

Preface

During the summer of 2004 forests were in the headlines in Tanzania as a timber scandal captured the attention of the public. The Tanzanian independent daily the *Guardian* reported widespread illegal harvesting of timber for export throughout Rufiji District.¹ Businessmen bypassed village environmental committees to cut indigenous hardwood trees, obtaining licenses illegally from district-level forest officials or failing to obtain licenses altogether. In so doing they violated recent changes in Tanzanian forest law that empowered local communities to guard forests from over-exploitation and degradation while garnering some timber profits. While the *Guardian* kept the scandal on the front pages daily, the minister of natural resources and tourism banned all logging and timber sales as the extent of illegal harvesting was being investigated. Furniture workshops and lumber cooperatives were suddenly short of timber, as police seized lumber suspected of being contraband.² Loggers avoided scrutiny by transporting their cargoes to the ports of Dar es Salaam and Kilwa Masoko under cover of night, until media exposure stopped the practice. Trucks loaded with hardwood logs lined the road south of Dar es Salaam awaiting inspection. Customs officials inspected log containers queued at Dar es Salaam harbor, most destined for India and China. Few exporters showed up for the inspections, and many containers that were forced open held contraband protected hardwoods such as *mninga-maji*, *mpingo*, and *pan-gapanga*.³ Subsequent investigations determined that Tanzanian officials, in concert with local and foreign corporations, sanctioned much of the illegal timber harvesting.⁴ Not long ago the characteristics of these trees were virtually unknown. In an age where so-called conflict timber fuels wars in some parts of Africa and the world, once marginal timbers have acquired great value, averaging about \$300 per cubic meter at export, and as much as \$1,500 per cubic meter once processed overseas.

As the logging scandal was revealed, tensions simmered between villagers west of Dar es Salaam and officials of the Ministry of Natural Resources and Tourism and their allies among conservationist non-governmental organizations (NGOs). For over a decade state officials and NGOs, led by the politically connected Wildlife Conservation Society of Tanzania (WCST), have accused villagers of entering government forest reserves to farm or cut down trees to produce charcoal for the Dar es Salaam market.⁵ The charcoal trade is the most visible link between the Tanzanian countryside and its urban centers, accounting for as much as 80 percent of urban domestic fuel use and offering a vital means for rural communities to earn cash.⁶ Bicycles and trucks stacked with twenty-eight-kilogram bags of charcoal ply the roads around Dar es Salaam from as far away as two hundred kilometers. Natural resources officials frequently confiscate the bicycles of illegal charcoal burners in forest raids.⁷ In recent years plastic bags of charcoal, enough for a day's cooking, have appeared at Dar es Salaam street kiosks. Hardware stores and the main market at Kariakoo sell charcoal-heated irons, which in the West would be considered relics of an earlier age. At night tea vendors with charcoal braziers ply the streets serving their regular clientele, which include many storefront guards, while food vendors near bus stations grill chicken and fry potatoes and eggs in woks heated over charcoal fires.

Charcoal production is just one issue that pits villagers and urban consumers against state officials and conservationist NGOs in Tanzania. In recent years the minister of natural resources has evicted villagers from forest reserves, claiming that they are recent squatters who endanger forest biodiversity and water catchments needed for future generations. Kazimzumbwi Forest Reserve, just west of Dar es Salaam, has become the test case for the state to demonstrate its will to protect the forests. In 1998 government officials ordered police to destroy the huts and property of peasants living adjacent to Kazimzumbwi, claiming they had encroached into the forest reserve. Conservationists had urged the government to take action against forest encroachers for years, and the WCST even financed the policing of the forest for a decade.⁸ This conflict coincided with a recasting of Tanzanian forest policy to include the private sector and international and local conservationist NGOs in forest management alongside the state and village councils. The importance of forestry for the Tanzanian state is seen in the promotion in 2006 of the minister of natural resources to head the Ministry of Finance, placing an ally of international conservationism and advocate of timber privatization at the

center of the state power structure.⁹ Recent changes in Tanzanian forest law aim to increase the extent of forest reserves by expanding them onto public lands that have never before been afforded state protection. Although conservationists and the state claim that peasants and pastoralists encroach into forest reserves, the National Forest Program for the first decade of the millennium does the opposite, pushing forest reserves onto village lands under the rubric of biodiversity preservation. This is the most revolutionary shift in Tanzanian forest policy since the 1950s, the fruition of patterns of state forestry that began with the German colonization of East Africa in the late nineteenth century.

This book is about the genesis of forest conflicts in Tanzania, which is also a story of changing relations of power over the forests and how the state wielded forestry as a tool for social control. From the nineteenth century to the present, forests have been at the fault lines of contact between rural societies and state forces that connected East Africa to an international commercial economy. Power over the forests was first invested in local chiefship. Among the Zaramo of the coastal hinterland, for example, chiefs were known as *mapazi*, wielders of ceremonial axes that symbolized authority over the forests.¹⁰ The ritual authority of chiefs as ax wielders derived from the labor power of peasant men and women, who used “ax and fire” to open up forest lands for cultivation.¹¹ Chiefs displayed power over the forests by wearing an ax over their left shoulder in imitation of the most common method of carrying a work ax. In the mid-nineteenth century this local authority over forests was confronted with a trade frontier for forest products that put the East African mainland in the sites of the Zanzibar commercial state and Western merchants. American cloth and firearms merchants from Salem spearheaded trade connections to East Africa in the early nineteenth century, seeking copal, the prime ingredient in carriage varnishes. The Western exploration and mapping of East Africa was driven by the trade in products of the forests and woodlands, especially ivory, copal, and rubber, but also some hardwoods in international demand, particularly *mpingo* blackwood and various mangroves. Trade centered at Zanzibar enabled *mapazi* and other chiefs who controlled forests to solidify their power by distributing imported prestige goods and attracting followers, which in turn enabled them to defend their lands from outsiders. The capacity of the sultan of Zanzibar to enforce export tolls on some forest products by midcentury signaled the growing intrusion of quasi-state forces. By the 1880s German interlopers co-opted Zanzibar’s mainland trade network, bringing an ideology of state

control over land and forests. German colonial rule began in 1890 with the usurpation of “all ownerless wilderness, forest, cultivated land, and steppe,” setting in motion ongoing conflicts over forests and their resources.¹²

Germans immediately introduced state forestry in Tanzania, drawing on models of scientific forest management that originated in eighteenth-century Europe and that were further developed in colonial Asia. German scientific forestry was predicated on separating people from forests in order to manage them as state reserves in order to ensure long-term sustainable production of fuel and timber for industry, domestic consumption, and export. Such plantation forestry assumed a permanent state bureaucracy to manage forests indefinitely. German forest management provided a blueprint for the British colonizers who replaced them after World War I, as well as for the independent government of Tanzania after 1961. Yet to a large degree scientific forestry was the road not taken under colonial rule owing to relative weakness of the colonial state, unfamiliarity with African timber characteristics, resistance from Africans, and half-hearted commitment to forest conservation in a colonial periphery. Nevertheless, scientific forestry cast the state as the proper steward of natural resources, while it viewed peasants and pastoralists as dire threats. Forestry empowered colonial and postcolonial rulers alike to engineer the rural population for development goals that often had little to do with forest management itself and was often destructive of forests.

Because the state forest economy depended on the labor power of peasant men and women to work the forests, it gave them important leverage in wresting concessions from the state or subverting the aims of forestry altogether. State control over forests sparked ongoing peasant resistance that included everyday acts of avoidance and obvious “weapons of the weak,” such as arson and refusal to work, but also violent confrontations—such as the Bushiri and Maji Maji uprisings—and large-scale political mobilization, including the nationalist movement that led Tanzania to independence.¹³ Peasants creatively undermined state forestry. When colonial foresters prioritized the *mvule* tree for commercial cutting, owing to its high export demand after World War II, some peasants insisted that these were “spirit trees” that demanded special protection, or at least compensation.¹⁴ Peasants manipulated the borders of forest reserves by moving boundary markers, which won them access to farm land that helped to ensure survival.¹⁵ So too did colonial officials learn to co-opt the ancestral value of forest shrines to bolster the power of their allies among African elites.¹⁶ These cases remind us that the pro-

jection of authority over forests was not a linear story of progressive state control, but was negotiated constantly according to shifting constellations of power that were sometimes shaped by global events. The Great Depression of the 1930s, the world wars, the Cold War, early independence, and *ujamaa* socialism of the 1970s were all moments when peasants subverted the agenda of state forestry and returned to the forests, sometimes, and paradoxically, with state encouragement. Although scientific forestry in Tanzania has not always followed a uniform trajectory, the long-term trend has been for successive Tanzanian governments and their backers among international conservationists to force peasants out of the forests.

The Geographical Focus

Most attention to the history of people and their forests in Tanzania has been directed at the northeastern highlands, which includes a fringe of the Eastern Arc Mountains and Mt. Meru and Mt. Kilimanjaro.¹⁷ There is good reason for this attention, since this region contains a large percentage of Tanzania's closed canopy forests and rain forests. Africans migrated to the region owing to soil fertility, abundance of rainfall, and scarcity of disease, while European settlers intruded by the late nineteenth century because of its temperate climate and suitability for sisal and coffee. It was also the earliest area of concerted German forest exploitation because of its concentration of readily marketable tree species (including most of Tanzania's conifers and softwoods), especially pencil cedar (*Juniperus procera*), *Podocarpus* spp., and camphor.¹⁸

In contrast, the coastal hinterland, which is the focus of this book, is a region where forests were not as dramatic, but which nonetheless had a complex history that is more typical of Tanzania as a whole, as well as much of eastern and southern Africa. The coastal hinterland runs from the Pangani River in northern Tanzania to the Rovuma River on Tanzania's southern border, and is sandwiched between the Eastern Arc range to the west and the Indian Ocean littoral on the east. Ecologically the region extends from Somalia, in the north, well south into Mozambique, which is the range of dry lowland coastal forests. Arriving from the Indian Ocean, the most obvious forest landscape of the coastal hinterland are the mangroves that punctuate river and creek outlets, lagoons, and wave-sheltered shores. That mangroves make up only 0.14 percent of modern Tanzania belies their historical and biological importance. Mangroves sustain the coastal food chain, which includes microbes, crabs, and fish, and

shelter birds and mammals. In the largest river deltas, especially the Rufiji, mangroves snake up river arms for thirty kilometers. In tidal flats people wade out into the mangroves at low tide to fish or obtain firewood or building poles. For centuries traders from tree-scarce regions that fringed the Indian Ocean arrived to collect mangroves for construction poles and firewood. The mangroves sheltered people in times of conflict, offered farm land on delta islands, and provided an environment rich in fish.

Moving inland from the coast, the most dramatic feature of the coastal hinterland are its coastal forests, known locally as *vichaka* or *misitu*.¹⁹ The coastal forests are dry lowland and mountain canopy forests that survive as island fragments from Somalia to Mozambique, rarely extending further than 150 kilometers inland. Although they are dots on a forest map of Tanzania, from the ground they are dense stretches that dominate the landscape. In the Matumbi and Kichi hills, south of the Rufiji, the coastal forests form a labyrinth of foliage that rise to an altitude of about five hundred meters on the hills that checker the region. Farther north, the coastal forests dominate the Pugu hills, about twenty kilometers inland from Dar es Salaam, and continue inland for about sixty kilometers. Nineteenth-century European travelers and Swahili caravan leaders readily described these forests as dense jungles that they traversed with care, fearful of being waylaid by local polities seeking a share of caravan wealth. This density in an otherwise open landscape attracted Africans seeking refuge in times of violence. The *vichaka* forests furthermore offered fertile lands for farming, secluded places for initiation rites, famine foods such as roots and wild fruit, and poles and firewood for building, cooking, or iron forging. Coastal forests also sheltered animal predators, such as leopards, elephants, and wild pigs that endangered crops and people, thus demanded constant vigilance and frequent hunting parties.

Surrounding the coastal forests are *miombo* woodlands and grasslands. Miombo is a landscape that encompasses a broad belt of south-central Africa, including about 40 percent of modern Tanzania. It is named for the dominant tree genus, *Brachystegia*.²⁰ Miombo lands have a single rainy season, shallow soils, and a ground cover that ranges from woody thickets to semicanopy forests. In the dry season woodlands become leafless and subject to grass fires, to which they have adapted. In the rainy season the foliage blossoms, making woodlands cool, shady refuges from the sun. Because woodlands harbor tsetse flies, the vector of sleeping sickness that prevents a cattle economy and threaten humans, colonial officials viewed miombo as an environment that was best transformed into grasslands or

farm land by eliminating the trees and thicket altogether. Not until the late 1930s did colonial foresters target the woodlands for state forestry. Thereafter the woodlands became an obsession, a late-colonial problem that was the subject of international conferences.²¹ Before then the woodlands entered into colonial planning as sites of agricultural expansion or sleeping sickness evacuations or as wildlife reserves.

This description of the coastal hinterland requires a consideration of the agricultural frontier that interacted with the forested environment historically. During the nineteenth century in particular a Swahili and Arab plantation economy pushed inland from the coastal littoral, cutting swaths of trees to open up the land for coconuts, sugarcane, sesame, and grain crops to feed the slave and commodity caravan traffic to and from Zanzibar.²² The agricultural frontier pushed coastward as well, as villagers came to inhabit the islands of the Rufiji Delta and other coastal enclaves to carve out farms of rice, millet, bananas, and mangoes, in conjunction with mangrove exploitation and fishing. Farmers penetrated into the coastal forests in the face of violence and insecurity marked by the slave trade but expanded to adjacent woodlands and grasslands when security returned. Africans of the coastal hinterland colonized these forests by planting fruit trees, burying ancestors, and building fortified villages.

Forest history provides a lens to reassess key events in Tanzanian history, including trade expansion, rebellion, colonialism, and nationalism. Each of the coastal hinterland forest landscapes—mangroves, vichaka forests, and miombo woodlands—were sites of conflict that involved state foresters, African chiefs, and peasant communities. In many respects they form a chronology of colonialism itself. Mangroves attracted professional foresters from the beginning of colonial rule owing to their commercial value and their proximity to the main loci of colonial power along the coast. As colonial authority spread inland, the state saw coastal forests as sources of trade products, especially rubber, as watersheds needed for colonial agriculture, and as havens for anticolonial insurgents, particularly during the Maji Maji War (1905–7). Under British rule following World War I colonial officials targeted miombo woodlands and their communities for intense social engineering, reflecting a new phase of colonial rule, the “rule of the experts,” when scientists and technocrats believed that they could transform the landscape through ambitious developmentalist enterprises.²³ More recently, the inclusion of the coastal forests, alongside the Eastern Arc forests, as biodiversity hotspots and “global property” has made them into sites of conflict between peasants and international

conservationists acting in concert with the Tanzanian state and external donors, representing a form of neocolonialism.

Theoretical Approaches to Forest History

In an elegant overview of South Asian forest history, K. Sivaramakrishnan explains how this subfield has evolved over the past two decades in a way that follows the South Asian landscape itself.²⁴ Early South Asian forest history had a nationalist agenda, viewing the colonial period as rupturing a once harmonious relationship between people and the environment. Modern environmental degradation, according to this narrative, had its roots in the colonial usurpation of forests from local communities. Early Indian forest history therefore focused on social movements that were directed against the British colonial state in the face of loss of forest access. This metanarrative had a geographical profile. It began with studies that focused on the western Himalayas, where evergreen softwoods and subsistence farmers and pastoralists dominated, and moved down into the Indo-Gangetic Plain, home of past empires and worked landscapes of intensive farming with fragmented deciduous forests. The abrupt nineteenth-century British intrusion into the mountain forests evoked an “ecological landscape of resistance”²⁵ that contrasted with a centuries-old European trade presence in South India, where the panoply of emergent Western science was brought to bear. As Indian environmental scholarship moved down the mountains to the plains, it became more complex and contradictory and concerned with themes that moved beyond protonationalism in the forests to studies of wildlife, science, water, and continuities between precolonial, colonial, and postcolonial periods. Yet a common theme was “the steady expansion of land under the plow, at the expense of forest and grassland.”²⁶

A contrasting, but no less well-developed approach to forest history has been that of the United States. Here the dominant narrative is “one of the greatest episodes of global deforestation ever to be enacted,” as immigration, population growth, westward expansion, industrialization, and railway construction progressively denuded the forest landscape.²⁷ A prominent agent of change in this narrative was the single-family homesteader and his ax, who made a clearing in the forest on land that he owned, often selling it and moving on to clear another parcel. While “improving the land” in this way was part of the story of American progress, nascent conservationists came to see the homesteader in a decidedly negative light,

as backwoodsmen who misused a natural resource, threatening the nation with ecological collapse that would see it go the way of great empires of the past.²⁸ The American pattern of deforestation, Michael Williams writes, “can stand as a microcosm of forest life almost anywhere in the temperate world, at almost any time during the last 300 years.”²⁹ Commercial logging on a grand scale followed homesteading in the nineteenth century as a devourer of forests, providing fuelwood to households, foundries, steamships, railways, and mines. In the twentieth century the threat of a timber famine was arrested by the creation of the U.S. Forest Service and national forest legislation that initiated federal acquisition and protection of forest lands.³⁰

In contrast to these well-developed historiographies, forests have been missing as a subject of African historiography until recently.³¹ It is an irony that a field dominated by materialist historians not so long ago neglected to consider African landscapes as more than just land to be farmed, grazed, mined, or owned. Ramachandra Guha writes, “a truly materialist approach would begin not with the economic landscape but with the natural setting in which the economy is embedded.”³² Because forests were considered to be outside the arena of production as the locales of preagrarian foragers, earlier studies focused on developed landscapes, if they considered landscape distinctions at all. Early studies of African trade never located forest products—such as ivory, rubber, copal, wax, and gums—in specific ecosystems, rather they were simply assumed to be coming from somewhere in Africa. Furthermore, trade studies assumed that the frontier of extraction simply petered out with the onset of colonialism, to be replaced by productive economies. As my study shows, the forest economy of extraction lasted well into the twentieth century and had several moments of revival during the period of mature colonialism.

The neglect of forests by historians has meant that studies of the African environment have until recently been left to conservationists, foresters, and policymakers, who saw African farmers and pastoralists in a decidedly negative light, as progressively desiccating the continent.³³ Famine, aridity, erosion, floods, and species extinction are among the consequences of the perceived African threat to the environment. Proponents of this view see the state, whether colonial or postcolonial, in alliance with metropolitan or international conservationists, as the best agent to protect tropical forests from human destruction. A recent study of early German environmentalism, for example, concludes that the

colonies “provided unique opportunities for setting up forward-looking environmental programs.”³⁴ The most cited modern overview of German forest policies in colonial Tanzania, written by a forester once active in Tanzania, concludes that Germany’s emphasis on environmental management (*Landeskultur*) “was truly visionary and undoubtedly deserves to be considered the single most important legacy of German forestry involvement in East Africa.”³⁵ Such environmental management included introducing new tree species, cataloguing indigenous trees, and reserving forests—policies that the British colonial state continued after World War I. The result, in this view, is that “the people of Tanzania now or in the future may benefit from the existence of forest reserves forced on them by colonial masters.”³⁶ A similar assertion is that imperial forestry “gave birth to an environmental revolution still in process of saving humans from themselves.”³⁷ For all its evils, in these views colonialism nevertheless ushered in an era of positive forest management that continues today in the form of international environmentalism.

These positive depictions of colonial forestry suffer from many problems, not the least of which is their ahistoricism, which posits a modern environmental consciousness on colonial administrators and foresters. They selectively choose their evidence in time and place, avoiding in-depth analyses that tell a more contradictory story. For example, while early colonial forestry protected forests that enclosed watersheds, it also allowed German settlers to denude tens of thousands of hectares of indigenous trees to make way for coffee and sisal plantations. While these studies commonly attribute deforestation to peasant and pastoral communities alone, they ignore or downplay large-scale state exploitation of timber, often with little or no effort to reforest. Most important, these studies do not adequately consider how state usurpation of forests deprived rural communities of important power bases, subsistence resources, and spiritual foundations, setting in motion struggles for economic and cultural survival that continue today.

This study argues that successive states in Tanzania have used forest policy as a means both to control a resource needed for economic development *and* to control rural populations in order to further that development agenda. The regulation of forests was therefore a tool for social mapping and engineering, which were higher state priorities than timber harvesting or protecting water catchments. This argument is informed by a framework of political ecology, which draws attention to the “political interests and actions of the various actors that participate in political-

ecological conflict.”³⁸ Political ecology calls attention to the destructive effects on the environment of capitalist-oriented natural resource extraction acting in concert with the state. It sees supposedly natural landscapes as resulting “from a spatial order that reflects the power relations of local and state institutions,” highlighting the unequal power relations between local communities on one side and the state, development organizations, lending institutions, and international conservationists on the other.³⁹ In so doing, political ecology underscores that struggles over the environment and its resources emanate from the larger political economy. This framework reminds us that colonial environmental initiatives emerged in a context where colonies existed primarily to be of economic and strategic value to the metropole. It views environmental degradation as not simply an outcome of peasant backwardness, population pressure, or land misuse. Political ecology pays attention to how the colonial and postcolonial goals of transforming nature was embedded in labor processes; thus it is interested in who actually does the work of forest protection or exploitation, how labor is mustered, or how resistance to forest work shaped conservation patterns.⁴⁰ Moreover, political ecology reminds us that the outcome of imperial conservationism is locally specific and does not lead inevitably to deforestation, globalization of forests, or expropriation of forests from local communities, even though these have been the long-term trends.

Because African forests were highly gendered spaces, this study is attentive to how transformations in land use, perceptions of the environment, and demands for forest products ushered in changes at the household level that affected marriage obligations, labor allocations, ecological knowledge, and resource control.⁴¹ In Tanzania male and female initiation rituals took place in the forests, and specific trees had important gendered meanings.⁴² Forest resource extraction was also gendered, with women expected to obtain medicines, subsistence foods, and fuelwood in the forests, while men were more likely to hunt, cut down trees, and place beehives in the forests. In some regions ownership of specific trees was a male prerogative that bestowed de facto clan rights to land. Yet strict gender dichotomies with respect to forest use, such as that which Aylward Shorter notes in his study of Ukimbu, in western Tanzania, where women were confined to open, cultivated land while men monopolized forest activities, were often an outcome of colonial development planning and not necessarily an age-old pattern.⁴³ On the other hand, in some forests of Tanzania the colonial state introduced a system of licensed peasant cultivation called *taungya*, which appears to have feminized forest labor. With

men absent as colonial wage laborers on plantations and in towns, women bore the burden of opening up land for colonial tree planting, which sometimes upset established gender boundaries. Women sometimes saw taungya as a burden, while chiefs perceived women's forest activities as undermining their authority. As a consequence of warfare or labor migration, as well, women often assumed control over ancestral trees and land, which opened up struggles within the household. Women often acted out these struggles in rain ceremonies, such as the Zaramo *kitala cha kutagusa*, performed before a large tree. Wearing men's clothes, brandishing men's weapons and tools, including the ax, and speaking in men's voices, women temporarily inverted the social order as a means of healing the land.⁴⁴ Such rites might be invoked as a consequence of forest innovations introduced before colonial rule, such as copal digging or rubber tapping, or colonial innovations, like taungya, which burdened women unduly. In modern Tanzania community forest programs mediated by conservationist NGOs often have differential effects on men and women, rich and poor, which exacerbate rural and gender inequality. Every stage of forest colonization, from the nineteenth century to the present, has entailed gendered struggles over labor and resources.

This book draws on a well-established literature on peasant studies and moral economies. Peasant studies drew our attention to peasant agency, rural differentiation and unequal access to resources, the centrality of the household to the labor process, the capacity of peasantries for collective protest, and the role of culture in shaping peasant attitudes to land.⁴⁵ Yet peasant studies as a field failed to look beyond the borders of the cultivated landscape to examine how peasants interacted with diverse environments.⁴⁶ In contrast, studies influenced by E. P. Thompson's concept of moral economy made clear how closely connected peasant economies and cultures were to forests and other natural resources and how severing peasants from these resources elicited social protest in defense of established rights.⁴⁷ The moral-economy approach offered "a vision of nature 'from the bottom up,'" and recreated the peasant moral universe, often cast as a defense of subsistence rights against market forces, most often seen as a right to the commons.⁴⁸ Moral-economy approaches highlight popular opposition to state forest reserves and restrictions on wood collection, grazing, and hunting. Such opposition included refusing to cooperate with forest demarcations, arson, attacks on forest guards, and organized protests that sometimes failed or sometimes fed nationalist movements.⁴⁹ These histories remind us of how deeply embedded the

forests were in the economic and cultural landscapes of peasant and pastoralist communities.

The history of colonial scientific forestry is the history of the colonial state itself. James Scott points out that states create metaphorical (and actual) maps of their domains with the goal of “rationalizing and standardizing what was a social hieroglyph into a legible and administratively more convenient format.”⁵⁰ Attempts to “make a society legible” include moving people to state-sanctioned villages, counting them and their huts, assessing their property, taxing them, studying their norms and beliefs, determining what they trade and consume, and conscripting them for work. In Scott’s analysis, social engineers of various political stripes, backed by authoritarian states and a faith in science and technical progress, often applied scientific principles uncritically, creating schemes that went awry. This study touches on several of Scott’s examples of state intervention, including transforming natural forests into monocrop tree plantations, attempts to sedentarize peasant shifting cultivators, and massive efforts to relocate rural people into centralized villages. The latter included both British colonial anti-sleeping sickness campaigns, which intersected with forest and wildlife policy, and Tanzania’s ujamaa villagization of the 1970s, when 70 percent of the rural population was relocated into planned villages in just three years. Case studies of state forestry here also demonstrate the limits of high modernism and the failure of expert planning. For example, foresters who had learned to order the European landscape into monocrop pine plantations were challenged by unfamiliar colonial landscapes such as mangroves and miombo woodlands under conditions of labor shortage. Colonial foresters’ attempts to reforest indigenous trees were frustrated by unfamiliar African growing patterns and soil properties. British attempts to create model villages called closer settlements were often undermined by the inability to protect them from crop predators that proliferated in part because of schemes to protect fauna in wildlife reserves. The anti-sleeping sickness campaigns of the interwar years that relocated tens of thousands of peasants from woodlands into planned villages unleashed a culture of peasant resistance that thwarted evictions from forest reserves after World War II.

Scientific forestry was in the end an assertion of state power over forests, usurping the authority of mapazi ax wielders, who had once mediated forest access with people in their domains. Yet, until recently, scientific forestry depended on the original ax wielders, the peasant men and women who worked in the forests. As long as forestry needed labor

to cut forest borders, fell and transport trees, tend tree seedlings on forest plantations, and extract forest produce that had a market value, peasants were empowered to negotiate forest use under difficult circumstances. That use helped to ensure survival by giving them access to food and land in the forests or products with which to earn cash to pay taxes or buy household goods. The loss of labor leverage in the current era of biodiversity preservation, which values forests not as worked landscapes but as nature museums for Western tourists, is therefore a dramatic moment of peasant disempowerment in modern Tanzania.

The starting point of this book is the nineteenth century, when rural communities moved deeper into the forests of the coastal hinterland because of circumstances of insecurity and to take advantage of an emergent world demand for Tanzanian forest products. Chapter 1 shows that mainlanders colonized the coastal forests early in the century, although this was by no means the first time. As African communities under the leadership of immigrant chiefs occupied the forests, they gained power over them by incorporating them into their culture through religion and ritual. Desire for products of the forest—ivory, copal, and rubber—attracted Americans and other traders to Zanzibar and eventually drew them onto the mainland. There the sultan of Zanzibar established a network of trade stations that launched an external claim on the forests themselves, and paved the way for German colonialism in the 1880s. The Bushiri uprising of 1888–90 was in part an attempt by mainland societies to maintain control over their forests and resources against the advance of colonialism. The forest economy that was built on copal and rubber extraction was in a state of crisis as Germans assumed control over the mainland after 1890. Chapter 2 examines how the German colonial government built the foundations of a new forest order by introducing scientific forestry as a mechanism to assert authority over forests and their resources. This affected communities living in and around the coastal mangroves most directly owing to the long-standing economic importance of rafters for the export trade and to the proximity of mangrove ecosystems to centers of colonial control. The mangrove economy tested the limits of scientific forestry, particularly as peasant labor resistance undermined a mechanized timber industry and mangrove reforestation.

A perceived crisis of forest degradation in 1904 led colonial officials to launch forest reservation in virtually all coastal forests. This followed state efforts to curb peasant shifting agriculture and control local wood

markets, paralleling colonial hunting and wildlife controls. These intrusions undermined the authority of chiefs and threatened the subsistence of coastal forest communities, leading many to participate in the Maji Maji uprising of 1905–7. Chapter 3 demonstrates the rebellion's connections to state forestry and how foresters used sites of conflict as a template for postwar forest reservation. During this period forestry was driven by the needs of railway construction, agricultural development, and social control. Despite forestry's impact, German rule ended with a minimal colonial knowledge of Tanzanian forests and tree species, and few timber trade connections to the metropole.

Chapters 4 through 6 examine state forestry under British rule in Tanganyika. These chapters demonstrate that British forest policy was driven largely by the goals of social engineering, including transforming Africans into colonial subjects, relocating scattered rural populations into concentrated villages, fostering agricultural development, and providing revenues for the colonial state. Chapter 4 highlights the role of African pitsawyers, part forest workers and part forest entrepreneurs, in opening up otherwise inaccessible and unprofitable miombo woodlands for timber exploitation. The interwar years saw a revival of forest extractive industries, as peasants survived the Depression by tapping copal and rubber, often with state encouragement. Tanzanian hardwood timbers like mvule and mninga finally entered world markets on a significant level. Despite encouraging peasants to work in the forests, the colonial state was obsessed with population relocations. Chapter 5 argues that the colonial administration used forestry as a tool to concentrate peasants into planned villages under the guise of controls for sleeping sickness and wildlife. Although these removals were a dress rehearsal for a dramatic expansion of forest reserves onto woodlands in the aftermath of World War II, they also fed popular opposition that would intersect with the nationalist movement. Chapter 6 discusses how a fourteenfold expansion of the forest estate in just fifteen years following World War II marked a rebirth of colonial scientific forestry. While the postwar development agenda evicted tens of thousands of rural dwellers from forests and woodlands, it also drew them into the forests as taungya licensed forest cultivators, as charcoal burners, as pitsawyers, and as sawmill workers.

The last two chapters examine Tanzanian forest policy since independence. Chapter 7 shows that the independent state saw forest exploitation as a positive good, a sign of economic maturity, and a means to create modern Tanzanian consumers of timber and fuel. This period

saw the growing Tanzanian dependence on external aid and thus witnessed the arrival of new actors, including multilateral and bilateral donors, who promoted forestry as a means of revenue generation and agricultural development. During this period the charcoal economy that preoccupies modern environmentalist critiques had its real takeoff, both to fuel urbanization, and as a state-fostered export commodity to the Persian Gulf. The period ended with ujamaa socialism, when most rural dwellers were relocated into planned settlements, which itself had contradictory effects on Tanzania's forest cover.

A revolutionary paradigm shift began in the 1980s with a turn to biodiversity preservation as the leading framework for forestry policy. Chapter 8 examines how this shift empowered international conservationists to influence forestry at a time when a transition from socialism to market liberalization made the Tanzanian state beholden to international aid that often was linked to forest conservation. International and local conservationists in effect have emerged as the new colonizers of the Tanzanian forests, the new ax wielders, armed with a new discourse on forest use and access. Peasant communities whom the state had not long before urged to exploit the forests for development were now castigated as endangering a global asset, reversing patterns of forest use that go back over a century. At the same time, market liberalization has enhanced the export value of Tanzanian hardwood timbers, increasing pressure on coastal forests and woodlands.

Sources

This book is based on archival research conducted in Tanzania, Germany, and the United Kingdom, supplemented with oral interviews in the Tanzanian coastal hinterland. The archival sources overwhelmingly reflect the colonial interests and agendas that came to dominate Tanzanian peasants and their forests. Nevertheless, these sources elicit evidence of peasant agency in shaping the outcome of state forestry. The major source is the Tanzania National Archives in Dar es Salaam, which houses Forest Department files from German colonial rule to about 1980. The German records include files on scores of forest reserves demarcated before 1914, most of which still exist. Many of these files offer an exceptional local view of the impact of colonial forestry on villagers. Descriptions and maps of forests, their borders, and their relations to the surrounding countryside give us a picture of peasant settlement patterns in coastal

forests and mangroves that later colonial and postcolonial maps have erased and denied.

British-era forest records are not as complete as those of the Germans for specific reserves, reflecting a neglect of forestry in the interwar years. Because British policy focused on resettlement of dispersed villagers, forest policy must often be culled from discussions of sleeping sickness campaigns and agricultural development. A sense of African discontent with forest laws can be teased from criminal records, which catalogue infractions such as poaching, illicit wood use, arson, and illegal settlement in forest reserves. Records improved as the Forest Department became better financed following World War II, when the importance of forest exploitation to the colonial economy increased. By the 1970s, as British oversight of Tanzanian forestry ended and Tanzanian foresters assumed control, official correspondence was increasingly in Swahili. Tanzanian archival sources are supplemented with those of the German Federal Archives in Berlin, the British National Archives, and the Plant Sciences Library of the Oxford Forestry Institute, which house the invaluable *Annual Reports of the Forest Department* (1923–78). German journals such as *Berichte über Land- und Forstwirtschaft* and *Deutsches Kolonial-Blatt* discuss forest policy from a colonywide perspective. The *Indian Forester*, *Empire Forestry Review*, and *East African Agricultural and Forestry Journal* are important sources for British forest policy. After independence, the increasing role of international financial institutions, development organizations, and NGOs emerges in reports commissioned by the World Bank, the FAO, national development agencies, and conservationist reports.

This study has benefited from interviews and conversations with villagers living adjacent to, and sometimes in, forests of the coastal hinterland conducted in 2001 and 2004. During this period forestry has become a highly politicized subject in Tanzania, as underscored by ongoing logging scandals, the eviction of peasants from forest reserves, the confiscation of bicycles of charcoal burners, and in some cases state violence directed at peasants and pastoralists. A new forest law in 2002 has empowered conservationist NGOs to take an active role in local forest policy. Despite this tense atmosphere, I found villagers willing to talk about forest history and the ongoing importance of forests for their community identity and economic survival.

Over the last one hundred and fifty years villages and populations surrounding forest reserves have not remained static—indeed, population relocation and sedentarization were major goals of colonial and postcolonial

policies. Transformations in the economy have led men to migrate for work, often settling in regions other than their places of birth. Moreover, scientific forestry created and re-created forest boundaries, relocated people, forced others to migrate, and brought in outsiders as forest workers. The ujamaa period was massively disruptive of rural settlement. As people moved, so did ideas, such as Christianity and Islam, affecting how people regarded ancestral forests. These movements have often ruptured memories of the historical significance and cultural role of specific forests. Of fourteen elderly men interviewed shortly after their midday prayers in the mosque in Mlamleni village of Vikindu Forest in 2004, for example, only two had been born in the area, the others arriving in the 1950s to work on nearby sisal plantations. This is a significant point in considering long-term knowledge and use of forests, the degree to which people recognize forests as sites of sacred ancestral groves that they are willing to protect, or whether the forests are viewed merely as sources of charcoal, poles, and land. While Islam displaced ancestral traditions at a place like Vikindu because of these population movements, Muslim elders at Kinjumbi village, near Naminangu Forest, south of the Rufiji River, still maintain ancestral shrines at the edge of the forest and retain a better collective memory of the forest's history as a result. There appears to be an association between such local collective memory and the survival of forests. After a century as a state forest reserve, Vikindu has virtually disappeared as a forest, while Naminangu, demarcated at the same time, remains intact. Proximity to Dar es Salaam is surely a factor here. Yet oral testimony suggests that local long-term historical identification of people with forests is more important to forest survival than are state policies of reservation, which inaugurated their concerted exploitation and degradation. This should be a warning in the era of biodiversity preservation, which seeks to make coastal forests into nature museums and genetic or carbon banks, severed from their human populations, whose presence is regarded as an inconvenience rather than as an integral part of forest history.