential to expand within the Rufiji. As these threats are interrelated, interventions to restore and protect mangroves should consider both ecological and socioeconomic contexts at the local and regional levels.

**History of Mangrove Management.** Mangrove forest management in Tanzania is historically based around the classification of mangroves as forest reserves and dates back to colonial rule. The devolution of rights to use and manage mangroves by local communities has been limited, with the government retaining ownership rights and regulating other rights (access, use, management, alienation, and right to income). The German colonial government created the first mangrove forest reserve in the Rufiji delta in the 1890s, followed by the British colonial government, which adopted and expanded a strict protection approach in the 1920s and 1930s. This was largely continued by the independent Tanzanian government, which also expanded mangrove forest
reserves from the 1960s. Tanzania was the first country in Africa to develop a National Mangrove Management Plan in 1991. Strict mangrove protection entailed actively excluding people living in and around mangroves from accessing and using mangroves for their survival, while the government controlled the harvest and export of mangrove products, particularly timber and poles. In 1987, the government banned the harvesting of mangrove products. More recently (from 2010 onward) the state has actively prevented rice paddy expansion in the Rufiji delta.

This history of protectionist policies, however, has achieved limited and short-lived success in some locations around the country, with general failure in most mangrove areas. The 1991 National Mangrove Management Plan crafted by the Tanzania Forest Service Agency (TFS) was the first attempt at halting mangrove conversion, alongside monitoring and regulating the use of mangroves. Despite adopting a community-based approach to mangrove management, its pilot activities were not successful, and therefore never implemented.

**Factors Constraining Effective Mangrove Management.**

The effective management of mangroves has proven difficult under Tanzania’s protectionist approach for a number of reasons: (1) continued expansion of paddy rice farming, (2) conflicts over forest use between local residents and outsiders seeking to use the forests, (3) increased demand for mangrove forest products, (4) political interference at the national and sub-national levels, (5) land scarcity due to recent influx of pastoralists, and large-scale land-based investments, (6) a lack of government coordination, and (7) limited human and financial resources for effective forest extension services and rule enforcement. While mangrove forests experienced major losses in the 1970s and 1980s due to unregulated harvesting, the recent introduction of paddy rice farming from the 1990s has caused the most significant damage to mangroves due to the associated extensive clearing.

**Legal and Policy Framework and Implementation.**

Tanzania has no specific policy that addresses the unique needs of mangrove forests; instead, mangrove management in the Rufiji delta and elsewhere in the country apply forest management arrangements used in terrestrial forests. The legal framework for forest management is based on the Forest Act of 2002. The Act provides an architecture that incorporates community participation; gender equality; financial incentives/mechanisms; conflict resolution; and cross-agency, cross-level coordination and collaboration. Legal provisions are supportive of community participation in forest management and stress distribution of the benefits of forest conservation and management. The Forest Act establishes the Tanzania Forest Fund, a financing mechanism that promotes the development of community forestry and provides advisory services and assistance to community groups. The implementation of the Forest Act, inclusive of mangroves, is the responsibility of TFS.

As threats increased on mangroves over recent decades, the Government of Tanzania began piloting different governance and tenure arrangements, starting in 2010. These arrangements aim to devolve forest management through a collaborative relationship between state and non-state actors who hold a stake in mangroves and coastal resources (Table 1).

**Table 1. Recently introduced governance and tenure arrangements for mangrove management in Tanzania**

<table>
<thead>
<tr>
<th>Management approach</th>
<th>Rights distribution between the state and communities</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mangrove forest reserves: strict protection</td>
<td>State retains all rights</td>
<td>Has been implemented for the longest duration, but has not been able to keep up with recent pressures.</td>
</tr>
<tr>
<td>Individual farming permits: a rehabilitation scheme</td>
<td>State retains all rights and grants regulated access and use (farming only) rights to participating individuals</td>
<td>Introduced in 2011 and so far 250 individual permits have been signed in four villages. Particular attention paid to native residents because they are the most affected by ban on expanding and opening new paddy land. The program has largely failed due to realization rights are only provided for a short duration. TFS does not plan to pursue this approach further.</td>
</tr>
<tr>
<td>Group rehabilitation scheme</td>
<td>State retains all rights with communities receiving compensation for their labor</td>
<td>Started in early 2015; so far 31 groups of 15 to 30 members have formed, comprising 688 villagers from four villages. Members are paid US $7 for replanting and US $5 for weeding per day. Villagers complain that TFS favors groups from near Kibiti, involving them instead of those from the delta. In response, TFS stated that all groups will be involved and that there are funds to involve all groups.</td>
</tr>
<tr>
<td>Joint Forest Management (JFM) areas</td>
<td>State retains ownership rights but shares/devolves management rights to villages</td>
<td>Introduced in late 2015; so far four villages have gone through the steps to form village natural resource committees and develop village forest bylaws and village forest management plans. These will be used to draft Joint Forest Management agreements between villages and TFS for subsequent implementation from 2016 onward. Villagers prefer this approach compared to the other three above because it grants more access and use rights to the villagers.</td>
</tr>
</tbody>
</table>
In the Rufiji delta, the individual farming permits system has proven to be unsuccessful in reaching its intended objectives. It is a one-sided scheme that concentrates power and discretion in TFS, while imposing a broad range of responsibilities on farmers for a permit that is of short duration and provides relatively insecure rights. In contrast, the group rehabilitation scheme has delivered some tangible benefits in the form of financial incentives to participating members and has proven successful, despite being in its infancy stage and conferring no long-term management rights or responsibilities.

Community members increasingly prefer the JFM approach, despite its recent introduction, because it provides broader rights and benefits to participating communities. Through the formation of village natural resource committees, village mangrove forest management plans, and mangrove forest by-laws, the JFM approach is promising to be the most progressive initiative in managing mangroves. Within this approach, communities have the ability to negotiate their resource rights (although ultimate ownership remains with the state), so that their actions (e.g., harvesting timber, poles, charcoal, firewood, and other products) are no longer criminalized as they have been for decades.

From a gender perspective, women in the Rufiji delta use mangroves extensively; however, this importance is not reflected in their role in mangrove management and group leadership. Village regulations require that women comprise 40 percent of resource committee members, but cultural and religious norms often counter the legal requirements. For example, it is considered bad manners for a woman to speak in public, particularly in front of men. Women’s labor is appropriated for mangrove clearance, and planting and tending rice, a main income source in the delta. Yet, the proceeds from rice sales are confined to men, who determine how these income streams will be spent. Women are generally keen to participate in mangrove monitoring and patrolling, which are paid activities, and as such, efforts are needed to increase their active engagement in management.

Despite a positive legal framework for forest management and the recognition of community rights, there have been additional institutional challenges in mangrove management. Lack of coordination between forestry and marine conservation agencies results in ineffective mangrove management. For instance, forestry agents cannot pursue illegal mangrove loggers transporting mangrove logs and poles on the high sea. Overlapping jurisdictions between forest management authorities and marine and coastal resource management authorities has often led to conflict. In one incident, marine park conservation agents arrested forest conservation agents who were conducting regular patrols in a recently gazetted marine park that was, prior to gazettement, under the jurisdiction of the Forestry Department.

Consistent management of mangroves is also challenged by the semi-autonomous status of Zanzibar. There has been a lack of coordination between mainland Tanzania and Zanzibar on the regulation of mangrove products. For example, while mainland Tanzania has banned charcoal exports, the Zanzibari government allows the export of charcoal. As a result, loopholes exist for charcoal (legally and illegally) produced from mangrove forests on the mainland to be transported to Zanzibar before being exported. Both governments recently signed a memorandum of understanding on forest management that is expected to address these discrepancies.
**RECOMMENDATIONS**

The government’s new approach toward devolving control over mangrove tenure holds promise for achieving positive impacts within the coastal seascape. It is clear that providing stronger forms of security over land and forest tenure for local communities will be a central component of improving mangrove conservation within a dynamic delta ecology such as the Rufiji (Mwansasu, 2016).

**Revive the National Mangrove Forest Management Plan and Adopt a Landscape Approach.** Currently, there is no specific legislation or policy on mangroves in Tanzania, although the Forest Act (2002) and other policies and legislation have been applied to mangrove forests. In 1991, the government developed a mangrove management framework (relying on community-based approaches) which, due to the absence of an enabling institutional framework and inadequate financial and technical resources, was not implemented. Following recent developments, both in terms of changing threats and the status of mangroves, as well as the introduction of new policies and legislation in relevant sectors (forestry, wildlife, fisheries, land, and agriculture) that directly affect mangrove forests, it is imperative to revive and update this strategy at the national level and apply it through local plans at the sub-national level. A national mangrove management plan will fill the vacuum resulting from the lack of mangrove-specific policy and legislation and provide coherence to mangrove conservation and management.

At the sub-national level, such as in the Rufiji delta, such plans should adopt a landscape approach that includes processes that take place outside the delta area but impact delta mangroves. In doing so, it is important to systematically document the impediments to the implementation of the 1991 management plan to improve upon the new approaches recently been set into motion. Indeed, this type of holistic approach is reflected in current efforts. For example, the national parliament commissioned a special task force to review the situation in the Rufiji River floodplain area and propose recommendations to reconcile the range of competing land demands. The task force review provided a holistic consideration of various significant land and development issues in the Rufiji delta such as mangrove conservation, the relocation of pastoralists, the relocation of delta people, large-scale and medium-scale land-based investments, and human settlements. While the report has not yet been publically released, there is some evidence that the government has begun adopting its recommendations that focus on facilitating the identification of land for investments in the Rufiji delta. However, its recommendations that have direct implications on mangrove conservation and management (such as addressing the pastoralist problem and seeking land to relocate delta residents outside mangrove areas) remain unimplemented. Therefore, any attempt at reviving and updating the national mangrove management plan should take into account the task force findings and recommendations as it provides a sound basis for a landscape approach to mangrove management.

**Integrate Women’s Role into Mangrove Decision Making, Management, and Benefit Sharing.** Existing laws and guidelines, particularly JFM guidelines, have clear provisions on women’s participation in village leadership and in the distribution of benefits from mangrove forests, stating that more attention should be accorded to women given the unique sociocultural and religious context of coastal communities in Tanzania. However, existing sociocultural and religious norms undermine the implementation of JFM guidelines because they prevent women from active participation in leadership roles and decision-making processes that occur in public spaces. Special women’s groups or committees, where women can discuss their issues and make decisions, are one way to achieve meaningful participation. The pilot for this approach in northern Dar es Salaam (Kunduchi area) in the early 2000s is thought to have been successful in promoting women’s participation in mangrove restoration programs but requires systematic investigation to draw out lessons. However, the development of alternative, women-only structures and spaces should be managed to safeguard against isolating women from broader community engagement. Furthermore, guidelines for gender integration in mangrove management and rehabilitation that draw lessons from mangrove projects and from the forestry sector would be helpful in supporting gender integration.

Women’s exclusion from participating in mangrove decision making is not unique to Tanzania but rather is a broader challenge in the global management of mangroves (Rotich, Mwangi, & Lawry, 2016). Increasing women’s participation in decision making and strengthening their rights to forests and trees is achievable under certain conditions that have been elaborated for terrestrial forestry in similar settings. For example, using the “Adaptive Collaborative Management” approach, CIFOR researchers and partners have demonstrated that building leadership capacity, providing mentoring support, adopting decision rules that favor consensus, and ensuring men’s support for women’s leadership can reduce gender bias due to cultural norms and indeed create opportunities for women’s leadership and benefits capture (Evans et al, 2014).

**Pay Special Attention to Relations between Long-Term Delta Residents and Outsiders.** Human activities resulting in mangrove forest clearance is performed both by people residing in the delta area on a long-term basis and by people from outside the delta area from neighboring communities or who travel a great distance. Relationships vary between outsiders and residents, based on a range of factors including kinship and purely economic transaction. Additionally, it is often difficult to distinguish between an outsider and a long-term resident due to the evolution of these relationships.
TFS adopts a punitive solution when trying to establish the identity of the outsiders clearing mangroves or supporting illegal logging. This approach is counterproductive as it builds resentment among residents and thwarts any possibility of cooperation. Residents have tended to be reluctant to expose the identity of outsiders who may be funding activities in the delta. Instead of repeatedly punishing non-cooperating residents, TFS may consider investing in understanding motivations and designing ways and means of addressing the issues that drive residents’ reluctance to reveal the identities of outsiders or participate more actively in mangrove management. In addition, the TFS should also consider implementing interventions that offer alternative and sustainable livelihood options for local residents that reduce their dependence on mangroves. Diversifying local income base from mangroves can offer a pathway out of relying on payments from non-residents’ illicit exploitation of mangroves.

**Improve TFS Capacity to Manage Mangrove Forests.** TFS urgently needs additional resources to manage mangrove forests effectively in the country. For instance, there are only three full-time forestry officers covering an area of about 22,000 ha using one small boat, with a limited budget for fuel and fieldwork. As a result, monitoring for both legal and illegal harvesting of mangrove forest products is simply not possible. There is also a need to expand the human resource base to have more staff with knowledge and experience in community forestry mechanisms. The establishment of JFM agreements in four villages, formation of 31 community rehabilitation groups, and numerous individual contracts with farmers requires a larger pool of staff with diverse skill sets beyond technical forestry. While these initiatives are successful elsewhere in Tanzania and show great promise in the delta, limited financial and human resources hamper their effectiveness in the future. The Tanzania government is best placed to identify mechanisms for strengthening TFS’s management capacity.

**Implement both JFM and Community-Based Forestry Management (CBFM) Approaches in Mangrove Forests.**

Now that benefit-sharing agreements have been finalized and four villages have started the process of establishing village land forest reserves under JFM agreements, it is imperative that TFS and partners undertake measures to build local residents’ capacity for effective co-management of their forests. Under the JFM approach, mangrove forest ownership rights remain with the state and the state enters into agreements with adjacent communities for managing and using mangrove forests. JFM is the most applicable mechanism for community engagement in mangrove forests, as all are state-owned. In contrast, the CBFM approach is applicable to non-state forests on community land. TFS and district councils can work in close collaboration with the central government and NGOs in supporting community mangrove forest management projects in the delta area. Using lessons learned from JFM and CBFM implementation in terrestrial forests, community mangrove forest management has the opportunity to avoid mistakes from elsewhere and adopt appropriate best practices. Areas in need of immediate support include (1) technical aspects, including appropriate species selection in rehabilitation schemes; (2) financial management, particularly equitable distribution of benefits and cost of mangrove management among community members; (3) management and enforcement capacity to ensure that villages are capable of regulating legal harvests; and (4) effective enforcement of rules both within and outside the community.

In the discussions undertaken in this study, a number of participants, including government officials and NGO representatives, recommended that the government transfer ownership rights to communities in some areas and establish CBFM projects. As CBFM grants more rights and powers to communities, they recognize that CBFM may be a better option than JFM, as it has the power to heal historical and current enmity between local people and state forest conservation authorities. A review of this policy to expand community rights to include ownership would not only be consistent with forestry practice in Tanzania but would also align local incentives with sustainable use and management priorities.

Lessons from terrestrial forests should be taken into account to ensure that mistakes reported elsewhere are not repeated in the mangrove forests. At present, there are two initiatives that offer the most experience on participatory forest management: the Mpingo Conservation and Development Initiative in Kilwa District, which has been operational since 2005; and the Tanzania Forest Conservation Group participatory forest management projects in several districts across the country, including Lindi District. For example, in cases where decisions affecting forests are made at the individual, household, and community levels, delivering benefits only at the community level may not be adequate. Individual-level payments and community-level benefits may be considered, as have been implemented in Lindi district under a REDD+ project.

Additionally, it is important to ensure that formal processes of deliberation are accessible to all and that the majority accept the decisions reached. Experiences from Kilwa and Lindi reveal that participation in public spaces and processes for forest management is not always accessible to all community members for various reasons. The decisions may be legal, but democratically illegitimate. Additional alternative participatory processes may be necessary to ensure all groups within the community participate meaningfully in decision making. This is often the case with respect to women’s cooperation. In addition to these lessons learned for effective implementation of a CBFM approach, engagement in mangrove forests would require policy changes that allow community ownership of mangrove forest areas.
Address Political Influence at the National and Local Levels. Statements and actions of elected and appointed officials at the village (chairman and members of village council), ward (ward councilors), district (district commissioners), constituency (parliamentarians), and national (president and ministers) levels play crucial roles in enabling or constraining effective mangrove forest management in Tanzania. In the Rufiji delta, politicians at various levels have issued statements that encourage unsustainable use of mangrove forests and mangrove clearance for paddy rice farming to gain residents’ political support, particularly during election times. This creates mixed messages from the government, where politicians promote mangrove clearance, but the civil service continues a strict protection approach.

To turn political influence from a hindrance to an enabler of effective mangrove forest management, special communications campaigns are needed to diffuse current conflicts by targeting local people and politicians while involving other actors such as bureaucrats/technocrats and civil society representatives. The campaign should aim to increase the awareness of politicians and other actors of practical and sustainable ways of using and managing mangroves as well as the local, national, and global values of mangroves. Such a campaign could turn some politicians from advocates of mangrove destruction to champions of win–win strategies that have the potential to achieve both environmental and livelihood outcomes sustainably and equitably. This approach would need to be implemented alongside a clear policy or land use planning process that tries to reconcile the threats facing mangroves and the legitimate rights and needs of local residents.

Strengthen Coordination between Forest and Fisheries Ministries and Agencies. Coordination has been a challenge at both the policy and practice levels, with the Fisheries Department generating tools and guidance on mangrove fisheries with limited input from forest officers, and a lack of ability of enforcement officers to collaborate on the ground. TFS complained about the situation of limited resources (boats and fuel) to patrol and apprehend illegal loggers. Fisheries officers at the district described situations when they encounter dhows full of mangrove poles sailing to Zanzibar from Rufiji, but they cannot inspect or make arrests since these are two separate jurisdictions. TFS explained that, since mangrove products are transported by sea, coordination with fisheries units would be very useful. TFS would assist in arresting illegal fishers on land, and Fisheries Departments would assist in apprehending illegal loggers.
at sea, as it was before the two ministries were separated. In other countries, this has been achieved through memoranda of understanding between enforcement agencies, as well as instruments that allow local communities to act on behalf of these multiple ministries.

**Conduct Further Research.** While this assessment has contributed to understanding governance of coastal mangroves in Tanzania, additional research is required to improve understanding of various aspects of mangrove forest management. At present, it is not clear that the land and forests tenure conditions and the range of de facto historical rights held by residents are fully considered by the government in mangrove management. To reconcile the history of animosity and conflict, comprehensive socioeconomic studies are needed to understand people–mangrove interactions and interdependencies, particularly how such interactions have changed over time and space, and the multiple factors that have influenced transformations in people–mangrove relations. This social context should inform the design and adaptation of management strategies.

In addition to social conditions, there is a need to better understand the dynamics of mangrove deforestation and degradation and identify the causes for changes in mangrove coverage and condition through localized analyses. Such analyses would seek to understand where different drivers are most pronounced and how they interact. The results of this study would have benefited from a complementary analysis of forest cover change, and indeed the total area degraded in these areas of the Rufiji delta remains unclear even as actors introduce rehabilitation schemes.

**CONCLUSION**

Mangroves are valued for multiple goods and services including carbon sequestration, protection of land assets against sea erosion, and local livelihoods. Their effective governance is critical for safeguarding communities and their livelihoods from further vulnerability in the face of climate change. Tanzania’s coastal mangrove forests, however, are threatened by several interacting factors. These include clearing for paddy rice farming and salt evaporation pans; unregulated harvesting of mangroves for poles, timber, and charcoal; and increasing competition between farmers, livestock keepers as well as local and foreign land-based investors. While these threats are known, efforts to address them are constrained by a combination of several factors. These factors include lack of coordination and collaboration particularly between forestry, fisheries, and agriculture sectors; inadequate financial and technical capacity for effective management of mangrove forests by both the government as well as local communities; negative political influence that encourage mangrove clearance for paddy rice farming; and animosity between local residents and mangrove management agencies.

Though all mangrove forests in Tanzania are declared state property, and have been managed under strict protection with use by local residents actively restricted, the government has recently introduced regulated use in the Rufiji delta through a series of pilots. The aim is to test whether this can contribute positively toward sustainable management. Experience thus far reveals that people’s attitudes toward mangrove conservation became more positive after they were granted access and use rights such as cultivating old paddy farms, collecting firewood, harvesting poles and timber for house construction, and beekeeping. This approach also contributes toward rebuilding trust between local people and state management agencies. Therefore, it is increasingly clear that expanding and strengthening the tenure rights of local communities to mangroves should be a central component of sustainable mangrove management and conservation.