



sustaining life

securing water and food in miombo-mopane woodland southern africa



Some 70 million of the world's poorest people live within the 3.6 million km² Miombo-Mopane woodland regions of south and central Africa, a vast region straddling eleven countries.

They share this space with the iconic herds of African buffalo, elephants, giraffe and other species including rhino, cheetah and wild dog. Most of these people survive by way of a direct dependence on available natural resources—collecting fuel-wood, making charcoal, trapping fish, and growing subsistence crops such as maize and millet.

Unlike tropical forests, where high, more frequent and more predictable rainfall provides the necessary water to sustain the wealth of life that abounds in such forests, much of the diversity of life in lower-rainfall sub-tropical woodlands is more closely tied to bodies of water such as rivers, wetlands and pans. Wildlife populations contract and expand their seasonal distributions based on these water-bodies, and so do people. Across large landscapes, more than 80% of rural populations are clustered within 5 km of rivers. Water is therefore a critical determinant, and will become more so as increasing temperatures and declining rainfall due to climate change more frequently exceed current limits of flexibility.

But fresh water does not only quench thirst. It also provides habitat for complex and diverse communities of life. As the largest RAMSAR site in the world, the Okavango Delta supports more than 80 species of fish, 500 species of birds, and 155 mammal species. There are many such wetlands within the Miombo-Mopane region, including major floodplains such as Barotse, Kafue, Busanga, Linyanti/Chobe, and many others. These wetlands not only support rich webs of life but also are the basis of flourishing tourism industries, as are other scenic destinations within the Miombo-Mopane—Victoria Falls is classified as one of the seven wonders of the world. On a broader scale, the Miombo-Mopane woodlands host more than 8,500 plant species, of which well over 50% are found nowhere else on earth.

People in the Miombo-Mopane region are among the most food insecure in the world, and for many their dependence on water-related resources is absolute. The Zambezi is a particularly important resource, as the fourth largest river in Africa. It flows through 8 countries covering a catchment of 1.33 million km², fills 30 large dams such as Kariba and Cahorra Bassa, and about 200,000 tons of fish are harvested from it every year, plus it provides water to irrigate millions of hectares.

Conservation International is working with partner organizations to identify the most important freshwater areas within Miombo-Mopane, to describe and understand what are the key factors driving and maintaining such systems, and to develop programs that will ensure that the essential services that these freshwater systems provide will remain viable into the future. By understanding how these freshwater systems function, and where the fragile thresholds and critical tipping points are, and then ensuring that

effective management and monitoring systems are in place, the escalating demands of growing human populations in an increasingly water-stressed sub-continent can be mitigated. More specifically, CI provides this information to governments, industry, NGOs and local stakeholders for improved land-use planning and development decisions.

Efforts to date have supported rural people in focal Miombo-Mopane regions to live more harmoniously within their local environments. Results include training and support for conservation agriculture, human-wildlife conflict mitigation techniques, bee-keeping and honey production, development of small-scale eco-tourism enterprises, and planning for the establishment of ecological corridors across large landscapes.

CI's work in Southern Africa is demonstrating that successful models can be developed to secure long-term livelihoods while conserving nature. This is a win-win for both biodiversity and people.



demonstrating how **healthy ecosystems benefit human well-being** in Southern Africa

human well-being

- At least 200,000 tons of fish harvested annually for food
- Tourism value from water-dependent destinations such as Victoria Falls
- Clean energy (e.g. more than 95% of Zambian electricity derived from hydro-power)



ecosystem services

- The basis for major eco-tourism destinations such as Kafue, Chobe, Kariba.
- Hydrological function that ensures water quality and quantity for fish breeding and food production



healthy ecosystems

- Zambezi is one of the big five rivers in Africa, straddling eight countries
- Exceptionally rich biodiversity including 239 fish species
- more than 6,500 plant species provide genetic buffer for food plants, pest control, pollination, etc.

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