

Collaborative models for sustainable biotrade

Outgrowers, hubs and aggregators



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Introduction

The biotrade sector is currently not always able to supply the market with a consistent volume of quality raw materials. This may be addressed by new collaborative models that are already successfully applied in the agriculture sector, and which could help to boost volumes of raw materials, provide shared production facilities, raise quality and enable market access and regulatory compliance.

Small companies at primary production and processing level often don't have the scale and resources to address their challenges alone. This can result in low volumes being squeezed on price, and producers losing their identity as output is absorbed by bigger brands.

A value chain approach is required to create collaborations with bigger commercial players, who can serve as aggregators, with the resources to manufacture and market a consistent high-quality product compliant with market and regulatory requirements.

This model has clusters of outgrowers around a central hub that supplies the aggregators, and an organised industry body supporting the entire value chain.

Many parts of this value chain already exist in southern Africa, including small growers and hubs, primary producers, established commercial operations, and well-known sector organisations like the Southern African Essential Oils Producers Association (SAEOPA) and the African Baobab Alliance.

There is a need for greater coordination between all of these stakeholders, based on sound business principles and a mutual understanding of how collaboration helps to build the sector.

This guide summarises the hub and outgrower model and the role of aggregators in development of a sustainable trade in natural plant products. It uses as examples four South African businesses, the established social enterprise Qobo Qobo in the Eastern Cape, the new African Botanical Company (ABC) in the Western Cape, and a collaboration between Botanica in Limpopo and the Siyavuna farmer development NGO in KwaZulu-Natal.



First stage processing of raw plant material before distillation. Picture: ABioSA/Proof Africa/Jonathon Rees

The biotrade aggregator concept

The concept of an aggregator was developed in response to challenges reported by both developing and established companies. These challenges include a need to produce significant volumes, to consolidate standards and quality control, and to identify and penetrate markets.

An aggregator is imagined as an established and well-resourced company, with expertise in quality processing and access to technology, and which is able to take substantial volumes of product to market. It should be ABS compliant and committed to sharing benefits across the value chain.

The development of aggregators would substantially help southern Africa to be recognised as a reliable provider of quality export products based on botanical resources.

It is an approach which is successfully executed by many other agricultural sectors in Africa and internationally, including coffee, cocoa and wine.

Challenges

The outgrowers, hub and aggregator need to work together to address specific challenges inherent in the model, including how to ensure quality and consistency when merging small batches into a greater volume of material.

Ingredient profiles are required to ensure suitability of incorporating the product into a blend, as some indigenous plants have variable profiles depending on their habitat. One of the solutions is the selection and development of stable clones that produce a reliable quality product from batch to batch. This would exclude wild harvesting from the supply.

Tests for pesticide residue are required, as pesticides can be accumulated and enriched in the distillation process.



A good working relationship based on trust is required to make the outgrower, hub and aggregator model effective. It will need clearly defined partnership agreements for specific markets, and an agreement of balance of supply from each party.

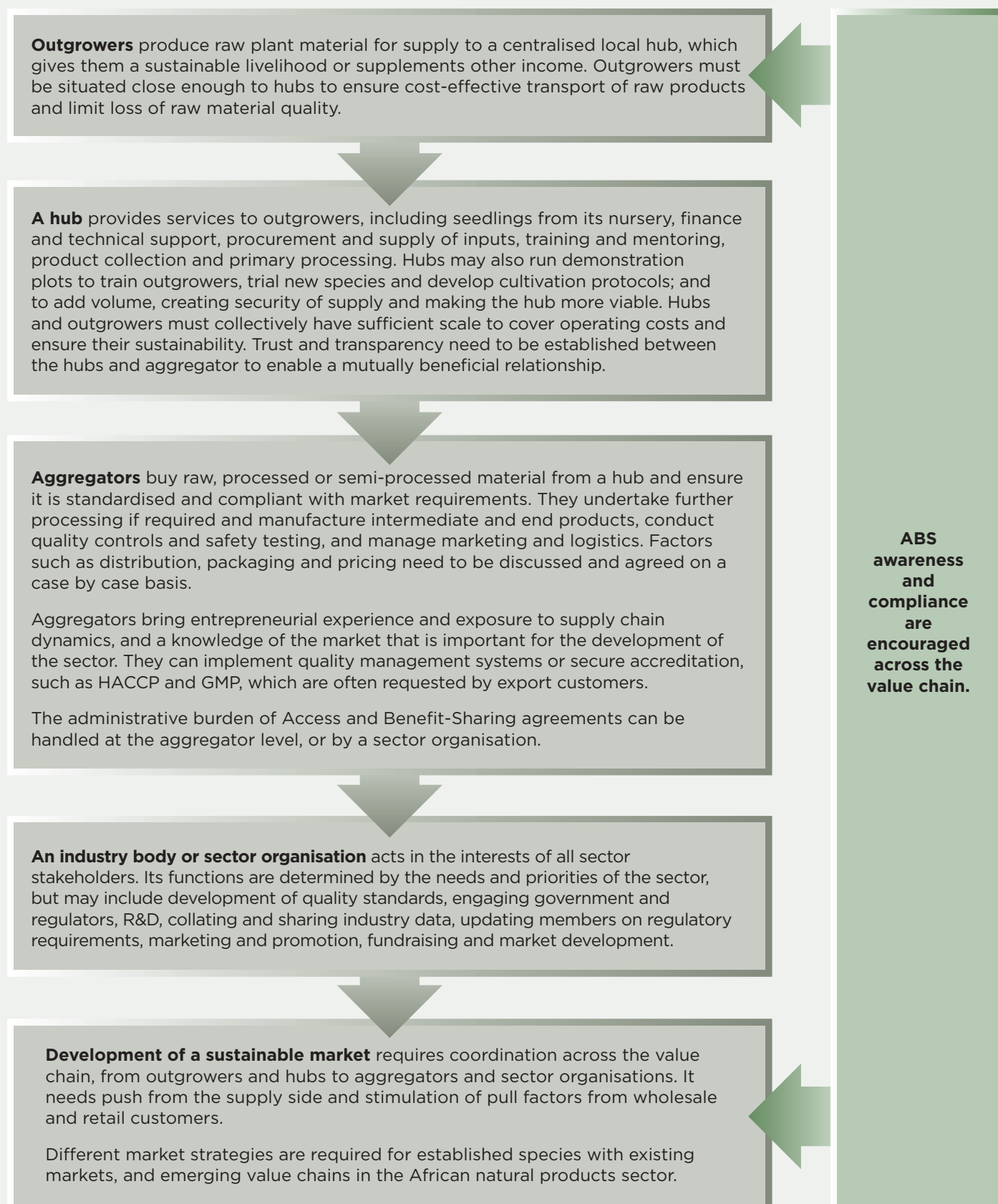
Responsibilities need to be defined. The aggregator, for example, might take primary responsibility for development and supply of stable clone material to ensure reliable batch quality, and could provide training on cultivation and processing protocols.

The management and operators of the hub need to be responsible for observing agreed protocols, and committed to reliable delivery of the right volume and quality of raw or processed material.



The seedling nursery at Herbs-Aplenty near Caledon in the Western Cape. Picture: ABioSA/Proof Africa/Jonathon Rees

This model illustrates how outgrowers, hubs and aggregators can collaborate in a biotrade value chain. It is based on successful models applied by the agriculture sector, but would need to be adapted to suit particular circumstances.



Case studies

Qobo Qobo's hub and outgrower practice



Qobo Qobo's hub and outgrowers cultivate Rose Geranium and Rosemary and produce high-quality essential oils at their own distillation facility (Pictures: Qobo Qobo)

The Qobo Qobo Essential Oils (EO) Incubator is a good working example of the hub and outgrower model. Located in Keiskammahoek in the Eastern Cape, it was started in 2006 by the Siyakholwa Development Foundation, an East London-based non-profit organisation.

Qobo Qobo is a social enterprise, aiming to provide a livelihood for small rural outgrowers and become a self-sustaining entity. It employs 50 permanent and 28 seasonal staff. Qobo Qobo is registered as a Non-Profit Company (NPC). Its beneficiaries are small growers of species used to distil essential oils.

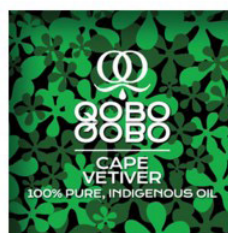
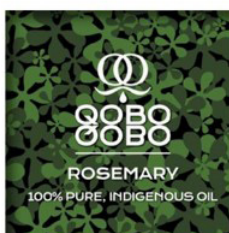
Qobo Qobo has eight outgrowers, each with five hectares, comprising one hectare of Rose Geranium (*Pelargonium var Rose*) and 4ha of Rosemary (*Salvia rosmarinus*). This is a good product combination since it allows farmers and the business to benefit from the stable market for classic essential oils while developing a high-potential indigenous oil.

The Qobo Qobo hub has a further 5ha of Rose Geranium and 15ha of Rosemary under cultivation, producing additional volume and serving as demonstration plots. Qobo Qobo also has trial plots of Cape Chamomile (*Eriocephalus punctulatus*), Lavender (*Lavandula*) and *Helichrysum spp.*

The hub provides a comprehensive service to its outgrowers, including training, agronomy support, provision of seedlings and other inputs, and collection of their harvest.

The distillation plant has two one-ton distillation pots and is currently producing 300kg of essential oil per annum, which is sold online to local consumers in 10ml and 100ml retail bottles, and to commercial customers in five-litre bottles. There is currently no further processing of the oil beyond the onsite distillation and bottling.

Qobo Qobo's biggest challenge is finding markets for its product. It would like to access the export market but lacks knowledge of technical product requirements and the commercial aspects of exporting.



A potential aggregator – the African Botanical Company

The African Botanical Company (ABC) is an example of an enterprise which could fulfil the function of a biotrade aggregator. Based in the Western Cape, it was formed in 2020 through a partnership between two experienced industry players, Parceval Pharmaceuticals and Herbs-Aplenty; with the ability to combine skills, facilities, knowledge and networks.

ABC is a vertically-integrated business, which includes farming a wide variety of botanicals, wild harvesting, procurement of raw product, primary processing, advanced processing, and local and export marketing.

It has state-of-the-art manufacturing and product development facilities, and a product range including tinctures, essential oils, hydrosols and hydro glycerites, homeopathic potencies and powders for food, cosmetic or pharmaceutical applications.

ABC supplies both final products and ingredients. It has access to a wide range of organically-certified and conventional botanicals.

As well as producing and manufacturing its own products, ABC is a service provider to the biotrade sector, including technical expertise on propagation, cultivation, supply chain set-up and management. It also does contract processing and manufacturing.



Herbs-Aplenty and Parceval cultivate a range of biotrade species and have sophisticated extraction and processing facilities combined with market knowledge and logistical expertise. Picture: ABioSA/Proof Africa/Jonathon Rees

Testing the model: Botanica and Siyavuna

A public-private collaboration between a development investment agency, a Limpopo business and a KwaZulu-Natal (KZN) NGO shows how outgrowers, hubs and aggregators can unlock opportunities and benefits in the biotrade value chain.

The **Siyavuna** Abalimi Development Centre NPC (Siyavuna) is an NGO with a small farmer development programme at Ramsgate on the KZN south coast. It has trained more than 2,000 farmers, and currently mentors 300 vegetable farmers who sell their produce to the organisation.

In 2018 the Industrial Development Corporation (IDC) funded a feasibility study to develop models to empower small-scale farmers through enterprise development. It led to a Siyavuna partnership with established natural ingredient manufacturer **Botanica**, for the cultivation and pre-processing of *Bulbine frutescens*.

This indigenous flowering plant is used to make a soothing gel extract for the cosmetics industry. It has rich potential for market growth and is included in South Africa's National Biodiversity Economy Strategy.

Siyavuna will develop its farmers' cultivation and processing skills, and provide Botanica with a raw product with potential for further processing. This fulfils Botanica's vision to work with small-scale farmers, and boosts its *Bulbine* volumes to meet demand.

The business plan was funded from the Nedbank Foundation Green Economy Fund in January 2021, and is in start-up phase. It involves a hub with up to thirty farmers and 10 young people. The vision is for the NGO and farmers to own a crude gel pre-processing facility, with strict protocols for traceability and prevention of bacterial contamination.

The initiative scaled back in response to Covid-19 and will start with 16 tonnes of unprocessed raw plant material in the first year, produced on two hectares, to be shipped to Botanica in Limpopo. It aims to produce 60 tonnes from 5ha from the second year.

Siyavuna anticipates being profitable after three years and is expected to create 40 permanent and 18 seasonal jobs.

Each party to the agreement has specific responsibilities. Botanica will take care of training in cultivation and processing, Access and Benefit-Sharing, off-take, testing of product and monitoring for organic practices.

Siyavuna is responsible for cultivation, pre-processing, farmer liaison and support, and production inputs. There is a non-compete and IP protection clause in place to protect the interests of the parties involved.

Planned cultivation and supply

Year	Area	Total volume
1	2ha	16 tonnes
2	5ha	60 tonnes
3	5ha	60 tonnes



Botanica's own Bulbine frutescens production will be boosted by tonnes of raw and semi-processed material provided by Siyavuna Picture: AbioSA/Proof Africa/Jonathon Rees