

# Community-Based Management and Conservation in Africa: Trade-offs and synergies in land-use decisions in local villages

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## Background Information

*Regional Scale: Kavango-Zambezi Transfrontier Conservation Area (KAZA TFCA)*

The KAZA TFCA is the world's largest transfrontier conservation area, spanning over 444,000 km<sup>2</sup> including National Parks, Game Reserves, Forest Reserves, Game/Wildlife Management Areas and Communal Lands (Figure 1). The region provides vital wildlife corridors along three main perennial rivers (the Okavango, Kwando and Zambezi) but is also home to ethnically and culturally diverse communities. The goal of the TFCA is to manage the regional ecosystem for biodiversity preservation and sustainable natural resources uses while maintaining its rich cultural heritage and developing the communities within the region.



**Figure 1. The Kavango-Zambezi Transfrontier Conservation Area (KAZA-TFCA) a transboundary conservation area in southern Africa spanning parts of Namibia, Botswana, Angola, Zambia, and Zimbabwe. (Source: <http://www.peaceparks.org>)**

For sustainable development to be successful, preserving and enhancing the natural resources and biodiversity of the KAZA TFCA region are critical due to their inherent socio-economic and cultural value. One of the identified keys to sustainable development is the integration of the flourishing photographic and hunting safari-based tourism with community development. However, the opportunity costs of biodiversity conservation must be balanced with human-wildlife conflicts which may have dire effects on household food insecurity and human lives.



in the Caprivi Strip are required to lease the land from the government through conservancy representatives, they are automatically obliged to pay a levy to both the Traditional Authorities of the main villages and to the conservancy on whose land the enterprise was established. Thus, conservancies directly benefit financially from the existence of tourism enterprises, in addition to jobs and other in-kind benefits such as meat from big game that is killed by safari hunters. Conservancy management leaders also makes decisions and interact with professional safari outfits who bring hunters of big game to this area. They also are responsible for interacting with NGO and government representatives in compensating local farmers for crop losses due to human-wildlife conflicts if occurrences are reported and documented. However, some communities struggle with lack of accountability and transparency in money flows so that only conservancy leaders benefit from the tourism efforts while farmers are left with no crops nor financial compensation.

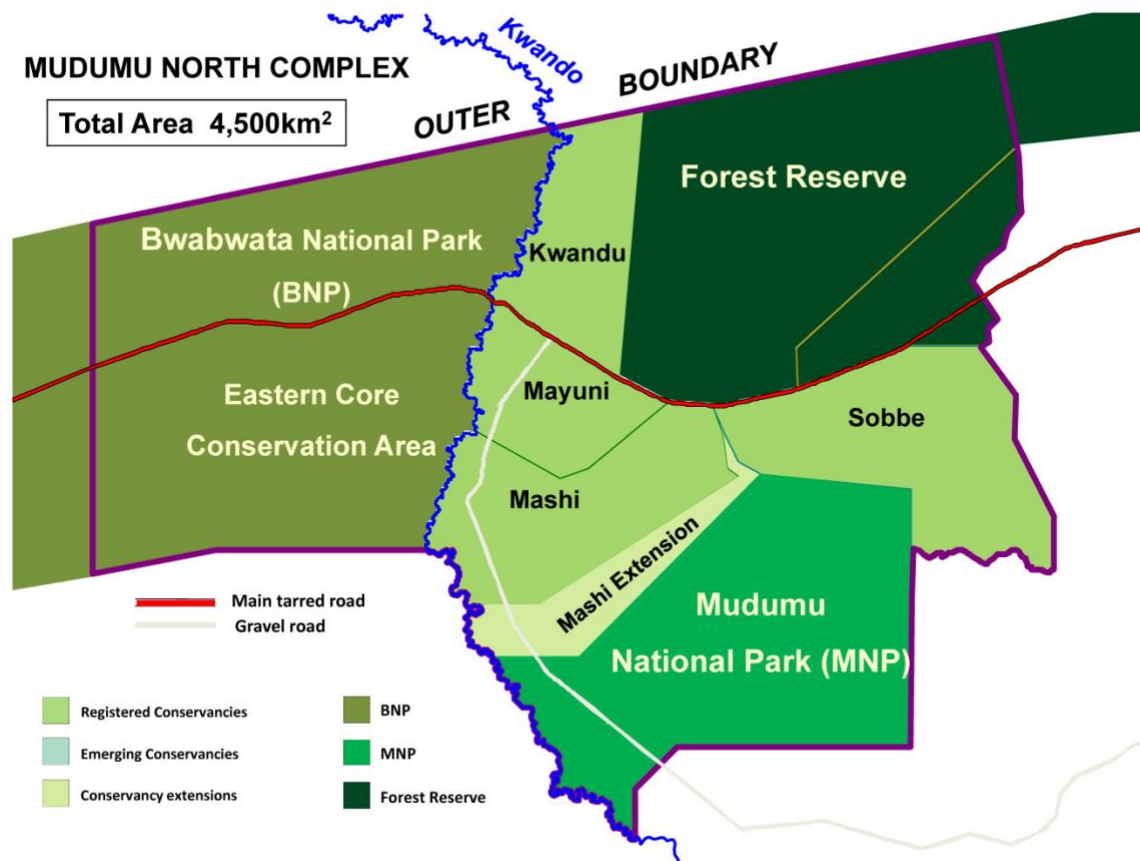


Figure 3. Mudumu North Complex in Caprivi, Namibia. The three main community areas of interest are Kwandu, Mayuni and Mashi conservancies which all border the Kwando River. (source: Martin et al., 2006)

## Scenario

As the African sun continued to inch higher overhead, Niko paused to scuff his bare foot into the dry, crumbling soil at the edge of his father's field before starting the 5 kilometer walk to the community meeting. He wondered what the final vote would be, whether this field would be here next year. He dug a little deeper into the dirt and glanced up at the clear blue sky. Not a cloud in sight. He sighed. Maybe it wouldn't matter. He knew his father would settle on millet. He would tell Niko and his younger brother, Milo, that they would plant the whole field in millet that year.

It depressed Niko because he knew the chain of events that would result in that decision but he knew his father had no choice. It was almost November and they had yet to see any rainfall for the year. Planting anything other than millet on the tired dirt would result in a failed crop. At least with millet there would be a chance to keep the family from going hungry. However, there would be no extra income that something like maize might provide at the market.

As Niko continued down the road he heard a vehicle coming up from behind him. He turned to see a cloud of dust and Marcus's pickup truck coming up over the slight hill 100 meters back. He smiled and shook his head. Milo, his brother, was in the back with the rest of the conservancy game guards. Milo wouldn't be worried about the crop. He was so sure that the conservation agenda put forth by the management committee would be the answer to all of their prayers. Niko wasn't so sure. But, unlike many of the elders in the community, he was willing to listen to both sides of the argument to be presented this afternoon.

It was a big decision – whether to move the fields by the river upland or not. It would be a lot of work; crops might not fare as well in the upland sands. Niko snorted to himself. Then again, it's not like it was much better near the river with how dry the past year had been. But at least close to the river meant access to water and the reeds his little sisters had to collect every few days.

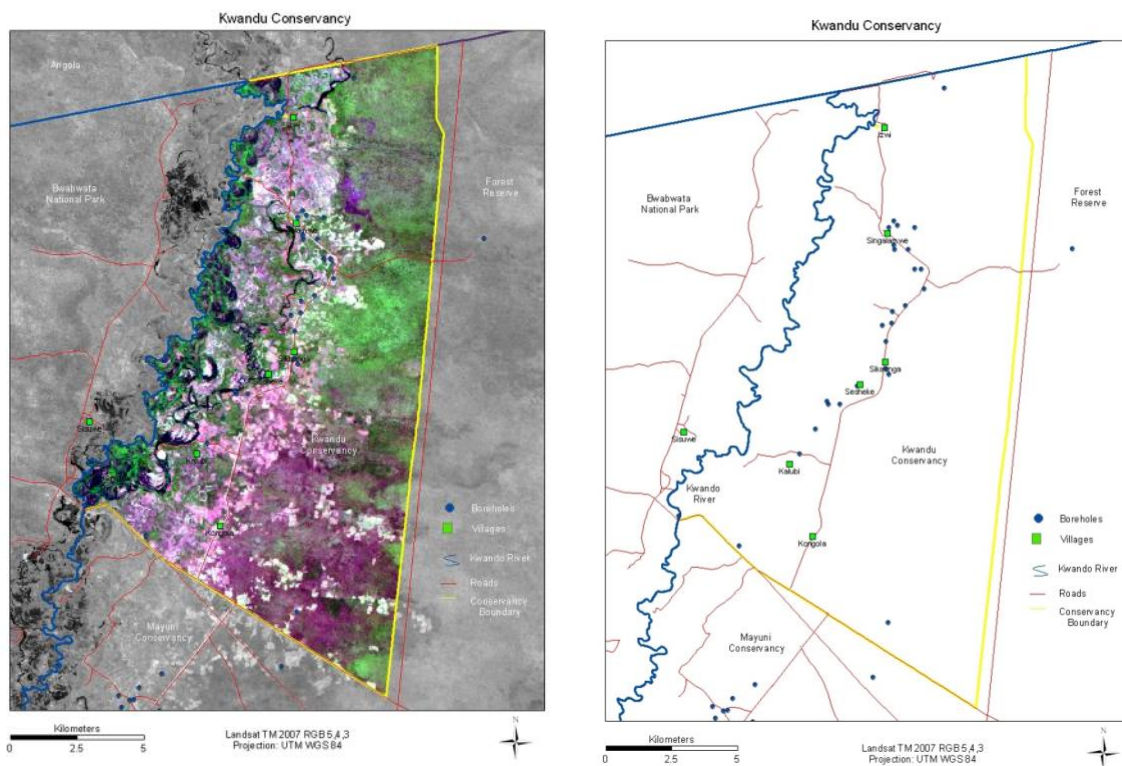
“Hey Niko, want a ride to the community meeting?” asked Milo as the truck slowed in approach.

“Yeah, thanks.” And Niko jumped the side to sit next to Big Jim. Well, as easy as one can fit next to Big Jim and the little space left in the bed of the truck.

## Scenarios for different conservancies in Caprivi

### **Kwando Conservancy**

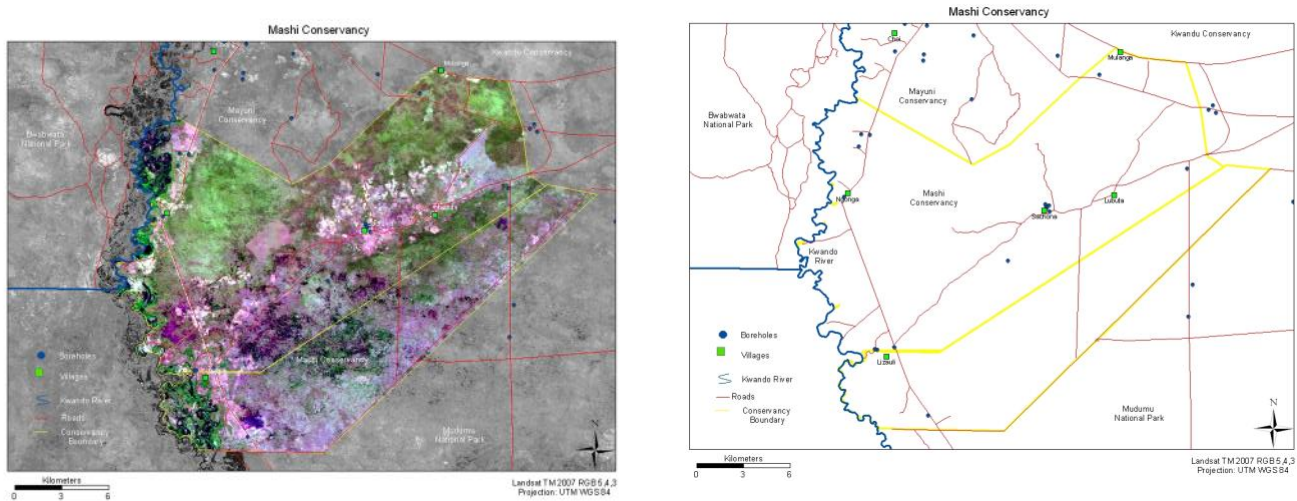
Welcome to the Kwando conservancy (KC)! Yours is the northernmost of the three conservancies along the Kwando River (Figure 4). This means the villages closest to the boundary with Zambia, directly north, are relatively isolated from many opportunities accessible from the main tar road that runs west to east (see Figure 3) and from other villages in the conservancies to the south. KC borders Bwabwata National Park across the Kwando River and a state-owned forest reserve to the east. Your conservancy is characterized by sandier soils with lower soil fertility and the general vegetation is denser than other parts of this region, dominated by shrubs and a variety of tree species and very little grass. As villagers in a rural African community you know that some tree species are better than others and recognize that the silver cluster-leaf (*Terminalia sericea*) has become dominant in the floodplain area during the past number of very dry years. Your conservancy is not as “developed” as the ones more to the south, with most settlements located along the main road and relatively fewer people overall.



**Figure 4. Kwando Conservancy, located along the Kwando River with most settlements along the main dirt road that runs from the main tarmac road in the south, up into Zambia. The satellite image shows dense vegetation in green, shrub areas in purple, and settlement/agricultural plots in white. The river is outlined in blue.**

## Mashi Conservancy

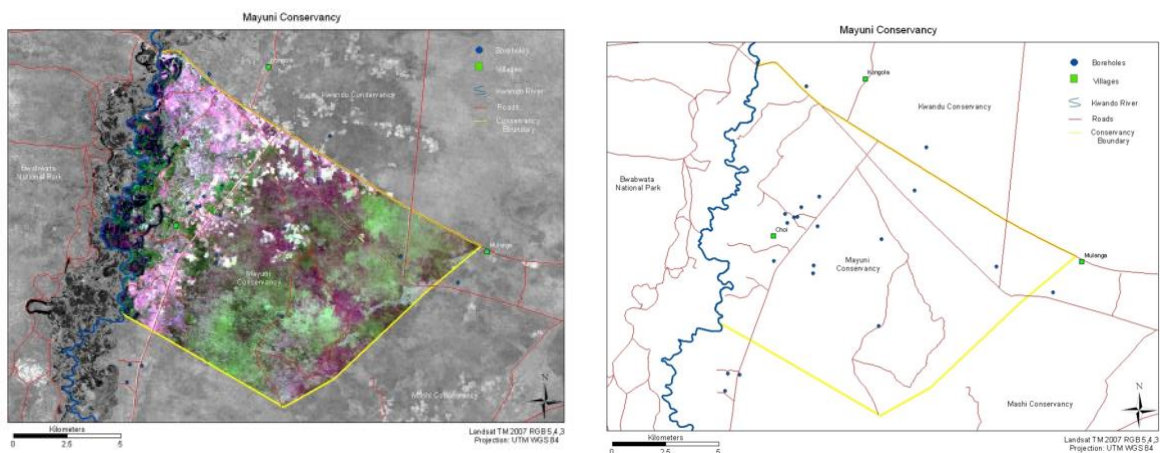
Your conservancy, called Mashi (MC for short) is the largest, southernmost conservancy of the complex of conservancies that border Bwabwata National Park (Figure 5). Along with sharing a border with Bwabwata National Park to the west, separated by the Kwandu River, Mashi also shares a border with Mudumu National Park to the south and another conservancy to the east. Your access to the main tarmac road is limited to only an area in the northwest of the conservancy. MC is generally characterized by clay soils that are more fertile than areas with sandier soils and mixed vegetation dominated by an elephant-favored tree: Mopane (*Colophospermum mopane*). Your conservancy also has the highest population density but the settlements are more dispersed with some present near the river, some along the main gravel road that links MC to Mayuni Conservancy and the park to the south, and others farther inland. Most of the community members are engaged in rain-fed agriculture and livestock rearing, but some members are also heavily involved in ecotourism activities due to their proximity to the two national parks. Also, the hardworking women in MC, with the help of a local NGO, have successfully established a community-owned crafts center that manufactures and sells baskets and other crafts. The raw materials for these crafts are mainly represented by reeds, papyrus and grasses collected along the river.



**Figure 5. Mashi Conservancy, located along the Kwandu River with settlements scattered along the main dirt road and inland. The satellite image shows dense vegetation in green, shrub areas in purple, and settlement/agricultural plots in white. The river is outlined in blue.**

## Mayuni Conservancy

Welcome to Mayuni conservancy (MyC)! Your conservancy is located between the Kwando and Mashi conservancies along the Kwando River. To the west, it borders Bwabwata National Park across the river and has a sliver of access to the state-owned forest reserve to the northeast. It is also borders the main tar road which connects the larger urban centers in the Caprivi Strip to the rest of Namibia and KAZA. From a biophysical perspective, your conservancy is characterized by sandy soils, with mixed vegetation dominated by large, economically-important trees such as Zambezi Teak (*Baikiaea plurijuga*) as well as trees adapted to dry, sandy conditions such as the silver cluster-leaf. This conservancy is the second largest, with most settlements along two main roads as well as in close proximity to the Kwando River. Livelihood strategies are dominated by rain-fed agriculture largely for household consumption. Villagers mainly rely on boreholes provided by the government for daily water needs and they already have contracts in place with two tourism lodges and one safari hunter that bring in-kind and economic benefits to community members that work for these enterprises. The community also owns and operates a campsite near the river call Bum Hill.



**Figure 6. Mayuni Conservancy, located along the Kwando River with settlements mostly scattered along the main dirt road. The region craft and tourism market located within the boundaries of this conservancy near the main tarmac. The satellite image shows dense vegetation in green, shrub areas in purple, and settlement/agricultural plots in white. The river is outlined in blue.**