

AFRICA'S PROTECTED NATURAL ASSETS

The importance of
conservation areas for
prosperous and resilient
societies in Africa

Case study 3

**BORENA-SAYINT
WOREHIMENO,
CHEBERA CHURCHURA,
SIMIEN MOUNTAINS AND
BALE MOUNTAINS
NATIONAL PARKS,
ETHIOPIA**



GREEN VALUE

NATURAL CAPITAL IN AFRICA



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The Green Value Initiative is the umbrella program of the German Federal Ministry for Economic Cooperation and Development (BMZ) on the value of nature in Africa. In providing multiple benefits such as clean air and water, productive soils, extreme weather and erosion protection, health benefits, and solutions to climate change, Africa's natural wealth is an important asset that contributes significantly to the continent's welfare and achievement of societal development goals. The Green Value Initiative supports its African partner countries and development institutions to integrate the value of these assets in decision-making. Its objective is to mainstream natural capital into policies and planning, financial markets and development finance, as well as measures of economic progress and national accounts (natural capital accounting). With that, the Green Value Initiative contributes to one of the key building blocks for transformative change towards nature-positive economies and development in Africa.

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BORENA-SAYINT WOREHIMENO, CHEBERA CHURCHURA, SIMIEN MOUNTAINS AND BALE MOUNTAINS NATIONAL PARKS, ETHIOPIA

CASE STUDY

Investing in Ethiopia's protected natural assets pays off economically and socially



STATUS: All four parks are national parks.

SIZE: Ranging from 15,000 to 220,000 ha/park.

ECOSYSTEMS: Diverse mountainous landscapes, including wooded grassland and montane woodland.

KEY ECOSYSTEM SERVICES: Watershed protection, erosion prevention, carbon sequestration, habitat, recreation, fodder, pollination, genetic resources.

NEARBY POPULATION AND INFRASTRUCTURE: All parks are in relatively rural mountain areas with rural population living in their buffer zones. Chebera Churchura and Bale Mountains national parks are located in proximity to hydropower infrastructure.

LAND-USE: The parks' buffer zones are characterized by agriculture and livestock grazing which in some locations extends into the parks' boundaries.

CHALLENGES: Challenges differ by site but include encroachment and expansion of agricultural lands, human wildlife conflicts and new settlements and infrastructure as well as underfunding.

Borena-Sayint Worehimeno National Park is an important religious, cultural and natural site, and it provides crucial watershed protection, pollination and pest control services.

Ethiopia is home to a rich diversity of ecosystems and species and its gene pools are one of the world's most important sources for crops such as coffee. Currently approximately 14% of the country's territory has been designated as protected areas. However, these areas are operating substantially below their potential. This is partially due to severe funding shortages for their management. This raises an interesting question for an assessment: *What are the socio-economic benefits of an improved management funding scenario for Ethiopia's protected areas?*



APPROACH OF THE ASSESSMENT

To answer this question, an ecosystem services assessment (GIZ 2021) was conducted for Borena-Sayint Worehimeno and Chebera Churchura National Parks, while existing information on the value and potential of protected areas in Ethiopia (see Van Zyl 2015) was updated for Simien Mountains and Bale Mountains National Parks. The aim was to demonstrate how additional investment in protected areas would result in increased benefits from and better conservation of ecosystem services. The range of benefits which were considered included grazing, harvesting of natural products and medicinal plants, watershed protection and water provision, carbon sequestration, pollination, pest control, tourism and cultural values.



Simien Mountains:
Group of tourists with
local guides

SOME KEY FINDINGS

The 2015 study estimated the financial costs of an improved management scenario over 20 years. These costs were then compared with likely benefits in terms of increased ecosystem services values. The wider economic importance of these benefits was approximated by monetary value estimate:

- ◆ Adjusting the findings of the study for inflation since 2015, improved management would require annual system-wide budgets to increase more than four-fold (from approximately US\$3 to US\$5 million/yr to US\$15 to US\$20 million/yr). Benefits in terms of increased ecosystem services values would then increase gradually from approximately US\$350 million/yr to an enhanced value of US\$540 million/yr over the 20-year period.
- ◆ This translates into a benefit:cost ratio of between 6:1 and 8:1 (depending on different discount rates for future benefits).

The 2021 assessment concluded that the four selected protected areas are substantially under-funded, requiring an average of 4.2 times more for basic management than is currently available (see summary of results below).

- ◆ The results of the cost-benefit analyses of increased funding for a basic funding scenario were significantly positive for all of the parks. In addition, the benefit:cost ratio of the scenario averaged 19:1 for all parks and varied substantially from 4:1 to 51:1. This variation should not be overly surprising given the significant differences between the parks.
- ◆ Accordingly, an increased budget for these protected areas would have a positive impact and can be clearly justified. More funds invested in the management of these areas would generate economic and social benefits which considerably exceed the costs.
- ◆ The delay of the required investments may result in significant risks, such as the high costs of ecological restoration in the future and potential irreparable loss of ecosystems.

CONSERVATION AREA	CURRENT ANNUAL VALUE OF ECO-SYSTEM SERVICES (ETB MILLIONS)	BASIC FUNDING SCENARIO (FUNDING NEEDS AS A MULTIPLE OF BUSINESS-AS-USUAL FUNDING AVAILABLE)	NET PRESENT VALUE OF INVESTMENT IN BASIC FUNDING SCENARIO (ETB MILLIONS)	BENEFIT-COST RATIO OF INVESTMENT IN BASIC FUNDING SCENARIO
BORENA-SAYINT WOREHIMENO (18,858 HA)	149	x 2.65	134 – 201	5:1
CHEBERA CHURCHURA (126,453 HA)	648	x 1.6	1,597 – 2,396	51:1
SIMIEN MOUNTAINS (41,200 HA)	602	x 5	323 – 485	5:1
BALE MOUNTAINS (220,000 HA)	1,866	x 7.5	1,843 – 2,765	17:1
AVERAGE	816	x 4.2	975 – 1,462	19:1

FIGURE 11
SUMMARY OF CURRENT ECOSYSTEM SERVICES VALUES, FUNDING NEEDS AND COST-BENEFIT ANALYSIS OF BASIC FUNDING SCENARIO RELATIVE TO BAU FUNDING SCENARIO

Source:
GIZ (2021):
Ethiopia's Protected Natural Assets: Creating Value and Supporting Development.

In addition to the strong economic rationale that recommends a significant increase in budget allocation for the management of protected areas, the results show the need for a better integration of the multiple benefits of protected areas and surrounding landscapes and the real costs of their degradation in development decisions.

Source: Authors' analysis