

Marula
(*Sclerocarya birrea*)

AUGUST 2021



Kruger Swart Associates (KSA) were commissioned by the project ABioSA to develop this sector development plan in collaboration with sector partners and participants.

ABioSA has also commissioned a series of knowledge products for key biotrade species. These and other biotrade resources can be found at www.abs-biotrade.info/projects/abiosa/resources

A glossary of biotrade terms can be found at www.abs-biotrade.info/resources

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MARULA (SCLEROCARYA BIRREA)

Sector Development Plan

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

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1. EXECUTIVE SUMMARY

This Sector Development Plan (SDP) was prepared as part of the ABS Compliant Biotrade in South(ern) Africa (ABioSA) project. ABioSA is funded by the Swiss State Secretariat for Economic Affairs (SECO) and implemented by the ABS Capacity Development Initiative under the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. It aims to provide technical and financial support to SMEs and cooperatives in the biotrade sector.

Following initial consultations with key sector role players, a desktop analysis of the national, regional (Southern African Development Community (SADC)) and global status quo of the marula sector was undertaken. The desktop analysis included a document review and key informant interviews. The findings of this research were then shared in a stakeholder engagement workshop with marula stakeholders. Further consultation was carried out with a working group of stakeholders, many of whom are currently part of the Marula Alliance under the Southern African Essential Oil Producers' Association (SAEOPA), in order to verify the information gathered and identify any gaps.

A key objective of the stakeholder engagement workshop was to prioritize the strategic objectives for the sector, which form the basis and direction of the specific work packages included in this sector development plan. The main priorities identified by the marula stakeholder group, included: novel foods registration, generic marketing, marketing requirements, resource assessment, biodiversity and conservation, research and innovation, regulatory compliance, access and benefit sharing (ABS) and traditional knowledge (TK), quality standard development, market protection and intellectual property (IP), and geographic indication. These priorities are unpacked in specific work packages in this sector development plan.

2. INTRODUCTION

2.1. AIM OF THE SDP

The aim of the SDP is to provide a detailed plan or roadmap to guide the development of the sector. The plan also includes details on how to engage with associated value chains, products, and markets as part of sector development.

The plan details how the sector will formalize and strengthen the organization, ensure regulatory compliance, facilitate research and innovation, promote quality and protection, pursue marula's registration as a novel food, and develop and introduce generic marketing. Engagements expected to flow from the aforementioned include biodiversity/conservation status, traditional use, current economic position, existing value chains, market potential, current and future technologies, stakeholders, etc.

The SDP aims to be a succinct document and at minimum includes the strategic objectives of the sector, the actions related to the implementation of the objectives along with responsible persons or organizations, set timelines, cost and a monitoring strategy.

Within the context of the ABioSA project the SDP provides the detailed plan to create an enabling environment for SMEs to operate and grow and for the sector to develop in a sustainable way.

2.2. OVERVIEW OF PROCESS FOR DEVELOPMENT OF THE SDP

The following details the process through which this SDP was finalized. At the onset of the project, a stakeholder list was consolidated using the BioTrade stakeholder list and SME Species list as shared by GIZ. These source documents and a sector Meso map were used to create a list indicating chain actors (80), i.e., those companies/enterprises directly involved in the supply chain, and chain supporters (90), i.e., those organisations involved in the development and support of marula businesses and supply chains.

The list of chain influencers and supporters was further reduced to specific individuals within the organization who would be able to make a meaningful contribution to the marula-specific issues in collaboration with the GIZ Project Manager. Engagement with chain influencers was discussed with SAEOPA and it was decided to initially focus on the chain actors and find out from them who the priority chain influencers in the marula sector are.

A survey was designed primarily as a follow-up to the dialogue on a formalised marula interest group/association hosted by GIZ on 30 July 2020. In addition to the specific issues raised in that dialogue, the workshop report from the stakeholder workshop held in Windhoek on 4 & 5 November, as well as the Marula Technical Brief were used as supporting documentation in the development of a survey. SAEOPA and GIZ were also consulted on the outline and specific formulations of the survey questions.

Following the survey and initial consultations with key sector role players, a desktop analysis of the national, regional (Southern African Development Community (SADC)) and global status quo of the marula sector was undertaken. The desktop analysis included a document review and key informant interviews. The findings of this research were then shared in a stakeholder engagement workshop with marula stakeholders on 27 January 2021. Further consultation was carried out with a working group of stakeholders, many of whom are part of the current Marula Chamber under the Southern African Essential Oil Producers' Association (SAEOPA), in order to verify the information gathered and identify any gaps.

A key objective of the stakeholder engagement workshop was to prioritize the strategic objectives for the sector, which form the basis and direction of the specific work packages included in this sector development plan. A series of smaller working group interactions and feedback sessions with the larger group of marula stakeholders consolidated the following work packages: novel foods registration, generic marketing, resource assessment, biodiversity and conservation, research and innovation, regulatory compliance, quality standards, and geographic indication. These work packages are expanded on further in the document.

2.3. STRUCTURE OF THE SDP

The SDP is structured in four sections. First, the situational analysis provides insight into the current composition of the sector, current status, challenges, and opportunities and how the

sector is organized in order to take the sector development plan forward. Second, the strategic direction provides the vision and mission and strategic objectives of the sector, before unpacking the specific work packages in detail. Third, the financing and funding strategy for the SDP is considered, and, finally, the monitoring and the evaluation of the SDP within the sector is explained.

3. SITUATIONAL ANALYSIS

3.1.COMPOSITION OF THE SECTOR

Marula is widely distributed in Southern Africa, covering approximately 94 782 800 ha in Botswana, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia, and Zimbabwe. As of the year 2000, it was estimated that there is between 1 to 10 marula trees per hectare in dense regions in Southern Africa. In South Africa, marula can be found in 4 provinces in the north-eastern parts of the country.

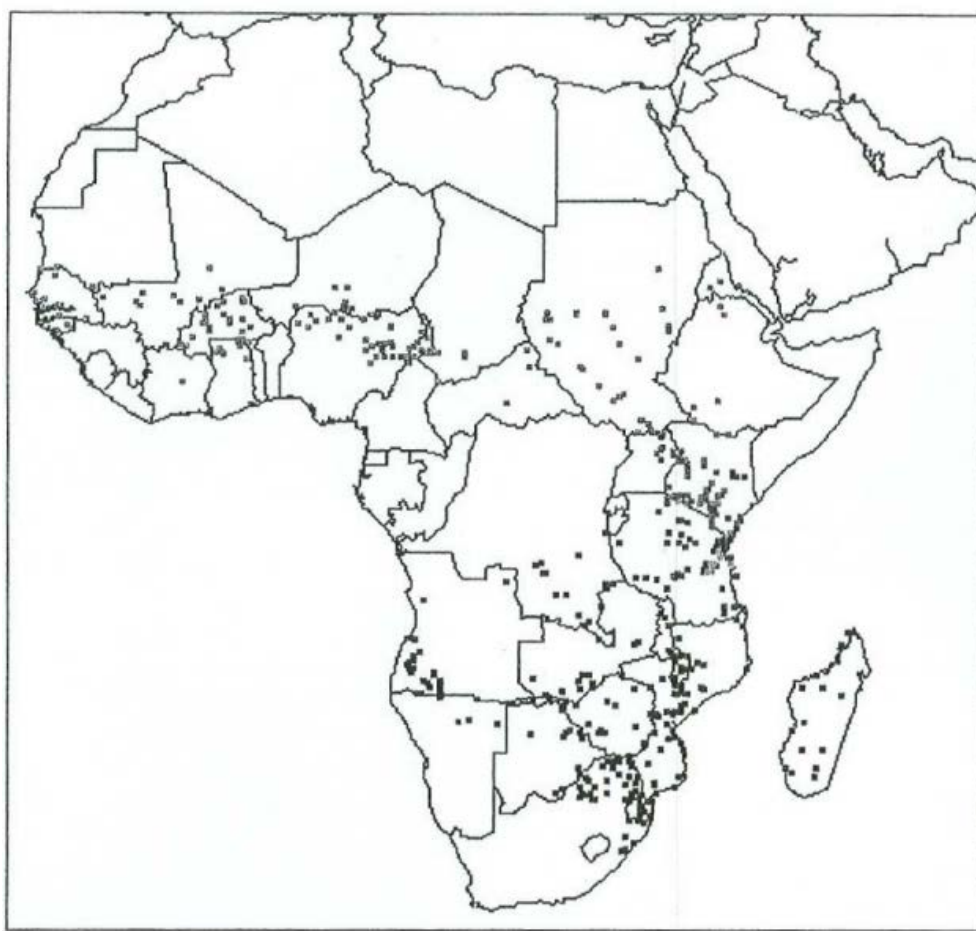


Figure 1: Distribution map of marula

Marula is not listed on the threatened species list of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) or the International Union for Conservation of Nature's (IUCN) Red List and is therefore not considered to be under any threat of extinction or genetic erosion. Currently, a project for a regional resource assessment and monitoring programme for marula (*Sclerocarya birrea subsp. caffra*) has been proposed

for Southern Africa, which is necessary to develop the sector. Marula is mostly wild harvested but its extensive distribution makes it well adapted to the varying climatic conditions across the region and thus a suitable tree for domestication in most areas.

The following figure describes the structure of the marula fruit, and the proposed nomenclature for the various parts of the fruit that can be used.

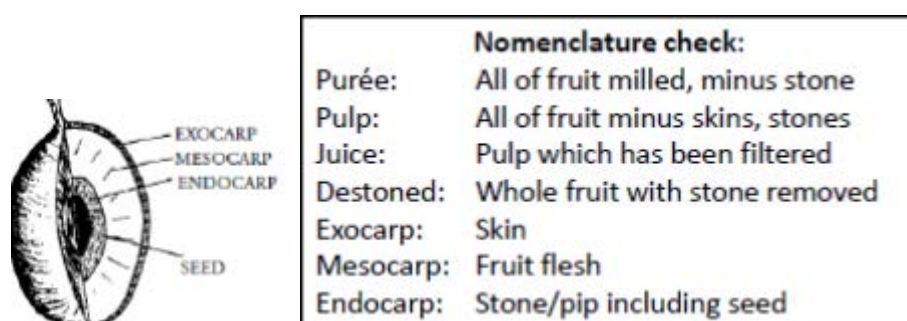


Figure 2: Structure of the marula fruit

One or more seeds or kernels are found per fruit, and they are also called stones or pyrenes. Shells are also referred to as the part surrounding the seed, while the husks and cake are the woody part containing the seed. It should be noted that there are male and female trees and that only female trees bear fruit.

The following figure is a basic representation of the marula oil value chain:

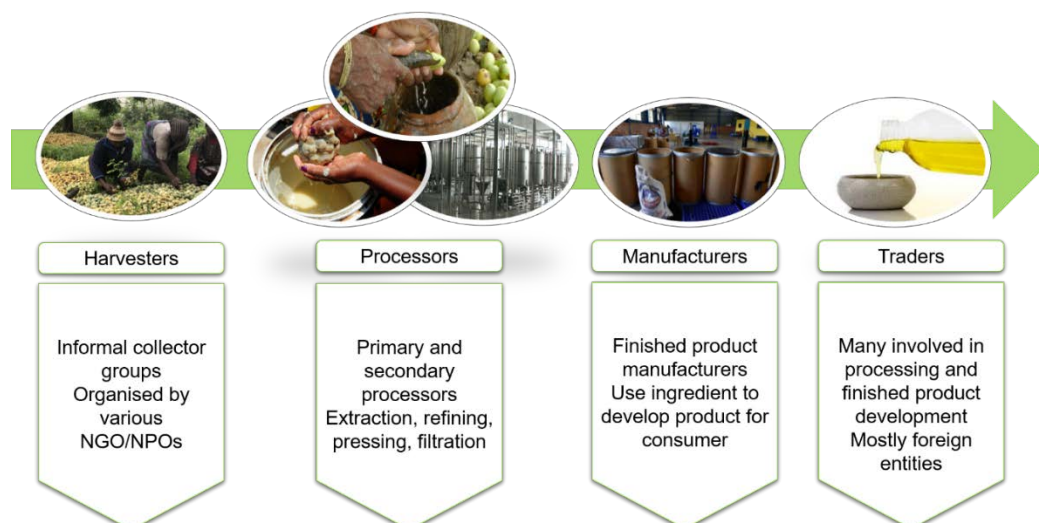


Figure 3: Marula value chain

Processors include both primary and secondary processors. There is also crossover with manufacturers as a few chain actors fulfil all three functions. Processors are primarily involved in the extraction, pressing, refining and filtration of marula oil. In some places within the region, women still crack open the nuts with large stones while other operators use “artisanal” oil

extraction equipment. Finished product manufacturers generally utilise the ingredient for product development. They are involved in the value addition of marula.

Various government entities and BSOs are external stakeholders to the value chain¹. They function as a support for the Biotrade sector in general. Through the BioPanza Market Access Cluster Project running in conjunction with the ABioSA project, a total of 16 BSOs have indicated an interest or involvement with marula.

3.2. STATUS OF THE SECTOR

3.2.1. CONTEXTUAL ANALYSIS

The following is a graphical representation of the marula sector currently, including potential production figures, as real production figures are not available:

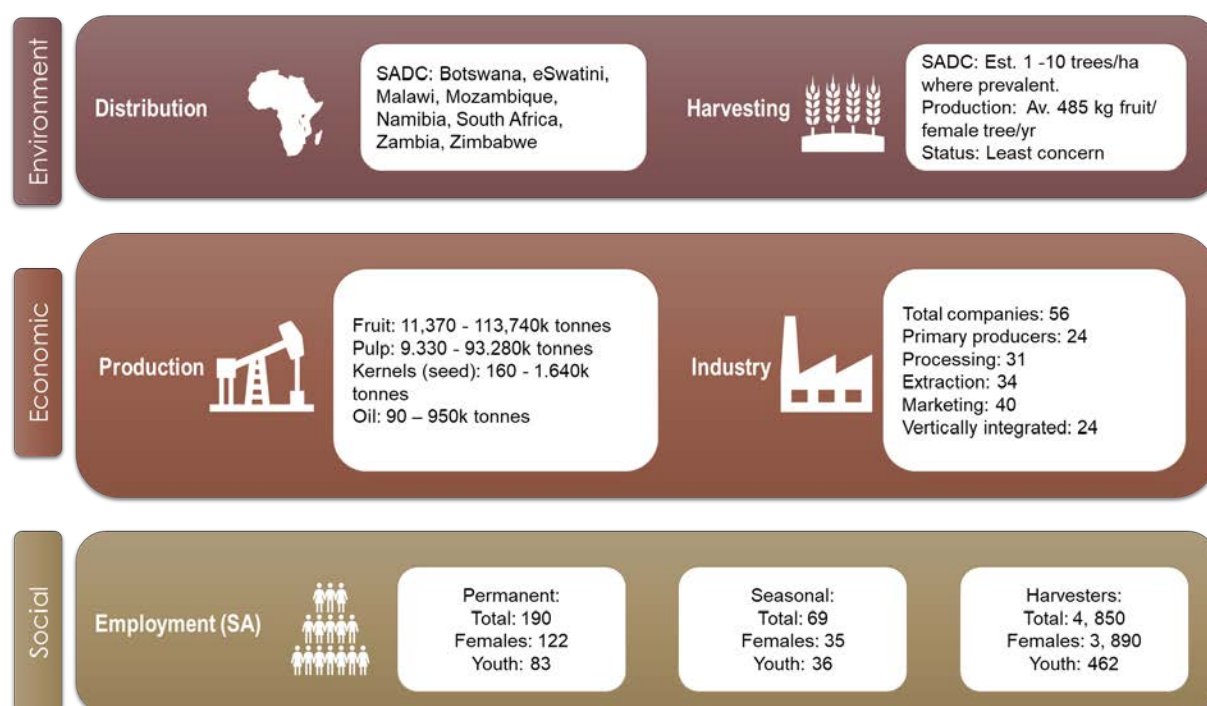


Figure 4: Marula contextual analysis²

It should be noted that the above figures include male, non-fruit-bearing trees as well.

Very little reliable trade data on marula nuts, oil and seedcakes can be found, partly due it not having been recorded for this species specifically or role players' reluctance to share

¹ The meso map can be accessed using the following link:

<https://mesopartner.kumu.io/rsa-bio-sector-meso-support-landscape-8th-stakeholder-forum>

² Incomplete data: does not give accurate representation of sector

confidential trade information. The only available current estimate is 100-150 tons of marula oil that is exported to the USA.

Tabulated below is the estimated potential production of marula in Southern Africa:

<i>Production capacity</i>	<i>Total thousand tonnes annually</i>	<i>Waste due to alternative use, inaccessibility, or animal consumption (thousand tonnes annually)</i>	
		Average 30% reduction	Average 40% reduction
Fruit	11,400 - 112,800	8,000 - 81,000	6,800 - 68,000
Pulp	9,000 - 93,000	6,500 - 65,000	5,600 - 56,000
Kernels (seed)	160 - 1,600	110 - 1,200	100 - 980
Oil³	90 - 950	70 - 660	60 - 570
Nut	Unknown	Unknown	Unknown
Seedcake	Not documented	Not documented	

Table 1: Estimated potential production of marula fruits in Southern Africa if density ranges from 1 to 10 female trees/ha

One of the challenges in estimating the size and potential of the sector is the variable yields in fruit, pulp, kernel and oil. The estimates in Table 1 indicate the potential production vary greatly as they are based on sales, not production per year. Furthermore, due to poor (droughts) versus bumper harvests in any given year and varying yields in different areas and seasons, production may fluctuate considerably, and sellers may even stockpile their products in anticipation of price increases.

Botswana can produce 250,000 tonnes; Swaziland over 551,000 tonnes and northern Namibia over 267,000 tonnes of fruit harvested/season.

The fruit from Namibian trees are larger and heavier (larger pup mass) than other regions, and significant differences are found in fruit weight and size in South Africa when trees on communal land and in natural woodland are compared. In times of drought, only a tenth of the fruit yield can be expected per tree. In Botswana, a ton of fruits was harvested from some single, mature trees. The pulp component of marula fruits is approximately 50% skin and 50% flesh and juice. In the South African fruits, skin forms the larger proportion, while in Namibia, flesh and juice is in larger proportion. This may be caused by the latter's higher level of ripeness, due to longer time before Namibian fruits are weighed and processed. Zimbabwe usually harvests and processes the most fruit in SADC for export to the EU, USA and for re-export to South Africa. Other studies have also found large differences in marula fruit yield between trees in farmers' fields and in communal lands and natural woodlands.

Since marula berries are not considered a novel food, it is unlikely that marula fruit products (pulp, puree, extract) will be accepted in Europe without evidence of ethnobotany/cultural and

³ With average maximum production capacity of 58% oil

industrial use in Southern Africa and the EU. Consequently, the development of a novel food dossier for marula is currently underway and forms part of the sector development plan. Successful commercialisation will then require sustainable harvesting and smart positioning in the food and beverage and health sectors (related to healthy heart, blood sugar level, blood pressure and brain function).

The marula sector within the region currently provides (mostly seasonal) employment to more than 10,000 women. Labour costs and wage/labour expectations in SA are higher than elsewhere in the region.

In South Africa, engagement with harvesters is regulated by the Bioprospecting, Access and Benefit-Sharing Regulatory Framework and the National Environmental Management: Biodiversity Act. Harvesters or collectors are usually organised under various NPOs and NGOs involved with marula communities, but they are currently not well represented in the sector. However, there is opportunity for the industry to form collector groups, from which harvester representatives could emerge.

3.2.2. MARULA SWOT ANALYSIS

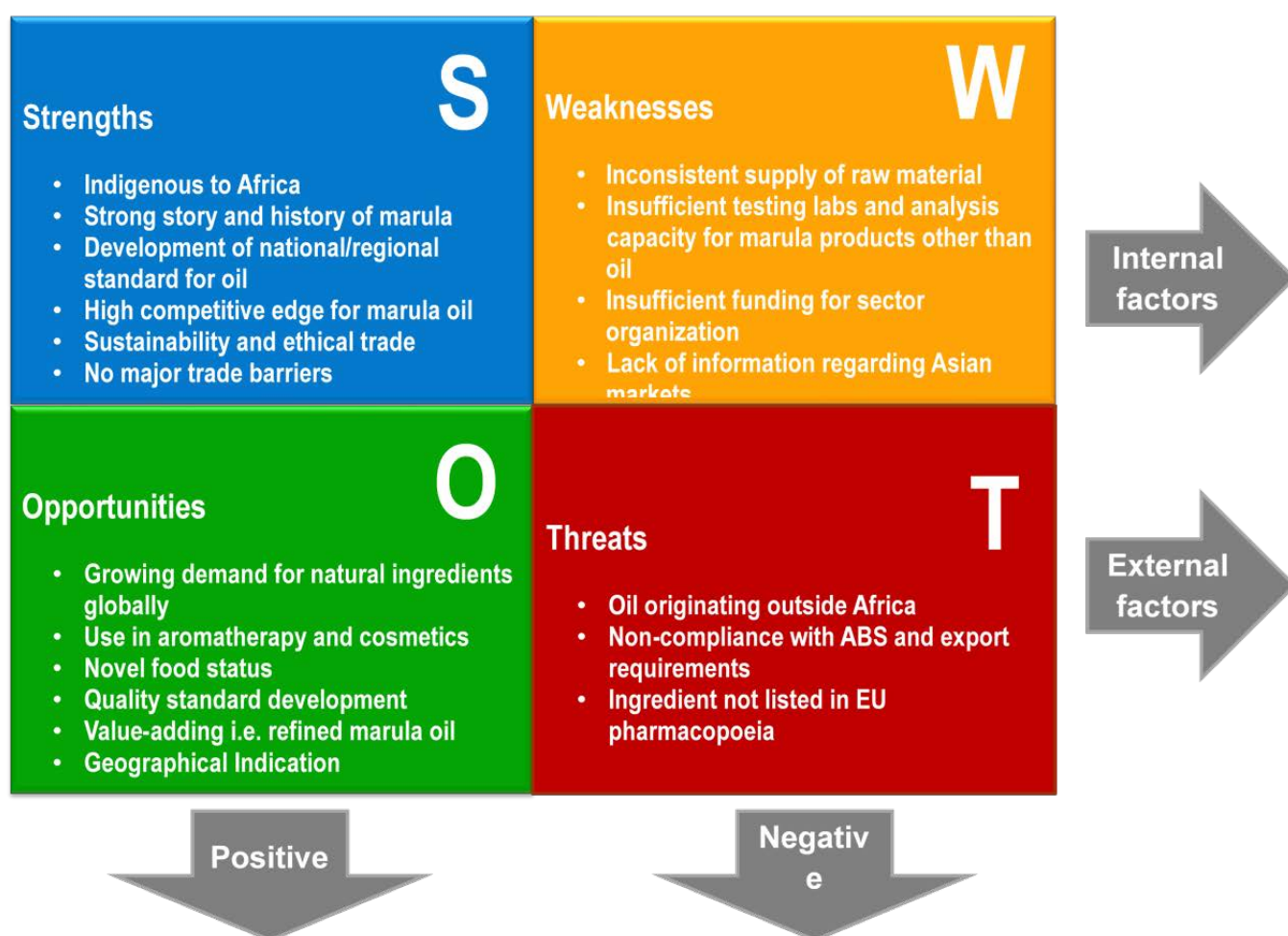


Figure 6: SWOT

Marula sector stakeholders are predominantly based in South Africa and Namibia (73%), with others in Botswana and Zimbabwe. The private sector is primarily involved in the marketing and trade of raw ingredients internationally, marketing and trade of finished products nationally, and marula processing.

The marula industry's strengths include the growing demand by consumers and cosmetics companies for natural ingredients and specialty oils, which provide interesting opportunities for marula oil. For instance, the use of marula oil in anti-ageing is of interest, as this is a segment that keeps growing in the international market. Product competition for marula oil is high. It is successfully exported, and the competitive edge of marula oil is its marketing potential: it is iconic to Africa, and fruits are collected from the wild. Sustainability and ethical trade are very important elements in the further development of marula products. There are no major trade barriers in terms of export documentation, logistics, external quality control, standards, and trade promotion.

Key obstacles to be resolved at sector level that have been identified include maintaining a consistent and quality supply of raw material, insufficient national laboratory testing/analysis capacity for pulp and other marula products (other than oil), difficulty with compliance with export requirements, and funding. The sector has significant challenges complying with trade regulations for both the domestic market and regulations related to Traditional knowledge and Access and benefit sharing. However, a Biocultural Community Protocol has been developed by Natural Justice that is available for sector use.

Improving the quality of documentation, such as the product dossier, which includes safety data sheets (SDSs) and technical data sheets (TDSs), will improve market access for South African suppliers. There is currently no market data related to the local/regional market trends for fruit and vegetable oils as the industry has been more export oriented thus far. Domestic market potential for the oil may be limited by high prices and the limited size of the high-value natural and organic cosmetics market.

Marula has the potential to address various health conditions and ailments, including obesity, skin, heart, eye, brain and gut health, immunity boosting, reducing cholesterol, lowering blood pressure, and managing sugar levels. Unfortunately, the potential for health products from fruit are under-explored and the health products market segment currently does not offer any opportunities for marula fruit ingredients. Approval for use in (herbal) medicines will require large investments.

To address some of these obstacles, the key opportunities identified for exploration are the development of marula for the international market and particularly in the cosmetic market. In the cosmetic market, marula seed oil and fruit extracts are on the "China List", which means that it is possible to launch products with these ingredients in the Chinese market without having to do new animal testing. In the domestic market, there is potential for demand for fruit products such as juices and pulps to be increased significantly if scale, quality, and reliability of supply can be guaranteed by the industry.

Further opportunities to be explored include the development of quality standards for marula and all its derivatives and extracts while building a strong brand around the story and history of marula. The global market and value-adding opportunities for new products include offering

refined marula oil, compliant with international standards, rather than having the refining done in the destination market.

Support services that need to be prioritized by the marula sector include technical support in complying with quality and other regulatory and markets standards, research to guide the production of high-quality marula oil, and investment in product development.

3.3. RESPONSIBILITY FOR IMPLEMENTATION

3.3.1. INSTITUTION OR STRUCTURE RESPONSIBLE FOR OVERALL IMPLEMENTATION OF THE PLAN

SAEOPA will be the umbrella organisation under which the Marula Alliance will be formed until such time as the Alliance becomes independent, if decided by the members. The formalisation of the Marula Alliance under SAEOPA will be a pilot for this kind of strategy of sector development. The Marula Alliance is represented by SADC member states and reflects all the interests of marula products from seeds to fruit to oil.

The Marula Alliance with SAEOPA as its secretariat will have the responsibility for the implementation of the SDP. The organisation has a long history of involvement in the marula sector, is very well networked and has a comprehensive knowledge base and experience in all parts of the value chain. SAEOPA currently has 136 members (including species other than marula) in Southern Africa.

During the SDP processes, sector stakeholders noted that a strong institution or institutional arrangement will be key to the implementation of the SDP, and for the sustained and meaningful growth of the sector. Due to the scope of the SDP as set out in this document, the current institutional capacity of SAEOPA as the secretariat of the Marula Alliance needs to be considered and strengthened.

The Marula Alliance will elect a board (Steering Committee) and then appoint SAEOPA as the secretariat to do specific functions for the Alliance. The Marula Alliance will be regulated, organised, governed, and managed by the Steering Committee which will then give direction and guidance to the appointed secretariat (SAEOPA). SAEOPA, as secretariat, will report to the Steering Committee which is to be accountable to the Marula Alliance.

Corporate governance will be dictated by the tenets of the King Report on Corporate Governance (King Code IV). Bookkeeping of marula finances will be run as a separate set of accounts within SAEOPA until it is logical and cost effective to run an independent bank account for the Marula Alliance. Should the Alliance wish to register itself as a separate company, it will apply for Companies and Intellectual Property Commission (CIPC) registration and non-profit organisation (NPO) status, and fundraising will happen via SAEOPA and channelled to the Marula Alliance's account. The Alliance will have its own bank account and the constitution or the Steering Committee will determine when the bank account will be opened and the amount of finances that will warrant this.

3.3.2. INSTITUTIONAL CAPACITY AND RESOURCES

The strategy focuses on a modest expansion of SAEOPA through additional human resources, coupled with dedicated support from experts in, for example, technical expertise related to novel food registration. With this strategy, capacity can be utilised on a contract basis when needed for SDP implementation. Following this approach toward increased capacity creates a more flexible structure and can continuously bring in required expertise to collaborate in successful sector plan implementation.

Sector stakeholders confirmed the need for a strong central function for administration to liaise with the sector and oversee the implementation of the plan. It is therefore suggested that the job descriptions for the current Executive Director and Secretariat be amended to accommodate the SDP's requirements and that new positions or portfolios with clear job descriptions are created in SAEOPA for the implementation of the plan.

4. STRATEGIC DIRECTION

4.1. VISION & MISSION

The following vision, mission and values were agreed by the marula working group for adoption by the sector.

The vision of the Marula Alliance is to be the alliance that leads and grows a robust and sustainable marula industry and promotes marula as an African indigenous crop of high value and quality.

The mission of this alliance is to introduce and market marula and its many innovative products to the world, support members and develop the industry, globally represent the entire marula value chain, starting from the harvesters, and to invest in the indigenous African marula to contribute to health, food security, sustainability, livelihoods, and economic growth.

Its core values are to be:

- Scientifically sound
- Inclusive, from the village to global marketplace
- Committed to sustainable livelihoods and national and regional economic growth
- Environmentally progressive
- Respect and care for biodiversity
- Transparent and accountable.

4.2. KEY STRATEGIC OBJECTIVES

The following tables below include the main strategic objectives for the sector and the corresponding targets and work-packages which are detailed in the following section.

Objective	Targets
Increased market access	Marula food products exported to Europe as food from a third country
	GI or other IP protection registered for Southern African marula
	50% increase in research published in trade and popular press on Marula
	Raise R1m through various funding streams for research channelled through the sector association
	Marula sector has updated information on target markets trends in the market, the size of the market and the target market
	Marula oil exports out of SADC increase by 20%
	Biotrade businesses create 10% more employment opportunities by 2025
Sustainable management of marula	Resource assessment conducted in 2 countries
	20% increase in sustainably managed and utilized area of marula
Improve the quality of marula products	Standard on Marula oil used by 60% of the industry
	Training of 80% of MA members through the roll out of the GQSP-SA standards and quality training syllabus by end 2022
Improve marula producers' compliance with regulatory requirements	The TK holders in the Marula sector are identified and represented by an association
	Sector association and 60% value chain actors have a clear understanding on all aspects of ABS requirements
	60% of supply chain actors in compliance with ABS regulation

Objective	Work packages
Increased market access	WP6 Novel foods registration
	WP7 Generic marketing campaign
	WP5 Quality and protection
Sustainable management of marula	WP2 Resource assessment and monitoring
Improve the quality of marula products	WP4 Research and innovation
	WP5 Quality and protection
Improve marula producers' compliance with regulatory requirements	WP3 Regulatory compliance

Key to the implementation of these work packages and achievement of the strategic objectives and targets is the formalization and strengthening of the Marula Alliance as a representative and responsive industry association.

4.3. IMPLEMENTATION ACTIONS

The following tables unpack the detailed activities for the various work-packages included in the Sector Development Plan.

<i>Work Package 1</i>		Formalizing and strengthening the organization				
<i>Action</i>	<i>Priority</i>	<i>Timeframe</i>	<i>Responsible</i>	<i>Resources required</i>	<i>Collaborations and alignments</i>	<i>Outcomes</i>
Develop Constitution for Marula Alliance	Critical	Jul 2021 – Sep 2021	Wim Du Toit	External funding		Constitution adopted by a general meeting
Nomination and election of Steering Committee	Critical	Jul 2021 – Sep 2021	Wim Du Toit	MA members		Steering Committee of the Marula Alliance is formalized
Outline the ToR of the Secretariat of the Marula Alliance	Critical	Sep 2021 – Dec 2021	Steering Committee	Steering Committee		ToR for Secretariat finalized according to sector strategy and work plan
Enter into Service Level Agreement with SAEOPA as the secretariat	Critical	Sep 2021 – Dec 2021	Steering Committee	Steering Committee		SLA between Marula Alliance and SAEOPA
Develop confidentiality policy for SAEOPA and MA	Critical	Sep 2021 – Dec 2021	Secretariat	Steering Committee		Confidentiality policy adopted by SAEOPA
Reach agreement on sharing of information with members	Critical	Sep 2021 – Dec 2021	Secretariat	Steering Committee		Policy and procedure for sharing of volume information
Reach agreement on voluntary levy	Critical	Sep 2021 – Dec 2021	Secretariat	Steering Committee		Voluntary Levy Agreement signed by all members of MA
Coordination and operation of the Marula Alliance	Ongoing	Sep 2021 – ongoing	Secretariat	Steering Committee		Minutes of quarterly meetings with Steering Committee, Portfolio Reports and Annual Report

<i>Work Package 2</i>		Resource Assessment and Monitoring				
<i>Action</i>	<i>Priority</i>	<i>Timeframe</i>	<i>Responsible</i>	<i>Resources required</i>	<i>Collaborations and alignments</i>	<i>Outcomes</i>
Set up expert working group to determine methodology for resource assessment	Short term	July 2021 – Dec 2021	MA Board	MA working group	MA members,	ToR for Marula Resource Assessment
Develop resource assessment methodology and trial in 2 countries	Short term	Jan 2022 – Dec 2022	Expert working group	External funding	SANBI, other resource monitoring stakeholders	Resource assessment methodology trialled and adopted
Conduct baseline marula resource assessment for the continent	Long term (4-5 years)	Jan 2023 - 2027	MA secretariat External research team	External funding	Incorporate lessons from Marula Resource Assessment methodology report commissioned by ABioSA	A baseline report on Africa-wide Marula resource assessment
Implementation of standardised resource monitoring and reporting in each marula-producing country	Long term (4-5 years)	Jan 2023 - 2027	MA secretariat	MA members External funding	National resource monitoring stakeholders	Comparable national resource monitoring reports are submitted to the ABA

<i>Work Package 3</i>		Regulatory compliance				
<i>Action</i>	<i>Priority</i>	<i>Timeframe</i>	<i>Responsible</i>	<i>Resources required</i>	<i>Collaborations and alignments</i>	<i>Outcomes</i>
Review identification of TK holders done by Natural Justice	1 year	Jun – Dec 2021	MA Secretariat	Regional representatives from the Marula Alliance	ABioSA	Confirmation of applicable TK holders for marula in the region
Review Biocultural Community Protocol developed by Natural Justice	1 year	Jun – Dec 2021	MA Secretariat	Regional representatives from the Marula Alliance	ABioSA	Guiding Biocultural community principles to be adopted by the sector
Sharing of best practice in the inclusion of harvesters	1 year	Jan 2022 – Jul 2022	MA Secretariat	Regional representatives from the Marula Alliance	ABioSA	Workshop of representatives from the region sharing best practice
Training and coaching of SAEOPA secretariat in NEMBA Ch. 6, BABS and ABS	Critical	Jul 2021 – Jun 2022	MA Secretariat	External funding – either competent BSO/consultant	DFFE, ABioSA	Guidelines and templates for use by SAEOPA in supporting SMEs SAEOPA capacity to support SMEs to become fully compliant
Training and coaching of SAEOPA on regional legislation	Critical	Jul 2021 – Jun 2022	MA Secretariat	Regional supporters of the Marula Alliance	Bio-Innovation Zimbabwe	Guidelines and templates for use by SAEOPA in supporting SMEs SAEOPA capacity to support SMEs to become fully compliant
Training and support SMEs in	Critical	Sep 2021 – Dec 2022 and ongoing	MA Secretariat	External support – either competent BSO/consultant	DFFE, ABioSA	Guidelines and templates for use by SMEs

NEMBA Ch. 6, BABS and ABS						SMEs fully compliant with BABS
Training and support SMEs in regional legislation and regulation	Critical	Sep 2021 – Dec 2022 and ongoing	MA Secretariat	External support – either competent BSO/consultant	DFFE, ABioSA	Guidelines and templates for use by SMEs SMEs fully compliant with regional legislation and regulation
Comparison of Biotrade regulation and ABS implementation in the SADC region	1-2 years	Jan 2022 – Nov 2022	MA Secretariat	External support and collaboration with other sectors (e.g. Baobab)	ABioSA, Bio-Innovation Zimbabwe	Lessons learnt from the region

<i>Work Package 4</i>		Research and innovation				
<i>Action</i>	<i>Priority</i>	<i>Timeframe</i>	<i>Responsible</i>	<i>Resources required</i>	<i>Collaborations and alignments</i>	<i>Outcomes</i>
Collect existing (done and ongoing) research on marula in a central database	Short term, ongoing	Jul 2021 – Jun 2022	MA Secretariat	<ul style="list-style-type: none"> - Regionally representative research committee - Regional academic networks - Student interns 	Existing research interest ABioSA advisor -	Database of existing research on marula organized according to topics
Identify industry's research priorities, and specifically also research priorities to support marketing claims	Critical	Jul 2021 – Dec 2021	MA Secretariat	<ul style="list-style-type: none"> - Marula secretariat - Regionally representative research committee 	Open-ended survey/mentime tre with members	Research priorities are identified that funding or partnerships need to be found for
Identify potential funders, partners or funding streams for research priorities	Short term	Jan 2022	Regionally representative research committee	Members of the Marula Alliance	Existing research interest ABioSA advisor	List of potential funders and or partners for research priorities
Invite research proposals on identified research priorities to support other sector priorities	Medium term (2-3 years)	Jul 2022	Regionally representative research committee	<ul style="list-style-type: none"> - Existing researchers - Academic networks - Research platforms and public platforms 		Short-listed proposals for funding

<i>Work Package 5</i>		Quality and protection				
<i>Action</i>	<i>Priority</i>	<i>Timeframe</i>	<i>Responsible</i>	<i>Resources required</i>	<i>Collaborations and alignments</i>	<i>Outcomes</i>
Finalize Marula oil quality standard	Critical	Jul 2021 – Dec 2021	MA Secretariat		GQSP-SA	Marula oil SANS standard finalized and adopted by producers
Training on factors in producing quality marula oil with all value chain actors	Short term	Jan 2022 – Dec 2022	MA Secretariat	External funding	GQSP-SA	Harvesters, producers and processors are trained on factors to produce quality oil
Training on oil chemistry	Short term	Jan 2022 – Dec 2022	MA Secretariat	External funding	GQSP-SA	Training of producers and processors on oil chemistry
Investigate the feasibility of a Southern African marula Geographical Indicator (GI)	Medium term	Jan 2022 – Dec 2023	MA Secretariat	External funding	CIRAD Project	Feasibility study on the scope and product description for a marula GI for Southern Africa
Register GI for Southern African marula (depending on outcomes of feasibility study)	Medium term	Jan 2023 – Dec 2024	MA Secretariat	External funding	CIRAD Project	Geographical Indicator for regional marula product registered in the AU and the EU.

<i>Work Package 6</i>		Novel Foods Registration				
<i>Action</i>	<i>Priority</i>	<i>Timeframe</i>	<i>Responsible</i>	<i>Resources required</i>	<i>Collaborations and alignments</i>	<i>Outcomes</i>
Identify the application requirements and gaps in outstanding tests and documents	Critical	Jul 2021 – Dec 2021	MA Secretariat	External funding	ABioSA	Clear gap analysis of all tests and documents required for Traditional food from a 3 rd country application Decision on the product form that will go through the application
Collect and store samples necessary for application	Short term (1-2 years)	Jul 2021 – Jun 2022	MA Secretariat	MA members	ABioSA	Producers have stored samples
Identification of service providers to complete application	Short term (1-2 years)	Jul 2021 – Jun 2022	MA Secretariat	Working group External funding	ABioSA	Selection of service provider/s to complete the Traditional food from a 3 rd country application
Complete application for Traditional food from a 3 rd country	Medium term (2 -3 years)	Jul 2022 – Jun 2023	MA Secretariat	Working group External funding	ABioSA	Application for Traditional food from a 3 rd country is submitted by MA to European Food Safety Authority (EFSA)

<i>Work Package 7</i>		Generic Marketing				
<i>Action</i>	<i>Priority</i>	<i>Timeframe</i>	<i>Responsible</i>	<i>Resources required</i>	<i>Collaborations and alignments</i>	<i>Outcomes</i>
Consolidate industry information (baseline and annual update)	Critical	Jul 2021 – Dec 2021	MA Secretariat	MA members' commitment to sharing information		Updated industry information that can be shared with broad group of stakeholders
Disseminate research findings in trade press	Short term	Jan 2022 – Jun 2022	MA Secretariat	Researchers to share published papers		Articles based on research conducted published in trade press
Collect material available to the sector on the marula fruit and the marula story	Short term	Jan 2022 – Jun 2022	MA Secretariat	Marketing working group MA members PhytoTrade Africa	BioPANZA MAC	Package of resources available for use by members of the MA
Market scoping study	Short term	Jan 2022 – Jun 2022	MA Secretariat Expert consultant	External funding	BioPANZA MAC	Market scoping study identifying key markets with best opportunities for growth
Develop communications strategy	Short term	Jan 2022 – Jun 2022	MA Secretariat	Marketing working group		Communications strategy to be implemented by the secretariat
Develop marketing strategy and material for the Marula Alliance and its members	Medium term (2-3 years)	Jun 2022 – Dec 2022	MA Secretariat	Marketing working group		Presentation on the Marula Alliance and its members

5. FINANCE STRATEGY

5.1. COST ESTIMATIONS

The following table summarizes the budgets for the priority work-packages as detailed in Addendum A to this plan. These budgets can be used as a starting point for further fund-raising and planning of the different activities and gives an overall picture of the resources that will be needed to effectively run the Marula Alliance and implement the activities of the Sector Development Plan.

Cost category	Cost description	Year		
		2021	2022	2023
Work package 1: Formalizing and strengthening the organization	<ul style="list-style-type: none"> • Elect Steering Committee • ToR for secretariat • SLA with SAEOPA • Confidentiality policy • Agreement on sharing information • Agreement on levies • Coordination and operations of Marula Alliance 	R117,750	R365,000	R400,000
Work package 2: Regulatory compliance	<ul style="list-style-type: none"> • Review of TK holders • Review Biocultural Community Protocol • Training on best practices • Training SAEOPA on SA legislation • Training SAEOPA on regional legislation • Training SMEs on SA legislation • Training SMEs on regional legislation • Compare SADC member states 	R51,300	R180,300	R124,800
Work package 3: Research & innovation	<ul style="list-style-type: none"> • Central marula database • Identify research priorities • Identify funding for research • Invite research proposals 	R124,000	R311,500	R200,000
Work package 4: Quality and protection	<ul style="list-style-type: none"> • Development of industry standard • Training on quality 		R328,000	R192,000

	<ul style="list-style-type: none"> • Training on oil chemistry • Research on GI • Registration of GI 			
Work package 5: Novel foods registration	<ul style="list-style-type: none"> • Identify application requirements & gaps in tests and documents • Collect & store samples • Identify service providers • Complete application for 3rd country 	R98,500	R94,000	R75,000
Work package 6: Generic marketing	<ul style="list-style-type: none"> • Baseline study • Disseminate findings • The marula story • Market scoping study • Communications strategy • Marketing strategy & materials 	R77,000	R215,500	R200,000
Annual running cost		R468,550	R1,459,300	R1,156,800
Total				R3,084,650

5.2. FUNDRAISING / FUNDING

The sector will use this SDP as a baseline document to determine interest from external funders to fund the work packages or actions included here. Due to the structure of both the SDP and the cost estimation, funders can engage with those work packages or actions which are aligned to their funding strategies and objectives.

As detailed in Section 3.3, one of the key challenges for the Marula Alliance as the sector organisation and SAEOPA as the secretariat, is financial sustainability. The income generated through the current membership fee structure is insufficient and the sector needs to agree on and commit to a levy structure or similar to fund the operations of the organisation in the implementation of this sector development plan and other related functions.

The primary objective of the financial strategy is to ensure the Marula Alliance's organisational and financial sustainability. The former is aimed at the Alliance's ability to perform the functions expected by its membership, while the latter means that the Alliance has the ongoing ability to generate enough resources to execute those functions. The fundraising strategy consequently should be formulated as an element of the Alliance's strategy development.

The Alliance must persistently pursue financial autonomy, which necessitates diverse sources of income and a financial strategy that ensures maximum autonomy from any given source of funding.

The Steering Committee will be entrusted with developing short-, medium- and long-term budgets, monitoring budgeted and actual income and expenditure figures, overseeing the Alliance's financial and accounting activities, and submitting reports thereon to the membership as prescribed by the Alliance's constitution. These budgets will be based on the Alliance's short-, medium- and long-term strategy, which should set the compass for its destination in 10 years' time and how the Alliance will survive until it reaches that goal. The budgets should encompass developmental (strategic, generic marketing, etc.), capital and operational expenses for the periods in question.

The financial strategy will have to be unpacked in detail as an action plan, both of which should be reviewed every quarter or at least every semester. Both the strategy and the subsequent action plan will be supported by the Alliance's corporate values, financial policies, procedures, and monitoring, evaluation and reporting mechanisms.

The Steering Committee will take the following possible sources of income into account when compiling the Alliance's budgets for members' consideration and input, it being acknowledged that fundraising will require personnel (particularly in terms of networking), time and money.

<i>Potential sources of income</i>		
Internal funding	Membership fees	Additional to SAEOPA's generic membership fees
	Fees for services	Business plans
		Feasibility studies
		Consultancy research & customized advice
	Levies	Oil
		Pulp
		Seedcake
		Shells
	Marketing	Certificates of origin
		Participation in foreign trade shows
		Outward-selling trade missions
		Inward-buying trade missions
	Training	Training sessions
		Webinars
		Manuals on good practices
	Events	Public events
External funding	Grants	Government departments
		State-owned enterprises (SOEs)
		Foreign companies
		Foreign development aid agencies and institutions
	Investors	
	Loans	

6. MONITORING AND EVALUATION

6.1. RESPONSIBILITY FOR IMPLEMENTATION

The monitoring and evaluation function will be implemented by SAEOPA as the secretariat. SAEOPA will be introduced to the principles and method for the implementation of this function as part of the close-out actions of the ABioSA project.

6.2. MONITORING SCHEDULE

It is important that SAEOPA and the sector role-players involved in work package implementation monitor the identified actions of this SDP against the Outcome indicated in Section 4.4. above.

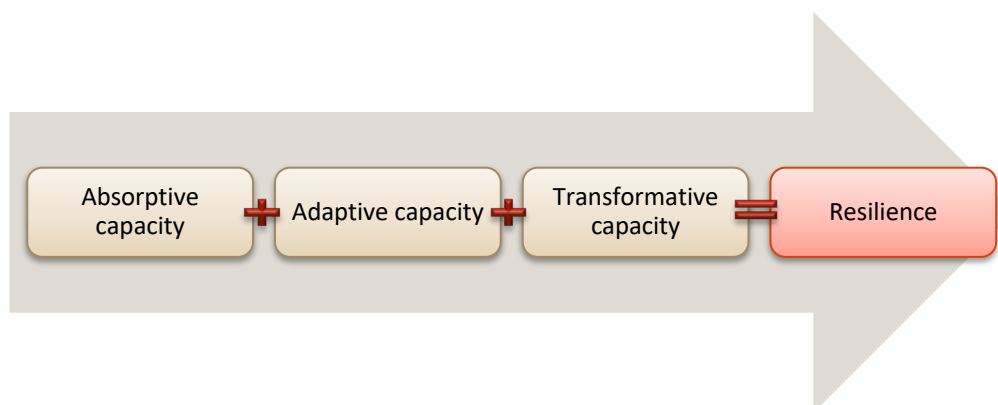
This will allow the sector to stay in track with their development actions and to adjust their implementation schedule if needed. Please see a monitoring template schedule attached in Addendum B. This template captures:

- The outcome that will indicate the successful implementation of actions
- Who will be responsible for making sure that the outcome is reached?
- By when must this outcome be reached or completed
- Progress made
- Adjustment dates and reason for adjustment (where necessary).

6.3. INTRODUCTION TO EVALUATION

One of the key aims of the ABioSA programme is to build resilient sectors able to identify challenges or blockages and develop and implement actions to address these challenges to ensure sector growth and internal resilience against outside shocks created by the fast-changing environment in which the sector operates.

For this reason, the monitoring and evaluation framework used for the sector development plans, focus on how sectors can innovate and develop to mitigate shocks and build resilience. For sectors to become resilient over time, they need to develop three types of capacities as summarized in the visual below.



The main focus of each type of capacity is summarized below.

<i>Absorptive capacity</i>	Refers to the ability to recognise the need for new and external information and apply it to improve the bioeconomy. This can be built through establishing knowledge products intentionally to cope with stress factors such as changed market requirements, extreme weather events, economic downturn, lack of access to market intelligence and changes in consumer buying behaviour.
<i>Adaptive capacity</i>	Refers to making intentional adjustments in anticipation of or in response to change in order to create more flexibility in the future. Intentional changes can include adjusting to new legislation and regulations, as well as to find innovative ways to prevent threatened species used in the bioeconomy from becoming extinct.
<i>Transformative capacity</i>	Refers to making intentional changes to stop or reduce the causes of risk, so that risk is not carried by vulnerable communities and businesses involved in the biotrade supply chain. Transformation can include assessing and adjusting supply chains to correct power imbalance.

6.4. EVALUATION FRAMEWORK

The monitoring and evaluation framework includes the following elements as indicated in the tables below:

<i>Sector challenge</i>	This is the stress factor, threat or area that needs transformation
<i>Work Package</i>	This is an indication of the work package where the required change is included
<i>Indicator of success</i>	This is the action that needs to be implemented to address the stress factor, threat or need for transformation
<i>Sources of verification</i>	This is the proof that the action has been implemented, similar to the outcomes listed in the Implementation actions above
<i>Key assumptions or risk</i>	This details assumptions or risks that may be experienced in the implementation of the action to bring about change
<i>Frequency of collection</i>	This is how often progress on the action is checked, i.e., annually, quarterly, monthly, etc.

6.5. SECTOR-SPECIFIC MONITORING & EVALUATION FRAMEWORK

MARULA SECTOR: ABSORPTIVE CAPACITIES					
SECTOR CHALLENGE	WP / PRIORITY AREA	INDICATORS OF SUCCESS	SOURCES OF VERIFICATION OF DATA	KEY ASSUMPTIONS / RISKS	FREQUENCY OF COLLECTION
Lack of market access in Europe and low demand on international and regional market levels	Work packages 5 & 6	Conduct a market scoping study			
		Develop a generic communication strategy including dissemination of research findings in trade press			
Marula not authorised as a novel food	Work package 5	Identify the application requirements and gaps in outstanding tests for traditional food from a third country			
		Complete application for traditional food from a third country and submit to EFSA			
		EFSA authorising marula as a novel food in Europe			
Outdated industry information in circulation	Work package 6	Consolidate industry information (baseline and annual update)			
		Share updated data with the broad group of stakeholders			
Traditional Knowledge (TK) holders not known	Work package 2	Review identification of TK holders and Biocultural Community Protocol developed by Natural Justice			

Insufficient understanding of local and regional ABS requirements		Training and coaching of sector associations and value chain actors on the different requirements of the National Environmental Management: Biodiversity and other national and regional legislation			
Insufficient scientific research to support marketing claims	Work package 3	Identify and collate summary of existing research to support marketing claims			
Insufficient scientific research to support marketing claims		Invite research proposals on identified research priorities			
No central database for marula research studies		Collect existing (done and ongoing) research on marula in a central database and provide value chain actors access to studies			
Insufficient funding capacity within the sector organisation to pursue research priorities		Investigate and identify potential funders, partners, or funding streams for research priorities			

MARULA SECTOR: ADAPTIVE CAPACITIES					
SECTOR CHALLENGE	WP / PRIORITY AREA	INDICATORS OF SUCCESS	SOURCES OF VERIFICATION OF DATA	KEY ASSUMPTIONS / RISKS	FREQUENCY OF COLLECTION
Limited understanding of regional ABS and lack of compliancy	Work package 3	Conduct a comparison of Biotrade regulations and ABS implementation in the SADC region			

Lack of producer capacity development and technology	Work package 4	Training on factors in producing quality marula oil with all value chain actors and training on oil chemistry			
Incomplete standard on marula oil quality	Work package 4	Complete marula oil quality standard and obtain input from producers Implementation and roll-out of standard monitored by sector association			

MARULA SECTOR: TRANSFORMATIVE CAPACITIES					
SECTOR CHALLENGE	WP / PRIORITY AREA	INDICATORS OF SUCCESS	SOURCES OF VERIFICATION OF DATA	KEY ASSUMPTIONS / RISKS	FREQUENCY OF COLLECTION
Informal Marula Alliance (MA)	Work package 1	Develop constitution for MA, nominate and elect steering committee who will mandate Secretariat (SAEOPA) ToR and create Service Level Agreement between MA and SAEOPA			
Limited funds for running of MA and secretariat		Reach agreement with value chain actors on voluntary levies			
Breach of confidentiality		Develop confidentiality policy for SAEOPA and MA and develop a policy and procedure for sharing of volume information among members			