

Building African biotrade

ABioSA project highlights



Image: GLZ/ABioSA/Jonathon Rees



SUMMARY REPORT

FEB 2018 - OCT 2021



**forestry, fisheries
& the environment**

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

THE ABS
CAPACITY
DEVELOPMENT
INITIATIVE



Schweizerische Eidgenossenschaft
Confédération suisse
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Swiss Confederation

Federal Department of Economic Affairs,
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State Secretariat for Economic Affairs SECO

ABioSA stayed true to its themes of traditional knowledge, ecological sustainability, market demand, potential for value-adding and job creation, and participation of small business and communities.

Building African biotrade

Phase 1 (Feb 2018 - Sept 2021) of the ABS Compliant Biotrade in South(ern) Africa (ABioSA) project has been successfully completed.

It worked mostly with 13 biotrade plant species and value chains and focused on productive use of plant biodiversity to create permanent and seasonal jobs in biotrade value chains, develop livelihoods for rural people and to boost the value of biotrade products in local and international markets.

Interaction at all levels of each value chain is necessary for the biotrade to work. ABioSA supported this through the collaborative creation of comprehensive sector development plans for six key biotrade species which will contribute to the strategic economic goals of our second phase.

ABioSA is proud to have given 15 small businesses technical and financial support to access new markets, develop new products and increase capacity. It provided training to 21 biotrade companies, helping them to become investment ready and overcome regulatory hurdles to export.

It is funded by the Swiss State Secretariat for Economic Affairs (SECO). ABioSA is implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, under the umbrella of the Access and Benefit-Sharing Capacity Development Initiative (ABS Initiative), in partnership with South Africa's Department of Forestry, Fisheries and the Environment (DFFE). ABioSA is hosted in the GIZ Centre for Cooperation with the Private Sector (CCPS), which hosts four regional/global programmes that support sustainable development for employment, economic growth and natural resources.

“ABioSA can be considered the first coherent focus around indigenous plant resources. The financial intervention alone is a lifeline to the sector.”

ABioSA external evaluation report, 2021



Image: GIZ/BioInnovation Africa/Jonathon Rees

Contents

Creating conditions for competitiveness	3
Key project achievements	4
An inspirational and productive biotrade journey	6
Partnership, alignment and cooperation	8
Striving for systemic change	9
A vision for future biotrade business models	10
Planning and developing a robust biotrade	11
Balancing biotrade with biodiversity	12
Strengthening communities	13
Setšong	14
Building a competitive SMME ecosystem	16
A commitment to sustainability and innovation	17
Preserving Botswana's best	18
Ensuring quality of indigenous oils	20
The beauty and bounty of Zimbabwe's indigenous plants	21
Expanding the profile of organic African essential oils	22
Knowledge products and communication	24
Assessing project impact	26
A powerful learning journey	27
A wild harvesting success story	28
Traditional plant knowledge backed by science	30

Biotrade definitions can be found in the **ABioSA glossary**

Adrie El Mohamadi

Component Manager

The ABS Capacity Development Initiative
(ABS Compliant Biotrade in Southern Africa)

Center for Cooperation with the Private Sector (CCPS)

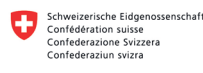
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The ABS Initiative is funded by



Swiss Confederation

Federal Department of Economic Affairs,
Education and Research EAER
State Secretariat for Economic Affairs SECO

and implemented by





Image: GIZ/ABioSA/Brett Eloff

Creating conditions for competitiveness

Franziska Spörri & Shakespear Mudombi

As one of SECO's four projects promoting and building sustainable value chains in the natural ingredients sector, ABioSA has unlocked the potential of small businesses by providing technical and financial assistance to SMMEs and business support organisations (see page 16).

The project team and participants adapted very well to new operating conditions during Covid-19, and didn't allow the pandemic to stand in the way of achieving their aims.

Gender, inclusion and stakeholder engagement were central to the implementation of the project, which saw the prioritisation and strong participation of indigenous peoples and local communities.

The project, with the support of its government

partner the Department for Forestry, Fisheries and the Environment (DFFE), has been successful in ensuring awareness of Access and Benefit-Sharing (ABS) in biotrade value chains. ABioSA has shown how biotrade contributes to ecological sustainability, better livelihoods for rural people, and the achievement of Sustainable Development Goals.

ABioSA has also worked to protect traditional knowledge (see page 13) and promote southern Africa's incredible biodiversity, helping to access international markets with ingredients and products based on indigenous plants that offer opportunities and prosperity for the region's people.

Franziska is head of SECO in South Africa, and Shakespear is national programme officer

SECO seeks to contribute to a competitive southern African economy that delivers sustainable growth. SECO does this by promoting a more viable and resource-efficient private sector and reliable economic framework conditions.

The projects SECO supports aim at creating investment opportunities, the necessary skills, jobs, and economic and climate resilience.

13 ABioSA target species



HONEYBUSH
(*Cyclopia* spp.)



ALOE FEROX



BAOBAB
(*Adansonia digitata*)



MARULA
(*Sclerocarya birrea*
subsp. *caffra*)



BUCHU
(*Agathosma* spp.)



UMSUZWANE
(*Lippia javanica*)



ROSE GERANIUM
(*Pelargonium* var *Rose*)



IMPHEPHO
(*Helichrysum* spp.)



CAPE CHAMOMILE
(*Eriocephalus* spp.)



KALAHARI MELON
(*Citrullus lanatus*)



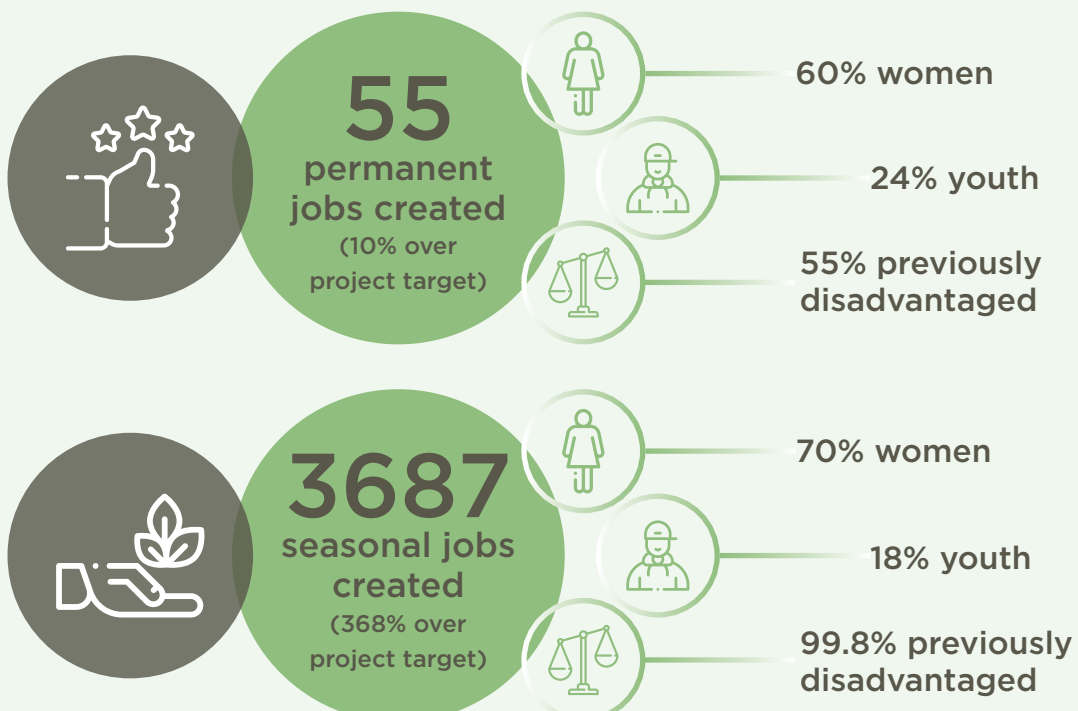
MAFURA
(*Trichilia emetica*)

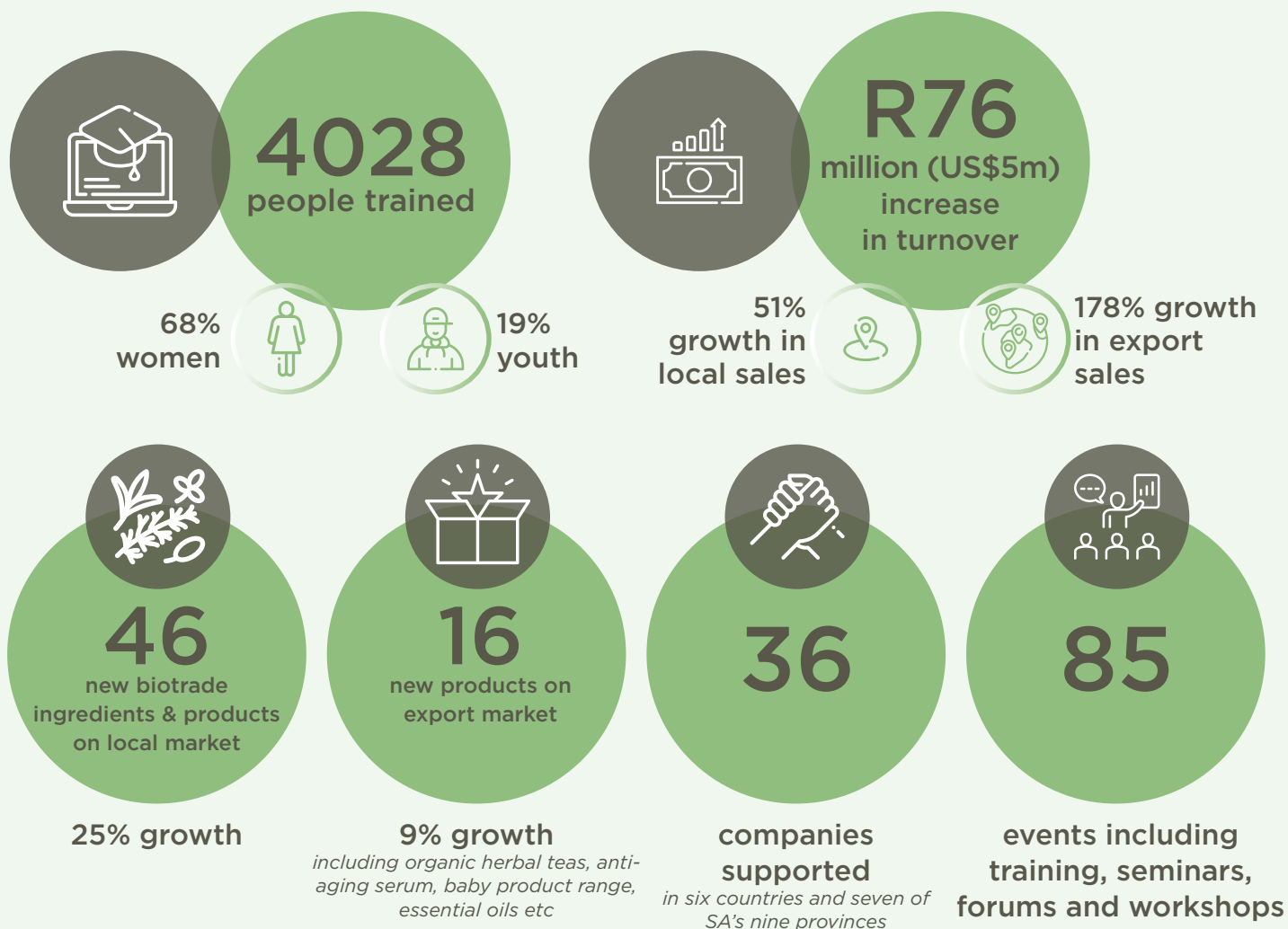


SOUR PLUM
(*Ximenia America* & *X. caffra*)



AFRICAN GINGER
(*Siphonochilus aethiopicus*)





ABioSA worked across the biotrade and bioprospecting value chain

Traditional knowledge	Testing and quality control
Resource assessment and monitoring	Processing, packaging and branding
Manufacturing best practice	Technical and financial support for small businesses
Compliance with international regulations	Export readiness
Access and Benefit-Sharing	Access to markets
Research and development	Sharing knowledge

Detailed project outcomes and indicators are in the full ABioSA technical report

An inspirational and productive biotrade journey



Where did it all start?

My career in development cooperation started in the Philippines in 1983 when I worked as a PhD student on biological pest control in a GIZ-implemented project in the cotton sector. That led to consultancies with GIZ and I joined the organisation full time from 2003.

What changes have you seen in biotrade during your career?

The term was largely unknown when I first got involved in ABS in the mid-1990s. People were talking about biopiracy, and from the mid-2000s the more positive terms biotrade and bioprospecting became more prominent in international discussions. This was recognition of the important role of indigenous plants and their ingredients for the development of innovative products in the cosmetics, body care, phytopharmaceutical and other sectors.

How would you summarise your contribution to biotrade and ABS?

The Convention on Biological Diversity (CBD) has three main objectives: the conservation of biological diversity; the sustainable use of its components; and the fair and equitable sharing of the benefits arising from utilisation of genetic resources.

I have been stubborn in my dedication to the third objective as a tool for ensuring that rural communities benefit from their contribution to biodiversity conservation and sustainable use of resources. I hope I have also been sufficiently flexible to adapt to local circumstances and recognise that it will take time to fully implement ABS at national and local levels.

The ABS Initiative is the legacy I am most proud of. It is very rewarding to see ABS now so high on the international agenda and recognised as a mainstream element of biotrade.

The ABioSA project team salutes Andreas Drews for his strong, gentle and responsive leadership. We wish you a well-deserved retirement, though we know you will keep engaged with your passion for ABS and biotrade.

We also welcome Andreas Gettkant who has taken over as programme manager for the ABS Capacity Development Initiative.

We look forward to benefiting from his long experience in the biotrade sector.

What were the origins of the ABioSA project?

In the second half of the 1990s a few countries began to develop national ABS frameworks. As a GIZ consultant working towards implementation of the CBD, I began to work on ABS pilot measures being rolled out in countries like the Philippines, Vietnam and South Africa.

When we presented the results in 2004 to the Convention on Biological Diversity Working Group that had just started the negotiations leading to the Nagoya Protocol, the Dutch government made initial funding available to support the scaling up of ABS capacity development at a regional level. This led in 2006 to the launch of the multi-donor funded ABS Capacity Development Initiative hosted by the German Federal Ministry for Economic Cooperation and Development (BMZ). The efforts of the United Nations Conference on Trade and Development's BioTrade Initiative and the adoption of the Nagoya Protocol then brought biotrade to the foreground as a sector which could deliver comparatively quickly on the CBD's third objective. The projects that PhytoTrade Africa did with SECO funding were in some ways a precursor to ABioSA, so when PhytoTrade was wound up it was an opportunity to continue the work, with renewed support from SECO. That was what gave rise to ABioSA.

How does ABioSA stand out among other ABS or biotrade projects?

ABioSA's sectoral approach makes it unique (see page 9). The collaborative creation of resource-specific sector development plans hasn't been done previously for biotrade resources.

ABioSA was also informed by other successful interventions. We saw the impact of PhytoTrade Africa's direct support for small businesses, and that was very successful in ABioSA too. This approach also aligned with the strategy of SECO to stimulate competitive businesses.

Support for value chains is well established in development cooperation, but ABioSA brought in the specific link to ABS compliance, which responds to national and international regulations as well as the needs of international customers.

How has development cooperation evolved during your career?

So much has changed, and so much has stayed the same. We are still focused on making sure our financial and technical investments deliver impact and value for money; but I think development organisations have become less focused on the top-down needs of donors and more demand-oriented and responsive to needs expressed by political partners and recipients.

There has been a radical change in how we communicate. At the beginning of my career we'd travel half a day in the Philippines to submit a progress report by telex, and then it might take three months to get a response from headquarters. Now that can happen in an instant.

Communication technology has enabled more linkages between projects, and also raised the level of expertise and information available.

I think that today there is more focus on global challenges that need to be responded to locally. We are also better at seeing projects in a wider context, and cross-cutting issues like good governance and gender are getting much more attention.

There is still an issue with an asymmetry of power in value chains. How can that be addressed?

The main factor is the economic framework conditions which are too big to be addressed at a company or a sector level. European companies have the university system, access to finance, established partners and value chains, and reliable energy, infrastructure and logistics. That makes it easier to do business, and these are the enabling conditions that African governments need to create for their biotrade and other sectors.

Andreas is a founder of the ABS Initiative. He retired end-October 2021 and looks forward to a new career as an ABS consultant.

Partnership & cooperation with government

As a result of DFFE and ABioSA teams navigating the sector together, today biotrade is better understood and recognised and has a solid place in the SA economy

Image: GIZ/ABioSA/Jonathon Rees

Natalie Feltman

The Department of Forestry, Fisheries and Environment's (DFFE) collaboration with ABioSA was rooted in the SA National Biodiversity Economy Strategy (NBES), which includes conservation of biodiversity, sustainable use of indigenous plants, and fair and equitable beneficiation.

We were very pleased with the strong focus on technical assistance to ABS-compliant South African SMMEs to access new global markets for indigenous natural products, and the financial assistance for product innovation and growth

The journey with ABioSA has been successful because we aligned it with our departmental activity plans and identified a common goal, which meant we were always heading in the same direction. The project's focus on an enabling environment for communities and entrepreneurs to participate in the biodiversity economy has enriched government's actions in support of poverty alleviation and sustainable development.

Despite challenges posed by Covid-19, ABioSA has laid a solid foundation for inclusive economic opportunities in a sector characterised by equitable access to resources.

Friendships have been formed and new partnerships created; and the department has been able to build networks of people and organisations working together to solve biotrade sector challenges.

As a result of DFFE and ABioSA teams navigating the sector together, today biotrade is better understood and recognised and has a solid place in the SA economy.

We need to maintain momentum, and there is more work to be done, so we look forward to a second phase of what has been a remarkably successful project. We will also be working together to maintain momentum with the BioProducts Advancement Network of South Africa (BioPANZA) and its five clusters.

Natalie is a director in the bioprospecting and biodiversity team at DFFE

The more capabilities in biotrade sector value chains, the more diverse products they can generate. The secret ingredient is the diffusion of knowledge through sector networks.

Striving for systemic change

We need the biotrade sector to engage not just within its own environment, but also with complimentary sectors that are already successfully competing in complex value chains.

Adrie El Mohamadi

The tendency of public sector and development organisations is to concentrate on project level delivery. This makes it easier to report on results such as the number of SMMEs supported and jobs created.

But it does not create the multiplier effect which could transform the biotrade sector. The sector is complex, with many distinct issues that need to be addressed. They include research, compliance with legislation, conservation, reliable quality products, inclusion of communities and their traditional knowledge, and access to international markets.

These issues are too big for a business to tackle on its own, so we need to address them through sector-wide approaches. This is what will lead to improved competitiveness of the whole sector and not just a few enterprises.

Prof Ricardo Hausmann from the Harvard Kennedy School of Government compares economic complexity to a game of Scrabble, where having more letters enables you to make exponentially more complex words.

The biotrade sector needs to focus on how each enterprise in the value chain can contribute their

different but complimentary knowledge to the whole ecosystem; and how to move knowledge around in the value chain.

Rather than focusing on the development of just one SMME at a time, we need to take a more systemic approach. This requires dynamic interaction among enterprises, government, support institutions and academia. We need to focus on how information flows, how problems are solved, how knowledge is generated, and how learning occurs within biotrade networks (see page 24).

We need the biotrade sector to engage not just within its own environment, but also with complimentary sectors that are already successfully competing in complex value chains. A good example would be South Africa's fruit and wine sectors, with their experience of accessing international markets and being competitive on the world stage.

ABioSA is striving for systemic change, and this is where we will place our focus during the second phase of the project.

Adrie is GIZ component manager for the ABioSA and BIA projects

Cyril Lombard

25 years ago, there was no single trade body focused on indigenous plants, and that is what gave rise to PhytoTrade Africa. Now there are associations including Bio-Innovation Zimbabwe (**BIZ**), the Natural Products Association of Botswana (**NPAB**), the Namibian Network of the Cosmetics Industry (**NANCI**) and the Southern African Essential Oils Producers' Association (**SAEOPA**). In South Africa particularly, there are now specific groups for species like Buchu, Aloe Ferox, Honeybush and Rooibos.

ABioSA has played an important role in the development and support of these organisations, and in the development of species-specific sector development plans (see page 11).

Another important driver of growth and transformation will be the creation of incubators and accelerators dedicated to biotrade and bioprospecting, accompanied by flexible and fit-for-purpose mentoring of emerging entrepreneurs.

We also need blended finance - a balance between grant funding, soft financing and private sector/venture capital funds - with biotrade sector knowledge that can offer a range of innovative financing options.

The sector organisations, incubators and accelerators, and specialist financing, are all part of the necessary enabling environment for biotrade growth.

And within this environment we need a range of innovative business models for the sector to grow. The biotrade value chain presents many opportunities, but entrepreneurs, communities and SMMEs have to carefully choose where they have a competitive advantage.

Not everybody will be best suited to producing consumer products, particularly when located far from urban infrastructure or large consumer markets. There is a significant opportunity to add value at the ingredient level selling business-to-business.

Production of local high-quality formulation-ready ingredients will drive local manufacture of consumer products containing these ingredients, though it is critical they come with regulatory and compliance documents such as those for Classification, Labelling and Packaging (CLP) and Registration Evaluation, Authorisation and Restriction of Chemicals (REACH), and safety assessments.

The biotrade sector is also in need of more competitive technologies, which are capital intensive and require skills and experience to operate successfully. I can see a place for cooperative business models in which primary producers have a stake, and which are run on a professional and commercial basis. This would need to be properly structured to attract investors.

Cyril is a biotrade consultant and entrepreneur, and a former chief executive of PhytoTrade Africa

A vision for future biotrade business models

Sector organisations, incubators, accelerators and specialist financing are all part of an enabling environment for biotrade growth



Image: GIZ/ABioSA/Jonathon Rees

Planning and developing a robust biotrade

Marthane Swart

Successful sectors are cohesive and well-networked, and aware of the needs of their stakeholders and trends in their operating environment. They are able to respond to threats and opportunities.

But sectors very seldom develop this way on their own. A few strong and innovative companies usually emerge, focused on business and market development, and then realise they have shared goals and start to collaborate.

These collaborations often focus narrowly on specific obstacles or goals. What they tend to lack is a holistic long-term view and consultative approach.

Companies should be encouraged to see the importance of collaboration to identify and resolve issues together, and to grow the whole sector. This approach would lead to more companies, more technology and equipment providers, a stronger voice in the market, and more incentives for government to support the sector.

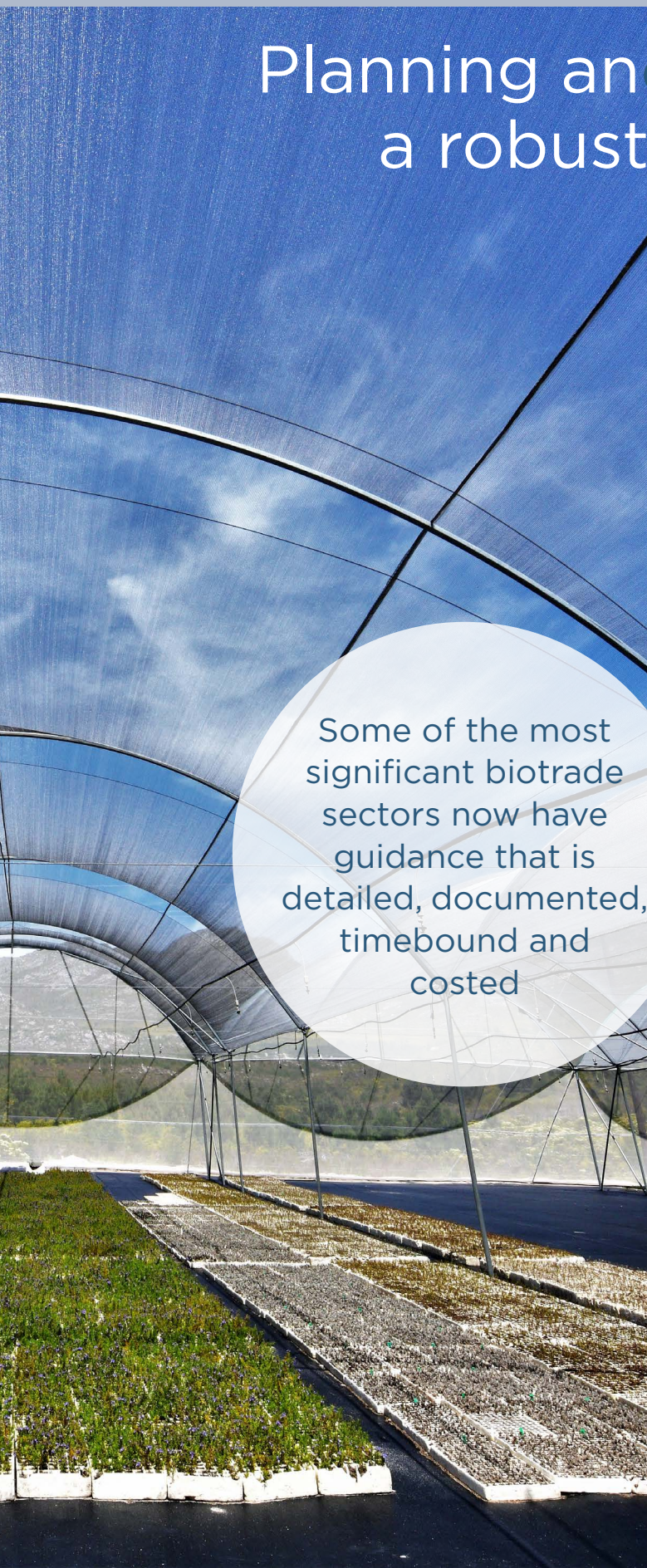
The ABioSA project recognised that biotrade sectors based on specific indigenous species had huge potential but lacked a roadmap and the tools to unlock it. Kruger, Swart & Associates was therefore contracted to create sector development plans for the Honeybush, Aloe Ferox, Buchu, Marula, Baobab and Indigenous Essential Oil sub-sectors.

The completed plans create an enabling environment for small, medium and micro enterprises (SMMEs) to grow, and for the sector to develop in a sustainable way. They are based on extensive consultation and emerged from the identified needs and priorities of sector stakeholders.

They include a detailed analysis with insight into current status, challenges and opportunities, and how the sector is organised. They have a vision and mission guiding the sector's strategic direction, with objectives arranged into work packages. Each plan has a financing and funding strategy, and a monitoring and evaluation framework.

There is two-fold value in ABioSA's development of the sector plans, which are based on the masterplan approach embraced by the South Africa's Department of Trade Industry and Competition (the dtic). Some of the most significant biotrade sectors now have guidance that is detailed, documented, timebound and costed. The collaborative planning also helped to create the cohesion required for implementation by industry, government and academia, with support from ABioSA during the project's second phase.

Marthane is a partner at Kruger, Swart & Associates



Some of the most significant biotrade sectors now have guidance that is detailed, documented, timebound and costed

Balancing biotrade with biodiversity conservation

To underpin the biotrade value chains on which so many livelihoods are based, we need to monitor the quantity and quality of raw plant materials in the field

Image: GIZ/ABioSA/Jonathon Rees

Prof Neil Crouch

To help realise this potential, national government has developed a Biodiversity Economy Strategy (BES) to facilitate South Africa's transition to a green economy, and to create jobs and wealth based on indigenous plant species.

The strategy recognises the need for development that is ecologically and economically sustainable. This means that when we extract natural plant resources we need to ensure harvests are sustainable at target species level, and at ecosystem level.

To act otherwise is to shun our constitutional obligations to protect the environment for the benefit of present and future generations.

To underpin the biotrade value chains on which so many livelihoods are based (see page 13), we need to monitor the quantity and quality of raw plant materials in the field. This is what resource assessments are designed to achieve, linked to the sustenance and development of individual businesses and whole sectors.

In an era of increased ecological awareness, many consumers are now interested in whether the natural products they buy are based on sustainable extraction and ecologically responsible supply chains. To answer

valid consumer concerns, and to align with their significant purchasing power, we have to better understand resources and their regeneration. In short, we have to scientifically justify producer claims of 'sustainability'.

In partnering with ABioSA, the South African National Biodiversity Institute (SANBI) has supported work that delivers on both the BES and the Operation Phakisa Biodiversity Economy Laboratory of 2016.

It has been rewarding to be part of a programme that recognises the importance of careful stewardship of resources and the ecosystems in which they are located.

ABioSA made a significant investment in Sector Development Plans (SDPs) that take the environment seriously, and which improve national and regional capacity to deliver coordinated and scientifically-sound resource assessments, and related monitoring and evaluation programmes.

SANBI looks forward to engagement in the second round of the ABioSA project, in particular to activation of Biodiversity Management Plans for key biotrade species.

Neil is the Bioprospecting Economy Lead at SANBI

For millennia indigenous peoples and local communities have practiced traditional ways of life using plant and animal species for medicines, food, building materials, spiritual and cultural practices, and to maintain their connections to nature.

Strengthening communities

— Claire Martens and Amelia Heyns —

Natural Justice works to strengthen communities who are custodians of indigenous biological resources and holders of traditional knowledge of the uses of plants and animals.

A priority under the ABioSA project was to ensure that communities have knowledge and understanding of opportunities presented by Access and Benefit-Sharing (ABS) legislation.

ABS allows communities to share their resources and knowledge with outsiders in a way that provides benefits to both parties, while asserting their free, prior and informed consent for the use of resources and knowledge.

However, communities also need to be aware of the limitations of ABS, and the responsibilities they have to protect biodiversity. It's about finding the right balance.

In April 2021, in partnership with ABioSA, BioInnovation Africa and DFFE, Natural Justice brought together representatives from traditional knowledge and resource-connected communities across South Africa. The aim was to build inter-community relationships through dialogues, lay the foundation for three resource specific Biocultural Community Protocols (BCP), and to co-create ABS strategies.

BCPs provide support to communities to set out processes for prior and informed consent and provide an opportunity for strengthening internal community governance structures. Many participants saw BCPs as a good way to mobilise their communities and affirm their traditional knowledge and stewardship of resources.

One of the key outputs of the gathering was to conceptualise a first draft of the resource-specific BCPs to respond to communities' needs.

Among delegates were members of the South African San Council, and National Khoi and San Council, who shared their experience as traditional knowledge holders of ABS negotiations in the Rooibos sector. They were joined by representatives of Aloe Ferox harvesters from the Western and Eastern Cape, Buchu farmers from the Western Cape, and Marula communities from Mpumalanga and Limpopo.



A priority under the ABioSA project was to ensure that communities have knowledge and understanding of opportunities presented by Access and Benefit-Sharing (ABS) legislation

Image: GIZ/ABioSA/Jonathon Rees

A key aim of the event was to strengthen the community's ability to protect their traditional knowledge related to natural plant resources. Our experience with BCPs and ABS shows that none of these processes are quick and easy, but we are pleased to see that stakeholders, including government and GIZ, are focusing on support for communities to enter biotrade value chains as empowered actors.

Claire is a senior communications officer at Natural Justice, and Amelia a programme manager

The research inspired them to honour, value and promote traditional knowledge in a way that fosters socio-economic development and boosts local job creation



In 2014 Retang Phaahla and her mother Nondumiso sent samples of two African plants to the University of Pretoria (UP) to confirm their beneficial properties. The Tepane black bush was growing at her grandmother's home, and the Diya red root on her great uncle's farm.

'The scientists found Tepane contained vitamins A, C, E and zinc,' explains Retang. 'These nutrients help to boost the immune system, balance hormonal issues and nourish the skin. They also help to reduce pre-menstrual symptoms and period pain.'

Diya red root has beta-carotene, fibre, zinc and calcium, which helps with indigestion, reduces bloating, strengthens the bones and balances hormones.

Retang was delighted with the findings, as she and Nondumiso had been running workshops which found that baPedi communities' most significant asset was their indigenous knowledge. The research inspired them to pursue their vision to honour, value and promote traditional knowledge in a way that fosters socio-economic development and boosts local job creation.

Their next step was to figure out how to harvest, manufacture, package and sell Tepane and Diya as wild African brews for tea connoisseurs and a growing market of consumers seeking health benefits from ethically-sourced natural products. This marked the beginnings of Setšong Tea Crafters in 2014.

'We mapped the entire value chain, and helped the Ga Phaahla and Ga Matlala Ramoshebo communities to register their own co-operatives for Diya and Tepane,' says Retang.

Wild harvesting is done by the local communities. The raw plant material is then washed, ground, dried, packaged and branded at the Setšong facility on a small farm near Marble Hall. Sustainable harvesting was a priority for the Setšong team, using traditional community knowledge. And while both species are currently harvested in the wild, Setšong is also doing cultivation trials with the Council for Scientific and Industrial Research (CSIR).

The first Setšong teas were introduced to the market in 2017 and by 2021 there were eight different infusions



Image: GIZ/ABioSA/Brett Eloff



**Our motto is
*Bapedi A re
Boeleng Setšong ka
Sepedi* – Let us go
back to our culture.**

available in nearly 30 locations in four SA provinces.

With support from the ABioSA project, Setšong was able to improve its branding and packaging, develop a marketing strategy, upgrade its website and diversify into new products made with unique African plant flavours.

ABioSA also helped Retang and her team to prepare for an organic certification audit in early September 2021, which included hygiene training as part of a move to light commercial processing for a bigger market.

The ABioSA funding is helping Setšong to get Access and Benefit-Sharing (ABS) compliance and biotrade permits. This will enable the tea makers to verify their traditional knowledge holder registration on the Department of Science and Innovation's Indigenous Knowledge System's database, and it will facilitate signing of benefit-sharing agreements and securing biotrade permits from the Department of Forestry, Fisheries and the Environment (DFFE).

Engagements with the traditional authorities and tribal councils of both communities are underway.

Setšong was also a beneficiary of the ABioSA human capacity development programme. Permanent jobs at Setšong have swelled from five to 20 since 2018, with 15 new permanent jobs for women and six for people aged under 35.

Seasonal jobs grew to 10 in the same period. Communities have also benefitted from entrepreneurship and leadership training, and development of skills in responsible harvesting and processing.

The research confirmed what the baPedi people in Limpopo's Sekhukhune district had known for generations – the indigenous Tepane black bush and Diya red root boast many health-giving attributes.

Retang believes Setšong's success comes from tapping into a trend towards natural products and a global wave of health consciousness. Yet the core of their vision remains to restore pride in indigenous knowledge. "Our motto is "*Bapedi A re Boeleng Setšong ka Sepedi*" – 'Let us go back to our culture'."

The biotrade sector has a mix of advanced and entry-level small, medium and micro-enterprises (SMMEs), many of which have had technical and financial support from ABioSA



Building a competitive SMME ecosystem

Image: GIZ/ABioSA/Brett Eloff

Serole Mketsu

Small businesses are important contributors to economic growth, employment and development. They are an established feature of the emerging biotrade and bioprospecting sector in southern Africa, and are on the frontline of rural development, job creation and adding value to indigenous plant resources.

In South Africa, small, medium and micro-enterprises (SMME) are characterised as enterprises that have less than 200 employees, an annual turnover of less than R64 million, less than R10 million of capital assets, and direct managerial involvement by the owners.

The sector has a mix of advanced and entry-level SMMEs, many of which have had technical and financial support from ABioSA. The aim of the support is to help to overcome challenges, provide skills to enhance good practice, apply new technology and make SMMEs more innovative and competitive in local and international markets.

Among the requirements of a competitive SMME ecosystem are access to finance. In a new sector, businesses without substantial assets or a financial history

may struggle to access funds from conventional sources, so new financial models are required (see page 10).

SMMEs also require non-financial support such as skills development, and help to access markets by overcoming trade barriers and complying with regulations. This support needs to be enabled by specific policies and programmes with involvement of governments, international development agencies and business organisations.

Public-private sector dialogue and cooperation is a critical part of identifying constraints and delivering coordinated support to the small business sector.

In the second phase of ABioSA, the focus will be on moving SMMEs through the pipeline and from one level to the next, through collaboration and support from government, business organisations and other biotrade stakeholders. The aim is to increase the number of southern African SMMEs accessing new local and international markets.

Serole is a GIZ advisor on the ABioSA project

A commitment to sustainability and innovation



Image: GIZ/ABioSA/Brett Eloff

Search for drought-resistant crops leads back to indigenous plants

Highland Essential Oils (HEO) extracts essential oils from cultivated *Tagetes minuta*, locally known as kakiebos and generally considered a weed.

By 1998 their 500-hectare kakiebos crop was producing two tonnes of essential oil a year, making up some 20% of the global market.

They then began to grow, harvest and distil oils from other species, like rose, yarrow and chamomile, and supply local and global food, medicinal, perfume and industrial markets. Apart from essential oils, the HEO product line now includes cold-pressed vegetable oils such as indigenous Kalahari melon seed (*Citrullus lanatus*).

Most of the large-volume oils are exported. The farm produces between 500kg and 1.2 tonnes of kakiebos a year for export. When prolonged drought struck the region, the Minnaars searched for drought-tolerant species that could be grown organically. With funding from ABioSA, HEO focused

on African wormwood (*Artemisia afra*), and plan to expand the current eight hectares under cultivation to 50 hectares.

The ABioSA funding also enabled HEO to set up a new nursery to propagate their own seedlings, and they are starting to cultivate Kalahari melon, Imphepho (*Helichrysum odoratissimum*) and wild rosemary (*Eriocephalus Africana*).

ABioSA is also helping the Minnaars to navigate the complexities of Access and Benefit-Sharing (ABS) and comply with government regulations.

Social accountability is a core value in the business and they are proud to be creating employment, particularly during planting and harvesting seasons. Up to 80 seasonal workers are employed to harvest kakiebos.

HEO have been certified organic since 2011 and have a vision is to farm 'in partnership with nature, and to build a sustainable future'.

Preserving Botswana's best

Maungo Craft
is creating jobs
by inserting
indigenous plant
products into
global value
chains



Image: GIZ/ABioSA/Jonathon Rees



Olayemi Aganga decided to form a company based on indigenous fruits like Marula and Baobab, which are drought-tolerant and a good climate change mitigation strategy.

He and Maungo Craft co-founder Bonolo Monthe began to buy up the tonnes of fruit pulp left behind when other companies extracted cosmetic oil from Marula seeds, and then launched a line of gourmet preserves blending Marula and Baobab with chilli, ginger, banana and coconut.

‘We’re trying to insert indigenous plant products into global food value chains, and to create jobs,’ says Olayemi.

The seasonality of Marula was a challenge, with a large tree producing up to 1.2 tonnes of fruit that has to be processed before it rots. An ABioSA grant enabled the entrepreneurs to set up a cold room, enabling them to work with more raw material and extend their processing time. Olayemi describes this as a ‘game changer’ which boosted production and reduced waste.

The ABioSA grant also funded marketing, videos, promotions, tastings and social media, which helped to position indigenous fruits and flavours as unique and desirable. ‘Because of the marketing we’re now somewhere between a niche product and a national brand,’ says Olayemi.

ABioSA support also enabled the team to secure trademarks in the US and African markets.

The operation has grown to five full-time employees and stimulated employment in the wider value chain, from couriers to social media marketers and label manufacturers. But the biggest difference is at the grassroots, where Marula oil processors are now employing up to 1,000 seasonal harvesters to gather the Marula fruits in Machaneng and Gabane villages.

The Maungo founders embrace a circular economy and are advocates of using indigenous resources, and for Access and Benefit-Sharing legislation which is still under development in Botswana. Olayemi is secretary of the Natural and Indigenous Association of Botswana, and Bonolo has spoken at the African Union on the importance of indigenous foods in the value chain and been named a UN Food Systems champion.



Ensuring quality of indigenous oils

Image: GIZ/ABioSA/Jonathon Rees

Dr Mathilda Mostert

Partnering with ABioSA enabled Precision Oils to invest in three new analytical instruments, creating the capability within South Africa to characterise micro-components (tocopherols and sterols) in oils such as Baobab, Marula and Ximenia. We are also now able to characterise and standardise colour requirements for these oils.

We could previously analyse oils for macro components such as the fatty acid profile, but are now able to determine the micro-compounds related to determination of their authenticity. This is important with high-value oils at risk of being adulterated with cheaper substitutes, which can seriously damage an emerging industry.

Producers wanting to do these tests previously had to send samples abroad, which was expensive and had a long turnaround time, with uncertainty about whether the sample was preserved in transit.

Now we can do it faster locally, at a lower cost, with greater reliability. The new equipment is SANAS-accredited, which means we can provide international certification for local oil producers.

The relationship with ABioSA came about through industry networks and relationships – we were referred

by the Southern African Essential Oils Producers Association (SAEOPA). This shows how all parts of the biotrade value chain depend on each other.

During the project we also provided oil producers with training on improved methods of quality oil production and the importance of quality testing, and how to interpret technical documents from laboratories. Over three sessions we trained 39 representatives from SMMEs and as part of the ABioSA library of knowledge products we produced a comprehensive training manual. This allows the information to spread beyond training participants.

The final component of our work with ABioSA was raising awareness of indigenous oils. We did this through articles in magazines like *SA Food Science and Technology*, and through a new website for Precision Oils.

As a result of ABioSA support, technical data on Baobab oil is now contributing to a new South African standard, and my laboratory has contributed content on indigenous oils and their properties to the **African Herbal Pharmacopeia**.

Mathilda is owner and manager of Precision Oil Laboratories

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The beauty and bounty of Zimbabwe's indigenous plants

ABioSA helped Divine Pro Skincare get certification for its natural products and secure access to international markets. Company founder Providence Moyo has a passion for indigenous plants and set out to use them in hand-made skin and hair products as a way to create jobs for rural communities.

She started with Baobab oil, manufacturing day and night from a small room. Soon Providence had identified women in rural communities who were able to harvest and supply Baobab, Mongongo and Marula oil which she used to create a range of tissue oils.

But access to the export market required her packaging to meet export standards and EU labelling regulations. ABioSA funding helped to develop a factory and buy equipment. 'We are now operating at a different level. Certification and testing are expensive, but ABioSA came through for us. Our products are being tested and we're completing the paperwork. We're looking forward to having them sold in the EU.'

The funding also enabled Divine Pro to start manufacturing organic juices made from indigenous plants.

ABioSA helped Providence to implement Quality Management Systems (QMS) as well as Good Manufacturing Practices (GMP) and Good Warehousing Practices (GWP).

A biochemist has been employed to ensure quality control, and an accountant to steer the company's finances. These changes enabled Providence and her team to secure a series of product deals with retailers across Zimbabwe.

Expanded local sales led to the creation of six direct jobs and the support for more than 50 indirect jobs.

Implementing fair trade principles included providing the rural women who supply raw plant products with financial, administrative and other business management skills.

Providence was named Enterprising Woman of the Year 2020 and Outstanding Entrepreneurial Leader, and is proud to have changed how young people view indigenous plant products (see page 27). 'It's not only women, we're also reaching teenagers so they can learn to use indigenous plants to make a living and run a business.'

Expanding the profile of organic African essential oils



Image: GIZ/ABioSA/Brett Eloff

When Grant McMurray set out to produce organic essential oils on his farm in KwaZulu-Natal, he had a vision to help overcome local challenges like unemployment.

He now employs about 120 people, many of them at Veld Botanicals which trades as the aromatherapy label SOiL, with nearly 100 products grown, processed, manufactured and distributed from the family farm.

SOiL is today a household name among eco-conscious consumers in South Africa, selling between 80,000 and 100,000 products a month, of which 25% are exported.

Having established itself in aromatherapy, the next step for SOiL was to branch into body care with a grant from

the ABioSA project, leading to the development of 14 new products using Baobab and Kalahari Melon.

Grant wanted to raise the profile of indigenous African plant ingredients in large export markets, and ABioSA funding helped SOiL comply with international regulatory requirements. Now the company is focusing on exports to the EU, the Americas and Asia.

By working across the whole value chain, from growing raw ingredients to packaging and trading finished products, SOiL can ensure its business promotes local economic growth, creates employment and uses local renewable resources.

Certification challenges and lessons learned

SOiL was the first South African company to sell a complete range of 100% certified organic essential oils. The certification is administered by the French body ECOCERT, which inspects SOiL farming and processing facilities annually.

For land to be certified organic, it must be free from harmful chemicals, pesticides and fertilisers. SOiL is also ECOCERT Fair For Life certified, which means implementing strict ethical trade, social and environmental standards.

SOiL had to overcome a number of hurdles in its journey to certification, which provides useful lessons for other biotrade companies.

Choosing the right raw ingredients is demanding and time-consuming, with a lot of documentation required from the producer for submission to ECOCERT. Product formulation then requires experience with organic and natural raw materials to develop a pleasing end-product that meets certification standards.

‘Meeting the organic standard is non-negotiable for SOiL, but it was harder than we thought,’ says director Grant McMurray.

SOiL was unprepared for the effect of the migration from the ECOCERT Cosmetic Standard to the harmonised COSMOS standard. All of SOiL’s ingredients had to be resubmitted for approval under Cosmos. After three months some ingredients were rejected, so SOiL had to research a replacement and then source a new overseas supplier in the middle of the Covid pandemic.

Another challenge was ABS approval for its range based on Kalahari Melon Seed oil. SOiL buys the material from Highland Essential Oils, which had its own ABS delays.

‘We can’t get our ABS certification until they get theirs,’ says Grant, ‘so the lesson is that all players in the value chain depend on the whole value chain working.’

‘Don’t assume organic certification will be straightforward,’ he says. ‘You have to be committed to overcome challenges along the way. But if the certification is hard to get, it really adds value once you have it.’

‘Nobody said it was going to be easy, but being ABS-compliant, certified organic and approved by the EU....it’s definitely worth it for the business.’



Image: GIZ/ABioSA/Brett Eloff

The biotrade sector needs reliable knowledge and effective communication to flourish. But information is often fragmented, too technical and not accessible to those who need it.

Small businesses now have access to a unique set of guides which explain the intricacies of compliance with EU export regulations. A guide to good manufacturing practice details the processes required to maintain a professional

ABioSA embraced communication as a strategic activity that contributes to understanding and supports economic, social, environmental, development and other biotrade goals. A wealth of biotrade knowledge is available at **www.abs-biotrade.info**.



COMPLIANCE

Technical and product data for vegetable and essential oil EU compliance



ABioSA GUIDE

JUNE 2021



COMPLIANCE

Cosmetic products in Europe EU Regulation EC 1223/2009



ABioSA GUIDE

SEPTEMBER 2021

The EU regulation for cosmetic products (EC 1223/2009) requires a Product Information File (PIF) for all cosmetic finished products made available on the European Economic Community market. This document must be read together with the ABioSA guide Product Information File: Regulatory documents and information needed to create a PIF.



TRADE FAIRS

Trade fairs for small businesses in the natural ingredients sector A guide to preparation and participation



ABioSA GUIDE

JULY 2021



OIL CHEMISTRY

Basic oil chemistry for producers of indigenous oils A guide to testing, analysis and quality production



ABioSA TRAINING MANUAL

FEBRUARY 2021



OIL CHEMISTRY

Basic oil chemistry for producers of indigenous oils A guide to testing, analysis and quality production



ABioSA TRAINING MANUAL

SEPTEMBER 2021



GOOD MANUFACTURING PRACTICE

Good manufacturing practices (GMP) for the biotrade cosmetics sector Minimum requirements to ensure quality



ABioSA GUIDE

JULY 2021



COMPLIANCE

Tests for EU compliance Minimum analysis required for oils and cosmetic products



ABioSA GUIDE

SEPTEMBER 2021



COMPLIANCE

Product Information File Regulatory documents and information needed to create a PIF



ABioSA GUIDE

SEPTEMBER 2021

This guide establishes a basic guideline to be followed for cosmetic products intended to be made available on the EU market; it includes an outline of the documents required to create a Product Information File (PIF), and aims to summarise the key regulatory points of the PIF creation process. This guide covers compliance for both the ingredient and final product stages covered by EC Regulation 1223/2009.



COMPLIANCE

Classification, labelling and packaging Compliance with EC regulation 1272/2008



ABioSA GUIDE

AUGUST 2021



Assessing project impact



Image: Rooibos Ltd

Suzanne Herbst

A robust monitoring and evaluation (M&E) methodology was implemented throughout the ABioSA project. This included the use of the Monitoring, Evaluation, Accountability and Learning (MEAL) tool as a cyclical approach to enable the outcomes and knowledge generated from each work package to be carried over to the next work package.

This enabled adjustments to the project based on evaluation findings, stakeholder suggestions, lessons learned and changes in context; all made possible by constant and transparent communication between the project team and all stakeholders.

Phase I of ABioSA gathered baseline data on the wider sector and SMMEs which had technical and financial support from the project.

Reliable baseline data is not only important for ABioSA, but also for the wider sector to measure progress against growth projections in the new species-specific sector development plans. Government can also use the baseline to understand what kind of enabling environment is needed to develop the sector.

The analyses gathered sector and company-specific information based on the **UNCTAD BioTrade Principles and Criteria**; and included the development of pro-poor targets reflecting job creation, empowerment of women and rural development. ABioSA project objectives have been closely aligned with the criteria of the M&E framework.

The M&E process looked at external factors impacting the biotrade, and the resilience of key biotrade stakeholders was determined, including how they deal with risk.

Finally, a comparative analysis investigated factors which might have an impact on readiness to develop a profitable business while conserving the natural environment and ensuring that local communities benefit from the biotrade.

The M&E process also reviewed how the stakeholders' knowledge base has been supported through the development of ABioSA knowledge products, and looked at how to remove blockages to the flow of knowledge and improve opportunities for learning and innovation.

Suzanne is a consultant at Kruger, Swart & Associates

M&E in action

The MEAL tool contributes to learning during a project. The monitoring component provides data, identifies gaps and suggests corrective actions, while the evaluation highlights broader issues, captures learnings and contributes to broader project changes and revised strategies. The accountability component provides feedback to project beneficiaries and stakeholders to help make informed management decisions. The learning component refers to how the challenges of the project beneficiaries can be addressed.

The ABioSA M&E process tracked the progress of ABioSA SMMEs, and a theme which emerged was the lack of alignment between wild harvesters and small growers, and the end-consumer or manufacturer.

Manufacturers sometimes purchase semi-processed materials or final products through a third party. In many cases, they don't know where the natural ingredients were harvested, how the harvesters were treated and remunerated, the impact of demand on biodiversity, or if any conservation plans or ABS agreements are in place.

These issues have been addressed partially through the development of Biodiversity Management Plans, and by bringing these challenges to the attention of government and business support organisations.

This is a vital accountability and learning component of ABioSA M&E.

A powerful learning journey

It's been an enriching experience and I've been able to sharpen my research, time management and communication skills under the guidance of industry professionals.

Image: GIZ/ABioSA/Brett Eloff

Chimwemwe Tembo

Working on the ABioSA project gave me the opportunity to be mentored by an all-woman team of experts, and supported my aim to be a leading researcher who acknowledges indigenous knowledge systems.

In July 2020, I started as a postgraduate intern at Kruger, Swart and Associates (KSA), tasked with desktop research and fieldwork seeking data to underpin sector development plans being developed collaboratively by KSA with other biotrade stakeholders.

It's been an enriching experience and I've been able to sharpen my research, time management and communication skills under the guidance of industry professionals.

I have also been inspired to mentor the next generation of young female scientists, and to promote sustainable livelihood development while increasing resilience in communities that are most vulnerable to food insecurity.

My main academic interests are agroecology, sustainable agriculture and systems thinking. What interested me most about ABioSA was ABS-compliant value chains delivering

fairer sharing of the benefits of genetic resources.

Through ABioSA I increased my knowledge across the entire biotrade value chain from primary production to global market regulations. I specifically appreciated ABioSA's commitment to environmental, social, cultural, and economic sustainability.

The project gave me first-hand experience of developing a sustainable sector plan led by the needs of the stakeholders in a bottom-up rather than top-down approach. Working with transboundary species like Marula and Baobab gave me experience of regional collaboration.

ABioSA and BioPANZA made me passionate about access to products produced in one's own country, and I see the sector development plans as first steps towards promoting local demand and availability of indigenous biodiversity-based products.

Chimwemwe is a PhD candidate in Sustainable Agriculture at Stellenbosch University, and a postgraduate intern at Kruger Swart and Associates



A wild harvesting success story



Our mission is to identify resources in and around rural areas and deliver world-class indigenous ingredients and products

To most people, the value of a rose lies in the beauty of its bloom. Less known is the edible fruit that forms beneath the petals after flowering.

In the health and beauty industry, these fruits called rosehip are every bit as famous as the iconic rose. They are a rich source of Vitamin C and believed to reduce arthritis and boost heart and joint health. Rosehip is also widely used in beauty products, with its high anti-oxidant and Vitamin C profile believed to offer potent anti-ageing properties.

Wynand Gericke, owner and founder of Rosehip Farm, found *Rosa rubiginosa* growing abundantly in parts of South Africa's Free State province, and in neighbouring Lesotho.

'We found it growing in many poor rural areas but with no market,' he says, 'and we identified an opportunity for the rosehip wild harvest to enhance rural livelihoods.'

Wynand trained people where the rosehips grew wild, developing wild harvesting skills that maintain ecosystem health, and committed to buying everything they could produce. He soon received a substantial order and his operation has continued to expand.

Rosehip Farm uses the whole fruit. It sells the shells and makes a powder and tea from the outer shell covering, and cold-presses a rosehip oil from the seeds. All the products are certified organic by ECOCERT.

More than 50 communities have been trained and signed up to supply Rosehip Farm with wild-harvested rosehip, and Wynand has begun to add indigenous species to his range.

He realised that when the rosehip harvest was over the income would dry up for rural people, and he began to research indigenous plants growing in the same areas, among them Imphepho (*Helichrysum odoratissimum*), African geranium (*Pelargonium sidoides*), African wormwood (*Artemisia afra*) and wild rosemary (*Felicia filifolia*).

An ABioSA grant enabled Rosehip Farm to invest in growing and diversifying the business, and to create employment for more of the year. 'Our mission is to identify resources in and around rural areas and deliver world-class indigenous ingredients and products,' says Wynand.

The ABioSA funding enabled Rosehip to invest in new equipment for production and testing of indigenous essential oils and dried products, including pots, condenser, separator, and water-cooling tower, and to increase the capacity of the company's steam distiller and acquire equipment to test oil quality.

The investments have extended the income cycle for local harvesters from four to eight months. While the Covid pandemic affected the market, Wynand is determined to keep adapting and delivering on his vision for sustainable livelihoods from indigenous plants. 'We're not giving up on the people,' he says.



Indigenous plants thrive even during times of low rainfall and offer alternative sources of income at different times of the year.

Traditional plant knowledge backed by science

Image: PhytoTrade Africa

When KaZa Natural Oils sent its Mafura products for efficacy testing, the results were better than expected.

‘The most surprising finding was the sun protection factor,’ says managing director Nyarai Kurebgaseka. ‘We knew Mafura oil and butter would protect against sun, but we were not expecting a protection factor as high as 14.’

KaZa, a specialist producer of indigenous African plant products, is based in Harare, Zimbabwe. The company was founded in 2016 and is part of B’Ayoba, a leading supplier of Baobab products.

KaZa uses scientific research to identify and promote the beneficial properties of plant species such as Mongongo, Kalahari Melon, Ximenia, Lippia Javanica, Kigelia and Resurrection Bush.

Local people have long been aware of these properties, and KaZa applies science to their traditional knowledge. The approach enables KaZa to expand the market for indigenous plant ingredients. Its top export markets are now France, the US and South Korea. These customers then further process the ingredients, mainly for the beauty industry worldwide.

For the addition of Mafura butter and oil to the KaZa range, the complex and expensive research process was enabled by a grant from the ABioSA project. The funds enabled scientific testing and helped KaZa to engage new rural producer communities to supply the raw Mafura.

Mafura butter is semi-solid and creamy at ambient temperature, with anti-microbial and anti-inflammatory properties.

‘ABioSA helped expand our operations and set up harvester groups in new areas. Now we have a community that we’ve trained and certified organic around the supply of Mafura.’ KaZa aims to replicate the process for other supplier communities.

ABioSA funding was also used to facilitate Access and Benefit-Sharing (ABS). Zimbabwe became a signatory to the Nagoya Protocol in 2017, but ABS structures and processes were ambiguous and difficult to navigate, with roles between private sector and government departments not clearly defined, explains Nyarai.

‘When people asked for information, we would often get stuck. So we have been working with government and communities and we’ve made a lot of progress with issues like harvesting permits and are now working towards biotrade and bioprospecting permit applications.’

KaZa celebrates being able to support community livelihoods by giving value to indigenous plants. Most plant ingredients it works with are found in semi-arid ecosystems where rainfall is not guaranteed and farmers are looking for other agricultural options.

Indigenous plants thrive even during times of low rainfall and offer alternative sources of income at different times of the year.



Thank you to everybody who has contributed to the success of ABioSA. We are pleased to have contributed to a robust biotrade sector which goes from strength to strength through partnership and collaboration.

The entire sector demonstrated its resilience when the Covid pandemic hit in 2020, boosted by global consumer interest in good health and immunity supported by organic and natural products.

Small businesses in particular were quick to adapt to online sales, and in some cases pivoting to production of sanitiser. Not one of the SMMEs we supported had to close their doors, which is a real tribute to the strength of these flourishing enterprises.

The success of ABioSA and the wider sector is a tribute to strong relationships, strategic interventions and commitment from government, business and development partners.

SECO, DFFE, GIZ, the ABS Initiative and the ABioSA team look forward to continuing this good work in Phase II.

Finally, we celebrate and remember the few biotrade partners and friends who started the project but are no longer with us.

Image: GIZ/ABioSA/Brett Eloff

