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Case Example: Shinyanga Region, Tanzania

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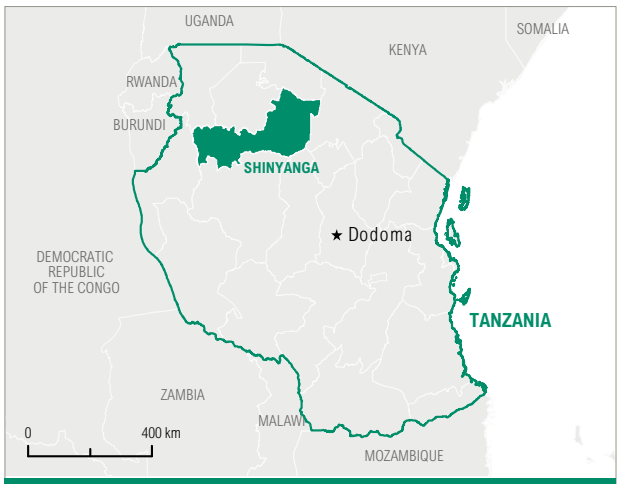
SUMMARY

In the early 1900s, agricultural production in the Shinyanga region in Tanzania was confined to subsistence crops. By the early 1940s, large-scale cultivation of cotton and tobacco had been introduced, which resulted in extensive clearing of forests (Barrow and Mlenge 2003). By 1985, large areas of dense woodland had been cleared, transforming the landscape into semi-desert (Chazdon 2008). In response, Tanzania's government launched in 1986 the community-based Shinyanga Soil Conservation Program or "HASHI"—derived from the Swahili phrase "Hifadhi Ardhi Shinyanga," which means "soil conservation" (Winrock International 2006). In just eighteen years, the HASHI program helped local people from 833 villages, encompassing a population of 2.8 million (WRI 2005), restore 500,000 hectares of woodland (Pye-Smith 2010) on individual farmer and communal lands (Monela et al. 2005) through traditional pastoralist practices (Chazdon 2008).

A core aspect of the program has been the revival of a traditional practice called "ngitili," a Sukuma tribal word meaning "enclosure" or "fodder reserve" (Barrow and Shah 2011). *Ngitili* involves closing off from livestock an area of standing vegetation—including grasses, shrubs, and trees—from the onset to the end of the rainy season. The *ngitili* area is only opened up for grazing at the peak of the dry season. During the wet season, this approach prevents landscape degradation such as soil erosion and helps conserve biodiversity. During the dry season, it alleviates fodder shortages.



TIME PERIOD: 1986 to 2004

AREA RESTORED: 500,000 hectares

TYPE OF RESTORATION: Farmer-managed natural regeneration (FMNR) (Active restoration)


TANZANIA BEFORE


TANZANIA AFTER

The woodlands restored via *ngitili* have generated a number of benefits (Table 1). For instance, food crops such as maize, sorghum, bulrush, millet, cassava, rice, and chickpeas are grown within the enclosures amid the trees (Kamwenda 2002). The *ngitili* have increased the availability of fuelwood, thatch grass, poles, fodder, and water. Because the collection of fuelwood, water, and fodder are often women's chores, the restoration of *ngitili* has reduced the workload for women (WRI 2005).

WHICH FEATURES AND KEY SUCCESS FACTORS WERE EXHIBITED?

The restoration of the Shinyanga region in Tanzania exhibited a number of the features and key success factors of forest and landscape restoration.

Motivate

Factors motivating restoration in the Shinyanga region included:

- **CRISIS EVENTS.** Decades of deforestation and inappropriate land use resulted in desertification in Shinyanga (Pye-Smith 2010). This led to low soil fertility, water scarcity, and severe land degradation. In the area, the land was extensively burned and forests and trees cleared for the eradication of tse-tse fly and quelea quelea birds (Monela et al. 2005).

  Nationally, Tanzania's deforestation has been driven primarily by public policies that stimulate agricultural expansion and commercial logging for short-term profit. When Tanzania gained independence from British colonial rule in 1961, the country inherited an agrarian structure that was highly cash-crop oriented. Since 1967, Tanzania's development strategy put emphasis on increased agricultural production by smallholder farmers of export crops such as tobacco, cotton, coffee, and tea (OSSREA 1999).

  During the 1970s, the socialist government of President Julius Nyerere adopted laws that increased community ownership of rural land and encouraged or forced people to live in villages where services could be provided—a process called "villagization." The individual enclosures of *ngitili* were no longer encouraged. Indeed, many *ngitili* were destroyed during the period as the villagization process undermined traditional institutions and practices. The loss of *ngitili* led to tree loss, soil erosion, and deterioration of water resources (WRI 2005).

- **BENEFITS.** Restoration was expected to provide clear economic, environmental, and social benefits. And it did. For example, restored *ngitili* provided cash income and subsistence agricultural products, including honey, wild fruits, edible insects, fodder, medicinal herbs, charcoal, and firewood. As a result, they provided an increase in family assets and nutrition, and generated income for public services such as classrooms and health clinics (Monela et al. 2005).

Table 1 | **Benefits of restoring *ngitili***

BENEFIT	QUANTITY	
Economic value of restored *ngitili*	US$14 per person per month	
Average annual value of sixteen major natural resource products harvested from *ngitili* (Bukombe district)	Per household Per village Per district	US$1,190 per year US$700,000 per year US$89.6 million per year
Species of trees, shrubs, and climbers found in restored *ngitili*	152	
Other flora found	Up to 30 different families of grass and herbs	
Bird and mammal species recorded	145 bird species and 13 mammals	
Reduction in time spent collecting natural resources	Fuelwood Poles Thatch Water Fodder	2–6 hours a day 1–5 hours per harvest 1–6 hours per harvest 1–2 hours per day 3–6 hours per harvest
Percentage of households in seven districts across Shinyanga using *ngitili* products:	To diversify diet To provide animal fodder and forage To collect medicinal products To collect fuelwood To pay for children's education	22% 21% 14% 61% 36%

Source: WRI 2005.

Enable

Many enabling conditions were in place that facilitated the restoration of vast areas of forest, namely:

- **ECOLOGICAL CONDITIONS.** The ecological conditions in Shinyanga were suitable for restoration. Sources of native trees were available. In many villages, field officers used residual natural seeds and root stocks to restore *ngitili* enclosures. In other areas lacking local source populations, people planted trees in *ngitili* areas and around homesteads. Livestock were actively controlled, too. The enclosures kept livestock from damaging growing vegetation during the wet season. During the dry season, livestock played a role mimicking native browsers and fertilizing the soil (Winrock International 2006).

- **MARKET CONDITIONS.** With the development of the HASHI program, markets for products from restored areas became accessible. In particular, infrastructure improvements made it easier for farmers to bring their forest products to market and benefit from the sale of commodities from *ngitili* (Winrock International 2006).

- **POLICY CONDITIONS.** The HASHI program enhanced traditional forms of land ownership, ensuring clarity and security of land and tree tenure. The Land Act and Village Land Act of 1999 allowed district councils to modify land tenure status in order to make land rights clearer and more accessible to local people (Winrock International 2006). In conjunction with these acts, the Forest Policy (1998) and the Forest Act (2002) provided a strong foundation for community involvement in forestry management. The modifications in tenure that followed from these policies allowed villagers to gain rights to harvest, retain forest royalties, and be exempt from local taxes on forest products (Winrock International 2006). The Forest Act (2002) formally recognized five different categories of land tenure: national forest reserves, local authority forest reserves, village land forest reserves, community forest reserves, and private forests—thus enabling a diversity of land ownership approaches that suited local needs.[1]

- **SOCIAL CONDITIONS.** Local people were empowered to make decisions about restoration. For example, locally elected governments and traditional institutions set their own rules on *ngitili* restoration and management, used traditional community guards, and decided sanctions for rule violations (Winrock International 2006).

- **INSTITUTIONAL CONDITIONS.** In Tanzania, responsibility for restoration is clearly defined and effective institutional coordination is in place. One of the great strengths of the HASHI program was that it was firmly rooted within the administrative structures of central and local governments (Pye-Smith 2010). Beginning in the 1980s, the Tanzanian government set in motion a series of government reforms designed to streamline institutional responsibility for forestry and provide greater autonomy at the local level. Since the adoption of the Local Government Act (1982), forest officers have been decentralized and answerable to locally elected councils through district executive directors (WRI 2005). From the mid-1990s, key responsibilities for forest management were transferred from the central government to the village government, which represented a major shift in the Tanzanian approach to forest management (Blomley et al. 2008).

  Since 2000, the government of Tanzania has been creating executive agencies that are semi-autonomous and that have the potential to generate and retain revenue. In 2001, the government launched the National Forest Program as a strategic plan aiming to integrate and harmonize the contributions of governmental, nongovernmental, private sector, and local community stakeholders in the execution of national forest policy and law. While the government streamlined government responsibility and allowed for decentralization and greater autonomy, traditional approaches to natural resource management were embraced and developed along with modern institutions. Both were necessary for the success of *ngitili* restoration (WRI 2005).

Implement

Likewise, capacity and resources for implementation came into place that facilitated restoration, including:

- **LEADERSHIP.** Sustained political commitment to restoration was an important factor in the success of restoration in Shinyanga. The forestry sector at both the national and local levels provided strong support for the *ngitili* approach over time. While no one restoration champion existed, the devolution of control and responsibility to the village level was an important factor in creating ownership and local leaders advocating restoration (Barrow and Mlenge 2003).

- **KNOWLEDGE.** The restoration "know-how" relevant for Shinyanga already existed, consisting of traditional land management practices that had been passed down for generations (Winrock International 2006). Villagers knew the value and uses of different tree species. The HASHI program's approach to *ngitili* revival was to work with local people to identify land restoration opportunities and then to restore them according to customary practices. The Division of Forestry and Beekeeping within the Ministry of Natural Resources and Tourism worked closely with both district government staff and village government authorities to understand which areas needed urgent restoration and which best practices to use (WRI 2005). Promoting traditional know-how created a more willing environment for the transfer of knowledge among peers and extension services, since the traditional techniques were suitable for the local capacity and local conditions (Winrock International 2006).

- **FINANCE AND INCENTIVES.** The Tanzanian government launched the soil conservation program (HASHI) in 1986. HASHI was operational a year later and by 1989 it had attracted long-term funding from the Norwegian Development Assistance Agency (Cooksey et al. 2006). This long-term investment and partnership has been critical to the success of forest restoration (Winrock International 2006).

LOOKING FORWARD

The Tanzania Shinyanga program exhibits many of the key success factors, including having strong policy and institutional conditions that allowed for both traditional and modern practices to go hand in hand. Nonetheless, performance against a few key success factors highlights some considerations that are important for this program and for others trying to replicate it, namely:

- **MARKET AND ECOLOGICAL CONDITIONS.** Since the start of the HASHI program, the region's population has grown by 70 percent, and the livestock populations have increased at approximately the same rate. This growth has increased demand for fuelwood, cropland, and livestock grazing, reducing the availability of areas for restoration and the long-term security of existing *ngitili*. Separately, the success of *ngitili* has led to an increase in local wildlife populations. Some of the wildlife is damaging crops and even livestock, thereby threatening to undo some of the benefits gained from the *ngitili* approach (WRI 2005).
- **SOCIAL CONDITIONS.** While restoration in Shinyanga has generated many benefits, in some cases these benefits have not been equally enjoyed by all involved. Socioeconomic disparity has led to an increasing number of wealthy villagers buying land from poorer households, and therefore extending the imbalance in land holdings and ownership of *ngitili* (Monela et al. 2005). In addition, benefits sometimes are not equally enjoyed between men and women. The region is strongly influenced by Sukuma traditions, with women controlling low-income crops and men controlling higher-earning livestock and cash crops. On the other hand, all women have access to communal *ngitili*, a right and resource that has helped them acquire essential household needs such as fuelwood and save time on chores (WRI 2005).
- **INSTITUTIONAL CONDITIONS.** Institutional shortcomings have threatened *ngitili* in some villages due to a lack of institutional coordination. For example, the Lwelyangula community in Shinyanga Urban District experienced a serious conflict over encroachment by another community's use of its land. The two communities had a severe conflict over the *ngitili* area since it was being destroyed by uncontrolled cattle grazing. Likewise, conflicts have arisen due to overlapping and competing mandates of different community-led groups, indicating the need for more integrated management at the local level (Winrock International 2006).
- **FEEDBACK.** Effective monitoring and evaluation systems currently are not in place in the country. National monitoring would help HASHI officials to understand the macro-scale impact of its activities and better target their aid. By using satellite imagery, the state could track nationwide changes in land use and biodiversity related to *ngitili* restoration, which would help to share successes and communicate early wins (Winrock International 2006).

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ENDNOTE

1. Other lands with trees are also categorized outside of the Forest Act. General lands were not recognized by the Forest Act but rather by the Land Act and Village Land Act (1999). The definitions of general land in the two acts conflict with one another. The Land Act defines public land as that which is not reserved land or village land, but rather unoccupied or unused village land. The Village Land Act does not define general land in a way that includes unoccupied or unused village land. This can cause confusion regarding tenure (Stevens, C. 2014. pers. comm. 17 August).

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