

Supporting a World Heritage site in Ethiopia

When nature parks exist in populated areas, reconciling biodiversity conservation and local livelihoods can be a challenge – one that cannot be met without input from people living in and near the park. At a struggling park in the rugged Simen Mountains, ESAPP supported participatory research, suggested farmer-friendly redrawing of park boundaries, and enabled new high-altitude environmental monitoring stations.

Sustainable development challenge

It is often difficult to balance biodiversity conservation and rural development. Conservation agencies understand the importance of considering the needs of local communities – but the benefits of biodiversity conservation are seldom seen immediately, while livelihood needs are often pressing. The Simen Mountains World Heritage site is a case in point.

The Simen Mountains reach 4,540 metres and include the highest peaks in Ethiopia. The land, often compared to the Grand Canyon in the United States, has been farmed for more than 2,000 years and is seriously degraded. Until recently, some of the steepest and coldest parts of these mountains saw limited human use and thus maintained a highly diverse fauna and flora, including endemic wildlife such as the Walya ibex and the Simen wolf. For their protection, a national park was established in 1969; it became one of the first UNESCO World Heritage natural sites in 1978. Ever since, the park administration has struggled to reconcile the park's needs with those of the many villages and farm fields inside the park and on its border. In 1996, the park was listed as a World Heritage site in danger.

ESAPP's response

Knowing that the trade-offs between biodiversity conservation and rural development are highly diverse, ESAPP partners concluded that attempts to reconcile them must be context-specific and build on multi-stakeholder negotiations. Potential solutions in the Simen Mountains included various levels of protection and of coexistence between humans and wildlife, participation of local populations in the benefits of conservation, and awareness raising.

In 1999, ESAPP co-funded the finalization of a participatory baseline study of land inside and around the national park, the fieldwork for which was done in 1994. The study, *Reconciling Conservation with Sustainable Development* (Hurni and Ludi 2000), strongly recommended participation by land users in negotiations.

In the decade after 2000, park boundaries were redefined, with the help of land users in nearby villages, to exclude farmed areas. ESAPP contributed to a donor conference in 2012, developed a geo-referenced information system, and most importantly, established a high-altitude observatory in 2013 for monitoring climate, land use, and water- and sediment-related changes in a critical valley inside the park.



Main messages

- In Simen, steps to conserve nature were successfully negotiated in processes involving local land users, park administrators, and international institutions, informed by the results of a transdisciplinary baseline study conducted in 1994.
- The geo-referenced documentation of socioecological systems in the villages in and near the national park, combined with spatial information on nature protection and development, greatly facilitated management planning, including for development in the buffer zone.
- The high-altitude observatory in the Simen Mountains has enabled close monitoring of changes in climate, land use, hydrology, and sedimentation in a unique highland setting, thus serving as a learning tool for real-world impact assessment.



Protecting the Walya ibex was one of the main reasons for creating the Simen Mountains National Park in 1969 and the World Heritage site in 1978. (Photo: Raphy Favre)



The project story

ESAPP built on information produced during earlier work in the Simen Mountains, such as the management plan initiated in 1983 (Hurni 1986). One crucial issue in that plan was Gich village, in the centre of the park, which had existed for at least 500 years but was threatened by extreme soil degradation. As early as the 1970s, international experts and authorities said the village needed to be relocated, which contributed to conflicts between the park administration, land users, and political forces and led to an insecure situation throughout the 1980s. The village is situated in a part of the 30-square-kilometre-large Jinbar River catchment, in which there is a particularly valuable biome with Ericaceous forests and afro-alpine grasslands. This biome is extremely rare in the Ethiopian Highlands, which are otherwise almost completely used for agriculture.

The Ethiopian Government is negotiating with Gich village to leave the upper Jinbar Valley and resettle near the town of Debarq, about 50 kilometres away. The government is willing to compensate villagers for their loss of housing and land and to help them develop housing in town. In view of the potential opportunity to monitor the consequences of changes in land use, hydrology, and sedimentation in the upper Jinbar Valley, ESAPP established two hydrometric and five climatic stations in the area in 2013. It is hoped that, in a follow-up project of the Water and Land Resource Centre, researchers at these stations will be able to observe the progression towards secondary vegetation should the area be abandoned and left to nature. The 2014 data confirmed what had been observed in 1975 and 1976 in the same locations: the forest and alpine grasslands have regular runoff and produce almost no sedimentation during the rainy season, while the agricultural areas have high peak runoff with substantial sediment losses and reduced baseline flows in the dry seasons.

ESAPP also contributed to a donor conference in October 2012 in Addis Abeba, attended by representatives of tourism organizations, donors, universities, and private businesses. ESAPP provided key insights into the human–environment system of the Simen Mountains, related to biophysical, socio-economic, and land use issues as well as issues of park management and zoning, including in the upper Jinbar Valley.

Top: The protected area has been well guarded particularly over the past 20 years. This has led to a significant increase in wildlife numbers and contributed to political stability in this remote area. (Photo: Kaspar Hurni)

Bottom: People in the upper Jinbar Valley in the centre of the protected area have recently agreed to be relocated to the nearby town of Debarq. They are thus helping to preserve a unique highland biome that is severely degraded in its lower, cultivated reaches. (Photo: Hans Hurni)



Innovation and relevance

ESAPP's support for participatory mapping of natural resources and socio-economic systems in 30 villages empowered local residents to assess their current situation and the changes that were occurring in areas such as demography, natural resource degradation, and development. They were invited to express their needs, identify opportunities and constraints, and develop a vision of their future in the vicinity of the park.

Another ESAPP innovation was the documentation of study findings in a spatially explicit geographic information system (GIS) database and layers representing topography, soils, land use, infrastructure, population, and development. The detailed mapping that this produced helped the park administration extend the park's boundaries without further disturbing farmed areas (FZS 2009). It also helped residents of the 30 villages document their resources and socio-economic systems and establish their own ideas for development.

A third innovation was the unique setting of a high-altitude observatory for the park in the upper Jinbar Valley, where fundamental changes are taking place towards regeneration of nature. The observatory enables researchers to monitor, document, and compare these changes to conditions 40 years ago.

The Simen Mountains World Heritage site is probably one of the best-documented conservation areas in Africa, not just in terms of its fauna and flora, but equally in terms of its human population, their land use systems, the interactions between farming and natural resources, soil erosion and surface runoff, climate observations, and monitoring of current change processes.

ESAPP also promoted tourism by providing regular updates of a trekking map of this unique area. The map was first published in 1981 and has a new edition in preparation for 2016.



Top: Repeating high-altitude observations after 40 years: detailed monitoring of biophysical and socioecological processes resumed in 2013. (Photo: Hans Hurni)

Bottom: Participatory negotiations on the needs of local populations and requirements of protected area management are a means to finding common solutions to complex interactions between human land use and biodiversity conservation. (Photo: Kaspar Hurni)



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References and further reading

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Highlight profile

This highlight is based on the achievements of 4 ESAPP priority action projects.

Implemented during:
1999–2002; 2011–2015

Total funds contributed by ESAPP:
CHF 187,000

Implemented by:
Simen Mountains National Park, Debark, Ethiopia; Ethiopian Wildlife Conservation Authority (EWCA), Addis Abeba, Ethiopia

In collaboration with:
ESAPP Horn of Africa Coordination Office, Addis Abeba, Ethiopia; Water and Land Resource Centre (WLRC), Addis Abeba, Ethiopia

With support from:
Centre for Development and Environment (CDE), University of Bern, Switzerland

Main beneficiaries:
Staff of government partner institutions

This highlight

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Design: Simone Kummer (CDE)
Proofreading: Stefan Zach (z.a.ch GmbH)

Citation

Hurni H, Berhanu D, Gete Z. 2015. Supporting a World Heritage site in Ethiopia. In: Ehrensperger A, Ott C, Wiesmann U, editors. *Eastern and Southern Africa Partnership Programme: Highlights from 15 Years of Joint Action for Sustainable Development*. Bern, Switzerland: Centre for Development and Environment (CDE), University of Bern, with Bern Open Publishing (BOP), pp. 43–46. <http://doi.org/10.7892/boris.72023>.

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What is ESAPP?

The Eastern and Southern Africa Partnership Programme (ESAPP) is a research implementation programme funded by the Swiss Agency for Development and Cooperation (SDC), coordinated by the Centre for Development and Environment (CDE) of the University of Bern, Switzerland, and implemented jointly by CDE and a network of partner institutions in Eastern and Southern Africa. Launched in 1999 and completed in 2015, ESAPP implemented over 300 priority action projects in the programme region, which included Eritrea, Ethiopia, Kenya, Tanzania, Mozambique, and Madagascar.

What are ESAPP Highlights?

ESAPP Highlights are a series of 24 project descriptions providing insights into ESAPP's research and implementation partnerships. Each Highlight describes a succession of demand-driven priority action projects addressing local and regional sustainability issues. The 24 Highlights are collected in a publication that includes additional background information on ESAPP (see citation above). The individual Highlights and the entire publication are also available for download on CDE's website: www.cde.unibe.ch (keyword search: "ESAPP").

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