

POLICY BRIEF

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Rooibos: A Testing Ground for Access and Benefit Sharing in South Africa and Beyond

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Voices for BioJustice

Working towards the equitable and
sustainable use of biodiversity

INTRODUCTION

Rooibos (*Aspalathus linearis*) represents one of South Africa's oldest and most successful indigenous natural product industries. With its growth restricted to areas of the Western and Northern Cape provinces, the plant is widely available globally in the form of a caffeine-free tea, with its bioactive compounds holding great promise for the health food and beverage, cosmetic and pharmaceutical sectors. The local rooibos industry is valued at about R300 million (US\$22.2 million), employing some 5 000 people and trading amounts of around 15 000 tons per annum representing 10% of the growing global herbal tea market.

Over the past decade, a series of controversies has arisen about equity and justice in the rooibos industry, centred both on the biological resource and on the traditional use and knowledge that fostered the growth of this lucrative trade. Accusations of "biopiracy", meaning the misappropriation and patenting of genetic resources and knowledge without consent, have taken centre stage, leading to a reassessment of the conditions under which rooibos is traded. Organisations representing indigenous San and Khoi peoples have also launched demands for a stake in rooibos benefits based on traditional knowledge claims, and a benefit-sharing agreement has recently been concluded between these organisations and the rooibos industry.

The melding of these issues with a complex and ambiguous legal framework has led to a situation described by some as the "testing ground" of so-called access and benefit sharing (ABS). Such approaches stem in part from the Convention on Biological Diversity (CBD) and its Nagoya Protocol, which lay down new and more equitable ways of treating trade in genetic resources and the use of traditional knowledge. With growing international interest in rooibos tea and its bioactive compounds, a surge of patents associated with the plant, the successful granting of geographical indication status, and threats to the industry of changing climates, ecologies and ecosystems, the stage is set for a reconceptualisation and transformation of the industry.

KEY POINTS

- The **geographical and political backdrop** to the rooibos industry is one of **dispossession and adversity**.
- It is indisputable that the **rooibos industry drew from traditional use and knowledge**. In addition to the original holders of traditional knowledge of local plants of the region, the San and Khoi, **a long chain of rural communities, farmers, researchers and companies have contributed in different ways** towards the success of the rooibos industry.
- For ABS to be implemented successfully in South Africa, **the legal framework needs to clarify the distinction between bioprospecting and biotrade**, with different requirements for different forms of activities.
- The **benefit-sharing agreement** between the Rooibos Council, the South African San Council and the National Khoisan Council requires **a form of annual "tax" for all processed rooibos**. The levy of 1.5% of farm-gate price will be split equally between the San Council and the National Khoisan Council. "Rooibos indigenous farming communities" will receive an unspecified portion from the Trust set up for the Khoi.
- **Little attention** has been given to ways in which the research and technology benefits of the rooibos industry can be strengthened, including value adding and intellectual property protection.
- Rooibos plantations are associated with multiple environmental impacts. ABS presents an opportunity to bring conservation and benefit sharing closer together. **Biodiversity should benefit from rooibos ABS agreements** by supporting conservation of species and associated habitats, ecosystems and landscapes.
- ABS and rooibos intersect in a complex and multifaceted space. **ABS can be used as a lever to address social and environmental injustices of the sector**. Social and environmental transformation need to be considered in ways that are strongly participatory, transparent, holistic and inclusive. This is critical to achieve equity and sustainability in South Africa's growing biodiversity economy.

A BRIEF HISTORY OF THE ROOIBOS INDUSTRY

The rooibos industry has developed against a geographical and political backdrop of dispossession and adversity. The well-documented genocide of San and the virtual enslavement of Khoi in rooibos-growing landscapes centuries ago was coupled to the dispossession of their traditional lands. This persecution continued with apartheid policies through the relocation and disenfranchisement of coloured and black people in the area and the ongoing marginalisation of such groups.

For example, through the establishment of the Rooibos Tea Control Scheme in 1954, the rooibos industry was assured of direct government protection and support, including subsidies for affiliated producers, research and the provision of extension services. This had clear ramifications, not only for the rooibos industry, which entered a period of substantial growth and development, but also for producers excluded from the scheme. In apartheid South Africa, this meant the mostly coloured farmers from mountainous areas who had traditionally gathered and used rooibos tea from the wild.

While the abolition of both apartheid and this system in the early 1990s opened the door to coloured producers, about 200 of whom now trade rooibos tea as South Africa's premium indigenous fair trade product, most of these farmers remain marginalised, and will continue to be so – physically, because of their remote location; environmentally, thanks to the harsh, drought-prone conditions under which they farm; and economically, on account of their limited access to land and continued struggles to gain adequate access to markets, extension services and credit. Inequality continues to characterise the industry: less than 7% of rooibos tea lands are today controlled by coloured farmers, who produce about 2% of rooibos tea volumes, with white farmers cultivating about 93% of the planted area.

It is indisputable that the rooibos industry drew from traditional use and knowledge, but in addition to the original holders of traditional knowledge, indigenous San and Khoi, a long chain of rural communities, farmers, researchers and companies have contributed in different ways towards the success of the rooibos industry. Such contributions range from the momentous discoveries of individuals such as Tryntjie Swarts, a local woman who located the “golden nests” of rooibos seed in the 1920s and thus facilitated the industry's expansion; Annekie Theron, who accidentally discovered in 1968 that rooibos had a soothing effect on her hyper-allergic baby, leading to a dramatic increase in demand for rooibos; the numerous researchers and innovators who have demonstrated the health-giving properties of rooibos and have pioneered different processing techniques; and the production innovations of local farmers.

TRACKING ABS IN THE ROOIBOS INDUSTRY

THE LEGAL FRAMEWORK FOR ABS IN SOUTH AFRICA

South Africa has been at the global forefront of ABS regulation. Following ratification of the CBD in 1995, a research and consultative process was initiated to develop ABS policy.

In 2004, the Biodiversity Act was promulgated, with its chapter on ABS containing three objectives which mirror those of the CBD, providing for:

- the conservation of biodiversity;
- the sustainable use of indigenous biological resources; and
- the fair and equitable sharing of benefits arising from bioprospecting.

The Biodiversity Act provided only a broad framework for ABS, however, leaving the detail to the Bioprospecting, Access and Benefit Sharing (BABS) Regulations which came into effect in 2008.

There have been many challenges to implementation of the BABS Regulations despite ongoing stakeholder consultations and several legal amendments. This has been due to the complexity of the issues under consideration, but also to significant concerns about the cumbersome nature of the regulatory framework and permit approval process, the length of time required to secure a permit, and the ambiguities and workability of the legislation.

THE SCOPE OF ABS REGULATION: BIOPROSPECTING AND BIOTRADE

Significantly for rooibos, the very wide scope of the Biodiversity Act includes commodity trade, or biotrade, as part of the bioprospecting definition, in contrast with the CBD and its Nagoya Protocol, which confine regulation to the utilisation of genetic resources. The breadth of this definition has significant implications, in that it regulates a wide range of activities, and it is also contrary to ABS approaches in neighbouring countries.

Regulating biotrade is important from a biodiversity conservation perspective when the volumes are large and resource overexploitation is a concern. However, addressing these concerns requires measures quite different from those called for in bioprospecting and the utilisation of genetic resources. Elsewhere in the world, biotrade per se does not require benefit-sharing agreements and prior informed consent. A wide range of other measures and standards such as Fairtrade, FairWild and ethical biotrade aim to bring fairness to biotrade although much work remains to entrench equity in many natural product industries.



Processing rooibos in the tea court. Credit: Paul Weinberg

In practice, confusion reigns about the distinctions between biological and genetic resources, especially where species such as rooibos have multiple uses in more than one sector. For example, research and development on rooibos for new products might include original research on genetic resources and traditional knowledge. At this stage, under the CBD, these activities would be characterised as bioprospecting, or genetic resource use. After companies have investigated new properties or traditional knowledge, demand very quickly shifts into the biological resource trade, or biotrade.

BENEFIT SHARING, TRADITIONAL KNOWLEDGE AND ROOIBOS

Rooibos was first put under the ABS spotlight in 2010 when the giant food company Nestlé was accused of biopiracy for filing patents involving rooibos extracts, without the requisite agreements in place. Consequently, negotiations commenced between Nestlé South Africa and the South African San Council and National Khoisan Council for the development of a novel tea-vending machine product, with a benefit-sharing agreement concluded in 2014. In terms of this agreement, the two councils were to receive 3% of net sales, to be shared equally between them. In September 2010 a letter was written on behalf of the South African San Council to the Director-General of Environmental Affairs, claiming the rights of the San as primary knowledge holders of rooibos.

In 2013, a memorandum of understanding was signed between the San Council and the National Khoisan Council. The memorandum recognised “the importance of working together to realise ... shared traditional knowledge and associated intellectual property rights, in particular with regard

to rooibos and honeybush”. From the outset, the San Council and National Khoisan Council also recognised the role of other knowledge holders.

With the onus on the state to “prove” such claims, the then Department of Environmental Affairs (DEA) (now the Department of Environment, Forestry and Fisheries - DEFF) commissioned research to investigate the ethnobotanical use of rooibos. The report concluded that “there is no evidence to dispute the claim by the San and the Khoi people of South Africa that they are the rightful holders of traditional knowledge associated with rooibos”. The DEFF urged any individual or organisation involved in bioprospecting or biotrade using rooibos species to engage with the Khoi or San communities or people to negotiate a benefit-sharing agreement in terms of the Biodiversity Act and the BABS Regulations.



Traditional method of chopping rooibos tea with axes and bruising it with wooden mallets against rocks.

Credit: Rooibos Limited

As a result, negotiations began between representatives of the rooibos industry, the South African San Council, the National Khoisan Council and subsequently representatives of four small-scale rooibos producer cooperatives, facilitated by DEFF. In March, 2019, following several years of difficult negotiations, a benefit-sharing agreement was concluded. The benefit-sharing agreement between the Rooibos Council, the South African San Council and the National Khoisan Council requires a form of annual “tax” for all processed rooibos. The levy of 1.5% of farm-gate price will be split equally between the San Council and the National Khoisan Council. “Rooibos indigenous farming communities” will receive an unspecified portion from the Trust set up for the Khoi.

INTELLECTUAL PROPERTY RIGHTS IN THE ROOIBOS INDUSTRY

To date, most ABS efforts in the rooibos sector have focused on negotiating an agreement with traditional knowledge holders. However, there is also a need to protect national interests and strategically strengthen the research and technology benefits of the industry.

This is vividly illustrated in relation to rooibos, where little attention has been given by government to the surge of interest in its biochemical and health properties, evidenced by the array of new products incorporate rooibos, including cosmetics, slimming preparations, novel foods, extracts and flavourants. Much of this research is linked to foreign patents: in 2009, there were 95 entries for rooibos in the patent database, 67 filed by Japanese companies. This had increased to 141 by 2018. While many might be commercially dormant, they raise questions about the manner in which material was accessed and compliance with South Africa’s Biodiversity Act.

An important recent development, formalised through the signing of an economic partnership agreement between the European Union and South Africa, has led to the granting of geographic indication status for rooibos as an important mechanism to secure the plant’s origin and provenance. This followed a decade long dispute brought about by the 1994 filing of a trademark application for the name “rooibos” in the United States, with the eventual cancellation of the trademark. While such victories are cause for celebration, they are also an opportunity for critical engagement about who stands to benefit.

Debates concerning geographical indications and ABS have historically been entirely separate, championed by different government departments, but it is important to bring them together into a combined space of deliberation.

| PATENT NO. | YEAR | APPLICANT | DESCRIPTION |
|------------------------|------------|----------------------------------|--|
| JP1993003422319930129 | 1994/08/09 | Nippon Roibosuteil Honsha KK | Healthy beverage and its production |
| JP2004030579520041020 | 2006/05/11 | Shilal Medical KK | Composition for oral activity, and oral cavity-wetting agent using the same |
| JP1992028299419921021 | 1994/05/11 | Kawaken Fine Chemicals Co | Skin protectant containing A. linearis extract and detergent composition |
| JP1992027754019921015 | 1994/05/10 | Sansho Seiyaku KK | Cosmetic |
| JP199002054119900801 | 1992/03/24 | Hahaguri Fuamen KK | Household detergent composition |
| JP198602610319861104 | 1987/05/21 | Shiseido Co LTD | Antioxidant |
| BG20030108288020031024 | 1997/04/23 | Dobrenie Siroboda | Biologically active cosmetic composition |
| US2007086577320070928 | 2006/01/17 | Gardian Dipsa PTY LTD (ZA) | Food Supplements |
| JP2004010686620030410 | 2004/11/04 | Shiseido Co LTD | Caspase-9 activity inhibitor-containing composition |
| JP2001036696220011130 | 2003/06/20 | Yunite KK | Ameliorating therapeutic agent for diabetes |
| JP200101020820010402 | 2002/10/28 | Kao Corp | SCF binding inhibitor |
| JP1958018428219980630 | 2000/01/18 | Maruho KK | Composition having anti-allergic or anti-inflammatory action |
| JP1996015517019960619 | 1998/01/11 | Apollo Yatsukiyoku, Fuji co. Ltd | Deodorant for garlic |
| JP199502172619950925 | 1997/07/13 | Nakona Masatoshi | Parasite repellent |
| JP1994019401919940728 | 1994/07/28 | Nakona Masatoshi | Soil improving agent |
| JP1994002485819940127 | 1995/08/15 | Nakona Masatoshi | Expectorant |
| JP1993020988019930802 | 1993/02/10 | Nippon Roibosuteil Honsha KK | Roibos tea essence |
| JP1993020849919930730 | 1993/06/21 | Nippon Roibosuteil Honsha KK | Production of Roibos tea extract excellent in color tone and taste |
| JP2005036139820051215 | 2007/05/23 | POLA CHEM IND INC | Cosmetic for decomposing advanced glycation end products and method for production |
| KR2001001473420010321 | 2001/06/05 | Chin Hyoung Kun (KR) | Moisturizing agent for cosmetic containing Roibos tea extract |

141 roibos-related patents, mostly foreign.

An example of some of the patents filed for roibos applications.

ENVIRONMENTAL CONCERNS

A central motivation for ABS, embedded in both the CBD and the Nagoya Protocol, is that bioprospecting should enable biodiversity conservation to “pay its way” by creating incentives to support biodiversity conservation. However, the conservation of roibos as a genetic resource, as a habitat and ecosystem, and as a landscape has been all but ignored in contemporary ABS debates. Land degradation is one among many environmental concerns raised by the cultivation of roibos. If done right, biodiversity could benefit significantly from ABS agreements; for example, measures could be set in place to conserve the species, habitats, ecosystems and landscapes associated with roibos production areas.

Because the crop is an indigenous species, it is often promoted as an environmentally friendly alternative to conventional crop systems. However, this disregards the fact that thousands of hectares of natural mountain fynbos, constituting one of the most biologically diverse ecosystems in the world, are ploughed up every year for planting to monocultures of roibos tea. This has had devastating impacts on biodiversity. A 2009 study showed that in just 12 years, there was a 300% increase in the number of species threatened with extinction as a result of roibos cultivation — from 37 taxa in 1997 to 149 taxa in 2009, with 57 species in the most severely threatened categories of “endangered” and “critically endangered”. Chemical inputs are also a concern. Although roibos is a low-input crop requiring little water or extra fertilizing, commercial farmers often spray plants with harmful insecticides. Glyphosate-based herbicides – known to have deleterious health and environmental effects - are also routinely used to eliminate unwanted grasses and weeds when roibos is grown in rotation with other crops.

The cultivation of roibos can also impact negatively on wild populations of the species. In addition to impacts on roibos subspecies through the expansion of plantations, seed selection within cultivated plantations may have inadvertent effects on adjacent wild forms, through “illegitimate” pollination across populations that would never have mixed in the wild, and the introduction of unfavourable gene material. Resultant effects could include a reduction in the genetic diversity of *A. linearis* and thus greater vulnerability to physical and biological changes.

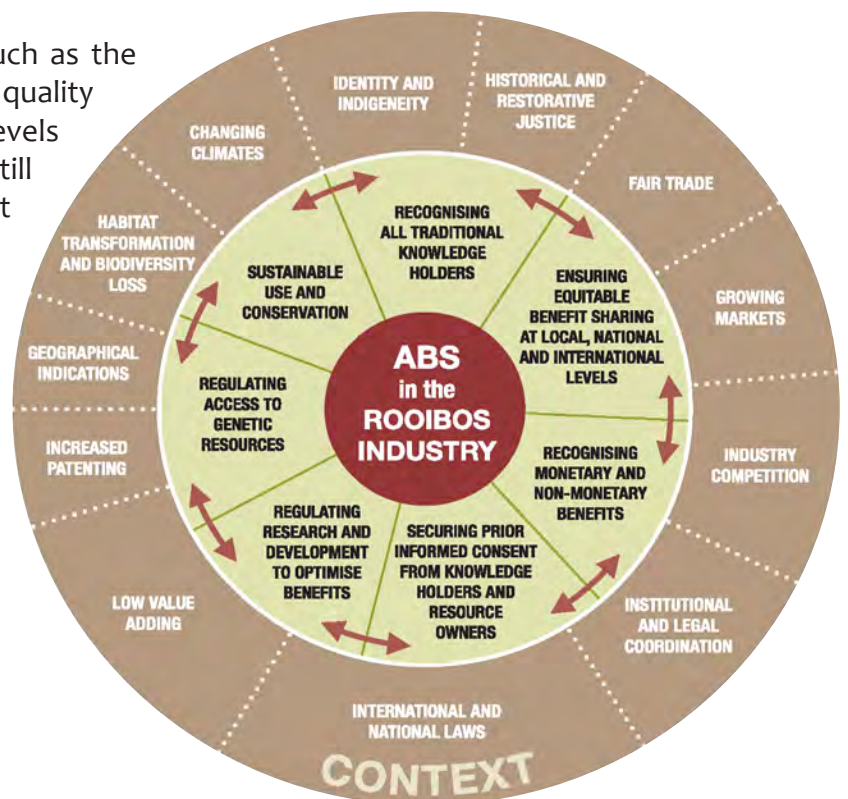


The environmental impacts of rooibos cultivation can be significant. Irrigated rooibos fields in the Cederberg in the midst of one of the most severe droughts in recorded history. Credit: Loubie Rusch

BEYOND ABS - ROOIBOS, EQUITY AND SOCIAL JUSTICE

As the figure illustrates, rooibos and ABS intersect in a very complex and multifaceted space. Any deliberations about benefit sharing need to consider this full spectrum of issues, and look for holistic and integrated solutions.

ABS cannot solve all social problems, such as the huge inequalities in our society, the poor quality of our education system, and the high levels of poverty and marginalisation that still exist in many communities throughout South Africa. There is however significant potential to use ABS as a lever to set in place restorative measures to address historical and existing injustices of the sector. Both social and environmental transformation need to be considered in a way that is strongly participatory, transparent and inclusive. This is critical to achieve equity and sustainability in South Africa's growing biodiversity economy.



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