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**STUDY TO DEVELOP A STRATEGY FOR THE DEVELOPMENT OF A
VIABLE ESSENTIAL OILS INDUSTRY IN SOUTH AFRICA
EXECUTIVE SUMMARY**

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VIABLE ESSENTIAL OILS INDUSTRY IN SOUTH AFRICA:

Executive Summary

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EXECUTIVE SUMMARY

Introduction

The need to develop an essential oil strategy was identified from the Chemical Sector Strategy of 2005. As a result of this, the Department of Trade and Industry (DTI) and the Industrial Development Corporation (IDC) commissioned the Institute of Natural Resources (INR) to develop a strategy for the development of a viable essential oils industry in South Africa.

This executive summary provides a brief overview of the essential oil sector in South Africa and also identifies strategies necessary for the growth and development of the sector in South Africa. The strategy identifies a number of cross-cutting issues to be addressed for sector development and also provides recommendations for the development of specific essential oil species.

Overview of Methodology

The methodology used in the development of the strategy was to firstly develop a situation analysis report based on desktop analysis and interviews with key informants. The situation analysis consisted of:

- A review of the two major government supported essential oil programmes (SEOBI and DST/CSIR).
- An overview of the essential oil value chain in South Africa.
- A review of species specific value chains, as identified in the Terms of Reference for the study.
- A review of cosmetics value chains that use essential oils.
- A review of funding sources and programmes that can support the on-going development of essential oil cultivation, distillation and processing in South Africa.

The information from the situation analysis was distilled into a Strength, Weakness, Opportunities and Threats (SWOT) analysis and key issues emerging were identified. Using the key emerging issues from the situation analysis and the SWOT analysis, initial strategic directions for the growth and development of essential oil value chains were identified in a strategic framework discussion document. This was presented at a multi-stakeholder workshop, where sector stakeholders provided input into the strategy. The strategic framework discussion document was modified in response to stakeholder input and again circulated for comment before the final strategy was compiled.

Summary of the Situation analysis

The key outputs of the situation analysis are summarised below.

Review of government essential oil support programmes

A review of the two major government essential oil programmes was conducted. These are the Department of Science and Technology (DST) and the SEDA Essential Oil Business Incubator (SEOBI) programmes. That is not to say that there are other state funded essential oil projects and programmes. Other projects and programmes supporting essential oil production, such as state agencies, NGOs and the private sector, were identified during the course of the research. However the main two programmes are those of the DST and SEOBI.

The DST programme has been rolled out with the Council for Scientific and Industrial Research (CSIR) as an implementing partner. The focus of this programme is on piloting and testing the production of a variety of essential oil plants at different sites to understand the feasibility of production in different areas and to develop economic models and production protocols for essential oil species being researched. Following this research, the idea is that Government departments and other organisations mandated to support primary production would upscale essential oil cultivation based on these models *The focus, therefore, of the DST / CSIR essential programmes is on research and development.*

SEOBI, on the other hand, is a specialised essential oil business incubator and was established to address the constraints experienced by emerging essential oil farmers. It provides technical and business development support to farmers growing, or interested in growing, essential oils. SEOBI supports the social, technical and marketing aspects associated with the production of essential oils, focussing on community development, agronomy, agro-processing, business development and marketing. A key focus of the SEOBI support model is the development of bankable business plans that can be funded by private or public sector funds. The business plans are based on outcomes of a rigorous trial and evaluation process to determine the optimal combination of oils to be produced and matched with the skills of the beneficiaries concerned. *The focus of SEOBI is therefore on implementation, technical support and economic development.*

Key challenges identified by SEOBI and DST programmes are:

- Lack of coordination and cooperation between roleplayers (government, NGO and private sector).
- Coordination of grower groups to establish legal entities, secure land use rights and develop sufficient volumes to justify capital expenditure.
- Limited uptake and support by agencies supporting primary production.
- Achieving entrepreneurial collaboration between private sector and community growers.

Essential Oil Value Chains

In considering essential oil value chains, a review of world and South African trade in essential oils was conducted. The growth in trade value of essential oils between 2005 and 2009 was found increase from USD1.8billion to USD2.5billion, representing a 6.9% per annum increase in the value of trade. While there were no official figures on the value of trade available for 2010 / 2011 production, market reports indicate that essential oils are a commodity that remained relatively unscathed by the recent economic downturns. Most of the trade in essential oils occurs in the European Union (EU), the North American Free Trade Area (NAFTA), Eastern Asia and South America. Trade in Africa and the Southern African Development Community (SADC) region is insignificant. This means that it is difficult to obtain accurate and up to date production and consumption data and that South Africa is a price taker for essential oils. Citrus oil and Eucalyptus oil are the two most produced oils in South Africa, representing 70% of the value of sales in 2009. Other minor oils such as Jasmine, Tagete, Spearmint and Peppermint accounted for 20% of sales. The essential oils identified in the project terms of reference (see overleaf) were found to account for 10% of sales in 2009. A typical value chain for South African essential oil production is provided in Figure 1 below.

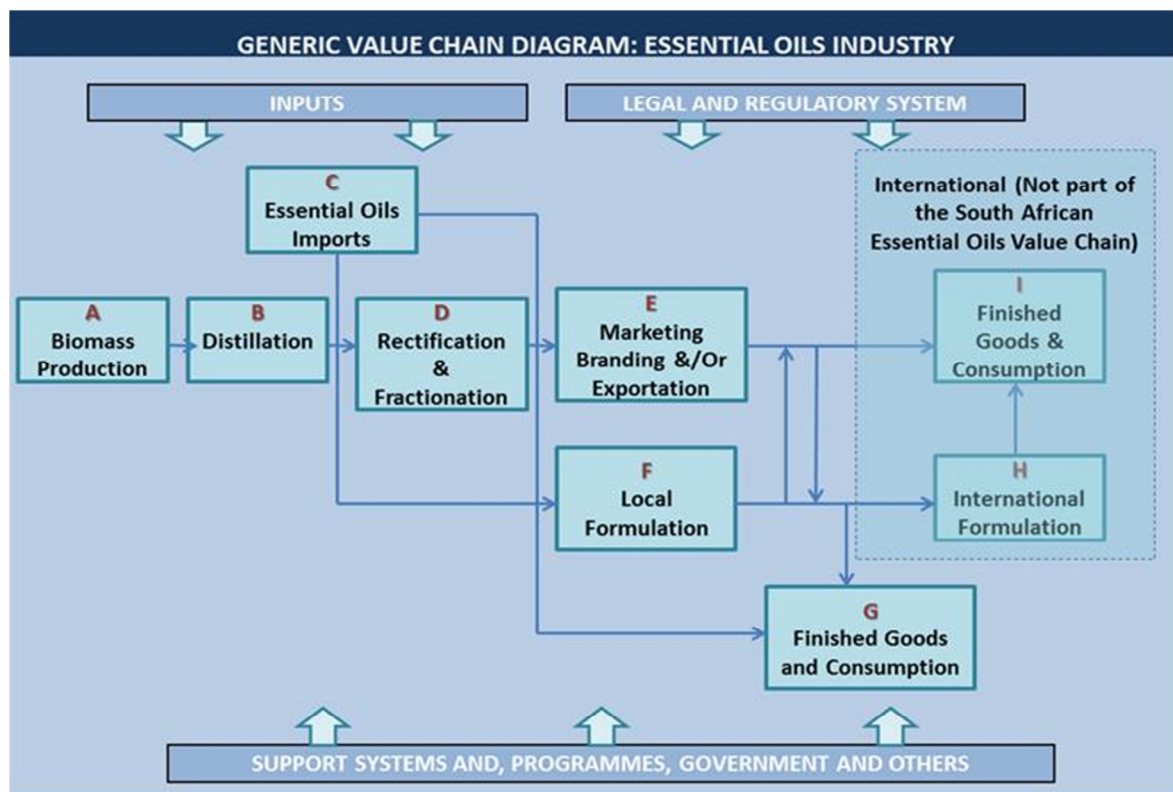


Figure 1: A value chain for essential oils in South Africa.

Species specific value chain investigations were conducted for the following essential oil species:

- Lemon Grass (*Cymbopogon citratus*);
- Buchu (*Agathosma betulina*);
- Rose Geranium (*Pelargonium var Rose*);

- Rosemary (*Rosmarinus officinalis*);
- Lemon Balm (*Melissa officinalis*);
- Lippia (*Lippia javanica*);
- Rose Damascene (*Rosa x Damascena*); and
- Chamomile (*Anthemis nobilis*).

Emerging from the value chain analyses, the following key issues were identified:

Primary production

- Production volumes of essential oil biomass in South Africa are generally low. This has been identified as the factor that most constrains the growth and development of the industry.
- A lack of wide spread knowledge and information regarding correct species/cultivar selection, cultivation practices and inadequate extension support to essential oil growers.
- Shortage of information available to prospective and existing producers in relation to market potential and market values of different essential oils.
- The significance of weeding causes it to be one of the most important cost contributors to total production cost for essential oils (particularly in organic production).
- The production, financial and market risks that the farmers face are high. Production risks are generally high due to a shortage of appropriate information; financial risks are high due to the general unavailability of finance for the relatively unknown essential oil markets; and market risks are high due to unsecured / unpredictable market prices.
- Production is inconsistent as farmers who have not been successful in selling the essential oil they produce are reverting to tried and tested crops.
- The successes and ability of emerging community growers to enter the market is disappointing. Most of the above factors especially the market and information risks coupled with the inexperience of emerging farmers curtail the ability of emerging farmer projects to be successful.

Primary processing

- Poor quality and low volumes of biomass material entering the distilling process adversely affects the cost and efficiency levels of the distillation process.
- There is a lack of understanding by distillers regarding the importance of producing quality oil without contaminants.
- Access to knowledge, advisory services and equipment with respect to distillation equipment and processes is lacking.
- The cost of energy to drive the distillation process is an important consideration in the overall production cost process.
- The high cost of transporting plant materials to distilleries constraints the scale of the distillation plants. This results in the high level of decentralisation of distillation plants leading to inconsistencies in the quality of the outputs.

A review of the cosmetics sector found that in cosmetics (and with many other products containing essential oils), essential oils were usually between 0.1% and 0.5% of the final product. The main drivers of cosmetic use was the desire to look good and the growing interest in using natural products and products that not only enhance beauty, but also have positive biological effects. This represents a market opportunity for the essential oils. South Africa imports a large number of the raw essential oils used in perfumes and cosmetics. Most perfumes and cosmetics are produced by multinational firms that have factories in South Africa. Smaller local cosmetic companies also make use of essential oils in their products. There are around 33,000 retail outlets for cosmetic products in South Africa, which includes an estimated 10,000-12,000 informal salons. Opportunities identified for essential oil in the cosmetic sector are in the development of downstream services or the supply of ancillary products (i.e. supply of essential oils) to existing manufacturers, as barriers to entry in manufacturing are high. However, with the evolution of local and regional tastes and fragrances, which may not be serviced by international suppliers, there are opportunities for new entrants in niche markets.

Strategy development

Three fundamental issues that needed to be addressed for the development of the sector were identified:

- There is a lack of biomass production and volume of oil production. This constrains the development of the whole value chain.
- Producers and traders are price takers, subject to global market forces which are out of their control. Therefore increased volumes (economies of scale) and quality (market security and penetration) are the two main avenues through which competitiveness can be enhanced to facilitate sector growth.
- There are few local buyers and distributors. This results in perceptions that traders are behaving in a monopolistic manner and paying below market prices. This is a reality associated with an emerging sector. The current traders are competing for small volumes of locally produced oil and consequently there is little room for new players and healthy competition, until production of oil has been scaled up.

To address these at a broad level, a need was identified for

- Coordinated support to the growth of the sector, along with cooperation and transparency between sector stakeholders (Government, private sector and NGOs).
- The need to significantly upscale primary production to develop a “market presence” for South African Essential Oils.
- The need for research into (1) optimising production (Agronomic practices, cultivar selection, irrigation, etc), (2) quality control along the value chain and (3) identifying and developing market opportunities.
- The sector is in its infancy – strategy should focus on a process towards developing the value chains.

In addition to the cross-cutting issues, which are considered fundamental in addressing the constraints to the growth of the sector, species specific strategies for the essential oils plants identified for research are also provided for in the strategy.

The strategic framework is structured as follows:

VISION “The growth and development of a robust, competitive essential oils sector producing and processing quality products for local and international markets”

GOALS To facilitate *growth* by increasing the output of essential oils from South Africa
To *develop* the sector through gaining international and domestic market share
To *enhance enabling processes* that facilitate equity and transparency between role-players in the value chain

OBJECTIVES To strengthen the performance of producers of essential oils through coordination and alignment
To increase biomass production (i.e. expand areas of cultivation / harvesting) and to increase the volumes of oils produced (efficiency in processing)
To enhance the quality of essential oils being produced (through interventions along the value chain)
To achieve geographical clustering of support
To improve the image of the South African essential oils industry in order to gain market share.

To achieve the objectives of the strategy, four strategic clusters were identified:

1. **COORDINATION AND ALIGNMENT:** Establish systems and processes which facilitate dialogue, information sharing, cooperation, partnerships and transparency to enhance sector growth.
2. **CAPACITY DEVELOPMENT FOR SECTOR GROWTH:** Training, technical support and information provision are interlinked. The establishment of systems which ensure appropriate and committed training, extension and mentorship support is provided. The focus should be on developing and disseminating information that will enhance productivity, improve quality and facilitate access to markets through extension and mentorship.
3. **MARKET SUPPORT AND DEVELOPMENT:** Producers must be able to make informed choices regarding the potential markets for the crops they grow. Marketing is a specialised activity and producers should be assisted to access markets for their oils. Market support should also increase access to markets by profiling and branding South African essential oils.

4. **GENERATE KNOWLEDGE THROUGH TARGETED RESEARCH:** The focus here is (1) to conduct research that will enhance volumes and quality of oils being produced through conducting agronomic and post-harvest research and (2) research new essential oil products (indigenous and exotic) that have potential, as well as value added products that can be brought to the market. Research should be guided by sector stakeholders and the outcomes of research should inform capacity development programmes.

Within each of the strategic clusters, species specific strategies are embedded and are described in detail at the end of the strategy section. The overall approach in achieving the strategy is provided in Figure 2 below.

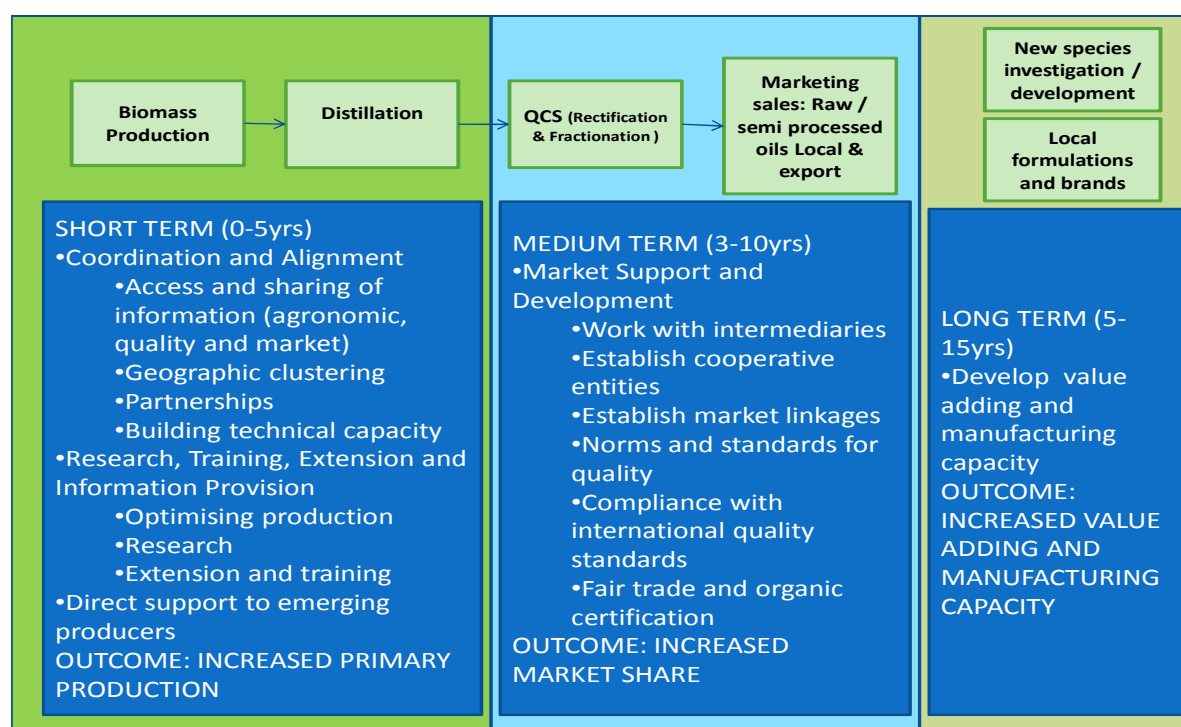


Figure 2: Proposed approach and timeframes for the development of the essential oil value chain.

A detailed implementation framework, which details activities, responsible agencies, and notional budgets, is provided in the strategy.

In addition, recommendations are provided for the funding of sector development. These recommendations consider 'soft' funding, which focuses on research, extension and market development to increase production and sales of essential oils; and also 'hard' funding which relates to the provision of infrastructure and direct support to emerging producers. Infrastructure and inputs should be provided to small growers who are successfully producing economically viable areas under essential oils. The establishment of fixed infrastructure up front is not supported. Projects should be provided access to mobile distillation units during start-up until a critical mass of production is reached that will justify the establishment of a permanent distillery and associated infrastructure.

Furthermore, proposed institutional arrangements for implementing the strategy are provided. It is recommended that the DTI play a leading role in the implementation of the strategy, with DAFF and DST as key Government partners. It is suggested that SEOBI be provided with the necessary resources to roll out in field production and distillation, while the DST / CSIR research partnership focus on the development and sharing of research on essential oils that is articulated by sector stakeholders. Other parastatals and related organisations, such as the Agricultural Research Council (ARC), Investment promotion agencies and Development Finance Institutions also play important roles in providing technical support and financing development initiatives. The important role of private sector and NGO expertise is also highlighted and a representative sector association is suggested, which would work closely with government institutions and agencies in developing the sector.

Finally, it is recommended that a target of expansion of primary production from the current 2000ha under production to 10,000ha over the next 8 years be set. Reported job creation or income generation opportunities are estimated to be two people per three hectares under production. This includes jobs in management and distillation of essential oils. Given an expansion by 8,000ha, this is estimated to provide 5,300 jobs or equivalent income generating opportunities. To achieve this, investments in social development, entrepreneurship, mentorship and extension support and private sector partnerships are necessary. The short term focus of the strategy is therefore on increasing biomass and oil production as this is where the greatest job opportunities can be leveraged and, without sufficient primary production, there can be no essential oil sector in South Africa. The medium to long term focus is on increasing quality, market profiling and manufacturing.