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## **Localised Production of rooibos in South Africa: practices, territories, and prospects of a Geographical indication definition**

**Anthropological research in two small-scale farmers'  
communities**



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Front cover photography: rooibos harvesting in Suid-Bokkeveld, April 2006 (photo: M. Leclercq)

## Table of contents

Introduction.....	5
1. Chapter one: context of the research.....	7
1.1. Geographical indications.....	7
1.1.1. Definition.....	7
1.1.2. Geographical indications and Intellectual Property Rights (IPRs).....	7
1.1.3. Geographical indications in South Africa .....	7
1.1.4. Geographical indications on Rooibos?.....	8
1.2. Rooibos red tea, <i>Aspalathus linearis</i> .....	10
1.2.1. Classification.....	10
1.2.2. Repartition, ecological and climate conditions .....	10
1.2.3. Reproduction.....	10
1.2.4. Ecological factors.....	10
1.2.5. Culture history.....	11
1.3. Rooibos producers' communities .....	13
1.3.1. Rooibos production area history .....	13
1.3.2. Creation of producers' communities .....	13
1.3.3. Economics opportunities about rooibos .....	15
2. Chapter second. Enquiry methodology.....	16
2.1. Problematic construction.....	16
2.2. Interviews guideline.....	17
2.3. Fieldwork.....	17
2.3.1. Participative observations.....	17
2.3.2. Taking notes.....	17
2.3.3. Informal discussions with farmers .....	19
2.4. Interviews .....	19
2.4.1. Informative interviews.....	19
2.4.2. Farmers interviews .....	19
2.4.2.1. Interviews parameters.....	19
2.4.2.2. Farmers' interviews agreement.....	19
2.5. Interviews analyse.....	20
2.5.1. Interviews content, themes stock list.....	20
2.5.2. Themes classification .....	23
2.5.3. Interviews analyse .....	23
3. Chapter three: cultural and processing practices about rooibos.....	24
3.1. Detailed description of Heiveld and Wupperthal farmers' practices.....	24
3.1.1. Seeds harvesting.....	24
3.1.2. Seeds planting .....	26
3.1.3. Young seedlings planting out.....	26
3.1.4. Pruning.....	26
3.1.5. Harvesting.....	26
3.1.6. Processing .....	26
3.2. Work places and tools description .....	28
3.2.1. The nursery .....	28
3.2.2. Rooibos fields .....	28
3.2.3. Processing: the tea court.....	28
3.2.4. Tools .....	30
3.2.4.1. Machines.....	30
3.2.4.2. Manual tools.....	30
3.3. Techniques.....	30

3.3.1.	Seeds planting in nursery .....	30
3.3.1.1.	Seeds planting .....	30
3.3.1.2.	Nursery upkeep .....	32
3.3.2.	Rooibos harvesting.....	32
3.3.2.1.	Cutting .....	32
3.3.2.2.	Branches accumulation .....	34
3.3.2.3.	Bundling.....	34
3.3.2.4.	Bundles loading .....	34
3.3.3.	Rooibos processing.....	36
3.3.3.1.	Bundles unloading .....	36
3.3.3.2.	Rooibos chopping.....	36
3.3.3.3.	Fermentation .....	38
3.3.3.4.	Drying .....	38
3.3.3.5.	Packaging.....	40
3.3.3.6.	Transport.....	41
4.	Chapter four: analyse of the production specificities .....	42
4.1.	Some practices native to a specific region .....	42
4.2.	Rooibos production practices connected with a specific quality in Wupperthal and the Suid-Bokkeveld regions .....	42
4.2.1.	“By hand” production practices .....	42
4.2.1.1.	Low-mechanized production.....	42
4.2.1.2.	Why is the production low-mechanized?.....	42
4.2.1.3.	Consequences on the quality.....	43
4.2.2.	Rigorous control of production stages.....	44
4.2.3.	Rooibos bruising process .....	45
4.2.4.	Fermentation and drying duration .....	45
4.2.5.	Conclusion .....	46
4.3.	Other specific elements of the two small-scale farmers communities.....	46
4.3.1.	Adaptability of cultural practices .....	46
4.3.1.1.	Choosing a nursery .....	47
4.3.1.2.	Protection against predators .....	47
4.3.2.	A large knowledge of ancient rooibos practices .....	47
4.3.2.1.	Wild rooibos production .....	47
4.3.2.2.	More recent cultivated rooibos production practices .....	49
4.3.2.3.	Relationship with “ancestral” practices .....	49
4.3.3.	Sustainable practices .....	50
4.4.	A specific territory .....	50
4.4.1.	Low relationship with the territorial particularities.....	50
4.4.2.	A “social” inscription in the territory .....	51
4.5.	What kind of Geographical indication about rooibos? .....	52
5.	Conclusion.....	53
5.1.	A Geographical indication on rooibos?.....	53
5.2.	“Heritage process building” of rooibos.....	53
5.3.	New research ways.....	54
5.4.	My formation contribution .....	54
6.	Bibliography.....	55
6.1.	Books.....	55
6.2.	Articles .....	55
6.3.	Reports, thesis and typed up documents .....	57
6.4.	Internet websites .....	58

## Introduction

This research was conducted within the *Biodivalloc* project launched in 2006, January 1<sup>st</sup>, and called “From localised products to geographical indications: which tools to manage biodiversity in mega-biodiverse countries?”

Its aim is to develop a thought about Geographical indications to promote and add value to localised production, and study the IG potential to protect biodiversity (Biodivalloc, 2005).

GI are described in the first chapter of this thesis. It's a recent Intellectual property right, which can be used voluntarily by actors as a label tool. For that reason, GI are different from “exogenous” labels, which lay down standards to the local producers.

A study about building a GI has to develop an intern approach, which can give off local actors' practices, knowledge and rules, to spot their diversity and to analyse their behaviour logics.

As Claude Lévi-Strauss said, “Each Culture represents a unique occurrence to which we have to devote our meticulous attention to describe it first, and to try to understand it subsequently.” (Lévi-Strauss, 1983: 45). This methodology is specific to anthropology, and help to understand the singularity and the running of the societies. This method is there useful to *describe* actors' practices and knowledge to *understand* their relationship to the rooibos, natural resource used as a local product.

This research' field is situated in the southern west of South Africa, the production area of rooibos or “red tea”. The rooibos market is dominated by few companies; the main one *Rooibos Limited* possesses about 75% of the market shares. There are two local producers organizations, Heiveld Co-operative (Northern Cape) and Wupperthal Rooibos Tea Association (Western Cape), they product and sell themselves their own rooibos. They are the only ones whose productions are labelled simultaneously by FLO (Fair-Trade Labelling Organisation) and Ecocert<sup>1</sup>. There are also situated in an area reputed to be the traditional production area, which produce high quality rooibos.

It was interesting to consider the motives of those recently created coloured producers organisations, whose members have been disadvantaged for a long time during Apartheid. Coloured producers are supported by local NGO, and develop some interesting innovative processing to build links with territory (Perrier-Cornet, 2000).

This research was only conducted during three months, so its aim wasn't to cover the total thesis of the *Biodivalloc* project. It was mainly focused on localised specificities production, identity and heritage values associated with this production, and their territorial and social inscription. This research is focused on practices and know-how' analyse more than on biodiversity aspects.

The first chapter is focused on field presentation and the different elements of the subject: GI, rooibos and the two local producers organisations. It seems important to describe rooibos' characteristics to understand its links to a particular territory. It is important to explain specific history and management of the organisation in the context of South Africa history. The second chapter contains the description of enquiry methodology, which was in constant evolution during the research.

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<sup>1</sup>FLO and Ecocert grant respectively « Fair-Trade » and « Organic » labels.

The third chapter is focused on detailed description of rooibos culture practices, completed by interviews explanations. This description is necessary to understand important practices linked with the specificities of the production.

Data analyse from observations and interviews is contain in the fourth chapter. It presents different elements specific to these producers organisations. I give few hypotheses about potential GI on rooibos in South Africa.

# **1. Chapter one: context of the research**

## **1.1. Geographical indications**

### **1.1.1. Definition**

Geographical indications are “indications which identify a good as originating in the territory of a Member (of the World Trade Organization), or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographical origin.” (Article 22.1 of TRIPs Agreements, Trade-related Aspects on Intellectual Property Rights). The Geographical indications may also serve to highlight the specific quality of a product that are due to specific local geographical factors (such as climate and soil) and to human factors present at the place of origin of the products (such as certain manufacturing techniques or a traditional production method) (Grazioli, 2002). Protection tool as GI and label of origin were originally developed in Europe, (more precisely in France, Italy and Spain), before to be identified by WTO in 1994 as a Intellectual property right (Sautier, in press).

GI are distinctive signs for high quality goods produced in a special place, it helps consumers and producers to distinguish those products on the market.

GI have a collective dimension: the reputation embedded in the indication is collective, and accrues simultaneously to all firms in the geographical region identified in the indication (Rangnekar, 2004). However, GI protection does not prevent manufacturers from other regions to produce the same kind of product, it only prohibits them to sell it under the same geographical name (Addor et al., 2003): GI role has its limits. Consequently, GIs should be considered as part of a wider policy framework that could, for instance, include the use of complementary IPRs covering inter-related subject matter. (Rangnekar, 2004).

With this definition, we can hold up few examples which could be protected or are already protected by a GI: Basmati rice, Ceylan tea or south African rooibos red tea.

### **1.1.2. Geographical indications and Intellectual Property Rights (IPRs)**

Since 1992 and the Biological Diversity Agreements, traditional indigenous knowledge are considered as useful resources for sustainable development and biodiversity conservation. With TRIPs agreements in 1994, those local communities become new beneficiaries of IPRs (Roussel et al., 2004), which means building of a new protection system.

GI are part of those new patterns: they add value to a product, protect its name and acknowledge local communities as real economic actors.

### **1.1.3. Geographical indications in South Africa**

TRIPs agreements concern the whole WTO members, even if some of them take time to set up the legal framework for GI.

There's not specific protection in South Africa yet, except for wines and spirits. A local product can only be protected by trademarks and consumer protection laws (Grant, 2005, Sautier, in press). South Africa, as a WTO member, will have to protect GI in the next years as it is planned by TRIPs agreements (Laing, 2003).

Most of the South African goods that could be protected by a GI aren't yet well-expanded on the domestic market. Those products have a high quality and a good reputation, but it is not enough attractive to interest local consumers.

On the contrary, those products are attractive for the export market: demand for high quality products is continuously increasing, and import countries can pay more for that (Mendes, 2001). It is more particular for products labelled by Ecocert and FLO, and others with specific characteristics are in great demand by western countries. For example, it concerns "typical" products of a specific area (as the success of the labels of origin in Europe shows it), products almost untransformed, seen as "natural" by consumers...

Some of the typical south-African products belong to this category, especially the rooibos which is a good illustration.

#### **1.1.4. Geographical indications on Rooibos?**

Rooibos is a good example of a product which could be protected by a GI, because it possesses few specific characteristics. In fact, this is a high quality product, attractive for consumers, the market is increasing, and it has a high competitive level (Grant, 2005).

Rooibos has a good reputation, depending on the production area. It is generally admitted that because of climatic conditions in the East of Cederberg Mountains (which includes my research field located in Wupperthal and the Suid-Bokkeveld area, picture 1.2.), this region produces the best quality tea (Grant, Louw R., Romher, 2006, personal communications).

Rooibos, as most of herbal tea, possesses some healthy properties which are very attractive for consumers.

Rooibos production is increasing continuously since few years, especially because of international demand. Since 2001, it increases by about 30% per year whereas domestic demand only increases by 5% per year (Grant, 2005). More than 60% of the total production is exported. If we just consider the two local organizations of coloured producers (labelled by Ecocert and FLO), we can see that almost the totality of their production is exported.

Moreover, South Africa is the only producer of rooibos all over the world. Rooibos is an endemic plant, which grows in very specific climatic conditions: it is very difficult to produce it in other ecological conditions.

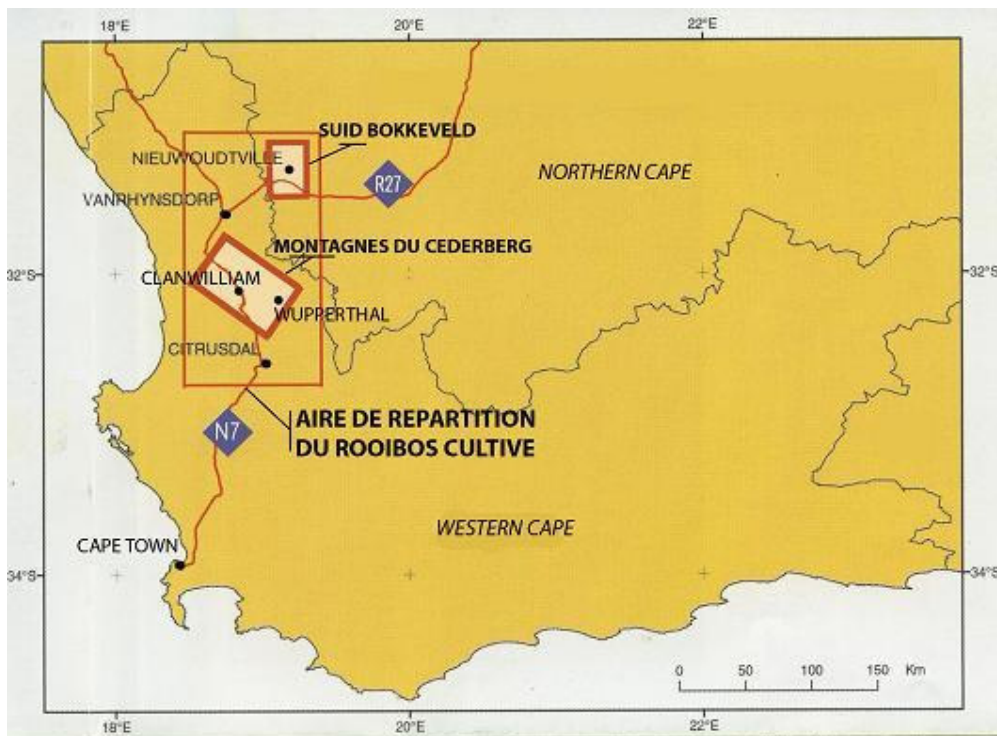
But it doesn't mean that the rooibos is totally protected: in 1994, Forever Young Company registered the mark rooibos in the United States. This gave to Forever Young the exclusive right to market products labelled rooibos in the United States. The South-African company Rooibos Limited instituted legal action in order to cancel this registration on the basis that it is a generic name. Finally, Forever Young agreed to voluntarily surrender its rights to the trademark.

This recent example shows that an endemic product is not enough protected on the international market. This dispute was followed by the producers' awareness about Intellectual property rights: GI appears now as a potential protection tool for rooibos.





**Picture 1.1. Mature cultivated rooibos plant (*Aspalathus linearis*) (photo M. Leclercq)**



**Picture 1.2. Repartition of cultivated rooibos in South Africa and localisation of the fieldwork**

## **1.2. Rooibos red tea, *Aspalathus linearis***

### **1.2.1. Classification**

Rooibos is a leguminous plant, belonging to the genus *Aspalathus*, of which about 278 varieties are found in Southern Africa (see picture 1.1.). It is genetically closely related to other bushy leguminous of the genera *Lebeckia* and *Cyclopia* (Honey Bush Tea is one of the most famous species of *Cyclopia*) (Morton, 1983: 165).

There are several rooibos types but no intra-species classification system (Van Heerden, 2003). We can however distinguish rooibos types by criteria like habitat or strategy to survive to fire... (Dahlgren, 1968; Vand der Bank, 1995).

The last criteria is interesting to divide rooibos population into two groups : “reseeders”, which can’t survive to fire but produce seeds (cultivated type) and “resprouters”, which survive to fire but have a vegetative reproduction (wild type) (Van Heerden, 2003).

The cultivated type stems from a wild type named “red” or “rockland” (Van der Bank, 1995). It comes from Pakhuis Pass area, near Wupperthal (Van Rooyen, 2004). There is just one cultivated type, but there’s a high genetic variation, so we can define different cultivars. Potential hybridization with wild rooibos also increases this variation (Louw R., 2006, personal communication).

### **1.2.2. Repartition, ecological and climate conditions**

Rooibos only grows in the south-west of South Africa. The area is approximately 300km north (Nieuwoudtville) to south (Malmesbury), including Wupperthal, Clanwilliam (18°36’S, 32°09E), Citrusdal, Piketberg, Varhynsdorp and the Suid-Bokkeveld (19° - 19°15’E, 31° - 32°S) (Grant, 2005), and approximately 80 km west to east (see picture 1.2.).

Rooibos grows in the *fynbos* biome. *Fynbos* is characterised by acidic soils (pH is included between 4,5 and 5,5). Conditions are identified as a dry Mediterranean type climate. Altitude is bounded by 450m and 900m, with a rainfall contained between 380mm and 630mm<sup>2</sup>. Mature plants can endure important temperature differences, from more than 40°C in hot summers and close to 0°C in cold winters.

### **1.2.3. Reproduction**

Rooibos has little yellow flowers with a particular shape (see picture 1.3.). They give tiny light seeds which are almost indistinguishable from surrounding grains of sand. Seeds are hard-shelled and need hot temperature to germinate (in a natural environment, germination needs veld fire events). Seeds can stay several years in the soils without being damaged by weather or predation, this is a strategy adapted to its dry environment.

In general, natural fires appear every 15 to 20 years, rooibos reseeders grow up the next year.

### **1.2.4. Ecological factors**

Rooibos is an endemic plant, very difficult to produce outside its natural conditions: it needs an optimum between climatic conditions, altitude and soil composition. It is very important to consider rooibos endemism conditions.

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<sup>2</sup> We find different rainfall scales in scientific literature, because optimal conditions aren’t set. In the most extreme cases, rooibos can grow with a 150mm rainfall (Louw R., 2006, personal communication).

The Suid-Bokkeveld vegetal endemism level is one of the highest in South Africa (Manning, 2002). Different Suid-Bokkeveld soil-types, associated with various landscapes, are the causes of lots of vegetal varieties.

Rooibos, as belonging to the *fabaceae* family, is one of the first species able to grow just after a fire event (Cocks, 2001). It helps other plants to fix themselves by protecting them from the wind (Louw R., 2006, personal communication).

Rooibos is a leguminous plant, that's the main reason why it can grow in under-nutrient soils, because it fixes nitrogen. It is also beneficial for the other plants.

#### **1.2.5. Culture history**

Rooibos has probably been discovered and used for the first time by khoesan indigenous populations, a few centuries ago (Ginsberg, 1976).

Rooibos was marketed for the first time in 1905: a wild type collected in mountains was sold as "tea" by a Russian native trader, Benjamin Ginsberg (Dahlgren, 1968).

Rooibos culture only started a few decades after. First tries were tested by Dr Nortier in 1930's (Guess, 2000) in Pakhuis mountains. Production of cultivated rooibos remained in local use for a long time, because of economical circumstances (Hawkins, Louw R., 2006, personal communication). Rooibos market increased after the second world war, mainly due to the oriental tea shortage (Morton, 1983), and to the White farmers decision to develop their own tea production.

Rooibos tea Co-operative was created in Clanwilliam in 1948, which marked the stabilisation of the industry. Rooibos production didn't stop to increase, it is now produced 10 000 tonnes a year.



Picture 1.3. Flowering rooibos plant (photo M. Leclercq)

	<b>Heiveld Co-operative</b>	<b>Wupperthal Rooibos Tea Association</b>
Established	2001	1997
Area	Suid-Bokkeveld plateau, Northern Cape	Plateaux and valleys around Wupperthal, Western Cape
No. of members	43	176
Production in 2006	30 Tonnes	102 Tonnes

Picture 1.4. General data on coloured producers communities

### 1.3. Rooibos producers' communities

#### 1.3.1. Rooibos production area history

Coloured local populations in the Suid-Bokkeveld are of Khoesan origin, term grouping together Khoekhoe and San populations. Khoekhoe are half-nomadic herders and San, well-known as "Bushmen", are hunters. The oldest signs of their presence in the Kalahari Desert come from about 2000 years ago (Fauvelle-Aymar, 2004).

First Colonists arrived during the 16<sup>th</sup> century. They had a first marketing relationship with khoekhoe populations: colonists bought livestock to the khoekhoe for the Cape colony. Rapidly, their livestock needs to increase and couldn't be borned by local populations. This problem led to conflicts, livestock thefts and even murders.

White Colonists hadn't the right to enslave local populations, but they established private property which excludes khoesan people from land access. Without lands and herds, local people had no other choice than working in white Colonists farms. It was also cheaper for Colonists to employ khoesan than Europeans, or to make slaves<sup>3</sup> come (Penn, 2005).

At that time, light parity in white populations (it led to lots of mixed unions); devastation caused by diseases like smallpox for local populations; social disintegration of khoesan people and their decimation by the White auto formed *Kommandos* led to the gradual disappearance of khoesan people in that area (Fauvelle-Aymar, 2006).

Relationship between Whites and Coloured stayed very hard in that region. Coloured people are generally dependants from white people to find work, even if wages were and are still very low. This assimilation was so important that Coloured became the most important Afrikaans speaking group in the Western Cape. Today, most of them only speak Afrikaans.

Apartheid was very marked in that rural part of the province. We can still see that through the geographical organization of Nieuwoudtville, the main town of the Suid-Bokkeveld plateau. Nieuwoudtville Township is situated at about 1 km from the town centre, in the other side of the road. It is totally invisible for an uninformed.

After apartheid, the African National Congress (ANC), the main politic party, voted a land reform policy which planned to give back to disadvantaged people about 30% of lands in 5 years. Ten years after, only 1.5% of the 8.7 millions hectares of agricultural lands have been given back (Anseeuw, 2004). A few Heiveld Co-op members could have benefit from this reform, but most of them just possess few land hectares.

#### 1.3.2. Creation of producers' communities

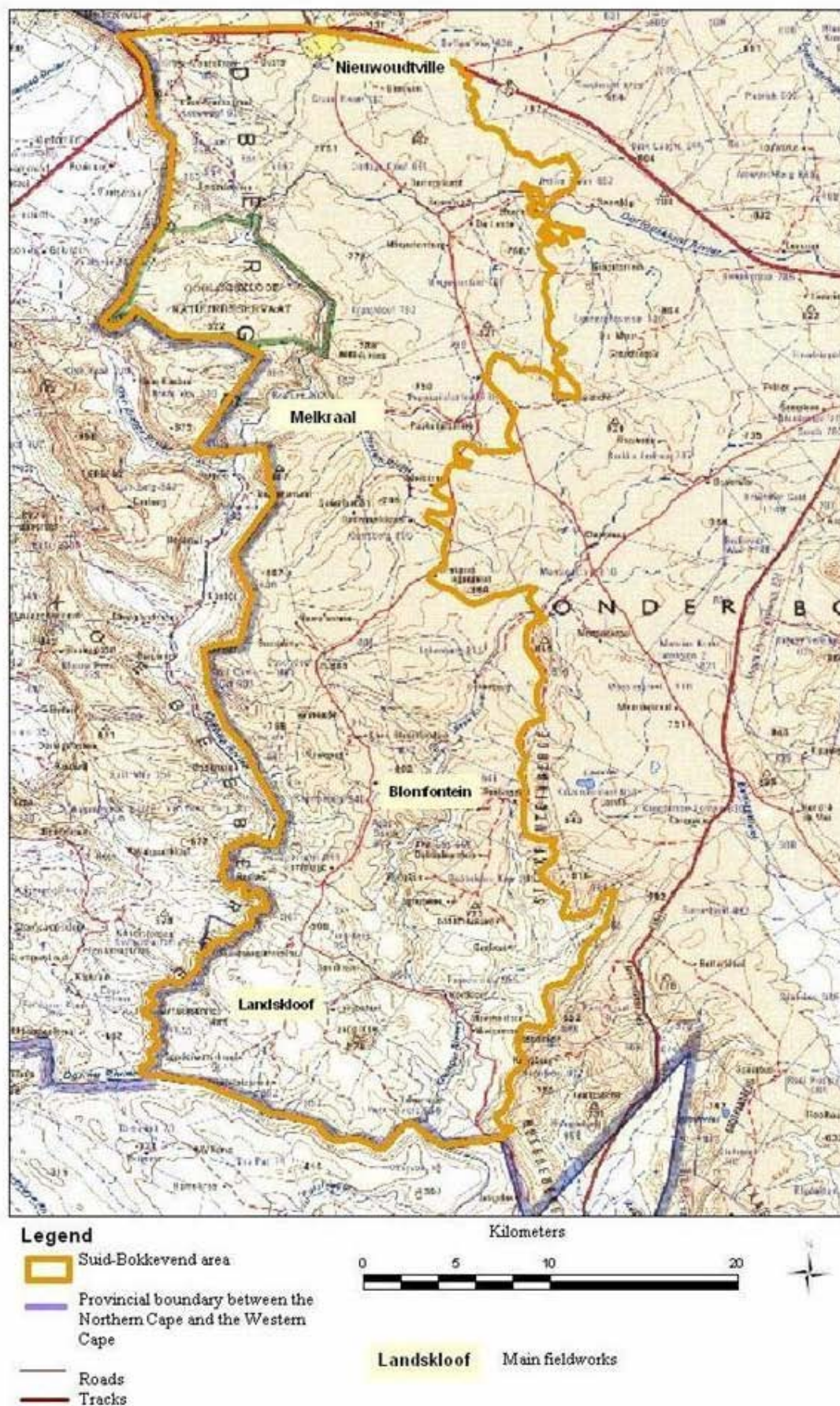
Wupperthal is the oldest of the two organisations, it is situated in Cederberg mountains. Wupperthal Rooibos Tea Association was created in 1997, but farmers were already producing rooibos before (see picture 1.4.). They were helped by Asnapp<sup>4</sup> NGO for a few years for the management and rooibos sale, but now farmers supervise themselves the most of the Association.

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<sup>3</sup> Slaves come from Mozambique, Angola, Western Africa and Madagascar.

<sup>4</sup> The Agribusiness in Sustainable Natural African Plant Products NGO was created in 1999 and has a few African branch.





Picture 1.5. Regional map of the Suid-Bokkeveld in the Northern Cape, and localisation of the main fieldworks.

Heiveld Co-operative is situated on the Suid-Bokkeveld plateau, and was created in 2001. It funds for Suid-Bokkeveld farmers to travel in the Namaqualand and in Wupperthal. They could see the economic opportunities of rooibos tea and tourism in the region.

These two communities have been created to help rooibos farmers, especially the ones who were disadvantaged during apartheid because of their colour or their sex. They want to promote social and economic development in the region, to give a better life quality to local populations.

Each community has a council, mentors and members. Heiveld Co-op has 43 members, and Wupperthal has 170, management is different.

Wupperthal tea-court is situated in the town, whereas Heiveld' one is in the Suid-Bokkeveld, in Bloemfontein (see picture 1.5.).

Farmers have to manage collectively lots of rules, especially for harvesting organisation and product processing, which need lots of workers. The Co-op or the Association is also in charge of the management to obtain FLO and Ecocert labels. But each producer is free to organise himself certain individual practices, like seeds harvesting or seeds planting in nursery.

Heiveld Co-op is situated in a specific area, which has specific pedological characteristics. Every member lives in the Suid-Bokkeveld. This space insertion is also geographical and political (Heiveld Co-op members are in majority Coloured). I will use the "territory" term to describe links between local populations and space.

Wupperthal Rooibos Tea Association is situated in a large area which is difficult to delimit, all the more there are lots of members, and their farms are remote. This area possesses common topographic characteristics (mountain environment) which participate to make a homogenous territory.

### **1.3.3. Economics opportunities about rooibos**

After apartheid lots of inequalities could be reduced, but unemployed rate for black and coloured populations didn't stop to increase, moving up from 37% to 49% between 1995 and 2002 (Brookes et Hinkes, 2004).

Local populations in this area have very low opportunities about economic increase and employment, most of them don't work.

Rooibos is an important economic activity. In the Suid-Bokkeveld, it is the first income for most of the farmers. Few of them possess ships and a cultivated garden, but no other agriculture resource is possible with the dry climate. Rooibos became also more important since the Heiveld Co-op received "Fair-trade" and "Organic" labels, which raise the price production.

The Suid-Bokkeveld has a tourist potential because of flowering season (Turpie, 2003). Local populations launched recently few initiatives linked with ecotourism, with the help of Indigo NGO. A cottage was opened in Melkraal village, and managed by a women group. The last plan is a tourist project with rooibos. It is a "rooibos heritage route" between Wupperthal and Heiveld.

In that context, a GI label could participate to these development initiatives, and have a positive economic impact on local communities.

## **2. Chapter second. Enquiry methodology**

At first, the problematic constructed with Estelle Biénabe, my thesis supervisor was to know if the producers' communities of Heiveld and Wupperthal had some rooibos cultivation and processing practices likely to differentiate their production.

There is a general recognition of a high quality rooibos produced in these areas, but it is more difficult to define geographical determinants and practices which take part in that reputation.

From this first question, we defined three research fields.

The first one is centre on cultivation and processing practices: what are their specificities, how to determine the space variability on a regional scale?

This part means to identify and situate each practice, and to determine human and physical variation factors.

This work is the main part of my research. I used different data gathering method: practices observation, literature research and interviews with producers.

The second one is about embeddedness of practices in culture and history, and evolution of practices and trends.

Can we speak about a "cultural heritage"? How important are certain practices for producers?

What are the useful time scale(s) to measure changes and trends in practices?

This work was realised from interviews with producers and NGO members, to gather different points of view about this subject.

The third one is about quality: what are the criteria to define rooibos quality? How is the quality linked with geographic and economic factors?

This work was realised from actors' discourses.

### **2.1. Problematic construction**

This research problematic appeared as the enquiry gone along from these three questions. The problematic is linked with the post-apartheid South African context. The two coloured producers organizations have emerged a few years after the end of this political regime, and they have mobilised lots of social, political and economic issues. We could expect from these communities to have their own opinions in relation to this political event, and defend certain demands.

Coloured people from the Suid-Bokkeveld formerly had a limited access to the land property, especially because lands are very dry and unattractive. However, the majority of Co-op members worked in a commercial farm before. The end of apartheid and Co-op creation gave them the opportunity to appropriate lands, cultivation and processing practices, as well as an important natural resource: rooibos.

With an analysis of their practices and discourses about that, how do small-scale farmers define their link to a territory? Do they define themselves in relation to a specific territory, or to specific practices?



## **2.2. Interviews guideline**

The interviews guideline was written according to the problematic. It contains questions about the three subjects presented above: practices (ancient practices, their recent evolution, knowledge transmission...), their specificities and quality criteria (see picture 2.1). There's an additional question about farmers' identity references nowadays. It wasn't an easy question to ask, and was actually not really useful. As we will see it in the fourth chapter (interviews and results analysis), farmers gave lots of elements in interviews about their demands, more than what I could expect with that specific question.

## **2.3. Fieldwork**

Observations on fieldwork were divided into three parts: participative observation, taking notes and informal discussions with farmers.

### **2.3.1. Participative observations**

I could define my methodology as “participative observation”, even if it could be considered as incomplete: I didn't spend my everyday life with farmers. This methodology was just used during my fieldwork, with harvesting or processing team.

I generally started with a first observation of techniques, which gets to fit myself into the production line without causing any rhythm break. After that, farmers often proposed me to do by myself more complicated practices, as ones using a tool.

This method is useful for two main reasons: observer can develop empathy (Izard, 2002) towards those practices, to understand them better and be able to describe them more precisely than if he just observe them. Participative observation can also reveal some imperceptible elements from a simple observation<sup>5</sup>. Moreover, the observer can fit into the working team, and attain to a better proximity. This method is generally appreciated by local populations.

One of the worst inconvenient is that the observer can only write its observation *a posteriori*, and can forget some elements.

### **2.3.2. Taking notes**

This “intern” observation was completed by a larger research scale. I also practiced a “simple observation” with a large point of view on practices and techniques used by the working team. This work was made a few meters away from the team, so that not disturb workers.

These two methodology techniques gave me a global overview of farmers' practices. I could answer my questions about usefulness and consequences of certain gestures.

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<sup>5</sup> For example, when I was harvesting rooibos with farmers, they of courses checked my cutting level and correct it when it was not adapted. So I could have a better understanding of their cutting standards.

## **2.1. Guideline**

### **1. Specificities of the production**

- Specificities of rooibos in Suid-Bokkeveld
- Specificities of cultivation, harvesting, processing of rooibos in Heiveld Co-operative
- Link, impact of this practices with the tea quality
- Rooibos quality criteria

### **2. Old practices**

- Why most of the processes are done by hand?
- Since when? Is it before Heiveld Co-op creation?
- Description of old practices for cultivation and processing

### **3. Learning**

- Since when do you do this work?
- Who did teach it to you?

### **4. Changes in practices**

- Changes in practices since a few years
- The reason for those changes

### **2.3.3. Informal discussions with farmers**

To overcome the remaining lack of understanding, it was important to question directly farmers about elements of certain practices during the fieldwork. Those discussions were generally written on paper directly or just after the discussion, but it cannot avoid gaps.

## **2.4. Interviews**

### **2.4.1. Informative interviews**

When I was in Heiveld and NGO' offices, I made some interviews qualified as "informative" or "interviews about practices" (Blanchet et al., 1992). It was about gathering descriptive and narrative data from office members and farmers. I recorded all those interviews. It helped me to complete my practices analyse.

### **2.4.2. Farmers interviews**

#### **2.4.2.1. Interviews parameters**

Most of the fieldworks were made during the farmers work time. They are generally very busy and don't have so many free time to answer my questions. I could record a few ones during the evening, after the work time, but most of the interviews were led during lunch time. So I had to gather the most data inside short interviews, to not disturb farmers work. I also met with other difficulties that are presented below.

#### **Space**

On the tea court<sup>6</sup>, it was difficult to find an isolated place sheltered from sun and wind (which can perturb the recording). Other workers could easily listen to the discussion, and some of them even gave their own opinion, transforming the individual interview to a collective one.

#### **Language**

I don't speak perfectly English and I speak with a French accent. Few farmers speak English, but most of them only speak Afrikaans. I worked with a young translator, Donna. She was born and grown in a Suid-Bokkeveld village, Melkmaal, before to work for NGO Indigo. She also doesn't speak perfectly English, so it was difficult for her to translate everything precisely during the interview. So we had to find a solution, because I needed to understand the conversation, to be able to interact with the interviewed person and to ask him relevant questions.

#### **2.4.2.2. Farmers' interviews agreement**

Donna and I had to build a protocol adapted to these parameters. We built it in a few steps. After a few "interviews tests", Donna and I decided on a compromise: every interview has been recorded, to gain time and broach about ten subjects in about 20 minutes. Every interview was also typed. Those interviews weren't thorough; their aim wasn't to access to the

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<sup>6</sup> The tea court is the processing place where the rooibos is chopped, fermented and dried by the producers.

farmers thought and representations precisely, but to have an overview of their production practices perception.

About language problems, Donna and I decided to adapt the translation to farmers. When people generally gave short answers, I preferred that Donna translated them into English directly during the interview. In that case, I typed the recorded version with the English translation. And when people had lots of things to speak about, which were difficult to translate precisely during the interview, Donna proposed to summarize it to allow me to interact. In that second case, she typed and translated into English by herself after the interview.

## **2.5. Interviews analyse**

I worked on a thematic analyse based on frequency, which is better there than a semantic analyse.

The language problem is important: a formal analyse of interviewed people discourses can lead to bias. Translation problems (when interviews are in Afrikaans) and difficulties to speak in a non-native language (when interviews are in English) are important bias which can alter the well-understanding of farmers discourses. It was more pertinent to work with “signified” (broached subjects in the content of the discourse) more than to make a precise analyse of “signifier” (broached subjects in the form of the discourse)<sup>7</sup>. For the same reason, I preferred to make a lateral analyse of every interview, to bring out pertinent common elements, and to avoid dwelling on isolated elements which could be stem from a lack of understanding from me or the interviewed people.

The analyse tries to emphasize occurrence of certain themes in farmers discourses, and their appearance frequency. The analyse was conducted in two steps:

At first, I tried to distinguish the obvious content of interviews, in other words to spot the main boarded themes.

Subsequently, I analysed characteristics linked with those terms, to extract the associated significations.

### **2.5.1. Interviews content, themes stock list**

During the first interviews reading, I defined the most significant and the most frequent themes. I associated each of them with a colour and highlighted them: those themes appeared very clearly on the whole text.

I read all the interviews a few times, until having a good overview of each theme. This is a “taxonomic” method (Bardin, 2005).













This classification is composed of 12 main themes: ancient production practices description, elements on rooibos ecology, elements about a specific territory, description of practices “external” to the communities, description of production method of the communities, elements on social, economical and political opportunities for Coloured after apartheid, elements about the difficult life for Coloured during apartheid, description of recent practices adaptation by farmers, elements about technology contributions, elements about definition of identity of producers communities, elements about the start of rooibos cultivation, elements about ancient production practices and the communities rank on rooibos market (see picture 2.2.).

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<sup>7</sup> For example, hesitations and repetitions could be due to a lack of vocabulary (from my translator or the interviewed people) more than to a real hesitation or insistence.

**Picture 2.2. Synthetic table of abroaded themes in each interview**

Number of interview	Name of the interviewed person	Lasting	Themes												
1		1h	2	6	4	6	9	8	0	0	13	35	8	1	
7		25'	3	2	0	4	7	9	7	0	6	5	9	1,1	
8		20'	2	4	0	8	2	1	0	1	6	2	9	0	
3		15'	0	0	0	0	2	0	0	1	2	3	3	0	
10		17'	0	0	3	2	2	0	0	0	2	2	2	0	
5		20'	0	0	1	2	1	1	2	2	4	0	6	0	
4		15'	0	1	1	1	1	1	1	0	4	0	10	0	
12		1h	0	3	3	3	0	2	0	0	0	0	0	0	
11			0	0	0	3	0	0	2	1	0	0	2	0	
2		27'	3	3	1	6	7	0	2	6	5	2	5	0	
9		16'	0	0	0	7	3	1	0	0	3	5	2	0	
13		13'	0	0	0	4	1	1	0	1	2	3	3	0	
6		15'	0	0	2	3	0	0	1	1	6	2	3	0	
13		30'	3	0	0	1	1	2	0	0	1	3	1	0	
14		56'	1	1	3	11	0	0	0	11	1	0	0	1	Total
Total			14	20	18	61	36	26	15	24	55	62	63	3,1	397
percentage			3,5	5	4,5	15	9,1	6,5	3,8	6	14	16	16	0,8	100

-  Elements on rooibos ecology
-  Elements about a specific territory
-  Description of practices "external" to the communities (classification example in picture 2.2.)
-  Description of communities' production method
-  Elements on social, economical and political opportunities for Coloured after apartheid
-  Elements about the difficult life for Coloured during apartheid
-  Elements about technology contributions
-  Description of recent practices adaptation by farmers
-  Elements about the start of rooibos cultivation
-  Elements about definition of producers communities' identity
-  Elements about ancient production practices
-  The communities rank on rooibos market

**Picture 2.3. Classification example of a boarded theme in the interviews:**  
**Description of practices « external » to the communities**

Interview Number	Sub themes	Summary	Extract	Interview sequence
1	Non-organic practices	Doute l'utilisation pesticides sur de	I don't know if the use some chemical or something to put into the soil, but (...)	2
1	Differentiation		the process, is different	
1	Differentiation		but there is a difference, there is a difference.	2
10	Differentiation		there is a difference between other people working and... than us	1
1	Differentiation	Differentiation with large scale farmers	I can tell from my experience is that... the way that we (?) the tea and the way that the commercial... white farmer is making the tea, there is a difference.	3
2	Differentiation	Differentiation with large scale farmers	he thinks that's why he thinks there is a difference between the quality of the big farmers and the Heiveld producers	1
1	Short processing	Fermentation and drying	they cutting the tea early in the morning and throw it up, and in the afternoon they collect it	3
1	Uncorrected fermentation	Using of tractors for the drying	this is sweating process because they are using also tractors to move over the tea again and again and again. And when you move over the heap again and again and again, you bruise again	3
1	Uncorrected fermentation	Using of tractors for the drying	the weight of the tractor is very heavy. So, it becomes... it bruise again the tea. So, it is not good. If the tea is once bruised, you must leave it. Become then, the fermenting state is off.	3
1	Uncorrected fermentation	Using of tractors for the drying	the leaves become white (...) ,the tea is... become easy over sweat (...). If the tea is... is been over sweat, then you can... then you have a very poor quality of tea. That's why we don't use a tractor to move around	3
14	Uncorrected fermentation	Using of tractors for the drying	Because if you use a machine to turn it over, then you will bruise it again.	
1	Uncorrected fermentation	Using of tractors for the drying	if you move around, around and around, it is not something... it's not good, it's something not good	3
10	Mechanization		commercial farmers there is... they don't usually use so much hand work	1
1	Production type	Large scale	the white farmers are... are always in a mood for much production	
1	Uncorrected practices for the product		that is not good	
14	Uncorrected practices for the product	Too rapid fermentation	But if you, as man can, push it then you don't have the right quality that you want to have.	
14	Uncorrected practices for the product	Too rapid fermentation	I don't know how you can push it, but maybe if you push it, then you don't have the right quality that you have.	
6	Imprecise machines	For harvesting	to cut it and by machine the machine go straight	1
6	Imprecise machines	For harvesting	if you cut it by machine, the machine cut it too... too low, more lower, that with sickle, and the bush die.	1
5	Imprecise machines	For harvesting	if you cut it with a machine then it is not cut nicely	1
4	Imprecise machines	Pollution during harvesting	The machine leave grease and metallic pieces on it, oil as well.	1
12	Imprecise machines	For harvesting	The machine is faster, but they cannot cut the tea as the sickle.	1
12	Imprecise machines	For harvesting	The tea bush which is growing straight, the machine cannot cut it like a sickle, because if the bush grows wide open the machine cannot cut the sides.	1

### **2.5.2. Themes classification**

Each of these themes was presented in an Excel spreadsheet (one of these themes is presented in the picture 2.3). For each of them, a table represents the sub themes, interviews extracts, the name of the interviewed person and the interview sequence (thematic classification tables). That method permits to spot the presence of each theme in the interviews, and the frequency of their use. The rule used for this analyse is: “most of the time, importance of a unity increase with its apparition frequency” (Bardin, 2005).

This method shows that the mainly broached themes in interviews are: “description of production methods of the communities”, “ancient production practices description”, and “element about definition of identity of producers communities”. I could expect to the frequency of the first theme, which is one of the most important in my research. The two others frequencies are more unexpected because they are less developed in the guideline. I can theorize that those two subjects are significant and that it is important to analyse them deeply.

Each of these themes is presented in a synthetic table (Picture 2.2.). Occurrence frequency of each theme is presented in function of the interviewed people. That frequency is calculated from the thematic classification tables.

### **2.5.3. Interviews analyse**

The interviews analyse is detailed in the fourth chapter. It is based on this principle: the analyse consists to infer from the classification and interviews indicators, a representative reality of a human population or a social group.

For example, inside the theme “element about definition of identity of producers communities”, there are lots of sub themes with different frequencies. There are almost as sub themes as interviewed people. The most frequent sub themes illustrate farmers identification to the Co-op, and also to the region, to their country. From these elements, I can theorize that farmers mainly built their identification to the territory, more that identification to rooibos practices.

### **3. Chapter three: cultural and processing practices about rooibos**

Observing and describing rooibos production practices was one of the most important parts of this research. This is an important element of comprehension to broach production specificities of rooibos small-scale farmers.

In this chapter, I present almost every rooibos practices, but I observed only a few of them: those ones are described in a more detailed way. This lack is due to my short fieldwork: like every agricultural practices, rooibos practices are extended over the whole year, but I only spent three months in South Africa.

I observed seeds planting in nursery and its preparation, rooibos harvesting and the whole processing stages for Heiveld Co-op. These practices are very important for the tea quality. My short journey to Wupperthal unfortunately took place after the harvesting; I couldn't observe those practices, but I reconstructed a few of them from interviews.

By default, I will mainly describe Heiveld farmers' practices and will underline a few Wupperthal farmers' practices, especially when they are distinct from the others. In this particular case I precise to which organization I refer to.

At the present state of my researches, I didn't gather so many data about agricultural practices that I didn't observed. They are succinctly described in the 3.1. part but they aren't in the 3.3. part which detail more precisely production techniques. That's why there isn't any transition between 3.3.1.2. and 3.3.2. parts.

The two firsts parts of this chapter are some comprehension tools intended to give to the lector an overview of time and space in which the whole rooibos production practices take place. The third part of this chapter describes more precisely practices that I could observe.

#### **3.1. Detailed description of Heiveld and Wupperthal farmers' practices**

##### **3.1.1. Seeds harvesting**

Seeds harvesting takes part from about December to March. Farmers riddle the sandy substratum where cultivated rooibos plants grow with a sifter. In first, they use the one with the largest holes (1,6mm) to clear the voluminous residues; subsequently they use the one with the thinnest holes (1,2mm) to just keep seeds. They throw seeds in water for the sand to fall down.

Seeds are very hard-shelled; they have to be scarified to germinate. This technique can be done by hand, rubbing a stone against those seeds, or by a machine<sup>8</sup>. The last way is the most used at present.

Heiveld farmers bring their seeds in the Co-op office. Patricia Visser, the management and communication responsible for the Co-op is in charge of seeds redistribution. She does it in a random way in function of farmers needs, to favour genetic exchanges between cultivars (Visser, 2006, personal communication). Council members are building a seeds exchange network with Wupperthal, but it takes a long time to do it because it has to be in accordance with Ecocert standards. This is the reason why farmers don't buy any seed outside the Co-op (Louw L., 2006, personal communication). Almost the whole seeds are redistributed from one year to the next, there isn't any stock.

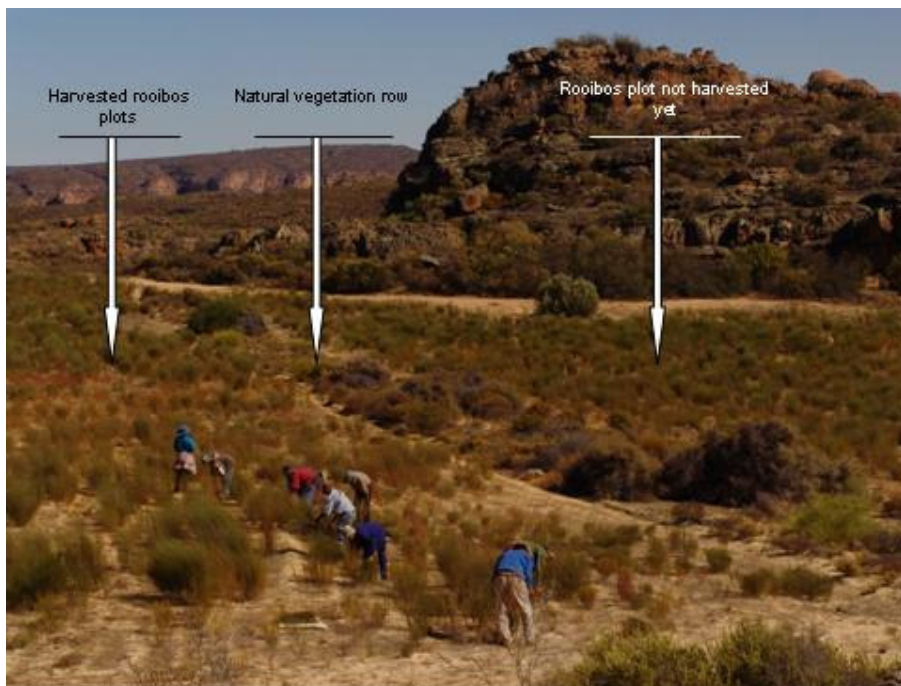
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<sup>8</sup> Seeds can also be scarified with acid. This technique isn't used by producers organization because it isn't in accordance with Ecocert label standards.





**Picture 3.1. Heiveld farmer's nursery preparation in April (photo M. Leclercq)**



**Picture 3.2. Rooibos field. We can clearly see the natural vegetation row which separates the two plots. (photo M. Leclercq)**

### **3.1.2. Seeds planting**

From February, farmers prepare their fields plots intended to be used for nurseries (see picture 3.1.). The preparation is made up of clearing, partial slash-and-burn technique, ploughing, natural fertilizer manure spreading... Seeds are planted from March to April.

Planting seeds in nursery is intended to secure the maximum survival to young seedlings which are very frail.

### **3.1.3. Young seedlings planting out**

Four month after seeds planting, young seedlings are about 10cm high, and can be transplanted into fields. Fields are beforehand prepared: sometimes farmers leave them in fallow for one or two years or burn them superficially; sometimes they plough them and spread some vegetal material. They can also plant rye around fields to protect seedlings from wind and predators.

The ideal is to plant them during raining season, in July and August.

### **3.1.4. Pruning**

Eighteen month after seeds planting, rooibos plants are enough tall to be pruned. Pruning forces branching, green leaves and flowers to grow. This practice is similar to the harvesting, but the chopped rooibos can't be oxidized so fine. It is rarely used, but it can sometimes be mixed with wild rooibos (Louw R., 2006, personal communication). Pruning takes place in August, one year after planting out.

### **3.1.5. Harvesting**

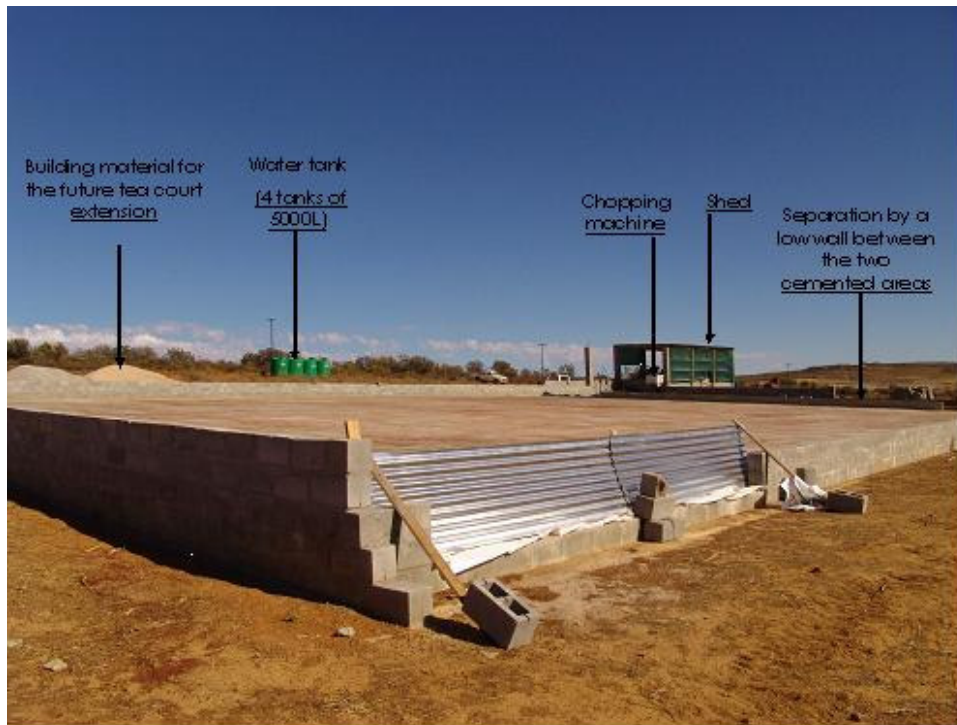
Rooibos plants are ready for the first harvesting two years after planting, just after flowering. Flowering takes place between October and December, and harvesting generally starts at the end of January until the end of March-the beginning of April (it is 6 month after the pruning). Then, harvesting takes place every year at that time. Harvesting means to cut rooibos stems at about 2/3 of their height.

### **3.1.6. Processing**

Once the rooibos is cut up, it has to be transported to the tea court (see part 3.2.3.) where it is chopped by a machine. Cut rooibos is gathered in one or a few heaps, watered and bruised under tractor wheels to improve the fermentation process<sup>9</sup>. It is left a few hours and regularly turned over before to be transported on the second open part of the tea court and laid down in a thin layer. Rooibos is then turned over a few times to facilitate the drying process.

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<sup>9</sup> In reality, it is an enzymatic oxidation. I nevertheless use the "fermentation" term, because it is largely used to describe this processing.



Picture 3.3. Heiveld tea court (photo M. Leclercq)



Picture 3.4. Wupperthal tea court (photo M. Leclercq)

## **3.2. Work places and tools description**

### **3.2.1. The nursery**

As it is written in the part 3.1.2., farmers gather together their seedlings in a nursery (see picture 3.1.). Young seedlings are frail, that's why farmers generally choose a wind-protected place, where water access is relatively easy.

The free vegetation place is about 25m wide and 60m in length, but the nursery is smaller. The nursery measures 13m wide and 50m in length. It is composed of many rows of 1m wide and separated by 50cm interstices (see picture 3.1.). Rows are made with the earth from each side of them; this support is simply turned over with a spade. Rows are heighten by 10cm and are clearly distinct from interstices. This technique is useful to organize the seeds plantation, to localise them and to obtain a softer earth because it is recently turned over, which is more favourable to the roots development. It also facilitates the rain water flow (Koopman, 2006, personal communication). Rooibos seeds are planted in these rows.

### **3.2.2. Rooibos fields**

The rooibos fields' configuration depends on fields' topography. Most of the time, the soil is undulating; plots are small but there are numerous.

Plots are generally separated by natural or planted vegetation rows, to protect rooibos from the wind (see picture 3.2.).

Harvesting team is composed of about fifteen persons, equally distributed among males and females. The base of this team is set up since a few years, annual changes are not frequent. Each member is trained since a long time; which avoid training new workers each year. Those elements participate to make a united team, whose members know each other very well.

### **3.2.3. Processing: the tea court**

The configuration of the tea court is organised to realise the three processing rooibos operations (chopping, fermentation and drying) on the same place. It is composed of two places: the first one is protected by a roof and opened on two sides to facilitate the rooibos bundles delivery. Rooibos chopping takes place there (see picture 3.3. and 3.4.).

The open place is a big concrete surface, surrounded with a parapet around it. A second low wall generally separates the fermentation place and the drying place.

The tea court team is composed of about ten persons, among which there is only one female. This team is relatively permanent, which is due to the high skills level required to work on the tea court: each person has a much specialised task. There is one "leader", who is in charge of the machine maintenance; two "sweat masters", who have to control the fermentation processing; one person in charge of filling the water tank up (this place isn't irrigated); one person in charge of counting the rooibos quantity from each farm. The rest of the team is in charge of the rooibos chopping, rooibos fermentation and drying processing.



**Picture 3.5. Left: wooden flat rakes which are used to form the rooibos heap before the fermentation process. They are also used to gather together the dry tea. Right: Wooden rakes used to turn the rooibos over during the fermentation process. (photo M. Leclercq)**

### **3.2.4. Tools**

#### **3.2.4.1. Machines**

Agricultural and motorized machines are used to prepare fields and the nursery.

The whole harvesting is made by hand, but they need a lorry to transport the cut rooibos to the tea court. They generally use the Heiveld Co-op lorry. If it is difficult to reach the fields with the lorry, they can use the fields' owner four-wheel drive.

On the tea court, only two motorized machines are used: the chopping machine; and the tractor used to press the rooibos just before fermentation, and to transport the rooibos from one part of the tea court to the other. There is also the grinder used to sharpen the chopping machine blades, which works thanks to a small generator.

Wupperthal farmers use a few further machines. Since a few months, they have a second chopping machine, because their production is a bit larger than the Heiveld one. They also use a rotary machine towed by the tea court tractor to return over the fermenting tea; and a kind of blowing electric machine to gather rapidly the dried tea<sup>10</sup>. They also have a sifting machine<sup>11</sup> since a while, which directly filters the rooibos to sift all kinds of remnants. Those practices aren't used by Heiveld farmers.

#### **3.2.4.2. Manual tools**

Farmers use a sifter for the seed harvesting.

The only tool used for harvesting is a sickle. It measures about 30cm and is equipped with a wooden handle. Each harvester has his own sickle, it is an individual good.

On the tea court, the cut tea is picked up with a spade, and transported in a wheelbarrow. It is gathered together in one heap with spades and big wooden rakes, made by farmers themselves (see picture 3.5.).

For the drying process, rooibos is spread out and turned over with a long bamboo stick.

### **3.3. Techniques**

#### **3.3.1. Seeds planting in nursery**

Most of the farmers plant their seeds at first in a nursery, before to transplant young seedlings in their fields. It is useful to control the seedlings germination and growing, because plants are sensitive to the extremes temperatures and to wind during the first months.

##### **3.3.1.1. Seeds planting**

Before planting seeds, the farmer waters the nursery to make the earth softer.

The farmer uses a toothed rattle that he splits on each row to dig furrows of about 1cm wide and 1cm in depth, distant of about 7cm. The farmer can open the furrows more clearly with his finger if they aren't enough marked. He uses a 50cl glass bottle, of which the top is pierced, and full of rooibos seeds (see picture 3.6.).

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<sup>10</sup> I hadn't seen this machine, but farmers had described it to me. The use of this blowing machine doesn't seem to be automatic.

<sup>11</sup> This machine was recently bought with a grant from Western Cape Agricultural Department. Before that, Wupperthal farmers filtered the rooibos with a big sift set on a woody structure, and regularly agitated by two persons.





**Picture 3.6. Scattering of the rooibos seeds in the furrows of each raw**  
**Foreground: the rakes which drew the furrows**  
 (photo M. Leclercq)



**Picture 3.7. Scattering of the rooibos seeds**  
 (close-up) (photo M. Leclercq)



**Picture 3.8. Closing of the furrows**  
 (photo M. Leclercq)

He spreads his seeds in each furrow by waving the bottle from one side to the other, and moving in one direction to full a row, then in the other direction to full the next one.

The seeds concentration is rather low, there are from 1 to 5 seeds by cm<sup>2</sup> of furrow (see picture 3.7.).

When the farmer has finished filling the 14 furrows of one raw, he takes a plank that he slides along the row to close it (see picture 3.8.). He makes some  $\frac{1}{4}$  of circle with the plank, which turns around an axe represented by one of his extremity. These  $\frac{1}{4}$  de circle are made from the exterior of the row to its interior (to avoid evacuating seeds in interstices between the rows). The farmer then reforms the delimitation between the row and its two adjacent interstices by raising the earth from the bottom of this delimitation to the top of the row, and disperses it in the furrows.

In the observed case, the farmer used 9kg of seeds, by following a density agreement: 1kg by each raw of 50m x 1m.

#### 3.3.1.2. Nursery upkeep

The first nursery watering is destined to water the earth before to plant seeds. It is superficially done; but the general nursery water upkeep after seeds planting is much more precise. A regular watering is important to maximize the germination rate.

A first pipe is put in through the rows; others are connected from this one. Each of them is put in the interstices in such a way that each row is surrounded by two pipes. Thin vertical sprinklers are scattered along each pipe, at about 1.5m of distance (see picture 3.1.). The pipes spread a thin circular water jet that waters in a uniform way the young seedlings.

At Wupperthal, I could see that wild grass is regularly cleared by hand. This practice seems to be also used by Heiveld farmers.

After four to six days, tiny seedlings appear, followed after a while by two needle-shaped leaves.

### 3.3.2. Rooibos harvesting

#### 3.3.2.1. Cutting

The sickle is handing is the right hand. The harvester catches a rooibos branches handful in its left hand, bends it lightly to the exterior and cut it a few centimetres under its left hand and about ten centimetres above the woody part of the plant (see picture 3.9.). The movement of the wrist is rounded; it makes  $\frac{3}{4}$  of a circle anticlockwise. The left hand does the same movement with the plant, with an interval of half a circle. A quick and clean cutting is obtained by those joined movements. The bundle of branches is clutched in the left hand, which is always positioned with the inch toward the top, to limit the contact between fingers and sickle and to reduce accidents.

Harvesters always start to cut the external parts of the plant, before to cut the central stems. This technique permits to follow the outline of the wooden part of the plant, which forms a bushy clump more or less rounded. Each cut stem is between 40 and 80cm long, in function of the plant size.

Harvesters often sharpen their sickle, at least once a day. They also scrape it out a few times a day with a knife to brush off the particles and the rooibos resin that are rapidly accumulated.





**Picture 3.9. Rooibos harvesting with a sickle**  
(photo M. Leclercq)



**Picture 3.10. Rooibos branches accumulation on a bag**  
(photo M. Leclercq)

#### 3.3.2.2. Branches accumulation

Harvesters have different techniques to limit coming and going between the cutting place and the place where they put the rooibos bundles down. Some of them can accumulate the branches in their left hand because stems are covered of many leaves which are intermingled and highlight the branches cohesion. If it's not too windy, the harvesters can put the branches on the top of the rooibos plant, at the place where they just have been cut, by taking advantage of the rooibos leaves cohesive effect to avoid that the branches get disentangle and fall down on the soil.

#### 3.3.2.3. Bundling

The harvesters put regularly down the rooibos branches on a bundle. The bundle is put on a big white plastic bag<sup>12</sup> of about 1m in length and 60cm wide. The rooibos branches are put one above the other, in parallel, cut side in the same direction, and parallels to the two extremity of the bag (see picture 3.10.). They need lots of branches to make a bundle, the bag is often entirely covered of rooibos: cut branches put together are bulky because leaves have a while angle of inclination towards the stem axe.

When harvesters decide that the bundle is enough bulky, one of them comes, and slides a rope under this bundle. The rope is rather thick, orange-coloured<sup>13</sup>, and a buckle is tied up at one of its extremities. The rope is positioned at about  $\frac{1}{4}$  of the bundle length from the cut side. The harvester then gathers the two extremities of the rope and slides the left extremity in the buckle, before to pull it to tighten the formed knot. He put one of his knees on the rope to flatten the bundle and facilitate the tightening of this bond. When the bond is enough tightened around the bundle, the harvester makes a little buckle, before to tighten again to fix the whole.

The harvester catches the bundle with his two hands, he falls it over of  $\frac{1}{4}$  of turn, cut parts toward the bottom and stamps it once on the bag, to ascertain that the knot is enough tightened and to make roughly the branches that jut out above at the same level.

Then the harvester falls again the bundle over to lay it out, and put it down near the bag.

One harvester is in charge to pick the bundles up. He catches between 1 and 4 bundles and gathers them together into a big heap. He generally places those bundles in row near the road or near the paths opened up in the fields.

#### 3.3.2.4. Bundles loading

Most of the bundles are loaded into the Co-op truck, which holds until 200 of them. The driver can move the truck forward in the biggest fields without damaging the crops, because there are wide unplanted places. The truck drives from one heap to the other and the driver loads them by hand. If harvesters are not far from there, they help the driver to load the truck. In the smallest fields, the truck stands on the road and harvesters bring the bundles by hand.

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<sup>12</sup> Those bags had generally contained some flood or rice.

<sup>13</sup> The orange rope is the most ordinary you can find in the stores, but it has the advantage to be clearly distinct from the bundle.



**Picture 3.11. Rooibos chopping (photo M. Leclercq)**



**Picture 3.12. Compression of the rooibos branches before chopping (Photo M. Leclercq)**

### **3.3.3. Rooibos processing**

#### **3.3.3.1. Bundles unloading**

The truck is generally loaded with bundles once a day during the morning, and conveys them on the tea court just after. A cemented path is opened up to the covered part of the tea court, so that trucks can park near the chopping machine. A few persons help the driver to unload the bundles.

The size of the loading depends of the rooibos quantity that the harvesting team could cut during the morning and during the previous afternoon; it is generally between 100 and 200 bundles. The frequency of the truck coming and going is calculated to reduce the number of trips to economize on petrol and also to transport quickly the rooibos to the tea court, which has to be chopped as fast as possible not to dry out.

One person on the tea court is in charge to weight one of the lightest and one of the heaviest bundles to estimate the weight of the loading. He points them out roughly. A bundle weights about 5kgs.

#### **3.3.3.2. Rooibos chopping**

The machine works thanks to a rotary force which comes from a driving belt connected up to a wheal, which is simply set going by the tractor motor. The tractor is parked near the covered part of the tea court and connected up to the wheal each time the chopping machine has to work.

There are between five and six men working on a production line to chop the tea (see picture 3.11.). They form a chain between the unloaded bundles heap and the chopping machine.

The first one undoes the red rope knot which is around the bundles. He puts the bundles on the metallic sheet table<sup>14</sup> and lays the rooibos stems out. If there's enough people, one can catches the rope and gather them together. This is a way to check the number of chopped bundles.

The second one divides the bundles into two or three parts, to easier shovel them into the chopping machine. He gives the rooibos packets to the third people.

The third one takes these packets one by one, turns them  $\frac{1}{4}$  of turn to face the chopping machine and put them down in the pipe of the machine, in front of the fourth man.

The fourth one presses packets with his hands laid down and outspreaded, to flatten the rooibos branches out and reduce their volume.

The last man presses the rooibos packets again with his fists closed to add more pressure. This technique permits to compress the rooibos more efficiently, and also to protect his own fingers from the machine, for them not to be caught in a piece of the machine. The volume of the packets must be enough reduced to be shovelled in the few centimetres space between the two turning wire brushes (see picture 3.12.).

The wire brushes of the machine compress the rooibos while they keep the branches up, because there are chopped by blades turning around an axe. There is a pipe full of hole between the wire brushes and the blades which continuously waters the chopped rooibos during this operation. The rooibos is chopped in small pieces of about 5mm, in function of the quality required. The rooibos pieces land directly on the open tea court.

Every 20 to 25 minutes, the machine is stopped. The man at the end of the chain is in charge of cleaning the machine by watering it with a hosepipe, before to sharpen the blades. During the cleaning, water thrown out on the machine seeps out on the chopped rooibos heap. The rooibos has to be perfectly watered before to start fermentation process.

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<sup>14</sup> It is a wooden structure equipped with a corrugated iron which is about 2m long and 0.5m width.



**Picture 3.13. Loading of the chopped rooibos in a wheelbarrow (photo M. Leclercq)**



**Picture 3.14. Watering and bruising of the rooibos before the fermentation process (photo M. Leclercq)**

#### 3.3.3.3. Fermentation

A good watering of rooibos is important for the fermentation process. That's the reason why the open tea court is soaked with water before the rooibos lands on it.

As soon as the tea starts to be chopped, two men load it with shovels in a wheelbarrow, and transport it a few ten meters far from there (see picture 3.13.). They unload it on a precise place of the tea court, in the lower part. The rooibos must be rather far from the chopping place, because the fermentation process could be damaged by the inclusion of red pieces rooibos (Koopman, 2006, personal communication).

When the whole chopped rooibos has been put down on the tea court, workers wet the heap with a hosepipe. They need about 10L of water for 35kg of vegetal material (Morton, 1983). They broom the soil to gather together rooibos pieces which are dispersed. Then they pack the rooibos heap down with big wooden flat rakes to form a parallelepiped (which is easier for the tractor to come, see underneath). The parallelepiped is about 15cm in depth, 3 m width and 10m in length.

They clean the tractor's wheels, before to drive it on the rooibos heap a few times to bruise it, during about 10mn. The tractor driver moves it forward the right, checking that stripes drawn by the wheels are rather parallels, and then he moves forward progressively on the left. This process is useful for the water to penetrate inside each rooibos piece what stimulate the enzymatic activity necessary to the fermentation<sup>15</sup>. Rooibos continues to be watered during that time (see picture 3.14.).

Few people turn the entire heap over with shovels just after the tractor had to come, to have a sufficient oxygen quantity and to homogenize the rooibos bruising, before to water it again. Then, the tractor comes for the second time, before the rooibos was returning over again with shovels. Someone could make sure that the heap is enough watered by picking a handful of rooibos up, pressing it and seeing if a thin water flow seeps out between his fingers<sup>16</sup>.

After, they carefully re-form the rooibos parallelepiped, and leave it for about thirteen hours in this form, from 5pm to the next morning at 6 o'clock am. Early in the morning, the two persons in charge of supervising the fermentation process (the "sweating masters") come back on the tea court and turn the rooibos heap over for the last time, before to form again the parallelepiped.

To prevent the raining risk during the night, the heap could be covered by a big plastic sheet to avoid that it was saturated with water, which could damage the fermentation process. The rooibos gradually starts to change its colour and turns from green to an orange-green and finally to a dark brown-red colour.

#### 3.3.3.4. Drying

The next morning, the team arrives at 8 o'clock am on the tea court. Workers start to clean the place and wait until 9 to 10 o'clock am for the fermentation process is finished. They rarely wait after 10 o'clock, to avoid that the tea was too dark. While some people sweep the tractor trailer up with a pipe and brooms, one makes sure that the right fermentation level is attained by plunging his hand in the rooibos heap, and by looking at the rooibos pieces which are stuck. Pieces must have a dark and uniform red-brown colour, and a particular humidity level.

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<sup>15</sup> Each rooibos leaf contains a light quantity of tannins. When they are in contact with an oxidizing enzyme and with oxygen at a particular temperature, the tannins are chemically transformed and start to change of colour (from green to red-brown), and to give to the rooibos its special aroma. To release this interaction between enzymes and tannins, leaves cells have to be bruised the most precisely as possible (Ginsberg, 1976).

<sup>16</sup> This is a classical method, which is also presented in Ginsberg, 1976. The water quantity is very important for the tea taste and colour.



**Picture 3.15. Turning over of the rooibos with bamboo sticks for drying (photo M. Leclercq)**



**Picture 3.16. Sweeping up of the dry rooibos pieces (photo M. Leclercq)**

They load the tea with shovels on the trailer and transport it to the drying part of the tea court. They throw tea shovelfuls on the floor, to form a thin rooibos layer of a few millimetres. Sometimes they have to transport the rooibos heap in two phases because the trailer can't hold the whole rooibos heap. This operation lasts about half an hour. After that, each person takes a long and light bamboo stick<sup>17</sup>, stands at regular intervals on the rooibos layer and starts to scrub the tea in large half-circular movements (see picture 3.15.). The first time they do this operation is mainly to break the wet rooibos lumps: they move the stick with quick movements and this tool is rather flat on the soil. It takes about 10 minutes to do this operation on the whole rooibos layer.

About half an hour later, they do this operation again, to turn the rooibos over to dry it up in a uniform way. They do it with slower movements; this operation is a bit longer than the first one.

Workers do this last process between 3 and 5 times (it mainly depends of wind and raining risk), between half an hour and one hour apart. The rooibos layer is more and more spread on the tea court, so that we can see the exposed cement at certain places.

The rooibos is dry when it is about 11% moisture content (Morton, 1983).

#### 3.3.3.5. Packaging

Half an hour or more after the last time the workers turned the rooibos over, they start to gather it in heaps. One or two persons take big flat rakes and form a few rooibos heaps. Others workers broom the remaining particles and gather them together on these heaps (see picture 3.16.). When they have finished, there are about 10 rooibos heaps on the whole tea court. This operation lasts about one hour.

Once the heaps are formed, workers leave them to dry up about one or two further hours, to make sure that the rooibos is entirely dry before to pack it up. This time could be during the lunch break. If it is windy (or if there is a raining risk), rooibos is left for a shorter time, to avoid it was scattered on the tea court or behind the low wall.

They take some big empty floor bags, shovels and a few buckets, and full every bag. Each of them is put down on the soil; the opening is maintained by someone while someone else stuffs the rooibos into it by shovel. When they have stuffed the largest part of the heap, they broom the remaining rooibos which is spread on the soil; they gather it together and put it in buckets before to empty it into bags. When a bag is full, it is left standing up right on the tea court, and a few persons are in charge to sew it with a string and a coarse needle to ensure it is efficiently closed.

When the whole rooibos has been stuffed into bags, workers broom for the last time the tea court to pick up the last scattered rooibos pieces. They finish fulling the last bags with it.

This operation can last about one hour, and it is carried out once a day. At each time between 10 and 30 bags weighting between 25 and 30 kilograms are filled with rooibos.

After that, the whole team comes back to the covered part of the tea court, except two persons who are in charge to weigh the bags. They use a weighting machine<sup>18</sup>. A person surrounds one bag with the ropes placed on the ground and handles the lever, while the other person notes down the weigh of each bag. This last person also notes down on bags the name of the farmer who produced the rooibos and the number of the bag.

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<sup>17</sup> It is about 3m in length and a few centimetres in diameter; because of wear one of its extremities is curved. Some of them are fitted with a black plastic tip, because the bamboo stick could become easily broken by getting old; this technique makes them more flexible.

<sup>18</sup> This machine is made up of a few parts: there is a horizontal moving lever which is put up on a vertical rod. A whole combination of ropes is hung up on one of the lever extremity to hold up the weighted bag, while a scale is hung up on the other extremity.



#### 3.3.3.6. Transport

When those whole operations are finished, one of the two persons in charge of the weighting loads the bags on the truck trailer, and brings them to the covered part of the tea court. The bags are stocked under the shed until the time they will be transported to Clanwilliam. There, the tea is automatically filtered to remove every foreign matter; before to be sterilized. The rooibos quality is estimated in function of the pieces size.

## **4. Chapter four: analyse of the production specificities**

### **4.1. Some practices native to a specific region**

The most informative interviews recorded with rooibos market stakeholders show that there is an acknowledgement about the common origin of the production practices in the east of Cederberg Mountains (see picture 1.2.).

Scientists generally recognize that cultivated rooibos type comes from that region, and that the khoekhoe populations are the first users of infused wild rooibos. Harvesting and processing practices of this plant have been designed by these local populations. Some interviewed stakeholders even said that the cultivated rooibos practices come from Wupperthal area, and have been progressively scattered among the whole production area (Louw R., 2006, personal communication).

Production practices of the producers communities of the east of Cederberg mountains were low-mechanized and considered to be similar to the khoekhoe practices (De Villiers, personal communication cited in Grant, 2005).

Those elements would take part in highlighting the specificity of this production region. The small-scale farmers practices, combined with the particular topography (mountainous area in Wupperthal, dry plateau at Nieuwoudtville) would contribute to increase the rooibos quality (Louw R., Grant, Hawkins, 2006, personal communications). Results from my research provide further elements about the rooibos production quality in these regions. I could bring to light connections between practices, environment and good quality which participate in the definition of the production specificities, and in the rooibos insertion in a particular “terroir”<sup>19</sup>.

### **4.2. Rooibos production practices connected with a specific quality in Wupperthal and the Suid-Bokkeveld regions**

#### **4.2.1. “By hand” production practices**

##### **4.2.1.1. Low-mechanized production**

During my observations, I could see that almost the entire production practices were handmade. The expression “by hand” appears very frequently in the interviews: its recurrence is significant.

As it is written in the paragraph 3.2.3., only a few tools are used: motorized vehicles, the chopping machine... On the Wupperthal tea court, a few further tools are used, because rooibos production is larger and so more mechanized.

##### **4.2.1.2. Why is the production low-mechanized?**

The first reason why the production is low-mechanized is that producers organisations don’t have any high investment capacities. Moreover, their production has to be conformed to Ecocert standards.

Nevertheless, others reasons are presented in the interviews.

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<sup>19</sup> “Terroir” is a typical French expression, which defines a land characterised by a specific agricultural production.

The two organisations means are rather limited, but they have even so the capacities to invest at least. Heiveld Co-operative realised a profit of 19 624€ in 2003, which represents 6000€ more than in 2002 (Oettle, 2004). For the Wupperthal Rooibos Tea Association, I don't have any precise data, but farmers could have benefit from provincial aid to buy new materials in 2005.

Most of the farmers recognize the interest of the agricultural practices modernization to gain time. Today quantities of produced rooibos are so large that they require a minimum of mechanization. Showing this quotation:

*“It is however easier now than it was in earlier times. It is easier because we make use of machinery. If we wanted the same quality of tea that the machine produced in earlier times we would have to cut for years, if we had to make it ourselves.” (Interview n°5<sup>20</sup>, sequence 3)*

More than half of the interviewed persons clearly said that the absence of mechanised machines has a positive effect on the rooibos quality and on the rooibos environment preservation. They generally quote the sickle use during the harvesting (which is essential to control the cutting level. Moreover, the consequences of this technique for the plant survival are significant). This ecological concern was recently increased by the various Ecocert certifications obtained by the Heiveld Co-operative.

However, the low-mechanisation level does not only depend on standards imposed by these certifications<sup>21</sup>, it would be voluntarily. The majority of the producers of the two organisations recognize that the absence of machines is one of the essential characteristics of their production practices. Most of them present it as a “traditional” element which has to be preserved:

*« The reason why they use to work so many with the hand, is because rooibos tea is a traditional tea that has been cut by hand by many years ago and the way of handling the tea hasn't so much changed » (Interview n°10, sequence 2)*

*“The Heiveld Co-op is doing his process and practices in the old tradition, and everything is doing by hand” (Interview n°7, sequence 1)*

Farmers predict *de facto* a relative stability of these handmade practices in the next years.

#### 4.2.1.3. Consequences on the quality

The rooibos harvesting by sickle is made by the two communities, but this practice isn't exclusive to them: about 60% of the rooibos production in South Africa is made in such a way.

This practice is not only favourable to the plant survival in the medium term; it really increases the good quality. Harvesting by hand is useful to choose the branches that will be cut above the woody part of the plant. Presence of thick woody branches in the harvested rooibos could damage the fermentation process (Louw R., 2006, personal communication). On the contrary, this selection isn't possible for harvesting with machines.

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<sup>20</sup> None of the farmers asked clearly me to remain anonymous, but I preferred to do it into the French and English translations of this thesis, which would be distributed in the producers organisations.

<sup>21</sup> Regulations on vegetal methods of production don't contain any indication on the maximum quantity of mechanised used machines (Ecocert, 2006).

#### 4.2.2. Rigorous control of production stages

During many informal talks with farmers as during interviews, I could notice that they were very anxious about the rigorous control of each process. An expression appears very often up in interviews, up to ten times in some interviews:

*“To look carefully after it [the good, rooibos tea]” (Interviews n°1, 2, 10, 8, 12).*

Each stage of the production (harvesting, processing...) is managed by a team. The leader is in charge to control the good course of the operations. During harvesting, the leader makes sure that the standard cutting level is respected. On the tea court, the leader is in charge to stop regularly the chopping machine to clean it and to sharpen the blades to keep a precise and uniform rooibos chopping (see paragraph 3.3.3.2.). This care is never distracted, but seems to reach one's height during the fermentation process which is a crucial step for the rooibos colour and aroma.

I saw during observations that different techniques are used to control humidity level of the fermenting rooibos heap. One of these techniques is used after the watering of the rooibos heap; the second one is used the next morning to know if the rooibos have enough fermented (these techniques are described more precisely in the paragraphs 3.3.3.3 and 3.3.3.4). Farmers also control that rooibos is fermented in a homogeneous way. They describe the two techniques like that:

*“You take the tea in your hand, a handful of it, that is traditional way, you know, and then, you press it as hard as you can, and then the water must just come out there [between your fingers]. If it runs, it's too much water. If nothing comes out, it's too little water. When you press as hard as you can, the water must just come out.” (Interview n°12, sequence 3)*

*“It is also a way of a technique that we use. You take some tea, and when the tea is been on your hand, you will see easily where the green sticks are. If there are still green sticks, tea must sweat again. And that is a sign, tea must be leave because the tea hasn't reach his stage. If there are very little green, then you will know the tea is right.” (Interview n°13)*

*“In the sweat process, (...) the important thing is that the colour of the tea, the watering of the tea, and the colour of the tea must be the same.” (Interview n°9, sequence 1).*

Moreover, the person in charge of the fermentation process control in Wupperthal specified that he “smells” the rooibos and perceives its temperature to better evaluate the fermentation level.

The tea court team also has to meticulously manage its working hours. The rooibos bundles are delivered once or two times a day at flexible hours. Generally speaking, the rooibos unloaded in the morning is chopped at midday, watered at the end of the afternoon and fermented during the night, dried up the next morning and packaged the same afternoon. If the rooibos is unloaded during the afternoon, it will be chopped the next morning.

Farmers generally end to work about 5pm, but sometimes I could see them working until the sunset if the rooibos arrived later than expected on the tea court, because it is better to chop the rooibos as fast as possible to prevent it from getting dried.

Informative interviews brought further elements about this rigorous control. For example, farmers explained to me that if the rooibos is not enough fermented the next morning, they could bruise it once again with the tractor and turn the heap over with the shovels, before to leave it a few further hours. But it considerably delays the ordinary work on the tea court.

Matters are more complicated for Wupperthal, because fermenting rooibos quantities are larger, and are left during a longer time than in the Heiveld Co-operative. The person in

charge of the fermentation process has to make sure that the humidity level of each rooibos heap is fine, because each of them has been put successively down.

Farmers explain that the precision of these practices increases the quality of their production:

*“So now we are looking very carefully, how we try to maintain the quality of our production, the quality of people have decided” (Interview n°13).*

#### **4.2.3. Rooibos bruising process**

The rooibos heap bruising is essential to start the fermentation process, but it must be done just after the rooibos chopping, and only a few times. Farmers explained to me in detail the realisation of this stage.

The rooibos heap must be alternatively bruised and turned over by shovel. It must not be turned over with a rotary machine hitched up to the tractor, because it would needlessly bruise the rooibos again<sup>22</sup>. In the same way, it is important during the drying process to turn the rooibos over and to gather it when it's dry by hand. As farmers said, they are lighter on the thin rooibos layer than the tractor which makes the same operation.

The bruising of the rooibos is a very important stage, but an excessive bruising would completely mash rooibos pieces, which would reduce the quality.

#### **4.2.4. Fermentation and drying duration**

The fermentation process lasts between 13 and 15 hours for Heiveld and between 12 and 18 hours for Wupperthal. The difference in duration between the two organisations can be due to the topographic variations of the two *tea court* places. The Wupperthal tea court is hemmed in by the hills and there isn't much daylight. The tea therefore needs a further extension to ferment. This fact would also explain the difference between the drying times: it is about 5 hours for Heiveld, and about 10 hours for Wupperthal.

Despite these differences, we can notice that the fermentation times are longer than ordinary. Most of large scale farmers ferment their tea about 5 hours (Visser, 2006, personal communication.)

Fermentation is one of the most essential steps to constitute the tea aroma and colour. The fermentation time has a positive impact on the rooibos quality, farmers explain that in different ways:

*“The colour had enough time to come up” (Interview n°1, sequence 2)*

*“Thirteen hours, it sound long, very long, but you must give the tea time to have his own way if the nature come out.” (Interview n°13)*

On top of that the fermentation process takes place during the night for both communities; the temperature is therefore less high. The difference between the rooibos heap temperature at its top and at its bottom is reduced, which gives a higher thermal homogenisation:

*It is very important for us to use the right temperature, because (...) we have the heat of the sun, so you mix the temperature, so that you have some equal balance. And the right temperature is very good to use for the fermenting of the tea. The right temperature, it must*

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<sup>22</sup> Wupperthal farmers use a rotary machine to turn the rooibos over after the bruising, but they take care of spreading the chopped rooibos in long heaps, whose width roughly corresponds to the gap between the tractor's wheels. In this way, when the tractor drives over the tea by pulling the rotary machine, it is not in contact with rooibos.

*be there (...). You must have the same temperature on the top and on the bottom of the heap.*  
(Interview n°12)

#### **4.2.5. Conclusion**

Typical elements of Heiveld and Wupperthal productions presented above can be found in the majority of interviews. The two firsts elements (Low-mechanized production and rigorous control of production stages) can be found in the quasi totality of interviews. Small-scale farmers describe some of their practices as opposed to the “external” way of their production, which corresponds to the large-scale farmers’ one. Those ones are described as fundamentally “different” (interviews 1, 2 and 10) from their own practices, especially because they are largely mechanized. Farmers describe the use of motorized machines as imprecise; it also can damage the good:

*“The tea bush which is growing straight, the machine cannot cut it like a sickle, because if the bush grows wide open the machine cannot cut the sides [of the bush].”* (Interview n°12, sequence 1)

*“The machine leave grease and metallic pieces on it, oil as well”* (Interview n°4)

The large-scale farms are mainly managed by white farmers. Most of the small-scale farmers worked on those farms a few years ago, before the creation of Heiveld Co-operative and Wupperthal Rooibos Tea Association. This period is marked by apartheid, which is defined by political and economical dominance of white people, for the detriment of others South African populations. Farmers express it in particular by the difficulty of accessing to economical independence, and by the obligation to sell their rooibos production to the large-scale farmers, because they couldn’t process it themselves.

I don’t think I have enough precise elements to draw a clear conclusion from those data, especially as the White and Coloured relationships during and after Apartheid are very complicated, particularly in this area, and have to be longer studied.

I would just conclude on those data by saying that the specific quality of the produced rooibos in these two communities is constructed on four main elements. I could notice that the farmers generally don’t acknowledge and even deny the use of their own practices by the other producers.

### **4.3. Other specific elements of the two small-scale farmers communities**

#### **4.3.1. Adaptability of cultural practices**

The small-scale farmers’ environment adaptation strategies seem to be enough important to be written in this thesis. However, there wasn’t any explicit reference about it in the interviews; farmers don’t seem to think those strategies as a specific element of their production.

It is interesting that practices adaptation that are described below are presented as individual *practices*, on one farmer’s initiative, and not as the result from a *common* thinking of the community; which was the main subject in interviews.

#### 4.3.1.1. Choosing a nursery

Farmers prepare a nursery to promote the rooibos plants germination and growth. They present it as a widely used practice. However a few farmers said having alternatives processes, which are presented as “tests” or a way to get adjust to the global warming.

The alternative practice widely used is to plant directly seeds in the fields in August. The nurseries irrigation conditions are relatively easy to control because of the high plants density, but it is not as easy when the plants are planted into fields. The general planting time takes place in August, during the raining season; but plants are just four months old, they are still frail and can easily die of dry.

Few farmers prefer to plant their seeds directly into fields in August, to prevent the risk of a year without rain in August. In that case, seeds will germinate only if humidity conditions are quite right. It avoids a seeds waste, even if the germination rate is less high than in nursery.

A farmer said that he plants his seeds directly into fields in May; he justified it by a personal experimentation specific to this year:

*“We want to experiment how it going to work if you plant in May, what will be the effect on the plant? Sometime you will have a very big plant that can die easily. Sometime you will have a smaller plant that grow faster or survive better. We also try to see that. If the plant is very small, how it will going to survive in the nature, or if it is a certain amount of land that we have, will it survive better...” (Interview n°14)*

#### 4.3.1.2. Protection against predators

Few farmers explained to me that they test original techniques to prevent predators from attacking rooibos plants that are particularly vulnerable during their first months of growth.

For example, someone prepared this year broad open spaces at each side of his nursery (those spaces are about 5 meters wide between the perimeter of the nursery and the surrounding vegetation). He sowed some rye three days before planting his rooibos seeds. After a few weeks, the rye will become enough high and thick to protect rooibos from wind and dust, and will be used as food for the possible predators which could damage the plants.

Some farmers also say that they voluntarily put some vegetal material down on the fields to take away the predators from the rooibos plants.

These adaptation strategies are those that appeared the most frequently in interviews. There are certainly other strategies that for example are linked with practices that I didn't study.

The farmers' strategies adaptation to climatic conditions and to predation in a dry and wind-swept environment is an element of importance and matter to be presented here.

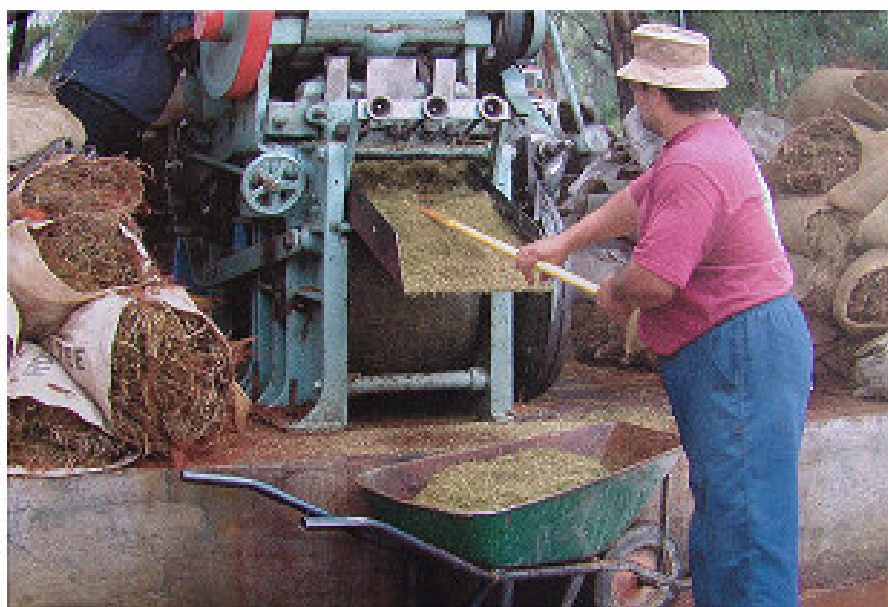
### 4.3.2. A large knowledge of ancient rooibos practices

Interviews with farmers were very productive about ancient rooibos production practices data.

#### 4.3.2.1. Wild rooibos production

During interviews, lots of farmers described the wild rooibos process practices which were used in this area. Nevertheless this section is rather small, because at the current state of this research, I couldn't add any other element about the description of those ancient practices.

Rooibos was harvested without any tool, which is easier for the wild rooibos than for the domestic one. It was then put down on big flat rocks, and chopped with a wooden tool axe-shaped. Afterwards, rooibos pieces were watered with a certain quantity of water.



**Picture 4.1. Ancient chopping machine, used by Wupperthal farmers. (photo : Asnapp)**



Local populations used a wooden stick to thresh the tea and start the oxidation process. The oxidation took place during the night, the next morning the tea was spread on flat rocks to be dried in the sun.

#### 4.3.2.2. More recent cultivated rooibos production practices

Farmers distinguish another period which started in the 1960's in the Suid-Bokkeveld and shortly later in Wupperthal area. It corresponds to the beginning of the rooibos cultivation:

*“The tea they have been planted, the cultivated tea, has been planted since the years 1960s. So before that, it was only the wild tea, that people used.” (Interview n°11)*

This period is marked by the use of the first chopping machine, which was originally used to chop tobacco. Blades were moved by two wheels situated on both sides of the machine, and set handily going (see picture 4.1.). The chopping was rather coarse, but thanks to this machine, work intensification could have been possible.

The wet rooibos pieces were then gathered together into heaps and threshed with bamboo sticks.

These processes could have been observed and even made by the oldest farmers.

#### 4.3.2.3. Relationship with “ancestral” practices

The owners of the rooibos fields have generally learned rooibos practices by paternal transmission. Few of them make it a point of honour to transmit that “heritage” to their children:

*« One thing is sure that is rooibos is our heritage » (Interview 1, sequence 2)*

I wrote in a previous paragraph that the two communities have been created recently; coloured farmers have produced rooibos independently since just a few years. However, they have worked in the rooibos industry since a long time, and clearly claim an “ancestral heritage”, which is named in interviews by the recurrent expression “forefathers”.

However, this heritage is rather vague. First rooibos producers were Khoekhoe; but they do not exist anymore in this area as an ethnic group. Coloured people are indirect descents of Khoekhoe, but they don't claim any direct line to them, who are just seen as the ancient populations of the area:

*“We don't have so much knowledge about the Khoesan people, what we can tell you is that we know the “fathers” they used the rooibos tea here (...), and that people are in rooibos business for many and many years ago”(Interview n°10, sequence 2)*

The “forefathers” whom farmers are speaking about seem to particularly correspond to the two or three previous generations, who have known the rooibos cultivation and the mechanization evolution. There are references to the manual processes of this period in the whole interviews.

*“I said it's [our practices are] traditional, because my parents, my fore parents, they cutting by hand, and that is traditional they use before the machineries come in. That's why I said it's traditional.” (Interview n°13, sequence 3)*

It is interesting to notice that mechanization has evolved gradually in this area. For this reason, the small-scale farmers' current way of production remains close from the 70's way of production. Farmers justify all the better that their current practices are “traditional”, “by hand”, and “close from their ancestor's practices”:

*“We still use the old process like our forefathers do it, we still harvest our tea with a sickle, all of our farmers” (Interview n°8, sequence 1)*

*“The way we do it now is the way it was done before.” (Interview n°5, sequence 1)*

*“The process on the Tea Court itself is still like we do it in the past, with hand” (Interview n°8, sequence 1).*

*“I think the organic farmers still use the methods of the old tradition.” (Interview n°4, sequence 1)*

#### **4.3.3. Sustainable practices**

I had already written that the two small-scale farmers' communities have received the Ecocert label since a few years. An annual rigorous control from the Ecocert inspectors assures that production practices are sustainable.

I will just present few sustainable practices which are the most frequently quoted by farmers. One of the most quoted practices is the harvesting way with a sickle, which is useful to better select harvested plants and to adapt the cutting level to each plant according to its size and its age. It facilitates the plant regeneration from one year to the next one. The life of those plants is therefore longer than the life of rooibos plants harvested by machine. The harvesting takes place once a year for both communities, although it can be twice a year for some large-scale farms (*Farmly's week*, 1989). Moreover farmers are trained to the harvesting.

Wild rooibos harvesting takes place every two years (Louw R., 2006, personal communication) because its growth is slower.

Farmers don't use any pesticide, herbicide or fertilizer, just a few plants for different uses. A scented plant can be used as a repellent for predators<sup>23</sup>, green manure can be used on nurseries or on fields...

Those practices have a significant impact on the rooibos environment. I would like to say that rooibos is an endemic species from the *fynbos* specific biome. The protection of this species, and particularly of the wild rooibos, participates to the protection of its environmental biodiversity.

### **4.4. A specific territory**

I have already detailed the ecological specificities of the Suid-Bokkeveld and Wupperthal area in the first chapter. I could notice that those specificities were almost never mentioned by farmers during interviews.

#### **4.4.1. Low relationship with the territorial particularities**

Farmers didn't generally speak about the ecological characteristics of rooibos (endemic species, environmental characteristics...). The only information about it is about the plant resistance to dryness:

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<sup>23</sup> A farmer described it to me at Wupperthal. I could take a photo of it, but I didn't yet identify it.

*“The climate change is there, and there is only one plant who can survive, it will be rooibos tea, we look after rooibos, and then, it will be the only incomes” (Interview n°12)*

Moreover, farmers didn’t make any reference to the ecological specificities of their area and to the specific quality of the product. Out of eleven interviews recorded with Heiveld Co-operative farmers, only one person spoke about the Suid-Bokkeveld geological particularities (presence of sandstone), saying that it can influence the colour and the quality of rooibos. On the contrary, at Wupperthal a farmer spoke for a longer time about his area particularities:

*“The reason why I see the tea is so special is because (...) we’ve got a very cold winter here, and the sun is very hot, so... (...) the tea actually grows much better than other area where the weather is not like the weather we have (...). We’ve got like a tropical weather, like cold winters, and warm summers, that’s the reason why the tea is so good for us (...). The sun is wonder (...) that actually give a better quality, and the shine of the tea and... a better red colour of the tea” (Interview n°8, sequence 1).*

Those data are interesting but unfortunately they aren’t sufficient neither enough representative to compare the two communities<sup>24</sup>.

#### **4.4.2. A “social” inscription in the territory**

On the other hand, interviews recorded with Heiveld Co-operative farmers show that they have developed a relationship to the territory, distinct from its ecological particularities. The expression “member of the Heiveld Co-op” is frequently employed and seems to be significant. Farmers consider the Heiveld Co-operative to be endowed with ambition and with a success potential:

*“Heiveld show the way, especially South Africa producers that it can be done... it can be done. And we have a successful about it.” (Interview n°1, sequence 5)*

The Heiveld Co-operative has been created by farmers, and they have defined the concerned geographical zone by themselves: it is the Suid-Bokkeveld area. In this delimited production area, almost the whole farms and farmers are members of the Heiveld Co-operative. References to the territory are also frequent in interviews; the territory can even be likened to the Heiveld Co-operative:

*“We want our tea is the best, and we want that people must say that the Suid-Bokkeveld has the finest and the best quality of rooibos” (Interview n°12)*

Around the “Co-op”, there are other noticeable notions, like respect, economic independence, possibility to be inserted into the world market... The Co-op is very important for the farmers, because thanks to it they could obtain financial resources and a recognition from which they were deprived of during apartheid, whereas these elements are still difficult to get for coloured people nowadays.

Further thought needs to be given to this conclusion, which I cannot do at present with the limited number of gathered data.

Farmers seem to lie themselves socially within the territory through the Co-operative, more than through the ecological particularities of the area.

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<sup>24</sup> I would like to make clear that I recorded eleven interviews with Heiveld Co-operative farmers, but only two interviews with the Wupperthal Rooibos Tea Association. Interviews recorded at Wupperthal were more efficient because they were realised after the Heiveld ones, and the Wupperthal farmers speak more often English.

#### **4.5. What kind of Geographical indication about rooibos?**

Rooibos is cultivated within a radius of about 150 km around Clanwilliam. Rooibos production is considerable and has different variations in kind of business, but it needs a protection on the whole territory, considering problems linked to the use of the “rooibos” name by the American company *Forever Young* (Grant, 2005).

However, those production variations, especially the Heiveld and Wupperthal small-scale farmers’ ones, are rather specific and to a certain extent they take part in increasing the rooibos quality. They would then require a specific recognition, all the more that they are situated in a production area considered as traditional.

Nevertheless, we should better define the specificities of each community of producers, especially the ecological variations and the production practices to differentiate them precisely.

## 5. Conclusion

### 5.1. A Geographical indication on rooibos?

We could see that GI are some emerging tools for the Southern countries producers. The acknowledgement of their production can be considered as a way “to protect and to assert their identity, to act as a catalyst for an economical organisation and to develop their added value” (Sautier *et al.*, in press, personal translation).

Application conditions to efficiently develop a GI can be define as well “The expression of the link between the product and a geographical and human environment, the GI is at the same time a technical, a social and an institutional construction. Its effectiveness rests on an agreement built on three complementary bases (...): a reputed and original product; a professional organization; and an effective acknowledgement.” (Sautier *et al.*, in press, personal translation).

We could see that these whole conditions are present in the two small-scale farmers organisations. Consequently, they could be ideal applicants for the GI development in South Africa.

But we have to keep in mind that South Africa is a low-experienced country about Geographical indications. Small-scale farmers have already highlighted their production with few labels, but the GI is an unfamiliar one. We have to be cautious about the small-scale farmers’ capacity to appropriate this tool, and about the possible repercussions of a rooibos GI, especially how it could be perceived by farmers.

### 5.2. “Heritage process building” of rooibos

Beyond that noticing, this research could show another thing: small-scale farmers communities seem to be in a heritage process of this local resource.

The data analysis shows three elements about Suid-Bokkeveld producers: rooibos production practices are attributed to “forefathers”, they are used as identity references, especially through the Heiveld Co-operative, and they are in a smaller extent highlighted to be handed on to the next generations. These elements form the essential characteristics of the “heritage process building” (Cormier-Salem and Roussel, 2000).

We can notice that the heritage process is based on rooibos production practices rather than on rooibos or its distribution area. We can rather speak about “production practice heritage” than “rooibos or territory heritage”.

We could add something else: the external acknowledgement of this heritage. Rooibos demand on international market is increasing, especially concerning rooibos whose the quality is guaranteed by labels. This is a new way of increasing the resources’ value: “products belonging to a rural culture are going to become some first-rate products acknowledged by the town” (Bérard et Marchenay, 1998: 60, personal translation).

Small-scale farmers communities recognize the rooibos potential, and voluntarily consent to increase it. For example, they recently launched the “rooibos route” project between Nieuwoudtville and Wupperthal villages, initiated by the NGO Indigo. This project aims to create some further incomes for disadvantaged farmers by greeting tourists. The origin of this project in partnership with the Heiveld Co-operative members is thus presented: “*While the history of the rooibos industry is widely popularised, its heritage prior to commercialization*

during the twentieth century is largely unknown. The *Rooibos Heritage Route* seeks to heighten public awareness of this untold history, the ecology and biodiversity”. This project therefore expresses a wish to promote the area as a key-space in the rooibos production history. However, the building of this road is certainly motivated by the existence of a tourist market during the flower season, which shows the attractiveness of the area. There is a great bond between the heritage building and the wish for an economical valorisation.

### **5.3. New research ways**

This research could show important elements about the specificity of rooibos production practices, rooibos identity process or the recent heritage process about this resource. It could also present few questions and research paths to study thoroughly.

First, relationships between White and Coloured during and after apartheid seem to be very important for the identity building up in both small-scale farmers organisations. We should analyse this building up in the context of South-Africa history.

I would hypothesize that white farmers have also built a heritage about rooibos. A few years ago, the South-African firm *Rooibos Limited* instituted proceedings against an American firm to cancel the “rooibos” name which was recorded as a trademark. White farmers were greatly connected and aware of the “rooibos” name vulnerability. They were mobilized in a recent workshop about rooibos GI, and shown that they want to highlight and protect this resource (Biénabe, 2006, personal communication).

At least, white farmers took roots in the territory a long time ago; since a few centuries in some areas. White farmers were also the firsts to develop rooibos cultivation.

These elements certainly participate to the construction of a specific identity about rooibos, which complicates the GIs development in South Africa.

It would be also required to analyse more precisely the possible GI repercussions on rooibos production. This protection tool aims at adding value to a production, but it can lead to a spatial reorganization of the production area, which consequences aren’t always studied or waited by farmers.

In the same nature of things, it could be useful to build up an “ethical charter”, which could help to compare the different impacts of those labelization tools: GI, Fair-trade, Organic...

### **5.4. My formation contribution**

This thesis was a great opportunity to carry out what I learnt this year during the Master: “Environment, Techniques, Societies” at the National museum of natural history. The subject wasn’t specifically centred on ethno sciences, but I could study a very interesting example of a natural resource valorisation, and better understand the relationship between humans and natural resources.

My main research field is anthropology, but I was supervised by a geographer (Marie-Christine Cormier-Salem) and an economist (Estelle Biénabe), it was a great opportunity to enlarge my research field with other disciplines.

This research had required to work with different actors: farmers, researchers; NGO, students... Thanks to the numerous interdisciplinary lectures I attended, I could approach the different points of views with (I expect so!) patience and diplomacy.

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