

THE CASE OF THE SOUTH AFRICAN ROOIBOS: BIODIVERSITY CONSERVATION AS A COLLECTIVE CONSENSUS

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Introduction

Since the rising of biodiversity conservation concerns, agriculture has been the target of many conservationists. On one hand, crops cultivation may have irreversible impacts on the environment. On the other hand, cultivation generally involves a good knowledge of the environment, which can be considered part of the *traditional ecological knowledge* (TEK) (Berkes 1993). The traditional knowledge of indigenous peoples (including farmers) has been particularly brought back into favour since the Convention of Biological Diversity in 1992 (Roussel 2003).

An abundant literature exists on the different ways to envision agriculture from productivism to quality focus (Allaire and Sylvander 1997). In particular, there is a growing concern on local products, and how labelling tools could protect or reinforce local resources. This topic has been largely developed in Europe but is still recent in Southern Countries. In this context, this paper aims at depicting the intricacy of the linkages between a localised production in South Africa, the herbal tea *rooibos*, and biodiversity building. We try to show that the social aspects have to be taken into account regarding the recent emphasize on biodiversity by farmers. This perspective will shed light on the current concern about biodiversity conservation and how it has been recently taken over by local stakeholders, especially through developing collective labelling strategies.

We will first present the history of rooibos (the plant and the product) and of the farmers. This brings significant insights into the different rooibos production systems, and the ways those systems impact biodiversity. We will then explore how local stakeholders interact with biodiversity and how this manifests into collective projects.

1. Historical perspective on rooibos and farmers

Rooibos is an endemic plant of the south west of South Africa. It is used to produce an herbal tea, named *rooibos* in South Africa and also commercialised as *red tea* for the export market. Rooibos natural habitat is the *fynbos*. It is part of the Cape Floral Kingdom¹, one of six globally recognized plant kingdoms, well-known for the high density of endemic plants such as proteas as well as endangered species. Cultivation is one of the three main threats facing mountain and lowland fynbos and renosterveld habitat (Rutherford et al. 1999), which are largely represented in the rooibos production area. There are ten or so wild rooibos varieties distributed along the west coast but only one cultivated variety, located in a radius of 50 to 100kms around Clanwilliam.

¹ The Cape Floral Kingdom (CFK) consists of five biomes namely: fynbos, renosterveld, succulent karoo, subtropical thicket and afro-montane forest. Fynbos is the dominant vegetation type as 80 percent of the CFK consists of fynbos (Cowling and Richardson 1995). Rooibos production area is mainly located in the fynbos, although some farms are in the succulent karoo and in the renosterveld.

Before the Cape colonisation in the 17th century, local inhabitants were the San people (usually known as Bushmen, who were hunters) and the Khoikhoi (herders). From the first colonisation by Dutch settlers in 1652, KhoiSan populations have been weakened by diseases and commandos of settlers (Fauvelle-Aymar 2006). In the Clanwilliam area, most of the Khoikhoi lost their cattle and were employed on the settlers' farms (Penn 2005). Their descendants were generally designed as *coloured* during the apartheid era. Most of them are still working of farms. Farm working is the main job opportunity in this highly cultivated area.

San people were probably the first to discover and use rooibos, though no reference exists in the 18th and 19th centuries' literature². It was commercialised at the beginning of the 20th century as a substitute to tea and coffee (Cheney and Scholtz 1963), then as an herbal tea (Erickson 2003)

In the late 19th century, wild rooibos was collected in the mountains by local people, who probably occasionally consumed it as a hot drink. Although very little is known about these people (KhoiSan were not living anymore in this region), they were not allocated lands, and needed to know the fynbos quite well to survive.

The rooibos area remained remote until the early 1960s when the road between Cape Town and Clanwilliam³ was tarred. Before, travelling between the two towns lasted several days, justifying the development of rooibos as a local and cheap substitute to tea and coffee. In the 1930's, people from Clanwilliam (a rooibos trader, a physician and a farmer) decided to domesticate rooibos to respond to the growing demand and to develop a new crop in this arid area. They selected a wild variety from the mountains, and developed the scarification technique to germinate seeds. Coloured farm workers were involved in seeds collection for this experimentation. A woman, Trentjie Swart, found a very efficient technique: she discovered that ants store different kinds of seeds in their nests and followed them to get the rooibos seeds (Nortier 1929). Even if the techniques to collect rooibos seeds evolved over time, it is still done by hand and digging anthill is very productive. This is a critical practice for rooibos production. However, even if Afrikaner people invented and are controlling most of the other techniques and machines, seeds collection techniques has always only been managed by coloured people, making it an interesting feature of rooibos production. Seeds collection represents for them an additional source of money and is also seen as a rewarding activity. Interviews conducted with seeds collectors show that they take pleasure and pride in this activity because it requires a specific know-how that includes a good knowledge of the environment.

The first rooibos brand was created in the 1940's, « 11 o'clock », and is still one of the most

² Missionaries and biologists collected much information on the Cape region about the flora, the fauna and the inhabitants, but it seems that they never mentioned rooibos. It is probably due to the fact that the useful and medicinal plants were the most sought-after. Rooibos is reputed to be a medicinal plant, although scientific research is still in due course. Most of the reputed health properties were refuted (contains Vitamin C) or they haven't been proved yet (anti-allergenic properties for children) (Erickson 2003). San people might have known rooibos but probably for a minor use.

³ Clanwilliam is the major town in the rooibos production area.

popular in South Africa. It is, with a few others, strongly linked to the Afrikaner identity, with the package being in Afrikaans and showing symbols of Afrikaner identity⁴. During the same period (1900-1950), the apartheid was progressively settled. The *Native Land Act* law (1913) deprived African and Coloured from possessing lands (except in the Bantustan and reserves). In the Western Cape the situation slightly differed, particularly in rural areas. Coloured people could access lands surrounding mission stations, isolated communal farms and individual farms belonging to private owners (Muller 1965). This does not clearly result in improved Coloured situation. Nowadays, many rooibos farmers are Coloured; but most of them are very small or small-scale farmers. Between 1948 and 1994, the rooibos market was controlled by a one channel marketing system, the *Rooibos Tea Control Board*, which was in charge of regulating the production and the marketing, and acted as sole buyer and seller of all rooibos in South Africa (Gress 2004). This protective policy encouraged the domestic market and hampered exportation. In the 1950's, the members of the board were exclusively rooibos farmers from Clanwilliam.

From the 1970's, the production area progressively extended to the south, then to the west in the Sandveld lowlands. Since the 1990's and the apartheid demise, the market has been deregulated and export developed. Demand grew fourfold between 1990 and 2004. From the 2000's, potatoes, wheat and vegetable farmers of the lowlands started planting rooibos; some of them are 2-300km away from Clanwilliam. Since 2004, the market is saturated, prices are dropping and tensions appear amongst farmers. Apartheid demise also marked the improvement of coloured people situation. Some of them got the opportunity and built two co-operatives: Heiveld and Wupperthal. With support from local NGOs, Heiveld farmers promote a high quality product, and got organic certification in 2001 and FLO⁵ certification in 2004. Small-scale farmers clearly participate in rooibos marketing by selling a quality reputed product that is considered as ethical and sustainable.

2. Links between production systems, categories of producers and biodiversity

The historical perspective on rooibos and farmers will shed light on the construction of the different production systems. Rooibos farmers form a heterogeneous population, considering criteria of land access, farm size (from 1 to 8,000 hectares), mechanization level, location of the farm (close to the sea to remote in the mountains), workforce or marketing strategies. There are indeed many ways to classify farmers. With regard to biodiversity, we can distinguish three categories depending on the relationship between farmers and their environment and the ecological impact of farming.

Commercial farmers in the traditional production area

This category involves the commercial farmers in the Clanwilliam area. Most of them have been producing rooibos for 20 to 60 years; they were members of the control board and today they handle most of the processing factories. They are the most powerful stakeholders at local

⁴ For instance, *11 o'clock* packaging is showing a white mother giving tea to her daughter. Another famous brand, *Laager* is showing a wagon, a typical Afrikaner historical means of transport used during the great trek.

⁵ Fairtrade Labelling Organizations International (FLO) is a non-profit, multi-stakeholder association. It develops and reviews Fairtrade standards and provides support to Fairtrade Certified Producers.

level. Rooibos is their main income, but some of them grow other crops. An average farm is around 1,500ha, of which 500 to 1,000ha are cultivated⁶. The rest of the farm is situated in the mountains, which is too rocky or too sloping for cultivation. They invented most of the techniques and machines to product rooibos, but mechanisation is limited by the mountainous landscape. For example, they invented the harvesting machine for rooibos, but in addition to its expensive price, it requires large and flat lands: the percentage of mechanically harvested fields is around 30 to 40%, and will probably grow very slowly. Overall, farmers would rather intensify their production practices than clearing new lands⁷.

The mountainous part of the fynbos has a high level of biodiversity, which is currently emphasized by the farmers. Some of them found a way to valorise the uncultivated mountainous parts of the farm by building touristic cottages; others are part of the Sustainable Rooibos Initiative⁸, and some have signed a contract with *Cape Nature*, the provincial conservation agency, regarding natural resource management of their farm within the framework of the GCBC (the Great Cederberg Biodiversity Corridor⁹). However, the status of biodiversity on those farms illustrates a conservation policy problem: the over-representation of conservation areas in high-altitude areas and areas unsuitable for agriculture. Indeed, “conservation areas in the CFR [Cape Floristic Region] were sited mainly in areas unsuitable (or marginally suitable) for agriculture (mainly in the mountains (...)). However, there has been no detailed and systematic study of the extent to which the region’s conservation system is biased in relation to geographical location, topography, and agricultural potential.” (Rouget, Richardson, and Cowling 2003: 130).

The small-scale farmers

About half of the 500 rooibos farmers are producing on a small-scale. Most of them are producing ten kilos or so, and sell their production to a neighbour. Hundred and so are organised into the two co-operatives. During the fund raising stage for Heiveld co-op establishment, local and indigenous knowledge has been particularly emphasized; especially the awareness of the importance of managing natural resources sensitively, by not over exploiting the rooibos plant (Oettle et al. 2002). Moreover, they also produce wild rooibos that is collected from high ground and is sometimes marketed separately as a niche product. Rehabilitation and valorisation of small-farmers’ environmental knowledge is particularly important regarding wild rooibos, which grows on environmentally sensitive mountain tops and high plateau areas (Nel, Binns, and Bek 2007).

Most of the seeds collectors are also situated in the Heiveld area and are also producing rooibos on a small-scale. In this location, the dryness and the unattractiveness of the lands enabled Coloured farmers to access to a small extent to land ownership. Seeds collection as well as wild harvesting require a good knowledge of the fynbos to locate anthills and appropriate rooibos plants. Only some ecotypes of wild rooibos are harvested and plants that have sufficiently grown since the previous harvest. Overall, small-scale farmers are acknowledged for their good knowledge of the environment and their sustainable practices.

⁶ This is a rough estimation based on interviews with farmers in this area. The figures will be more detailed when all the data will have been analysed.

⁷ A part of the uncultivated lands could be cleared, but it might not be economically interesting.

⁸ This project aims at developing conservation tools for rooibos industry.

⁹ The GCBC aims to expand protected areas by creating a linked corridor of natural vegetation in the Cederberg area.

However, this production system is also to be related to the land access difficulties and the low incomes regarding this type of production.

The commercial farmers from the extension area

The expansion area is defined as the lowland areas in the south and in the west of the production area. The rooibos production area has been progressively expanding together with market increase. These areas are flat lands (under 300m altitude), where wild rooibos does not occur (Dahlgren 1968). Farms are generally smaller than in the traditional area, around 500ha; but lands are much more intensively cultivated (more than 90% of the farms can be under cultivation). The Sandveld lowland was covered with renosterveld vegetation type that is now particularly endangered. It has been used for grazing for centuries by Khoikhoi pastoralists, and later Dutch settlers. Over the past century, renosterveld has been extensively transformed to agriculture, almost 90% of this habitat (Kemper, Cowling, and Richardson 1999). Rooibos expansion in this area thus has a huge impact on biodiversity.

It is interesting to note that rooibos environmental impact is very different depending on the area of production. The historical perspective also showed that the production area and the farming systems are strongly linked with the social and racial status of the farmers themselves. In the last part, we show how biodiversity has been recently taken over by the farmers.

3. The biodiversity issue

Biodiversity became an issue for farmers when the production area largely expanded into areas where rooibos was not traditionally cultivated, in the late 1990's and the early 2000's. This concern arose rather late compared to other crops, which can be explained by different factors. It appears clearly in the interviews that farmers consider rooibos as a *natural product* because it comes from the *wild*¹⁰. Although most farmers spray pesticides and fertilizers, they do not irrigate, and do not put rooibos on the same level as potatoes, vegetables and citrus, which are the most common crops in this area. The nature conservationists' discourses regarding biodiversity and rooibos culture emerged in the early 2000's. *Cape Nature* launched two programs: the GCBC (Great Cederberg Biodiversity Corridor) in 2003 and the Rooibos Sustainable Initiative in 2006. Both initiatives involve rooibos farmers on a voluntary basis. It also seems that farmers started worrying when consumers' demands focused on sustainable rooibos¹¹. While the current phase of expansion appears to have significant impacts from a biodiversity perspective (see above), expansion used to be seen as a normal phenomenon for the industry, which is quite recent and is still considered as legitimate.

Rooibos farmers' involvement regarding biodiversity can be reflected through the analysis of a recent initiative: the Geographical indication project. This project is driven by an elected committee that represents farmers and other stakeholders of the industry and aims at defining the quality and the production practices. Despite biodiversity not being an initial focus of this

¹⁰ These two words were employed by most of the interviewed, in English or in Afrikaans.

¹¹ Many farmers expressed their concern about the consumers' demand in the interviews.

committee, rooibos endemism and fynbos fragility are recognised as part of the rooibos specificity. Rooibos sustainable management strategies imply to protect the fynbos. In relation with the rooibos sustainable initiative, biodiversity progressively appeared as a common stake for farmers (Biénabe, Leclercq, and Moity-Maïzi 2009). While agreeing on incorporating the current and potential whole production area in the GI definition, the GI committee also recognizes the spatially differentiated impact of the different production systems on biodiversity. The biodiversity issue could thus have reinforced tensions between farmers that arise from a current trend of overproduction; instead of that it is managed as a common stake, something to protect. Despite farmers' divergences in terms of farm size, history and impact on the biodiversity, the GI is an inclusive project that integrates all the farmers wherever they are from.

Conclusion

The historical perspective on the rooibos production shed light on the diversity among rooibos farmers. Farmers from the traditional area are obviously dominant, and together with small-scale farmers, they have the higher legitimacy to produce rooibos in terms of historicity and environmental impact. However, everybody has got a room on the market: the small farmers have a good reputation product and the producers from the expansion area are producing for the new market opportunities (despite a current phase of adjustment linked to very good production years).

Rooibos farmers do not produce the same quality and they do not have the same relationship to the biodiversity depending on where and who they are. Biodiversity, as well as the quality, is something that needs to be reasoned and protected: this is a common objective for farmers that goes beyond the local tensions.

The different collective initiatives amongst rooibos farmers can be seen as a response to “[the South African agricultural and environmental policies and legislation, that] appear to have been fettered by a tendency to analyse and respond to agriculture-related environmental change at the level of individual farms rather than that of agro-ecosystems” (deVilliers and Hill 2008: 18).

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