

Case study

South Africa

Transformation towards sustainable land use

The work in the Baviaanskloof is seeking to rehabilitate degraded areas and provide local farmers with new sources of income. A local NGO (Living Lands), a South African social enterprise (Grounded) and a Dutch-based private investor (Commonland) are supporting the organic cultivation and processing of rosemary and lavender.

Initial situation and landscape

The Baviaanskloof is a valley located in the Eastern Cape Province of South Africa that runs between the Baviaanskloof Mountains to the north and Kouga Mountain range to the south. The Baviaanskloof Hartland, the privately owned western part of the Baviaanskloof, has an area of approximately 41,000 ha. The Baviaanskloof belongs to the water catchment area of the city of Port Elizabeth. Therefore, the landscape not only provides local farmers with a source of income but also plays a crucial role in meeting the growing water demands of the area and the city of Port Elizabeth with more than 1 million downstream users.

The Baviaanskloof Hartland is home to a community of 2,300 people. The land belongs to 24 private landowners with farms between 180 and 8,000 ha of land. Ten of the landowners grow crops (vegetables, legumes), keep animals, mostly Angora goats, and provide accommodation for tourists to earn an income. One farm is run by community members. The other landowners no longer live in the area.

Among other things, the channelling of water and overgrazing by livestock, have led to soil degradation as well as soil erosion and reduced water retention in the valley and on mountain slopes. These problems have led to farmers earning less income from farming and animal husbandry. The situation is aggravated by the drought that has persisted

in South Africa since 2015. In addition, the Baviaanskloof is very isolated. This complicates the supply of food and other goods, but also the selling of products from the Baviaanskloof.

Overview

Country: South Africa

Implementing partner: Living Lands (rehabilitation)

Target group: 24 farms and 2,300 inhabitants

Baviaanskloof Hartland: 41,000 ha

Lavender and rosemary: 55 ha

Partner: Grounded (management of local processing plant, DevCo)

Duration: Rehabilitation since 2009; Commonland: 2016–2036

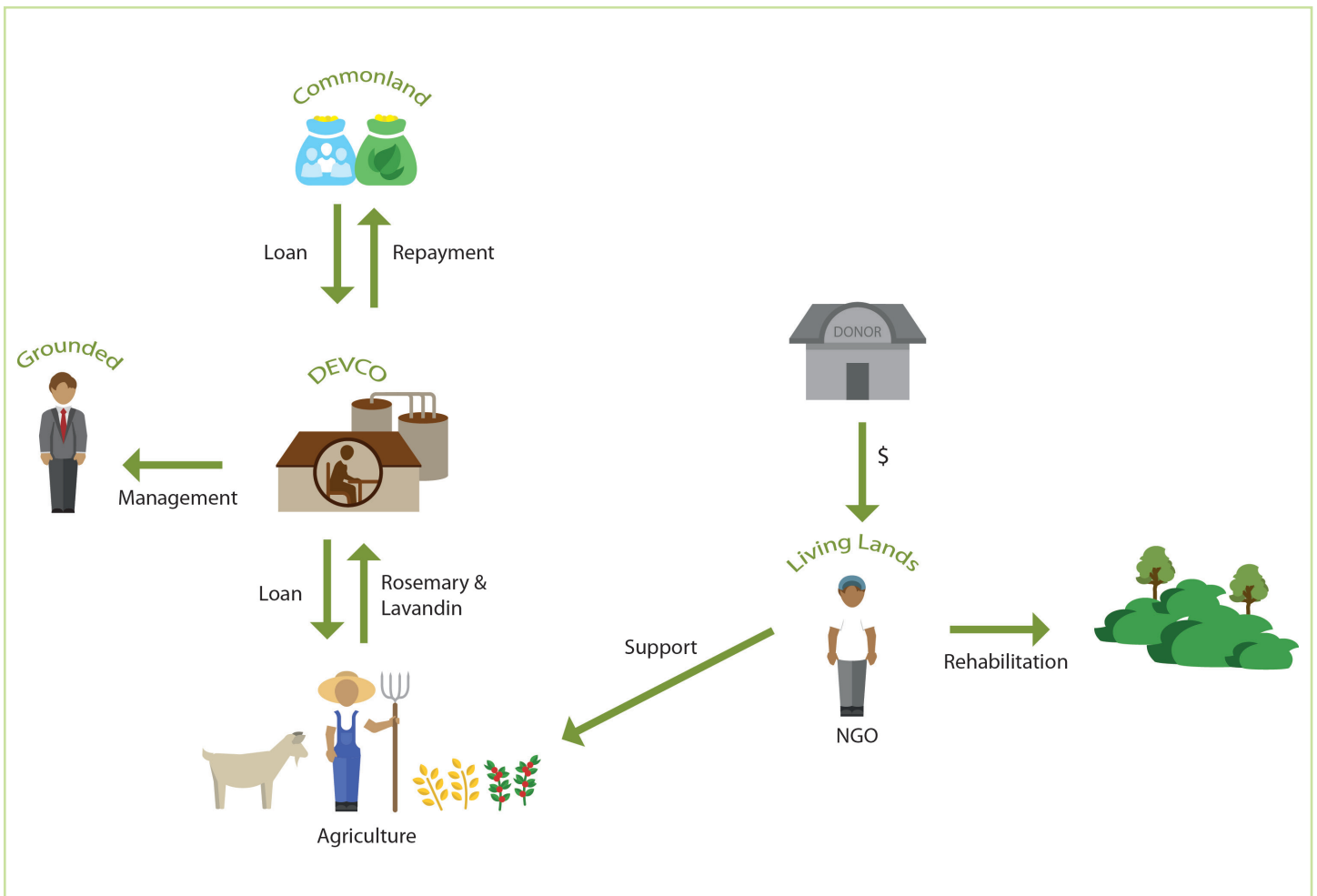
Funding sources: Founding of DevCo: EUR 1.47 million loan from Commonland; donors for rehabilitation: Department of Environmental Affairs South Africa (DEA), Dutch Government, UNDP, The CocaCola Africa Foundation, Netherland Postcode Lotterij

Main stakeholders and their challenges in the landscape

Due to the remoteness and the dry climate, all stakeholders in the Baviaanskloof are struggling to meet challenges. The most important stakeholders are the farmers, who have recognized that the existing agricultural land use destroys the once fertile soil. Therefore, a transformation to other land uses and income sources is required. Besides the farmers, a key stakeholder is the South African NGO Living Lands. Living Lands has been supporting the local community with rehabilitation measures on the degraded mountain slopes for ten years. With financial support from the Dutch Commonland foundation, The Baviaanskloof Development Company (DevCo) was founded. The DevCo granted a loan to four farmers, enabling them to sell parts of their grazing livestock to earn an income from sustainable agriculture. Today, the four farmers grow a total of 55 ha. of lavender and rosemary. The specially founded DevCo processes these herbs into essential oils. The four farmers who received a loan from DevCo are the main shareholders of the company. Commonland and the social enterprise Grounded have a minor stake. Grounded and Living Lands assisted the farmers in developing the business case. Today, Grounded still supports the farmers with the management of DevCo. The different measures within the landscape are funded

by different sources, such as the South African and Dutch Governments and other donors. In the Baviaanskloof, Commonland provides financial and in kind support to the DevCo, Living Lands and Grounded teams. Commonland implements large scale restoration projects worldwide based on the so called four Returns framework. This framework seeks to achieve four returns (inspirational, social, natural and sustainable financial returns) over a period of 20 years. In addition, the concept tries to connect three landscape zones (natural, combined and economic). Commonland contributes to the Bonn Challenge, a global effort to restore 150 million ha. of degraded land.

Figure 1: Key stakeholder of this study.



Forest Landscape Restoration

So far there is no generally accepted definition for Forest Landscape Restoration, although there are various global initiatives, such as the Bonn Challenge, which aims to restore 150 million hectares of degraded land by 2020. In our work, however, the following characteristics of FLR projects have proven to be relevant:

- ✓ Contribution to the conservation and regeneration of natural ecosystems.
- ✓ Restoration of ecological, social and economic functions for humans and nature.
- ✓ Stakeholder involvement and participatory planning and decision-making processes.
- ✓ Adaptation of measures to the local context.
- ✓ Focus on a whole landscape with different forms of land use.

Implementation and measures on landscape level

Restoring the ecosystem with Spekboom trees and water ponds

A total area of 10,000 ha. is degraded in the Baviaanskloof Hartland. Living Lands has been working on the rehabilitation of the Baviaanskloof and especially on the mountain slopes for over ten years. Living Lands is using various measures to increase the carbon content of the soil, improve water retention and reduce soil erosion. More than 1,000 ha. have already been rehabilitated and a contribution made to global Forest Landscape Restoration Initiatives (see info-box).

A central measure is the planting of native Spekboom trees (*Portulacaria afra*), which is currently taking place on 2,500 ha. Small branches of the thorn bush are placed around the small trunk of the Spekboom stems to protect them from wild animals and to stimulate them to spread and take new roots. In addition, rows of Spekboom are planted at relevant locations, which act as natural dams to slow down the flow of water on the mountain slopes and reduce erosion. The Coca Cola Africa Foundation, Global Environment Facility and the Dutch Postcode Lottery are funding the tree planting.

Another measure to rehabilitate the soil is the digging of semicircular bunds (ponding). Living Lands hires people from the local community to dig the holes and insert loose branches of the thorn bush. This measure also slows down rainwater runoff and the composting branches bring nutrients

back into the soil. To date, over 40,000 such holes have been constructed.

Regenerative agriculture and animal husbandry

Regenerative agriculture is a completely new concept for DevCo farmers. The aim of the concept is to use the agricultural land economically while improving and maintaining soil quality and biological diversity. The measures in the Baviaanskloof valley on the farmers' land have been adapted to the soil conditions and needs of the respective farmers. Currently, only the four farmers of the Baviaanskloof Development Company (DevCo) are implementing regenerative agriculture practices. In cooperation with the DevCo General Manager, each farmer develops a management plan for his farm. This plan includes catch crops and fodder crops between the main crops for the diversification of the fields. In addition, all farmers have their own nurseries and produce compost that is enriched with nutrients and biochar to be used as a biological fertilizer. The cultivation of fodder crops ensures the feeding of the goats and enables the farmers to keep areas on the slopes for rehabilitation free from livestock. In addition, DevCo farmers have reduced the number of goats, thus reducing the risk of overgrazing. An agreement between the farmers and Commonland stipulates that the number of animals will be reduced by one goat each if more than 30,000 Rand (approx. EUR 1,950) per hectare is earned from the cultivation of lavender and rosemary.



Semicircular water retention holes to reduce water runoff. These are dug by hand.

Essential oils as a new source of income in the Baviaanskloof

The goal of the Baviaanskloof Development Company (DevCo) is to create an alternative source of income for the farmers alongside animal husbandry and tourism. The DevCo supports the farmers in introducing organic farming practices and produces essential oils and dried herbs from a variety of herbs, including Lavandin abrialis, different kinds of rosemary, and indigenous plants. Farmers collaborated with Living Lands and the social enterprise Grounded to develop the business idea. Today four farmers are shareholders of the Baviaanskloof Development Company besides Commonland and Grounded, which hold minor stakes. Commonland provided a total loan of EUR 1.47 million to support the establishment of DevCo. This money has been used to build a distillery, provide loans to the four DevCo farmers and to buy working capital. The loans to the farmers enabled them to switch to regenerative agriculture and start growing the herbs. The advantages of rosemary and lavandin are that they require very little water and need a smaller area than goats for the same yield. In addition, animals do not eat the plants and goats can graze in the fields. This means that land can be made available for rehabilitation measures. At the beginning, the DevCo started with 100 ha. of rosemary and lavandin. For various reasons, this volume initially turned out to be too large. Today, the four farmers cultivate rosemary and lavandin on 55 ha. under regenerative agriculture. The herbs are either dried or processed into essential oils and sold on the domestic market. In addition, DevCo is obtaining organic certification. Currently, Grounded supports DevCo as its



Rosemary cultivation is one of the building blocks of sustainable land management.



The Angora goats do not eat the herbs and can therefore graze on the cultivated area.



Essential oils are extracted from rosemary and lavandin in the distillation facility.

Managing Director and is responsible for additional funding, business partners and marketing the products. In the long term, it is planned that the farmers will continue to run the company independently.

Challenges and solutions for Forest and Landscape Restoration (FLR) Projects

On a landscape level

Building local capacities is a major challenge in many FLR projects. In the Baviaanskloof, a decisive advantage is that the local NGO, Living Lands, has committed itself to the landscape in the long term and that its employees are part of the local community. They are available as important contact persons, are immediately aware of problems and support the community and farmers. Commonland's investment has also enabled the involvement of other experts, for example, for the management and marketing of DevCo (Grounded), as well as for the conversion to regenerative agriculture. However, the support of local capacities reaches its limits when it comes to the social structures and unequal distribution of land ownership in the Baviaanskloof. As a result of apartheid, the land, with the exception of the community farm, belongs to white landowners. Coloured people in the Baviaanskloof can therefore currently only indirectly participate in the economic development through work for the farmer or for Living Lands.

Nursery for the seedlings of the Spekboom tree.



Community members are hired for digging water retention ponds.

Another challenge for FLR projects are the risks for the local population, which implements measures. In the Baviaanskloof, these risks arise from the shift from livestock to rosemary and lavender. Here, Commonland's investment and long-term commitment reduce the farmers' risks. The lower interest rates compared to market conditions and the greater flexibility in repayment reduce the risk for farmers going bankrupt. This advantage has already mitigated the income from essential oils that was lower than expected in the first years.

The fact that the farmers themselves developed the business idea for DevCo has a positive effect on the sustainability of the measures. The involvement of the farmers promotes self-responsibility and ownership. This increases the farmers' motivation to implement the new forms of land use in the future. The long-term success of the measures in the Baviaanskloof, however, depends decisively on the further development of DevCo. As soon as the cultivation and sale of rosemary and lavender generates profits, the incentive for the farmers to continue with regenerative agriculture and not to increase the herd of goats again increases. Living Lands' work in the Baviaanskloof focuses on the entire landscape and tries to unite the different needs and forms of land use. This is another crucial factor for the long-term transformation of a landscape and should be part of any project to restore forests and landscapes.

On an international level

Activities such as rehabilitation in the Baviaanskloof can contribute to the achievement of global goals such as the Bonn Challenge, which aims to restore 150 million ha. of degraded land by 2020. Investments by private donors are an important key to financing the restoration of degraded land. In contrast to the usual private investors, however, Commonland has no short-term return expectations, but gives a commitment for a period of 20 years, which reduces the risk for local stakeholders. In addition, Commonland grants the implementation partners a high degree of flexibility in the measures. The decisive factor for taking measures are the concrete needs on the ground. Commonland's high level of trust in its local partners and the central role that Living Lands plays in the Baviaanskloof, allowing them to act according to the needs of the local stakeholders.

With regard to the transferability of the activities in the Baviaanskloof, it should be noted that the individual measures result from different projects and were adapted to the needs of the landscape and its inhabitants. This makes it difficult to transfer the activities to other regions. However, the landscape approach of the local NGO can be assessed as positive and recommended for other landscapes. Furthermore, the Commonland's four>Returns Framework can also be applied in other areas. This is because it embeds the landscape approach via the three zones and takes into account the needs of local people and nature via the four returns.

Commonland's four>Returns Framework is designed for large landscapes and is therefore basically scalable. However, experience with the Baviaanskloof has shown that new measures should first be tested on a small area before being implemented on a large scale. It is therefore advisable to start with pilot actions or to involve a local partner who has already gained experience with similar measures before implementing a large-scale project.



The workers prepare the rosemary cuttings for cultivation.



Planting the native Speckboom tree on the mountain slopes improves soil quality and protects against erosion.

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