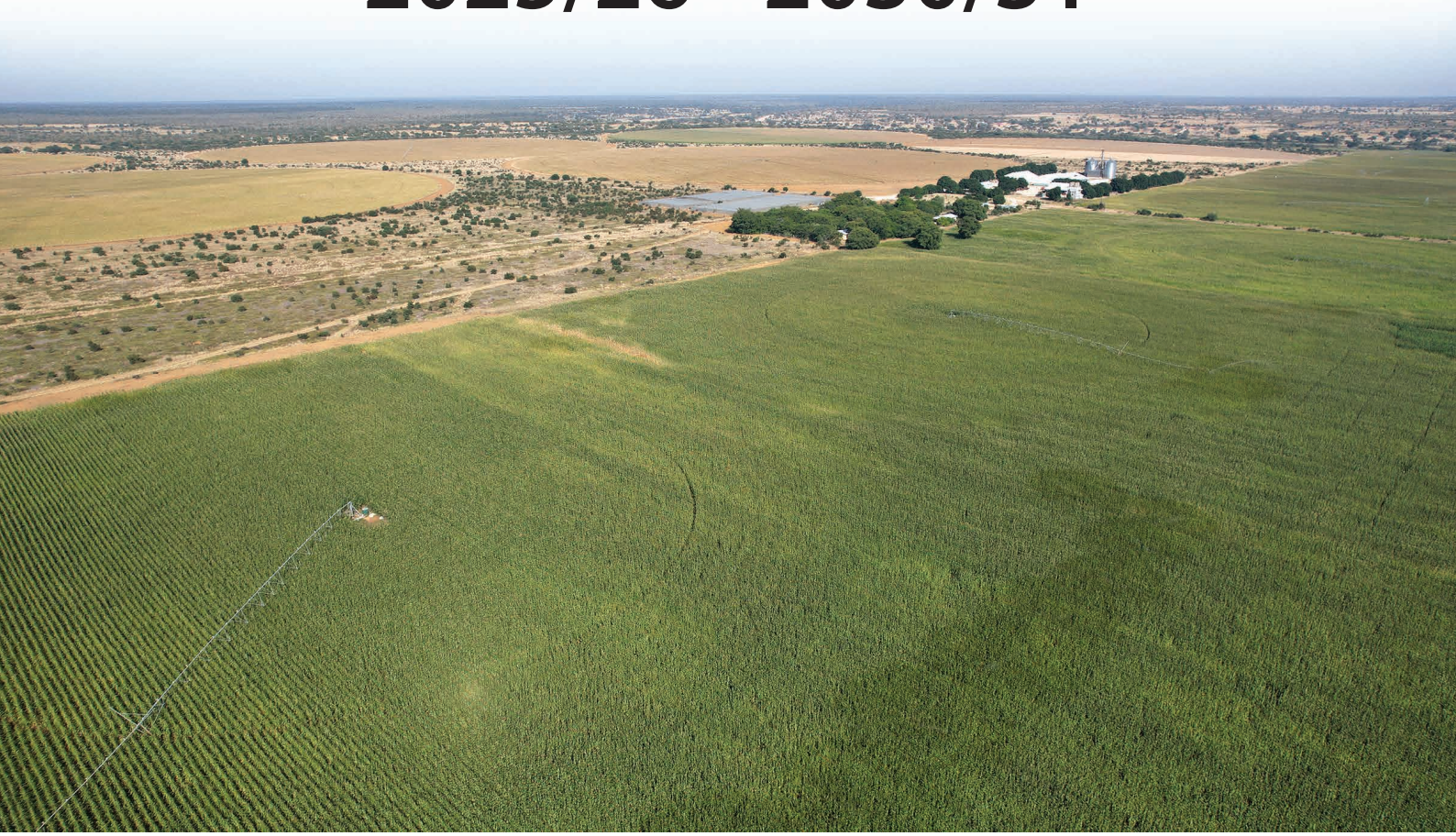
REPUBLIC OF NAMIBIA

Strategy for the Transformation of the Agri-Food Sector

2025/26 – 2030/31



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Ministry of Agriculture, Water and Land Reform

ACKNOWLEDGEMENTS

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ABBREVIATIONS AND ACRONYMS

AALS	Affirmative Action Loan Scheme
AgPER	Agriculture Public Expenditure Review
AMTA	Agro Marketing & Trade Agency
ASWG	Agri-food Sector Working Group
ATF	Agriculture Trade Forum
AU	African Union
CAADP	Comprehensive Africa Agriculture Development Programme
CBPP	Contagious Bovine Pleuropneumonia
CPI	Consumer Price Index
DVS	Directorate of Veterinary Services
EU	European Union
FAO	Food and Agriculture Organization (UN)
FMD	Foot & Mouth Disease
FNS	Food and Nutrition Security
GAP	Good Agricultural Practices
HACCIADEP	Harambee Comprehensively Coordinated and Integrated Agricultural Development Programme
HPP II	Harambee Development Plan II
IAP	Implementation Action Plan (for the STAS)
IFPRI	International Food Policy Research Institute
JSR	Joint Sector Review
LLPBN	Livestock and Livestock Products Board of Namibia
MADI	Mashare Agricultural Development Institute
MAWF	Ministry of Agriculture, Water and Forestry
MAWLR	Ministry of Agriculture, Water and Land Reform
M&E	Monitoring and Evaluation
MEFT	Ministry of Environment, Forestry and Tourism
MICT	Ministry of Information and Communication Technology
MIS	Management Information System
MITSMED	Ministry of Industrialisation, Trade and SME Development
MME	Ministry of Mines and Energy
MoEAC	Ministry of Education, Arts and Culture
MoFPE	Ministry of Finance and Public Enterprises
MoHETI	Ministry of Higher Education, Training and Innovation
MoHSS	Ministry of Health and Social Services
MoU	Memorandum of Understanding
MSMEs	micro, small and medium-sized enterprises
MTC	Mobile Telecommunications Company
MWT	Ministry of Works and Transport
NAB	Namibian Agronomic Board
NAIP	National Agricultural Investment Plan
NAMSIP	Namibia Agricultural Mechanisation and Seed Improvement Project
NAU	Namibia Agricultural Union
NAYS	National Agribusiness Youth Strategy
NCA	Northern Communal Areas
NDP	National Development Plan
NECFU	Namibia Emerging Commercial Farmers Union
NHIES	Namibia Household Income & Expenditure Survey
NNFU	Namibia National Farmers Union
NPC	National Planning Commission
NPI	Namibia Poultry Industries
NRCS	Namibia Red Cross Society
NRMPS	Namibia Rangeland Management Policy and Strategy
NSA	Namibia Statistics Agency
NTA	Namibia Training Authority
NTF	Namibia Trade Forum
OMAs	offices, ministries and agencies
OPM	Office of the Prime Minister
PFA	Primary Farm Assurance
RISDP	Regional Indicative Strategic Development Plan (of SADC)
RPL	Recognition of Prior Learning
SACU	Southern African Customs Union
SADC	Southern African Development Community
SDGs	Sustainable Development Goals
SMEs	small and medium-sized enterprises
SOE	state-owned enterprise
SRF	Strategic Result Framework (of the STAS)
STAS	Strategy for the Transformation of the Agri-food Sector
SVCF	South of the Veterinary Cordon Fence
TAZAC	Tsumis Arid-Zone Agricultural Centre
TWG	Technical Working Group
UN	United Nations
UNAM	University of Namibia
VCF	Veterinary Cordon Fence
WOAH	World Organisation for Animal Health

FOREWORD

Agriculture provides a livelihood for more than half of Africa's population. However, agricultural growth in Africa has been stagnant for decades, and hunger and malnutrition have reached alarming levels. In addition, Africa's poverty levels have been exacerbated by increased exposure and vulnerability to the adverse effects of climate change and external shocks such as economic crises, pandemics (e.g. COVID-19), etc. In this context, African leaders (assembled at the level of the African Union) have recognised the need to increase investment in the Agri-food Sector and boost agricultural productivity, with an initiative aimed at eradicating hunger and malnutrition while alleviating poverty among the African population.

In 2003, the African Union (AU) launched the Comprehensive Africa Agriculture Development Programme (CAADP). The CAADP agenda aims to increase both public and private sector investment in the Agri-food Sector and to improve agricultural productivity. The CAADP sets ambitious targets for AU member states to achieve annual agricultural growth of at least 6%. This goal is intended to improve food and nutrition security while promoting economic development across the African continent.

To strengthen the CAADP mandate, AU member states adopted the Malabo Declaration in 2014, reaffirming that agriculture remains a priority on the continent's development agenda and recommitting to the CAADP process by pledging to develop and implement CAADP-based National Agricultural Investment Plans (NAIPs). In line with the Malabo Declaration's goal of *"accelerated agricultural growth and transformation for shared prosperity and improved livelihoods"*, NAIPs serve as a vehicle for implementing actions to address Agri-food Sector priorities. The main purpose of the NAIPs is to increase both public and private investment in the Agri-food Sector and to stimulate productivity in the sector. The NAIP is therefore a joint venture between all stakeholders in the Agri-food Sector, combining their efforts towards a common goal.

Namibia's development challenges are no different from those of the continent highlighted above. About 70% of Namibia's population depend on agriculture for their livelihoods. Namibia is also a net importer of food commodities, a situation that has made food and nutrition insecurity a national threat, especially in the face of increased vulnerability to climate change and external shocks. The incidence of malnutrition, stunting and hunger is also a public concern in Namibia, exacerbated by high unemployment rates, high household poverty levels and income inequality. The Government therefore recognises that the Agri-food Sector is an engine of growth for the Namibian economy, and therefore sees a need to address the challenges facing the sector. In this context, and in line with the CAADP commitments and the Malabo Declaration, Namibia has developed its first National Agricultural Investment Plan (NAIP). The term "NAIP" is a generic name adopted at the continental level, but each member state has been given the flexibility to domesticate and adapt the appropriate name of its plan locally. Thus, at the national level, Namibia refers to its NAIP as the Strategy for Transformation of the Agri-food Sector (STAS).

This STAS was formulated through an intensive, inclusive consultative approach with various stakeholders at both national and regional levels, including at the grassroots level. These consultations provided input on the areas of intervention and specific activities to be undertaken to transform the sector.

This strategy is not intended to replace other existing policies or strategies, but rather to serve as a central framework for Namibia's Agri-food Sector. It integrates ideas from various existing policies and strategies to facilitate implementation and coordination of efforts within the sector.

In its formulation, this strategy was aligned with Namibia's Fifth National Development Plan (NDP5), and will inform the agriculture chapter of the Sixth National Development Plan (NDP6). This alignment is important to ensure that through the implementation of the STAS, the sector not only responds to the commitment of the Malabo Declaration, but also directly contributes to the achievement of the agricultural aspirations outlined in Namibia's Vision 2030. This STAS will inform other agriculture-related strategies and policies developed in the future, in order to maintain policy alignment and coherence of implementation action plans in the sector.

The Government of the Republic of Namibia thanks all stakeholders, both private and public, for their full participation in the process of formulating this STAS, and hereby calls on all stakeholders to commit to the cause and provide the necessary resources or investments in the sector to enable the timely and effective implementation of this strategy, with the common goal of increasing domestic agricultural productivity for enhanced national food and nutrition security, sustainable agricultural growth, and shared prosperity and improved livelihoods.

The Government emphasises the need for continued and active collaboration, and encourages all stakeholders to work together and engage in open dialogue to ensure successful implementation of this important strategy.

Carl H. G. Schlettwein, MP
Minister of Agriculture, Water and Land Reform

EXECUTIVE SUMMARY

The formulation of Namibia's Strategy for the Transformation of the Agri-food Sector (STAS) is informed by the Comprehensive Africa Agriculture Development Programme (CAADP) of the African Union (AU) and the commitments of the Malabo Declaration. In 2003, AU Heads of State signed the Maputo Declaration on Agriculture, and in 2014 the AU adopted a second declaration on "Accelerated Agricultural Growth and Transformation for Shared Prosperity and Improved Livelihoods", known as the Malabo Declaration. The seven commitments of the Malabo Declaration are as follows:

I. *Recommitment to the Principles and Values of the CAADP Process*
II. *Commitment to Enhancing Investment Finance in Agriculture*
III. *Commitment to Ending Hunger in Africa by 2025*
IV. *Commitment to Halving Poverty by the year 2025, through Inclusive Agricultural Growth and Transformation*
V. *Commitment to Boosting Intra-African Trade in Agricultural Commodities and Services*
VI. *Commitment to Enhancing Resilience of Livelihoods and Production Systems to Climate Variability and other related risks*
VII. *Commitment to Mutual Accountability to Actions and Results*

The STAS aims to address these commitments and the key objectives of the CAADP, including the allocation of at least 10% of public expenditure to agricultural investment and the achievement of annual agricultural growth of 6%. The STAS calls for integrated planning, implementation, monitoring and evaluation across the public and private sectors.

The STAS is a vehicle for implementing actions to address the priorities of the Agri-food Sector. It aims to accelerate the implementation of critical policy, legal and regulatory reforms in the agricultural sector. The STAS aims to prioritise investments in the agricultural sector to accelerate agricultural transformation, economic growth and poverty reduction.

Namibia's Agri-food Sector consists mainly of subsistence and commercial farming. About 70% of the population are directly or indirectly dependent on the Agri-food Sector for their livelihoods, with 10% of the population's income derived from subsistence farming, while commercial farming accounts for 0.3%. Since 1990, the agricultural sector has contributed an average of 5.1% to GDP, but this has been steadily declining from around 8% to around 3.5% since 2006, partly due to climate change and reduced investment in the sector. An estimated 8% of the country receives average rainfall suitable for crop production. Climate variability affects agricultural production and exacerbates household food insecurity in many areas. However, there is potential to increase production through irrigation.

While the Ministry of Agriculture, Water and Land Reform (MAWLR) will be the lead implementing agency for the STAS, other offices, ministries and agencies will also play an important role. The STAS provides a framework for coordinating and prioritising investments by government agencies, development partners, farmer organisations and the private sector. While focusing on public investment, the STAS recognises that agricultural growth must be driven by investment from private actors. It therefore supports critical policy, legal and regulatory reforms, and will strengthen public institutions to fulfil their mandates. It also provides a framework for effective coordination within the public sector and between the public and private sectors.

In particular, the STAS is aligned with national, regional, continental and international policies and strategies, the national ones including, among others, Vision 2030, National Development Plans (NDPs), Harambee Prosperity Plan II, the Namibia Agriculture Policy, the Revised National Food and Nutrition Security Policy, the Northern Communal Area Livestock Transformation Strategy, and the Decentralisation Policy. The framework within which the STAS is embedded is the National Development Plan, which is the vehicle for achieving Namibia's Vision 2030.

The STAS is structured in such a way as to maximise its contribution to the objectives of the NDP, with its pillars directly aligned to the pillars of the NDP. The STAS has four interrelated pillars, each covering several intervention areas: Pillar 1 focuses on production, productivity and agribusiness, covering the various agricultural sub-sectors. Pillar 2 addresses food and nutrition security and human capacity, with a particular focus on women, youth and vulnerable groups. Pillar 3 addresses sustainable resource management as a foundation for resilience to climate change, looking at land, soil, water and bush biomass. Finally, Pillar 4 presents the enabling environment requirements, recognising that the success of all the above depends on capable, effective and responsive institutions and actors. Thus, Pillar 4 covers policy and regulatory frameworks, data collection and monitoring, agricultural services and infrastructure, and the institutional arrangements needed for good governance in the Agri-food Sector.

In short, STAS represents Namibia's commitment to achieving sustainable agricultural development by aligning strategic priorities with national development goals and international best practices.

Ndiyakupi Nghituwamata
Executive Director
Ministry of Agriculture, Water and Land Reform

1

INTRODUCTION




Since Independence in 1990, the Government of the Republic of Namibia has placed a strong emphasis on the importance of agriculture to the national economy. From 1991 onwards, the government, the private sector and development partners have made significant investments in the Agri-food Sector. However, the rate of agricultural growth has remained low, with an average output growth of only 1.6% between 1990 and 2020.

As a developing country that gained independence from the apartheid regime, Namibia faces a number of socio-economic challenges. These have had a negative impact on the implementation of development programmes and projects, as well as on returns to investment in the agricultural sector. Some of the key factors contributing to the slow growth rate include Namibia's geo-climatic vulnerability (e.g. frequent droughts, floods, disease outbreaks and pest infestations), historical land distribution challenges, external economic shocks, slow domestic structural transformation, and the impact of the 2020-2022 pandemic. In addition, agricultural development is often hampered by a lack of coordination between stakeholders, including those in the public and private sectors, and within and between civil societies. This results in a fragmented approach to interventions, where efforts are often implemented in isolation.

The Strategy for the Transformation of the Agri-food Sector (STAS) is Namibia's medium-term plan for the Agri-food Sector. It serves as an implementation tool for the Comprehensive Africa Agriculture Development Programme (CAADP) of the African Union (AU), as introduced in the AU member states. This sector plan is aligned with Namibia's Vision 2030 and the medium-term National Development Plans (NDPs). This STAS therefore represents the Agri-food Sector's contribution to the Sixth National Development Plan (NDP6), and guides multi-stakeholder investments in the Agri-food Sector, food and nutrition, and sustainable natural resource management.

It is also aligned with other existing policies and development strategies at national, regional, continental and international levels. The primary objective of this sector strategy is to facilitate the transformation of the Agri-food Sector, thereby promoting economic prosperity and improved livelihoods.

The STAS has four key pillars that are essential for transforming the Agri-food Sector in Namibia:

Pillar 1: Production, Productivity and Agri-Business
Pillar 2: Food and Nutrition Security and Human Capacity
Pillar 3: Sustainable Resource Management
Pillar 4: Enabling Environment and Responsive Institutions

The chapters of this STAS are structured as follows: Chapter 2 provides an overview of the policy context, while Chapter 3 outlines the methodology used. Chapter 4 provides a comprehensive overview of the Namibian agriculture and food sector. Chapters 5 and 6 present the theory of change and strategic direction of the STAS. Chapter 7 outlines the pillars of the STAS, while Chapter 8 discusses implementation and coordination arrangements. Chapter 9 deals with monitoring and accountability. Finally, Chapter 10 presents a risk assessment.

2

POLICY CONTEXT

This STAS is aligned with national, regional, continental and international policies and strategies, and contributes to achieving the country's development goals within these contexts. The STAS is aligned with and contributes to the achievement of several key policies and strategies, including the following:

2.1 National level

Vision 2030

Namibia's long-term development aspirations are set out in Vision 2030, which is implemented through a series of medium-term National Development Plans. The STAS plays a role in achieving the Vision 2030 objective of fostering the growth of a diversified, open-market economy with a robust resource-based industrial sector and a thriving commercial agriculture. The programme places significant emphasis on skill development, competitiveness in the export sector, and product quality and differentiation.

National Development Plans

Namibia's National Development Plans (NDPs) provide the overarching development framework for both the private and public sectors. The formulation of this STAS is aligned with that of the Sixth National Development Plan (NDP6) 2025/26 to 2030/31. The STAS pillars and those of NDP6 are aligned. NDP6 pillar 1 is focused on economic recovery, transformation and resilience; pillar 2 is dedicated to human development and community resilience; pillar 3 is committed to sustainable development and environmental sustainability; and pillar 4 is dedicated to good governance and effective public service delivery. The four STAS pillars are optimally aligned with the NDP6 pillars, with further details available in the guiding document that outlines the new NDP6 pillars. This alignment will enable different stakeholders to extract their activities from NDP6 to create their respective work/strategic plans and budgets as implementation progresses.

Harambee Prosperity Plan II

The Harambee Prosperity Plan II (HPPII) (2021-2025) is a national, multi-sectoral plan designed to reduce poverty and inequality. HPPII and the STAS are aligned in terms of content, as both plans address key areas such as effective governance, economic advancement, social progression and infrastructure development.

Namibia Agriculture Policy, 2015

The 2015 Namibia Agriculture Policy provides a clear framework for all stakeholders in the Namibian agricultural sector to devise interventions that will enable them to make a meaningful contribution towards the sustainable development and growth of the Agri-food Sector in Namibia. The STAS plays a key role in implementing the strategic initiatives set out in the Namibia Agriculture Policy.

Revised National Food & Nutrition Security Policy, 2021

The revised National Food & Nutrition Security Policy of 2021 is designed to guarantee that the population has access to sufficient, safe and high-quality food and water at all stages of their lives, ensuring that their nutritional needs are met for optimal health and productivity. The STAS thus provides a framework for the implementation of interventions related to food and nutrition security in Namibia, particularly in relation to pillar 2 of the sector strategy, which addresses food and nutrition security and human capacity.

Namibia Rangeland Management Policy and Strategy, 2012 and (revised) 2019

The initial Namibia Rangeland Management Policy and Strategy (NRMPS) was adopted in 2012, and was revised in 2019 in the document titled *Reviving Namibia's Livestock Industry: Regenerative Livestock Production Trends, Key Profit Drivers, Case Studies and Recommendations – NRMP Best Practice Strategy Document*. This presents the findings and recommendations of four-and-a-half years of work. The 2012 and 2019 strategies together provide a framework for addressing rangeland degradation and revitalising the livestock industry. The NRMPS was developed in response to the loss of palatable perennial grasses and the expansion of bush encroachment across Namibia's rangelands. It outlines the need for sustainable rangeland management practices to restore soil health, improve water retention and increase livestock productivity. It is of the utmost importance to mitigate the effects of climate change and drought, which have exacerbated the degradation of Namibia's rangelands. By employing regenerative practices such as bush thinning, planned grazing and soil rehydration, the policy aims to generate up to N$4 billion in additional GDP for Namibia on an annual basis. It highlights the importance of collaboration between producers, farmer unions and government to implement best practices and reverse rangeland degradation.

The STAS is closely aligned with the NRMPS and its companion volume on reviving Namibia's livestock industry. It supports the implementation of key actions from these, including the adoption of sustainable stocking rates, improvements in soil carbon and the provision of support to the livestock value chain through the use of regenerative practices. The NRMPS also encourages farmers to adopt effective rangeland management practices through the provision of financial incentives, including tax rebates, low-interest loans and support for infrastructure improvements such as water supply systems. The STAS incorporates these recommendations with the aim of promoting the long-term productivity of Namibia's livestock sector and ensuring that rangeland and livestock management are central to agri-food system transformation efforts.

Northern Communal Areas Livestock Transformation Strategy, 2019

Namibia is a vast, diverse country, with challenges in agriculture varying significantly across different regions. It is thus essential that solutions are tailored to the specific needs of each area. Priority should be given to the Northern Communal Areas (NCAs), as they have the largest rural population and the highest unemployment. The livestock industry is a vital sector in the NCAs, yet the NCA livestock sub-sector contributes the least to the overall agricultural and national economies. Despite the NCAs receiving some of the highest rainfall in Namibia, productivity remains significantly below its potential. This is further compounded by a decline in resource bases resulting from unsustainable rangeland and cropping practices. Furthermore, there are challenges in accessing both internal and external markets. The government developed the Northern Communal Areas Livestock Transformation Strategy (2019), with the objective of addressing the critical market shortage of livestock in the northern communal areas. Interventions outlined in this strategy are integrated in Pillar 1 of this STAS.

Namibia Growth at Home Strategy, 2015

The Ministry of Industrialisation, Trade and SME Development (MITSMED) launched the "Growth at Home" Strategy in 2015. The strategy is designed to drive industrialisation and value addition within the country, to increase local production, enhance competitiveness and reduce dependence on imports. It forms part of Namibia's wider development strategy, which aims to promote economic growth and job creation.

Namibia Decentralisation Policy, 1997

The constitutional requirement for decentralisation should result in the delegation of certain powers and responsibilities to the regions. This policy's objective is to facilitate economic, cultural and social-economic development, while also offering individuals at grassroots level the opportunity to participate in decision-making and extending democracy to them as a fundamental right based on national values. The STAS is aligned with the Decentralisation Policy and contributes to its implementation. To this end, regional consultations were held in all 14 regions during the STAS-formulation process, to ensure that regional concerns, differences and priorities were incorporated into the final document. the STAS is committed to providing the regions with a voice by involving regional and local governments in the coordination and implementation of this strategy. This will empower people at the grassroots level to take ownership of the implementation process and guide agricultural development efforts towards their needs. In the process, their capacity to coordinate and manage such efforts will be built.

Other policies and strategies

- Revised Drought Management Policy & Strategy;
- Harambee Comprehensively Coordinated and Integrated Agricultural Development Programme (HACCIADEP);
- Swakopmund Protocol on Protection of Traditional Knowledge (calling for conserving and recognising the value of indigenous technical knowledge in agricultural and environmental science);
- 1998 National Land Policy;
- 2018 revised National Resettlement Policy;[1]
- National Food Safety Policy of 2014;
- National Policy on Climate Change (2011);
- National Climate Change Strategy & Action Plan (2013-2020);
- Namibia's second National Biodiversity Strategy (2013-2020);
- National Disaster Risk Management Plan 2011;
- "Reviving Namibia's Livestock Industry"; and
- Regenerative Livestock Production Strategy of 2019.

2.2 Regional level

As a member state of the Southern African Development Community (SADC), Namibia situates this STAS within the broader SADC policy and strategic context, which includes, but is not limited to, the following SADC policies and strategies:

[1] The key related statutes are the Agricultural (Commercial) Land Reform Act, 1995 (Act No. 6 of 1995) and the Communal Land Reform Act, 2002 (Act No. 5 of 2002).

- SADC Vision 2050, which, through its Industrial Development and Market Integration pillar, promotes the Comprehensive Africa Agriculture Development Programme (CAADP) as the main driver for agricultural growth and development in the region.
- The SADC Regional Indicative Strategic Development Plan (RISDP) 2020-2030, which emphasises the need to enhance value addition to agricultural produce within the region, and the need for Regional Value Chain (RGV) development through market integration, industrial productivity, and competitiveness. The RISDP calls for an improved business and investment climate, within which the capacity of micro, small and medium-sized enterprises (MSMEs) to participate in regional value chains is increased.
- The SADC Regional Agricultural Policy (2014) and SADC Regional Agricultural Investment Plan (RAIP) 2017-2022.

2.3 Continental level

As mentioned earlier, the STAS is the main driver for the implementation of Namibia's commitments to the targets of the AU's CAADP Compact as agreed upon in the Malabo Declaration of 2014-2024. A new 10-year declaration will be signed by African Heads of State in Kampala, Uganda, in January 2025. Once the Kampala Declaration is inaugurated, the STAS will be updated to ensure optimal alignment to the AU Kampala Declaration.[2] The sector strategy is further framed within the context of the AU's continental Agenda 2063 and the African Continental Free Trade Agreement (one of the flagship projects of Agenda 63, as an important foundation for opening export opportunities). In line with the AU's 2022 African Agribusiness Youth Strategy, this sector strategy encompasses tailor-made interventions for youth participation in the Agri-food Sector. The activities outlined in this STAS collectively align with Namibia's National Agribusiness Youth Strategy (NAYS), as advocated by the AU.

2.4 Global level

This STAS is framed within the context of the UN Agenda 2030 and its Sustainable Development Goals (SDGs). This sector strategy is aligned to the following SDGs: SDG1 (no poverty); SDG2 (zero hunger); SDG5 (gender equality); SDG8 (decent work and economic growth); SDG13 (climate action); and SDG15 (life on land). The STAS is also framed to contribute to the goals of Namibia's Intended Nationally Determined Contributions to the 2018 UN Framework Convention on Climate Change as per the 2016 UN Paris Agreement.

[2] It is expected that the 2025-2035 Kampala Declaration will broaden the scope beyond the agriculture sector to the Agri-food Sector, which already aligns with the current STAS scope. Still, the New Partnership for Africa's Development (NEPAD) Agency (the implementing arm for the AU's Agenda 2063 development strategy) will carry out an Internal Technical Review (ITR) of the STAS after the Kampala Declaration launch, which will ensure full alignment to these AU commitments.

3

METHODOLOGY

Following a favourable response to the Ministry of Agriculture, Water and Forestry's request to the African Union for assistance in developing a National Agriculture Investment Plan in line with CAADP requirements, a delegation from the AU and the New Partnership for Africa's Development (NEPAD) undertook a Country Convening Mission to Namibia in February 2019.

From April to August 2019, a sector stocktaking was conducted, and stakeholders were consulted at a series of events. Towards the end of 2019, an inter-ministerial Technical Committee was set up to facilitate the formulation of the STAS.

The formulation of this STAS spanned four years. The Ministry of Agriculture, Water and Land Reform (MAWLR), as the lead developer, employed a variety of methods in its formulation, including desk studies, scoping analysis, international benchmarking, stakeholder consultations and legislative consultations. Stakeholder engagement took place at the national level through a variety of events, including virtual exchanges conducted during the period of the global COVID-19 pandemic.

Following a consultation meeting on agribusiness in early 2020, the introduction of physical distancing measures due to the pandemic made it challenging to hold physical meetings. As a result, a STAS Task Team was established and virtual meetings were held, including sessions with individual resource persons. The restrictions continued into 2021, necessitating the use of ongoing virtual formats for meetings. In July and August, the FAO provided support to the MAWLR in hosting a two-week series of dialogues in preparation for the UN Food Systems Summit. The insights gathered from these dialogues were incorporated into the plan.

A preliminary draft of the sector strategy was presented in the first quarter of 2021. The sector strategy was discussed further at the MAWLR strategic planning workshop in Swakopmund in March 2022. It was then presented to all regions and discussed by regional-level stakeholders. In August 2022, consultations were held at the regional level with stakeholders from all 14 regions of Namibia. The stakeholders in attendance included representatives of farmers' unions, cooperatives, traditional authorities, women's groups, people living with disabilities, youth groups and marginalised communities.

Throughout this process, discussions with key resource persons and individual interviews provided specific inputs, and relevant documents (policies, strategies, studies and reports) were taken into consideration.[3]

[3] In October 2022, a delegation from the MAWLR along with private sector representatives visited Rwanda to learn about the NAIP experiences there. Rwanda's plan is in its fourth cycle and is called the "Strategic Plan for Agriculture Transformation (PSTA-4) 2018-2024".

4

NAMIBIA'S AGRI-FOOD SECTOR

This document is distinctive in that it broadens the scope of the agricultural sector to encompass the food sector. The traditional view of agriculture is that it is the primary production process, ending at the farm gate. Including the food sector in the definition recognises the importance of the entire food value chain, from marketing and processing to consumption. Namibia's Agri-food Sector is comprised mainly of subsistence and commercial farming. The agricultural sector is a significant contributor to the Namibian economy, with the vast majority of the population relying on it for their livelihood. Subsistence farming accounts for 10.6% of the Namibian population's income, while income from commercial farming represents only 0.3% of the total.[4] However, the largest portion of land is freehold agriculture (commercial) land at 39,728,364 hectares (ha), constituting 48% of the total land area, followed by communal land at 28,720,443 ha, representing 35% of the total. State land accounts for only 13,906,437 ha, which is 17% of the total.[5]

4.1 Role of the Agri-food Sector in the national economy

The Namibian economy is primarily driven by four key sectors: agriculture, diamond mining, tourism and the retail sector. In recent years, economic downturns have been linked to prolonged droughts and global economic recessions. The Government regularly highlights the crucial contribution of the agricultural sector to the economy. This sector has traditionally been a cornerstone of the country's socio-economic development, providing rural income and ensuring food security. Furthermore, it serves as a catalyst for the manufacturing industry and a significant source of foreign earnings. Since 1990, the agricultural sector has contributed an average of 5.1% to GDP. However, this has been in steady decline since 2006, from around 8% to around 3.5% in 2020.[6] This is due to a combination of changing climatic conditions and inadequate investment in the sector. The proportion of public spending allocated to agriculture declined from 6.8% in 1991 to 3% in 2020. The proportion of GDP accounted for by the agricultural sector fell from 13,31% in 1991 to 3,38% in 2020 (see Figure 1).

However, evidence from around the world demonstrates that industrial growth is contingent upon agricultural growth. The supply of produce, demand for farm inputs and technologies, and the subsequent rise in demand for agricultural output, serve as key drivers of industrial growth. To achieve balanced economic growth, industrialisation plans must be complemented by simultaneous support for agriculture. This is in line with the AU's Malabo Declaration and the SADC's Vision 2050 and RISDP 2020-2030.

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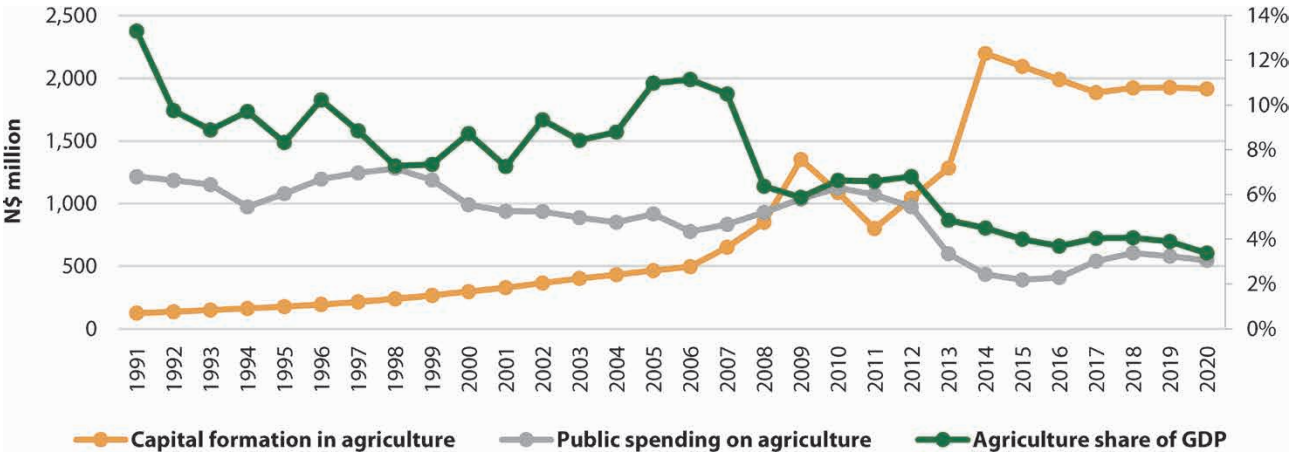
4 Namibia Household Income & Expenditure Survey 2015/2016.

5 Namibia Statistics Agency, *Namibia Land Statistics Booklet*, September 2018.

6 Note that the sub-sectors of fisheries and forestry are not included in this figure.

Figure 1: Public investment and outturn of agriculture (adapted from NSA 2020 and ReSAKSS data)



4.2 Agri-food Sector performance

Namibia is classified as a semi-arid to arid country, with average rainfall of up to 700 mm per year. Climate variability has an adverse impact on agricultural production, exacerbating food insecurity in many areas. The performance of the Namibian agricultural sector has been volatile, influenced by a number of factors including natural disasters such as floods and droughts, conflicts with wildlife, outbreaks of pests, and capital constraints. Despite commendable commitments to develop the Agri-food Sector and enhance food security and rural welfare, the anticipated growth has not been realised. Over the past decade, the rate of growth in the agricultural sector has declined at a faster pace than that of the declining growth of the overall Namibian economy.

Despite being the largest employer in Namibia, agricultural employment decreased by over 40% between 1997 and 2004, while the agricultural workforce is aging, with the youth lacking interest in agriculture-related jobs. However, there was a rebound recently, with an increase of over 50,000 workers by 2018.[7] Although the food and nutrition security situation has improved over the past decades, some level of undernourishment persists.[8]

4.3 Spatial differences in land use

Soil types, climate, terrain and vegetation differ across the country, leading to various land-use systems. Based on total agricultural surface, private commercial freehold land represents 41.6% (6,364 farms) and is divided into the categories of previously advantaged (PA) and previously disadvantaged farms (PF). This is followed by (non-title deed) communal state land (34.9%), Affirmative Action Loan Scheme (AALS) land (6.6% or 2,598 farms), and resettlement emerging farms (383 farms).[9] An overview of tenure systems is presented in Figure 2.

7 Mwinga et al., 2020.
8 See also the dialogues and the Namibia Country Paper in the context of the UN Food Systems Summit.
9 See MLR, 2019.

Namibia has 14 regions. The farming sector is divided into small-scale and large-scale commercial producers. In the northern and north-central regions, approximately 50% of farmers are smallholder farmers who operate under the communal land tenure system concentrated in the Northern Communal Areas (NCAs). This farming is characterised by small-scale mixed farming, fields of food crops, and livestock (cattle, goats and chickens) largely used for domestic consumption. The commercial sector is dominated by cattle and small stock. In the northern regions, extensive cattle production is common, with more than half of households keeping cattle. A veterinary cordon fence (VCF) – commonly referred to as the "Red Line" – divides the country into the Northern Communal Areas (NCAs) and the areas south of the fence (SVCF), where commercial livestock farms dominate. The commercial southern area is recognised by the World Organisation for Animal Health (WOAH) as a zone free of FMD and CBPP, and as such not requiring vaccination. Farmers in this zone can export meat to lucrative markets in the USA, EU, Norway and China, while NCA farmers are not free from FMD or CBPP, and as a result have limited access to markets and therefore only sell their cattle or meat locally or towards Angola.

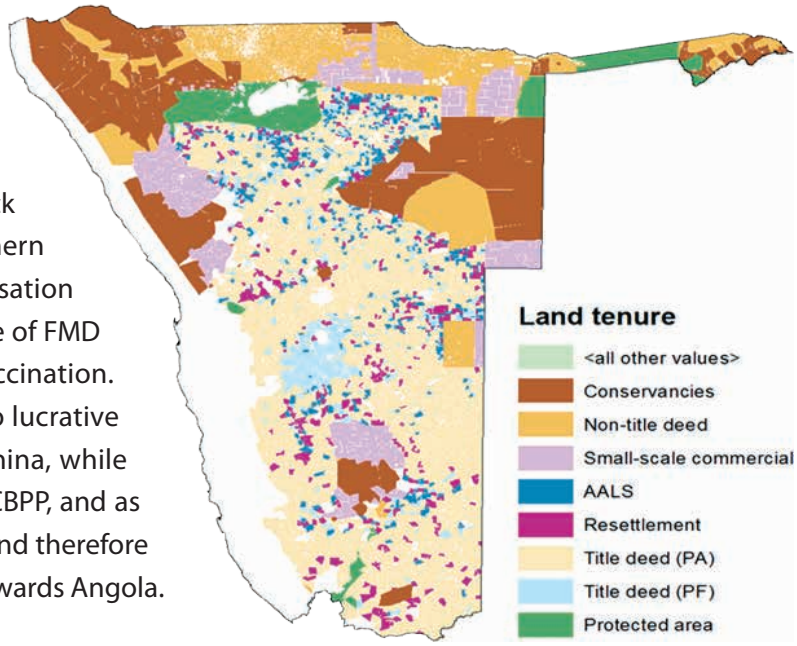
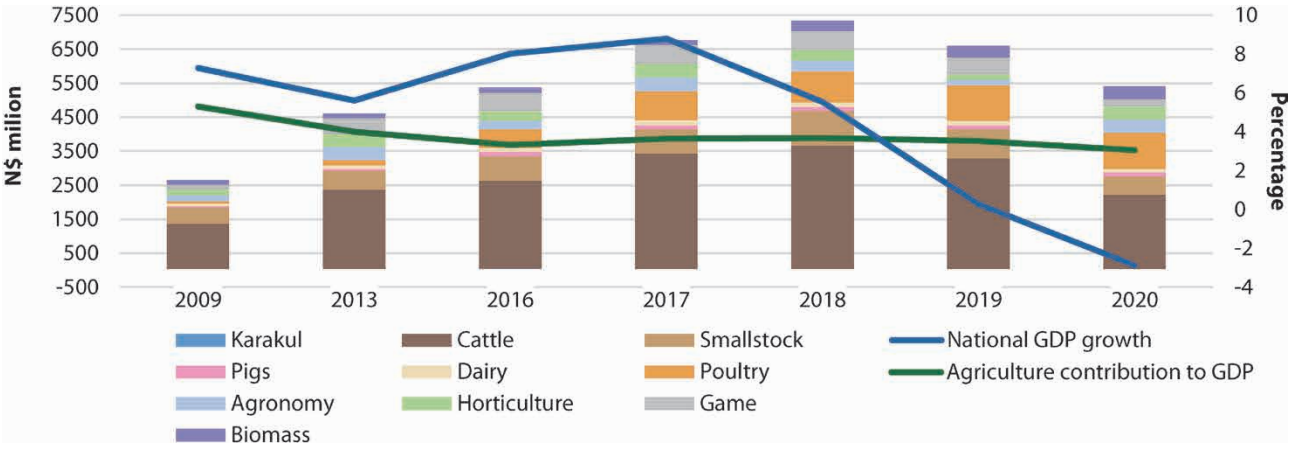


Figure 2: Land tenure in Namibia[10]

4.4 Sub-sectors

Irrigation is limited and only 8% of the country receives average rainfall suitable for crop production. Livestock production is the main agricultural business, divided into commercial (mostly in the SVCF) and communal systems (mostly in the NCAs). See Figure 3 on agriculture sub-sector performance.

Figure 3: Agricultural sub-sectors in Namibia (adapted from NSA 2020)



[10] See MLR, 2019.

Historically, livestock contributed approximately 70% of agricultural output. However, this proportion has declined to an estimated 60% over the past five years. The livestock sector is facing challenges, with declining stock numbers and constrained productivity. The different agro-ecological zones result into different regional cattle-stocking densities. Namibia has an average livestock stocking rate of 25kg/ha, but with much higher rates in regions like Omusati, Oshana and Ohangwena, where too many livestock ultimately result in land degradation. Even with a relatively low average national offtake rate of 14%, Namibia is a net exporter of beef and live cattle. This sub-sector always played an important role and currently contributes 43% to the total agriculture output.[11] Global demand for beef increases, with premium quality commanding high prices, creating opportunities for the Namibian cattle sector. In 2020, the contribution of meat processing to GDP was 0.6%. As part of the Growth-at-Home strategy, it is essential to promote meat processing in Namibia.

Dairy production in Namibia is split between two primary systems: The intensive system, which relies on Friesian cows solely for milk production, and the semi-intensive or extensive system, which uses Jersey' breed and dual-purpose Brown Swiss cattle for both milk and meat production. Namibia's dairy industry faces significant challenges, including high feed and fodder costs, which are almost entirely imported, driving production costs higher than those in South Africa. As a result, many smaller producers have exited the industry, reducing the number of dairy farmers from 27 in 2017 to just four by 2022, with one intensive dairy production farm and three semi-intensive dairy farmers. In 2022, Namibia produced approximately 15.6 million litres of raw milk, a sharp decline from the 24 million litres produced annually in 2017, representing a 33% drop over five years.[12] The intensive system is dominated by the single large-scale farm, accounting for 90-95% of the country's total milk production, producing around 1.4 million litres per month. The few remaining extensive or semi-intensive dairy farmers produce both milk and meat but generate much lower volumes, as they rely on natural grazing. Moreover, the extensive system allows the cow to raise its calf, further reducing milk yields.

Goat production plays a vital role in Namibia's Agri-food Sector, particularly for resource-poor households in rural areas. Goats are well-adapted to Namibia's harsh climate, especially in regions prone to recurring droughts such as Kunene, Erongo and the southern regions of Hardap and ||Kharas. Unlike cattle and sheep, which depend on grazing, goats are browsers and can survive on shrubs and trees, making them more resilient in dry conditions where grass is scarce. This adaptability is crucial for food security, as goats provide a steady source of milk and meat for households. Goat farming is accessible to low-income families, as goats require minimal inputs compared to large livestock like cattle. Beyond subsistence, goats also offer an immediate source of income, with families often selling goats in times of financial need, akin to a "living ATM." Additionally, goat milk is highly nutritious and provides a valuable food source for children, especially in communities affected by food shortages.

Sheep production in Namibia operates within two distinct systems, communal and commercial farming. In communal areas, the traditional Fat-tail sheep breed is primarily kept for cultural and ritual purposes, such as weddings and funerals. The Fat-tail sheep are valued for their kraaling ability, returning to their enclosure each night, and their importance in maintaining cultural traditions. In contrast, the commercial

[11] Agribank, 2020.

[12] Dairy Producers' Association, NAU, "Namibian Dairy Industry", November 2023.

sector relies heavily on Dorper sheep, a breed valued for its high-quality meat and adaptability to the arid conditions of Namibia's southern regions. Historically, the commercial sheep industry thrived, with around 1.6 million sheep marketed annually, largely through live exports to South Africa. However, the value chain was severely disrupted by government policies that imposed export restrictions, requiring producers to slaughter sheep at local abattoirs. The Smallstock Marketing Scheme, as it is popularly known, created inefficiencies, reducing profitability and forcing many farmers to switch to cattle, which is less suited to agro-ecological conditions, such as in Namibia's southern regions. As a result, sheep production dropped by 1 million to around 600,000 sheep per year, significantly diminishing the industry's contribution to the national economy.

Poultry production in Namibia is divided into two primary production lines: Broiler production for meat and layer production for eggs. The commercial sector is dominated by Namibia Poultry Industries (NPI), which produces around 29,147 tons of chicken meat annually, meeting approximately 89% of the national demand for broilers. However, there remains a gap between local production and consumption, which is filled by imports, mostly from South Africa and Brazil. The layer industry, while more fragmented, consists of a few larger producers alongside numerous small-scale producers who contribute to informal markets. In 2022, egg production grew significantly, with an estimated 12.5 million dozen eggs produced annually, highlighting the sector's potential to achieve self-sufficiency. Despite these positive trends, both broiler and egg production face challenges, such as high input costs, particularly for feed, which accounts for up to 70% of production expenses in the layer industry. This high cost is exacerbated by Namibia's reliance on imported feed inputs like maize and soya. Poultry is crucial for food and nutrition security in Namibia as it provides an affordable, high-protein food source that is readily available at the household level. Backyard poultry farming, in particular, is characterised by low input costs and offers an accessible way for rural households to produce both meat and eggs. Chickens are also efficient food waste converters, contributing to sustainability by utilising household scraps as feed.

Pig and pork production in Namibia is characterised by a small but important commercial sector and a large number of small-scale and backyard producers. There are approximately 20 commercial producers, with two large-scale producers located in Tsumeb and Mariental, while about 4,000 backyard pig production operations supply informal markets or for subsistence.[13] The importance of pork in Namibia's food security landscape became particularly evident during the COVID-19 pandemic when border closures disrupted imports from South Africa, highlighting the country's reliance on external sources for pork. Pork offers a more affordable protein option than beef and lamb. As a result, increasing domestic production of pork is key to ensuring greater food self-sufficiency and stabilising protein supply during periods of international trade disruptions.

The game meat sub-sector in Namibia is a key component of the country's diversified agricultural industry, with significant potential for growth. Namibia has an estimated game population of over 3 million animals, a number roughly equivalent to the country's livestock population, including cattle, sheep, and goats.[14]

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[13] Pig Producers' Association of Namibia and Livestock & Livestock Products Board (LLPB), "Pork Producers Strategic Planning Session Report", November 2023.

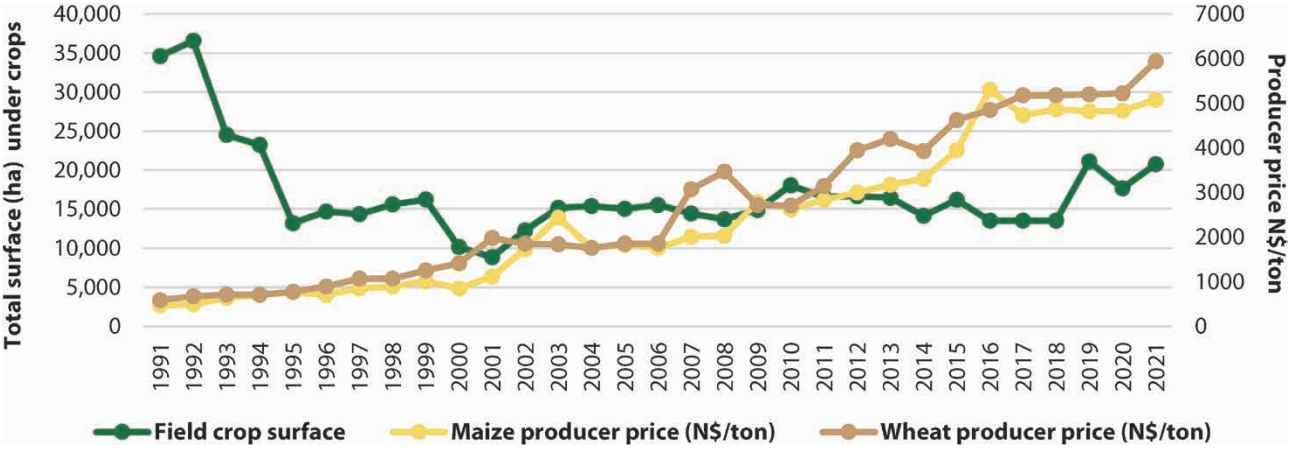
[14] Van Schalkwyk, Twyman, Hanekom and Kwashirai, *An Economic Analysis: Business case for sustainable engagement in the Game Meat export value chain*, 2012.

The game meat industry saw exports peak in 2013 at N$50 million, but challenges, including regulatory hurdles and export bans due to contamination concerns, have since constrained growth.[15] Despite these setbacks, the potential for growth remains strong, particularly with the resumption of exports to the EU following improvements in food safety standards. Game species such as springbok, gemsbok and kudu are particularly suited for commercial meat production, while hides and skins offer additional revenue streams through leather production.[16] Additionally, conflicts between game producers and domestic livestock producers, such as the risk of disease transmission (e.g. malignant catarrhal fever, foot & mouth disease) and wild predators (leopards, hyenas) attacking livestock, remain ongoing concerns that need to be addressed.

Namibian Karakul pelt has been marketed under the name Swakara[17] since 1968, and was once recognised in European markets for its intrinsic tight-curl pattern, a shiny black skin and short hair. At the height of its time, the Karakul sheep adopted a new name and was referred to as Namibia's "black diamond", because of its export earnings and its contribution to the country's GDP. However, the production of Karakul pelts has since been declining at an alarming rate, partly as a result of the anti-fur campaigns of the 1970s and the continued advocacy of animal welfare groups, and the number of breeders has dwindled, with no realistic upward trend in sight.

The contribution of cereals to agriculture production is small compared to that of livestock. Maize is planted under both rainfed and irrigated systems, pearl millet is planted only under dryland rainfed conditions and wheat is only irrigated. Field crop production is regulated by the Namibian Agronomic Board. Prices are set on an annual basis. Crop prices for maize and wheat show an upward trend, while the surface under production declined steeply after 1992 (Figure 4).

Figure 4: Field crop prices and surface under production in Namibia



The Namibian horticulture industry has grown over the years. While there is notable progress in the primary production, the sector also experiences serious hardship posed by recurrent drought, high input costs, pests and diseases.

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15 Partnership Ready Namibia: Game Meat, 2020, Global Business Network Programme, GIZ

16 Growth Strategy for Namibia's Game Meat Industry and Associated Value Chains, 2016. MISMED

17 Swakara is a portmanteau of South West Africa Karakul

On the side of fruits, grapes and dates, the main export was recorded in the 2018/2019 production season, while on the vegetable side, onions and tomatoes recorded the highest export value in 2018/2019.[18] Notwithstanding the above, Namibia remains a net importer of fresh fruits and vegetables, importing a total value of N$417,675,765 in 2019. Agro-processing is underdeveloped with less than 1% of production going into value addition. Challenges to increased productivity in this sub-sector arise from high input costs, post-harvest vegetable losses and lack of market access.

The contribution of livestock farming and crop farming, including forestry, to GDP varies across both primary and secondary industries. Figure 5 illustrates that livestock farming's share surpasses that of crop farming and forestry within the primary industry. Crop farming, particularly grain mill products, exceeds meat processing in terms of contribution,[19] as indicated in Figure 6. To achieve greater efficiency in the Agri-food Sector, increased investment is essential for meat processing, which falls under the secondary industry, as well as for crop farming within the primary industry.

Figure 5: Primary industry (livestock and crop farming, and forestry)

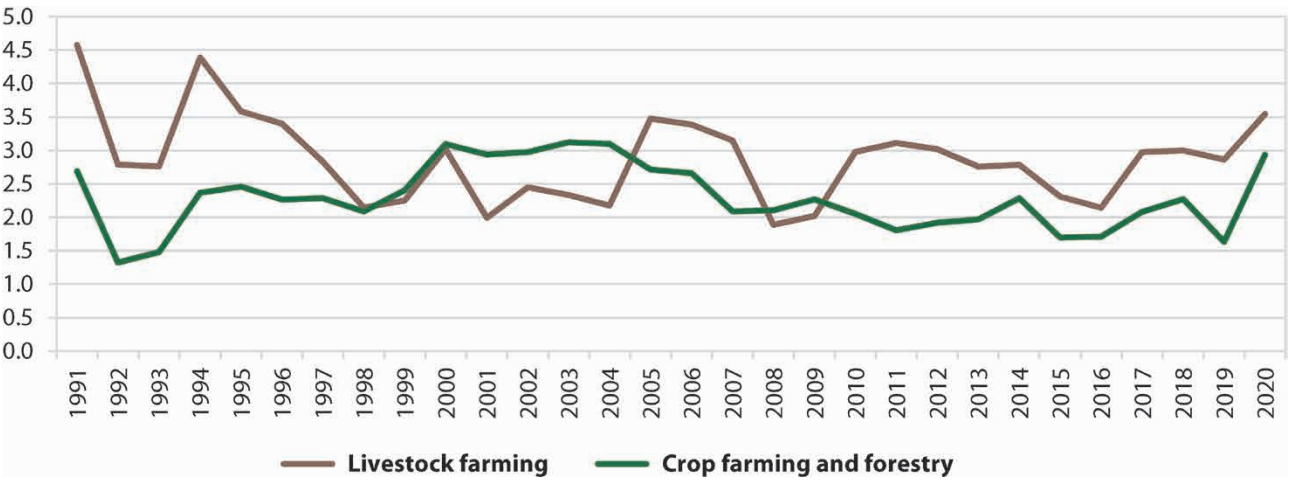
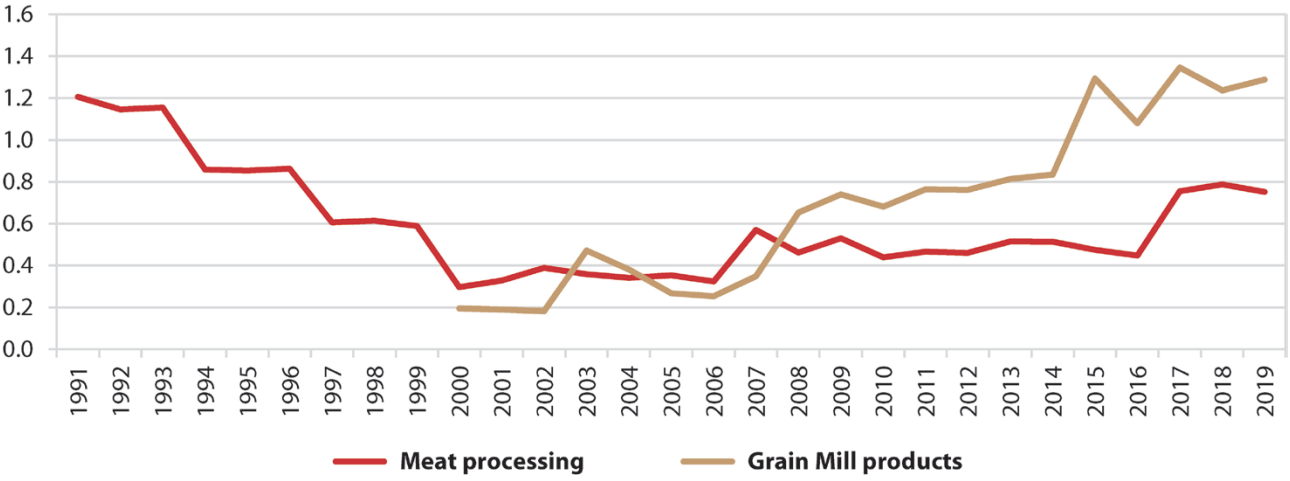


Figure 6: Secondary industry (meat processing and grain-mill products)



[18] NAB, 2019.

[19] NSA, National Accounts; Time Series 1980-2020.

4.5 Post-harvest losses

Post-harvest management refers to the processes and practices used to handle, store and transport agricultural products after harvest to reduce losses and maintain quality. Inadequate storage and handling practices can lead to significant food losses, directly affecting food availability, nutrition and rural incomes. Climate challenges in the SADC region, such as drought and erratic rainfall, often make it difficult for farmers to maintain the quality of their produce. Namibia faces significant challenges in post-harvest management, with post-harvest losses accounting for 33% of total domestic food losses, much higher than the SADC regional average of 18%. Farm-level losses are estimated at around 24%, largely due to inadequate storage, poor handling techniques and poor transport infrastructure. A critical challenge is the prevalence of aflatoxin contamination in maize, which is often stored in damp or poorly ventilated environments. This problem is particularly acute in maize-producing regions such as the Zambezi and Kavango, where storage conditions are conducive to mould growth. Aflatoxins not only pose health risks, such as liver cancer and child stunting, but also cause economic losses as contaminated maize is unsaleable. The limited availability of modern post-harvest technologies and infrastructure, particularly in rural areas, exacerbates these problems. The cumulative effect of these inefficiencies reduces food availability, threatens farmers' incomes and hinders the growth of the agri-food economy. By improving post-harvest management practices, including aflatoxin prevention, Namibia can increase food security, reduce environmental waste, mitigate health risks and create economic opportunities through value addition.

4.6 Food and nutrition security

Namibia's classification as a middle-income country obscures significant poverty and inequalities within its population and regions. Despite a general decrease in poverty rates from 2003 to 2016, nearly one-fifth of the population still live in poverty. The country heavily relies on food imports, predominantly from South Africa. In 2016, approximately 34% of the population experienced food insecurity, and malnutrition was a contributing factor in over 45% of deaths among children under five years old. Factors impeding access to and use of nutritious foods in subsistence-based households include poverty, recurrent drought and water shortages, widespread soil erosion and land degradation, limited income-generating opportunities, and restrictions on women's access to and control over land. Among indigenous communities, the gathering of wild foods is an important livelihood strategy. However, it is highly seasonal and limited in most areas by lack of access to land.[20]

4.7 Food waste

Food waste refers to edible food that is discarded or left unused along the food supply chain, from production to consumption. In Namibia, food waste is a critical issue due to its direct impact on food security, economic growth and environmental sustainability. With over 40% of the population reliant on subsistence farming and many households experiencing food insecurity, reducing food waste is essential. Wasting food not only depletes valuable resources like water and land but also contributes to greenhouse gas emissions, which exacerbate climate change. In Namibia, the issue is further compounded by high

[20] Revised National Food & Nutrition Security Policy 2021.

post-harvest losses in perishable goods, inefficient supply chains, and inadequate storage facilities. Food waste presents opportunities for processing. According to NAB only 1% of local fresh produce is processed. The rest is consumed fresh or goes to waste. Tackling food waste, therefore, represents a critical component in ensuring food availability and mitigating environmental impacts. Food waste in Namibia occurs across various stages of the food supply chain, from production and post-harvest handling to retail and household consumption. It is estimated that approximately 24% of food is lost or wasted at the production stage alone, especially among perishable goods such as fruits, vegetables and meat. Furthermore, a significant portion of food waste occurs in urban centres due to improper storage, transportation issues, and overstocking in supermarkets and households. The problem is particularly severe in regions with poor infrastructure, such as the Zambezi and Kavango regions, where logistical challenges make it difficult to transport and store food efficiently. Food waste also increases during events such as droughts, which lead to spoilage as farmers are unable to sell or preserve their produce on time. Addressing food waste is critical not only for improving food security but also for reducing financial losses for both farmers and retailers.

4.8 Biomass

Namibia's biomass sub-sector has demonstrated significant growth potential, fuelled by the country's extensive bush encroachment, which now affects approximately 46 million hectares of land. Bush encroachment, caused by the uncontrolled spread of indigenous woody species, reduces rangeland productivity, affecting both livestock and biodiversity. However, this challenge has also created significant opportunities for the biomass industry. Biomass resources from bush encroachment are estimated at 300-500 million tonnes of standing biomass that can be sustainably harvested without depleting the resource. This has driven the growth of value chains such as charcoal production, with Namibia producing about 200,000 tonnes of charcoal per year, contributing N$662.5 million to the economy in 2019 and directly employing about 8,000 people. In addition to charcoal, other biomass-based products such as fuelwood, wood chips for energy production, biochar and bushfeed are gaining traction. There is growing interest in biomass as an energy source, with NamPower exploring the use of wood chips to fuel a 40MW biomass power plant in Tsumeb, which could harvest around 16,000 hectares per year. While these developments are promising, the rate of bush encroachment continues to outstrip current bush harvesting efforts, highlighting the huge untapped potential in the biomass sub-sector. If managed sustainably, biomass could make a significant contribution to Namibia's goals for land rehabilitation, rural employment and renewable energy development, as well as contribute significantly to the national economy.

4.9 Women and youth in the Agri-food Sector

The role of women in the Agri-food Sector cannot be overstated. Not only are they farmers and producers of food, but they are also predominantly responsible for feeding their families. The female agricultural population exceeds the male agriculture population in all regions except ||Kharas, Erongo, Hardap, Omaheke and Otjozondjupa.[21] Women are responsible for subsistence agriculture, particularly in the northern and north-eastern regions of the country, where men often migrate to urban areas in search of jobs.[22] Women

[21] Namibia Statistics Agency, 2015.

[22] Republic of Namibia, Gender Profile, African Development Bank (2006).

are involved in nearly all types of crop production activities,[23] often as unpaid labourers, and cropping is considered a women's domain. Notwithstanding women's predominant role in agriculture, they are often bypassed by the formal agricultural extension system[24] and are left to operate under highly constrained access to and control over resources and services. Women's lack of access to credit and control over income perpetuates gender disparity.

Namibia is no exception when it comes to the difficulties of attracting young people to agriculture and retaining those who work in the rural economy. A challenge of young agripreneurs is a low income and a lack of collateral, leading to the difficulty of raising sufficient start-up capital to invest and make agribusinesses profitable. The lack of capital and the limited access to markets could be among the reasons for minimal youth participation in agriculture. Young farmers are especially interested in new technologies, such as solar (renewable) energy to reduce the electricity expense on their farm.[25] Investing in a skilled and young workforce will build a robust agricultural technology-based ecosystem that stands the test of time and will serve future generations.

4.10 Agriculture trade

Namibia is an open economy, as illustrated by the flow of goods, services and capital. Namibia imports about 60% of its food on an annual basis. Namibia imported about 96% of its fruits, while maize imports hover around 50% over the years.[26] In addition, about 40% to 70% of Namibia's agricultural exports (red meat, fish and grapes) are destined for markets in the European Union (EU). Compliance with EU standards give Namibian beef a competitive advantage over its competitors.[27] Thus, with a secured market, there is a greater potential for investing in the Agri-food Sector in Namibia for both crop and livestock farming.

4.11 Challenges to Agri-food Sector performance

i. **Climate, droughts and floods:** Between 1990 and 2021, Namibia encountered at least 12 years in which more than half of the country received below-average rainfall.[28] Given the variation in areas and commodity production requirements, additional research is essential to establish an effective early warning system. Enhancements are necessary in understanding current cyclical rainfall patterns to better forecast droughts, including their duration and severity.

ii. **Groundwater:** Unreliable and limited rainfall means that water consumption depends on groundwater sources. Extraction of groundwater far exceeds its replenishment, so that most groundwater basins are under threat.[29] It is anticipated that by the year 2030, water basins of Omaruru/Swakop, Tsondap/

[23] Except in land preparation, which is predominantly a men's task.

[24] African Development Bank, 2006.

[25] CAADP Youth Network: Namibia Dialogue, City Hall of Windhoek, 27-28 February 2020.

[26] Namibia Agronomic Board Annual Report 2017/2018.

[27] Meatco Namibia Annual Report 2016/2017.

[28] Red Cross Namibia, 2021.

[29] Under harsh climatic circumstances, only 360 mm^3 per annum accounts for rechargeable and extractable groundwater resources.

Koigab, Eiseb-Epukiro, Kuiseb, Nossob-Auob, Okavango-Omatako and Ugab-Huab will be (or are already) under threat.[30] The only sustainable water resources appear to be the Cuvelai-Etosha and Zambezi-Kwando-Linyanti basins in northern parts of the country.

iii. **Land degradation and bush encroachment:** Overgrazing has led to land degradation in arid areas. Additionally, bush encroachment has become a significant challenge across approximately 45 million hectares of the country's rangelands. This phenomenon adversely affects agricultural productivity as well as groundwater recharge. Both commercial and communal farming areas are impacted by land degradation and bush encroachment, contributing to a decline in productivity by two-thirds over recent decades. This decline represents substantial annual losses estimated to be between N$2.1 billion and N$4.2 billion in livestock production.

iv. **Production losses:** The Agri-food Sector faces multiple challenges that exacerbate food and nutrition insecurity. These challenges collectively contribute to persistent food and nutrition insecurity in Namibia, requiring strategic interventions to mitigate their impact on food production and rural livelihoods, and include:

- **Locust invasions**: In January 2021, locust invasions destroyed crops, impacting food production.
- **Foot and Mouth Disease (FMD):** Outbreaks of FMD led to livestock movement bans in several regions, including Zambezi, Kavango East, Kavango West, Ohangwena, Oshikoto, Kunene, Oshana, Omusati, and Tsumkwe Constituency in Otjozondjupa Region. This restricted the movement and trade of livestock, affecting livestock-based livelihoods.
- **Predatory wildlife:** During droughts, predatory wildlife poses a threat as they target livestock when natural prey becomes scarce, further impacting agricultural productivity.
- **Theft:** Livestock, crops and farm infrastructure such as fences and water installations are vulnerable to theft, undermining agricultural operations and livelihoods.

v. **Persistent food and nutrition insecurity:** Namibia is a surplus producer of beef, but the country remains food insufficient due to fluctuations in cereal production. Malnutrition contributes to more than 45% of all deaths in children under five years of age.[31] The current level of stunting is a clear reflection of persistent low food intake and recurrent or chronic infection. Namibia's Global Hunger Index score improved somewhat (from 22.9 in 2014 to 18.7 in 2022 – an improvement of 18.3%), but its ranking at 78 out of 121 still depicts a serious hunger situation.

vi. **Distances, inputs, infrastructure and energy:** Infrastructure is considered to be well developed, but long distances result in high transport costs. In addition, production is challenged with high input costs (seeds, fertilisers and animal vaccines), hence a need for investment in production of animal vaccines, fertilisers and seeds. Appropriate agricultural marketing infrastructure exists, with strategic food reserve facilities in grain-producing zones and in livestock auction facilities in both the NCA and SVCF. Energy supply is availed through the national grid and there is potential for solar in areas that are off-grid.

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30 MAWF, 2019.

31 Revised National Food & Nutrition Security Policy (2022).

vii. **Regulations on agricultural commodities differ by sub-sector:** The livestock sector is regulated by the Livestock and Livestock Product Board of Namibia through sound regulatory systems that ensure quality assurance around production, processing and marketing. Similarly, the wool and pelt sectors are well regulated and organised by the Karakul Board. The small-stock sector follows the same health regulations, but the current export policies for mutton and goat meat discourage production. The crop sector is also well organised, and the Namibian Agronomic Board regulates the exportation, importation and transit of agronomic and horticultural products in line with the Agronomic Industry Act, 1992 (Act No. 20 of 1992). These regulations relate to registration of traders (importers, exporters and transiters), issuance of permits, import substitution schemes, border control, inspection of farms and facilities for compliance to food safety standards, inspection of products for compliance to quality and food safety standards.

viii. **Impact of COVID-19:** The restrictive measures implemented to control infections significantly curtailed both local and international trade, leading to negative growth in the farming sector. This highlights the necessity for greater resilience to address issues related to food availability.

4.12 Trends and outlook

Even in times of economic hardship, agriculture remains the sector from which most of the Namibian population derives food, employment and income. It is the biggest employer, responsible for 23% of the labour force,[32] also on account of the labour-intensive nature of agriculture. An area of concern is that the agricultural workforce is aging, and the youth are not really interested in agriculture. Analysis points out that increasing productive labour to the livestock sub-sector by 10% will increase real gross domestic product by 12%.[33]

A growing Namibian middle class, along with large-scale rural to urban migration and a projected 74% growth of the national population from 2.5 million in 2021 to 4.4 million in 2050, are expected to increase the local demand for food. Demand also surges in international markets for meat, meat products, and agronomic and horticultural products. High international commodity prices should benefit local production of grapes, dates, vegetables, beef and mutton. The primary production should support the secondary industry through investment in value addition for meat as well as agronomic and horticultural products. The regional and international trade agreements especially through the EU and the Southern African Customs Union (SACU) guarantee markets for Namibian agricultural products. Although Namibian agronomy and horticulture have recorded growth, the country remains a net importer of agronomic products, fruits and vegetables.[34] While there is notable progress in the primary production of these commodities, agro-processing lags behind, with less than 1% of production going into value addition. Pearl millet, locally known as *mahangu*, is the preferred staple grain grown by most small-scale farmers, under dryland conditions and in communal areas. Maize is grown through both rainfed and irrigation means in different parts of the country, whereas wheat is produced only under irrigation. Namibia imports most of its domestic demand for all cereals (grains):

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[32] With a total of 167,242 out of 725,742 employed, NSA, 2018

[33] Sartorius von Bach & Nyambe (2022)

[34] Namibia is self-reliant in oranges, lettuce, and pumpkins

about 68% of pearl millet, 61% of maize and 80% of wheat. Irrigated maize and wheat can be quite profitable, provided that input costs are kept to an acceptable level (the high costs of fuel and fertiliser dampen potential profits currently).

Despite declines in cattle production (with droughts between 2013 and 2019 causing a reduction of the national cattle herd of around 40%) it remains the major sub-sector responsible for 43% of total agriculture output. Small-stock numbers are trending downwards, with the long-term impact of the sheep marketing scheme[35] being considered as a major bottleneck for the industry. While the outlook for production and marketing of cattle and small stock is good, based on rising demand, this is not the case for the Karakul industry. The Karakul pelt industry, once a major forex earner, suffered under the anti-fur and animal welfare campaigns. Despite a recent uptick in the price for pelt, commercial farmers are reluctant to invest in this sub-sector.

Harvesting of encroacher bush is expected to increase as bush thinning and biomass utilisation is prioritised by the Government. In the last five years, revenue from biomass doubled to N$381 million. Bush thinning can generate an estimated net benefit of N$48 billion over 25 years, and additional benefits such as increased livestock production, groundwater recharge, income from firewood and charcoal, generation of electricity, and carbon offsets.

The global challenges of climate change will increase in future years. Namibia's rainfall patterns will be (even) more erratic, with increased risks of droughts and floods. Part of the global response to this and other challenges is found in technological advancement, with Namibia well positioned to pioneer and develop activities such as the use of desalinated seawater and solar energy.

4.13 Opportunities for improved Agri-food Sector performance

Enabling policies, regulation and investment are required to reverse the downward trend of current agriculture growth. The link between government spending, agricultural growth and poverty reduction has been analysed.[36] Studies show that economic growth and poverty reduction are a direct outcome of public spending in agriculture. Yet, in many countries, like Namibia, public expenditure on agriculture is still declining (see Figure 7). For Namibia, an increase of 10% in real capital formation in agriculture would result in GDP growth by 4%.

Negative agricultural growth can be reversed if the sector produces what is currently imported. Renewed support for Namibian agriculture will lay the foundation for a sustained and competitive manufacturing base.

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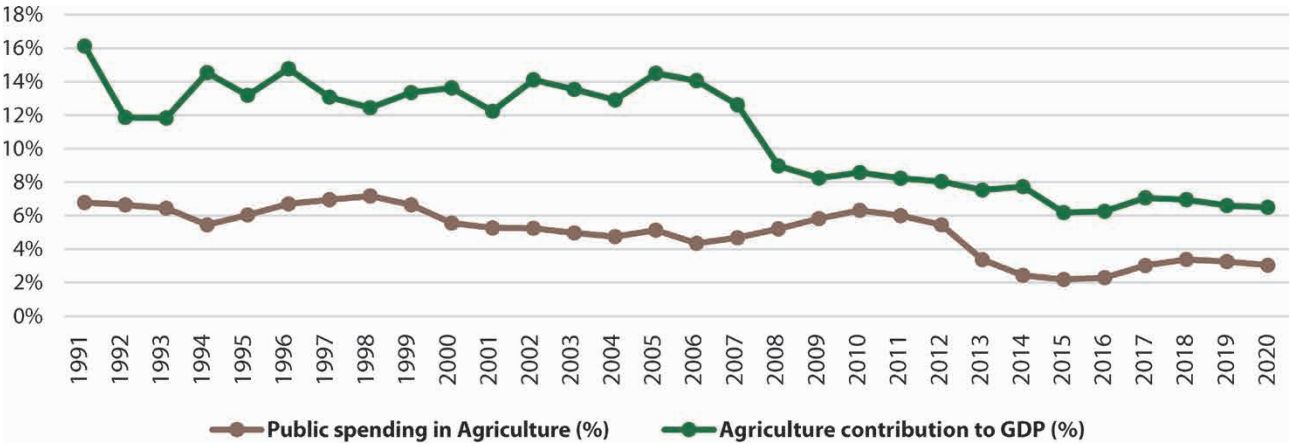
[35] Historically, most small stock was marketed as live animals to South Africa without utilising the newly constructed export abattoirs. The Small Stock Marketing Scheme was then introduced to redirect live sheep to domestic abattoirs, to in turn promote value addition and employment. The policy prescribed a quota ratio of live export animals relative to local processing from a one-to-six ratio, which was later reduced to a one-to-one ratio. Bottlenecks such as slaughter capacity, domestic demand and pricing caused the scheme to be halted, as the national herd declined to half of its previous size.

[36] Sartorius von Bach and Nyambe, 2021.

Figure 7: Agriculture within the national Namibian economy [37]



Modelling further shows that if 10% additional staff would be employed in the livestock sub-sector, then the real national GDP would increase by 12%. Thus, public spending on agriculture significantly drives total agricultural output, and if the allocation would increase by 10%, the total agricultural growth would increase by 8.5%. These findings show that public spending on agriculture increases productivity.[38]

4.14 Institutional setup and organisation of the Agri-food Sector

There is consensus, in and outside of government, that addressing the challenges of the Agri-food Sector needs a coordinated effort. Achieving better synergies between agriculture players is a prominent reason for Namibia to want a comprehensive strategy for the sector. A lack of coordination leads to high transaction costs, inefficient use of resources and ultimately a lack of impact. Efficient coordination requires that the institutional setup of the sector is well understood. Main institutions and actors are discussed here.

Government

Government intervention should ensure a collaborative environment for different service providers to work together and invest in areas like agricultural technical education, livestock disease control, improved selection for favourable (drought-tolerant) genes (livestock and crops), comprehensive agriculture production statistics, and expanded access to inputs and finance. Together with the private sector, the Government should invest in agriculture infrastructure such as irrigation and drainage systems, soil conservation, production, agro-processing, marketing and storage facilities, mechanisation, energy, road and transport systems, and waste management.

The Government must ensure that policies are conducive to agriculture's long-term productivity and sustainability. Public investments must target job creation, encourage value addition and raise foreign income. Support packages must be aligned to the realities of the sector as well as its downstream industries

[37] Sartorius von Bach and Nyambe, 2021.

[38] Fiscal restrictions have meant that the Government has not been able to allocate more than 3% of its budget to agriculture.

to allow agriculture to modernise and contribute to industrial growth. The time is ripe for technological changes to substantially increase the efficiency of agricultural processes and to raise the rate of agricultural growth. The interdependency between industrial and agricultural sectors should be utilised, so that as the agricultural sector increases its output, a basis for the manufacturing industry is built. This will stimulate private investment, open markets, allow for economies of scale, avail finance, and improve the transport systems.[39] Whether or not this range of needs is addressed depends on the capacity of systems and the willingness to innovate.

The primary role of the Government is to create an enabling environment for the private sector to flourish. The Ministry of Agriculture, Water and Land Reform (MAWLR) is the leading line ministry for the STAS.[40] Notwithstanding the MAWLR's role, other government institutions are relevant to ensure the creation of an enabling environment. The Ministry of Mines and Energy (MME) ensures energy infrastructure, the Ministry of Works and Transport (MWT) ensures road network and connections, the Ministry of Industrialisation and Trade establishes trade agreements, and the Ministry of Information and Communication Technology (MICT) ensure that information communication technology is availed to all corners of the country. The Ministry of Finance ensures that the above infrastructures are funded through the Development Budget.

The STAS itself represents 'the agriculture chapter' of the Sixth National Development Plan (NDP6), which is under the stewardship of the National Planning Commission (NPC). The NPC is also responsible for the Development Budget, a vehicle used by the Government to inject into the economy.

State-owned enterprises

A wide range of state-owned enterprises (SOEs) is responsible for much of government's service provision in the Agri-food Sector.[41] Some SOEs, including the Livestock and Livestock Product Board, the Agronomic Board and the Karakul Board, deal with specific value chains (supporting production, marketing and export). Meatco is a processing and marketing entity responsible for abattoirs and meat factories. Other SOEs were established in support of specific government programmes, such as AgriBusDev which manages the Green Scheme programme, the Agro Marketing & Trade Agency (AMTA) which operates and manages the Fresh Produce Business Hubs and National Strategic Food Reserves Facilities, and the Namibia Training Authority (NTA) which is responsible for vocational training in agriculture. Important for research and data are the University of Namibia (UNAM) and the Namibia Statistics Agency (NSA). Of central importance to food safety and trade are the Namibia Standards Institution (NSI) and Namibia Qualifications Authority (NQA).

Private sector and civil society

Most farms and feedlots are owned or operated by private individuals, irrespectively of tenure system. The farming community in Namibia is organised in three main national unions, reflecting both the historical background to farming as well as the range of production systems, from subsistence to commercial farmers with emerging commercial farmers in-between.

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39 Mushendami et al., 2008.

40 The MAWLR now combines three sub-sectors after the recent merger with the Ministry of Land Reform.

41 Stakeholders estimate that around 80% of service provision in agriculture is via SOEs (Scoping Analysis, 2019).

- The Namibia National Farmers Union (NNFU), which represents communal and emerging communal farmers, was established in 1992, soon after Independence. The NNFU has structures in all 14 regions and holds a membership congress every three years.
- The Namibia Agriculture Union (NAU), established over 60 years ago, now has more than 2,000 active members. This union represents commercial farmers via 10 regional farmer unions, each representing several farmer associations. The NAU also has producer associations including the Livestock Producers Association, the Dairy Producers Association, the Agronomy Producers Association, the Poultry Producers Association and the Pig Producer Organisation.
- The Namibia Emerging Commercial Farmers Union (NECFU) was established in 2010 to represent resettled farmers, emerging commercial farmers, and beneficiaries of the Affirmative Action Loan Scheme.[42] NECFU membership is based on affiliation via regional farmers' unions in all regions of Namibia except the uppermost northern regions.
- The Previously Disadvantaged Namibia Farmers Union (PDNFU) was established in 2018 with the aim of addressing needs of farmers who are not categorised in either communal or commercial areas.

Development partners and NGOs

Development partners in Namibian agriculture include the UN Food and Agriculture Organization (FAO); the Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) (on behalf of the German Federal Ministry for Economic Cooperation) and the European Union (EU). Also relevant to agriculture are the United Nations Development Programme (UNDP) and the World Food Programme (WFP). The sector is supported by NGOs such as, among others, the Namibia Nature Foundation (NNF) and Development Aid from People to People (DAPP).

4.15 Coordination mechanisms at sector level

Institutionalised coordination at the level of the Agri-food Sector has mostly been within the Government. Public-private dialogue takes place on an ad-hoc basis (during conferences or in support of specific interventions), but a clearly mandated and institutionalised public-private coordination mechanism for agriculture does not exist.

Technical Working Groups existed under NDP3, which had an integrated planning approach whereby areas such as agriculture, fisheries, land and environment made use of such working groups. These TWGs did not work well and were abandoned. NDP4 pursued a clear sector approach, whereby not only planning (as in NDP3), but also coordination and reporting was by sector. A lack of coordination limited the effectiveness of this approach. These experiences led to a cluster approach in NDP5, with four cross-cutting clusters. Under NDP5, ministries responsible for the Economic Progression Cluster met quarterly. The Agri-food Sector is at a level much below the Economic Progression pillar. The importance of inter-ministerial coordination at that sector level is often emphasised, but Namibia never had an Inter-Ministerial Coordinating Committee for the Agri-food Sector.[43]

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[42] Affirmative Action Loan Scheme beneficiaries are resettled farmers who were given soft loans through government.

[43] Dietvorst, "Scoping Analysis Towards the Formulation of a NAIP for the Agri-food Sector in Namibia", 2019.

5

THEORY OF CHANGE

5.1 The STAS contribution to NDP goals

The National Development Plan (NDP) is the vehicle for achieving Vision 2030, and the STAS is structured to facilitate optimal contribution to NDP goals. The STAS informed the formulation process of NDP6 with respect to the Agri-food Sector, and each NDP6 pillar is supported by a corresponding STAS pillar. NDP6 and the STAS will be implemented concurrently, with the STAS elaborating the NDP6 goals at the level of the sector, effectively as the agri-food chapter of NDP6, working towards overarching NDP6 goals, as indicated in the table below.

NDP Pillars	ECONOMY	COMMUNITY	ENVIRONMENT	ENABLER	NDP6
	Economic Recovery, Transformation and Resilience	Human Development and Community Resilience	Sustainable Development and Environmental Sustainability	Good Governance and Effective Public Service Delivery	
Pillar	Production, Productivity and Agribusiness	Food & Nutrition Security and Human Capacity	Sustainable Resource Management	Enabling Environment & Responsive Institutions	STAS
Outcomes	The Agri-food Sector contribution to the economy is doubled by 2030 from the 2020 baseline. Agriculture growth reaches 6% annually.	Namibian households consume nutritious food and enjoy diversified diets. A competent and healthy workforce drives agriculture growth.	A vibrant natural resource base is maintained and improved. Agri-food systems withstand and can adapt to the challenges of climate change.	The public and private sectors take on clear and complementary roles and responsibilities. Public spending to the sector is sufficient and of high quality. Public institutions are capable and respond effectively to sector needs. Private sector investment to the sector increases.	
Objectives	Agri-food Sector growth and agribusiness are inclusive and equitable.	Namibia is food and nutrition secure.	Namibia's Agri-food Sector is sustainable.	Good sector governance attracts private investment resulting in equitable growth.	
Goals	Achieve sustainable and inclusive prosperity for Namibia.	Achieve accelerated human development for realising self-actualisation for communities and people.	Achieve sustainable development through improved resilience, adaptability and new growth opportunities.	Achieve and maintain a competitive development environment and improved citizen satisfaction.	NDP6

5.2 The STAS contribution to the Malabo Declaration and the SDGs

This Agri-food Sector Transformation Strategy (STAS) contributes to all seven commitments of the Malabo Declaration on Accelerated Agricultural Growth and Transformation signed by Namibia in 2014. In addition, the strategy directly contributes to 10 of the 17 SDGs as shown in the table below.

STAS Pillar	Production, Productivity and Agribusiness	Food & Nutrition Security and Human Capacity	Sustainable Resource Management	Enabling Environment and Responsive Institutions
Pillar outcomes	The Agri-food Sector contribution to the economy is doubled by 2030 from the 2020 baseline. Agriculture growth reaches 6% annually.	Namibian households consume nutritious food and enjoy diversified diets. A competent and healthy workforce drives agriculture growth.	A vibrant natural resource base is maintained and improved. Agri-food systems withstand and can adapt to the challenges of climate change.	The public and private sectors take on clear and complementary roles and responsibilities. Public spending to the sector is sufficient and of high quality. Public institutions are capable and respond effectively to sector needs. Private sector investment to the sector increases.
Pillar objectives	Agri-food Sector growth and agribusiness are inclusive and equitable.	Namibia is food and nutrition secure.	Namibia's Agri-food Sector is sustainable.	Good sector governance attracts private investment resulting in equitable growth.
Malabo Declaration commitments (numbers 1 to 7)	Halving poverty (4) Boosting Intra-African Trade (5)	Zero hunger (3) Halving poverty (4)	Enhance resilience to CC and other shocks (6)	Recommitment to CAADP (1) Enhanced investment to Agriculture (2) Mutual Accountability (7)
SDGs (Goal number)	End poverty (1) Sustained, inclusive growth (8) Sustainable production and consumption (12)	End hunger (2) Ensure healthy lives (3) Gender equality (5)	Combat climate change and impact (13) Protect and restore eco-systems (15) Sustainable management of water (6)	Build effective and accountable institutions (16)

Indirectly, the strategy also contributes to the following Sustainable Development Goals:

- **7:** Access to sustainable and modern energy, through the STAS's support to the biomass value chain
- **9:** Resilient infrastructure, by establishing and maintaining both processing and market infrastructure
- **17:** Strengthen means of implementation and global partnerships, by cooperating with AU and SADC, and through strengthening national implementation arrangements for agriculture development.

In January 2025, the AU Assembly will endorse a new declaration in the city of Kampala in Uganda. The Kampala Declaration will run from 2025 to 2035. Finetuning the alignment of the STAS to the Kampala Declaration will take place soon after, based on an Internal Technical Review (ITR) by NEPAD.

6

STRATEGIC ORIENTATION

Despite the challenges identified in this STAS, agriculture still has the potential to transform the Namibian economy. The following strategic focuses are necessary for the transformation of the Agri-food Sector:

- **Agriculture production must become climate smart:** Climate change and climate variability continue to impact agriculture growth and output negatively. Namibia is currently caught up in a national drought situation. As the sector picks up, it must internalise lessons of past dry years and adapt its practices to muster a more robust response to the continuing perils of climate change. Climate-smart agriculture practices must grow out of their pilot character and become integral to all agriculture.[44]

- **Namibia must do better at feeding itself:** Namibia is a net importer of food. This represents an important cost as local producers fail to compete in domestic markets. The COVID-19 pandemic highlighted vulnerabilities in economies that are heavily reliant on global trade and interconnected supply chains. When borders closed and global prices fluctuated, many economies, including Namibia's, faced disruptions in their production and distribution systems. This underscores the risks associated with over-dependence on international markets and the importance of resilience in economic planning. To ensure resilience, more investment is needed for primary production of crops, while investment in meat processing is required for secondary industry. Further steps are enabling and capacitating local producers to capture more of the domestic market (at the same time raising rural incomes), and ensuring the availability of, and access to, nutritious foodstuffs. Considering the proposed revision of the Meat Industry Act of 1981 to include poultry and dairy products, this would enable protection of local products in the market and potentially increase local food production.

- **Agriculture and agribusiness to graduate from low-productivity subsistence to high-value production:** Production is an integral prerequisite for agro-processing. This calls for diversification, increased value addition, stronger productive capabilities, and the ability to compete in local, regional and international markets.[45] Primary producers and other actors in the agri-food system should be capacitated to make optimum use of available production, business and marketing opportunities.

- **Growth in the Agri-food Sector should contribute to reducing the income gap:** Despite the wide range of redistributive policies and strategies since Independence, Namibia's wide income gap has narrowed only slightly.[46] For incomes to truly rise in an equal and sustainable manner, the economy itself

[44] See *Agriculture Fit for the Future – Robust, Resilient and Responsive: Outcomes of the Agriculture Conference, September 2020.*

[45] See also Mwinga et al., *Namibia Economic Transformation Journey 1990-2020*, First Capital, 2021.

[46] Namibia's a Gini coefficient went from 74% in 1993 to 59% in 2015 (World Bank, 2021).

must become more robust. About 10.6% of the Namibian population's income comes from subsistence farming, while commercial farming accounts for 0.3%, indicating a need to reduce the income gap between subsistence and commercial farming. It is worthy of note that countries that reached an industrialised advanced stage could do so only by first increasing agriculture's contribution to national GDP up to 30%.[47]

Given the above strategic focuses, the STAS's vision is *"A modern, sustainable Agri-food Sector that ensures food and nutrition security and equitable economic growth and that adequately responds to opportunities and threats"*. To realise this vision, this STAS aims to achieve the following objectives:

- Agri-food Sector growth and agribusiness is inclusive and equitable.
- Namibia is food and nutrition secure.
- Namibia's Agri-food Sector is sustainable.
- Good sector governance attracts private investment resulting in equitable growth.

6.1 Strategic reforms towards a well-coordinated and growing Agri-food Sector

Achieving this requires a clear direction that is consistent over time. The main tenets of this orientation are as follows:

- **Integration of Climate Smart Agriculture practices in all value chains:** Possibly the greatest challenge to agriculture of the next decade and beyond will be to adapt to climate change and climate variability. This should infuse each intervention area and all activities, by responding to climate change as well as by reducing agriculture's impact on climate change.

- **Tailor activities to agro-ecological zones** with some intervention areas being more and others less important in certain areas, especially based on priorities as put forward by regional stakeholders.

- **The private sector as market actor and the Government as market enabler:** Agriculture depends on private investment. For this to happen, government service provision must be better tailored to private sector needs, and the Government should become less of a market actor and more of a market enabler.

- **Achieve product and market diversification:** To ensure that agriculture contributes to diversifying the national economy, product diversification must be emphasised, and value-addition potential must be captured along the different value chains (away from current dominance of little to no value-added products produced).

- **Introduce the 'food systems approach':** This agriculture strategy eschews a narrow focus on growing more food, in favour of a more holistic understanding of the intricacies of access to food and nutritious diets. Its formulation process, therefore, took account of the findings of the UN Food System Dialogues as a pathway to contribute to targets in the National Food & Nutrition Security Policy (2021).

[47] Mwinga et al., *Namibia Economic Transformation Journey 1990-2020*, First Capital, 2021, p. 78.

- **Explore opportunities for import substitution:** Namibia imports around 60% of its foodstuffs, mostly from South Africa. This includes raw materials for food manufacture, while Namibia's agro-industry would welcome locally produced raw materials. A domestic market of this size should not be left untapped, and ways to increase the proportion of locally produced food must be sought and used.

- **Focus on profitability and commercialisation:** Production costs in Namibia are high compared to the region, and innovative solutions are needed to lower these. However, the agriculture growth aimed for under this strategy must be equitable, and should not take place only at a sector level, but should benefit individual farms and farm families.

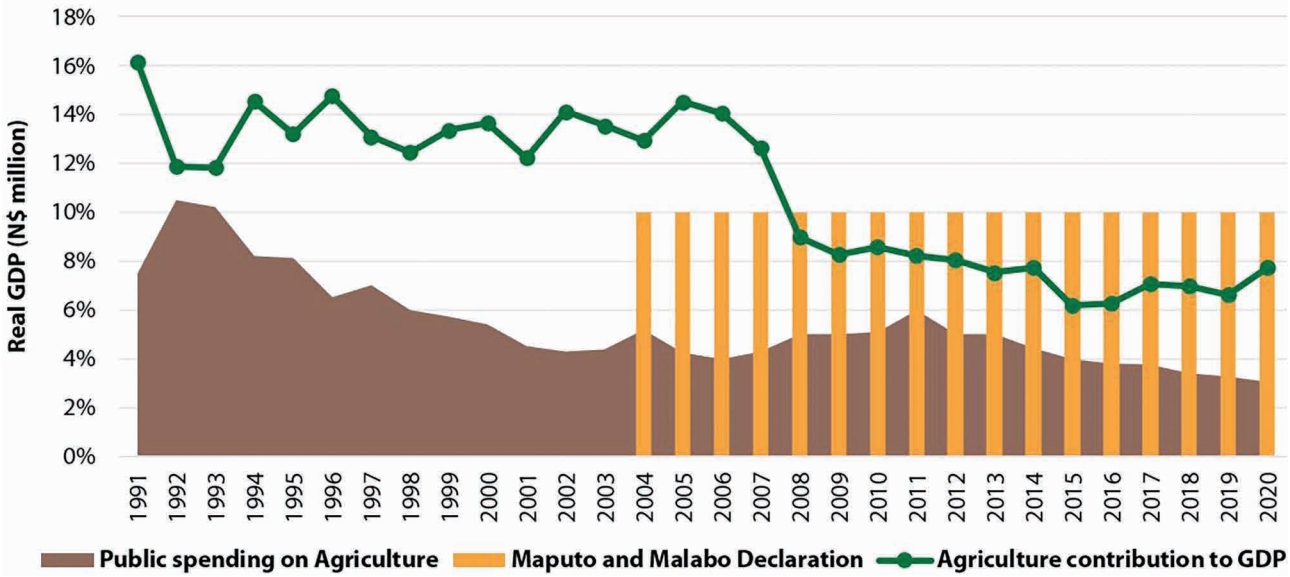
- **Strengthen Research and Development:** To equip sector stakeholders for an uncertain future, optimum use should be made of the innovative solutions and technology, in areas like soil improvement, water harvesting, crop and livestock breeding, and management. The Government needs to invest in research and development, with innovative ideas provided also by private entities and academic institutions.

- **Encourage regional market integration:** In line with the Malabo Declaration commitment to tripling inter-regional trade in agriculture by 2025, this strategy underscores the importance of enabling the private sector to capture the potential and opportunities of the regional (Southern African) markets.

6.2 Investment principles

The STAS is Namibia's agriculture sector strategy, focusing on investment and pleas for more and better public investment, while also acknowledging that most investment to the sector is private investment. Already the Maputo Declaration of 2003 emphasised private-sector-driven growth, and committed to partnerships with farmers, agribusiness and civil society. As a signatory to the 2014 Malabo Declaration, the Government of Namibia reconfirmed its pledge to increase public spending to agriculture. Namibia currently spends less than Malabo's target of 10% of public expenditure (see Figure 8).

Figure 8: Public spending on agriculture compared to Maputo and Malabo Declaration targets



The 2020 figure of 7.7% should be corrected downward to 6.8% of total public expenditure, as the sub-sectors of (marine) fisheries and forestry are not included in the Agri-food Sector which is the scope of this strategy.[48]

Empirically, findings confirm a positive relationship between public spending and agricultural productivity. But an emphasis on amount must not lose sight of principles of quality. The Namibian Government should consider a larger but also higher-quality allocation of public funds to the Agri-food Sector.[49]

The STAS aims for the following:

- **Well-targeted and high-quality public investment** based on clear division of public and private roles and limited to public sector goods and services, including the addressing of market failures. Ensuring high-quality public finance to the sector requires an assessment of current expenditure. Such an assessment should include expenditure to state-owned enterprises and regulatory boards, as well as government programmes and projects. Under this strategy, public investment should leverage private investment by ensuring a good investment climate and by enabling agribusiness. The motto should be to *"crowd in rather than compete or overlap with private investment".*

- **Optimum use of opportunities for public-private partnerships (PPPs):** Strategic sector investment is based on an optimum combination of public and private investment. PPPs have much scope in agriculture, but are not explored often enough. By involving the private sector from formulation all the way to monitoring, PPP opportunities will be identified as implementation rolls forward. This allows the Government to explore ways of engaging the private sector in transformational activities such as infrastructure, education, innovation, water use and conservation, and energy provision. Limited (public and private) resources can thus be used to maximum impact.

- **Aligning development partner funding behind this sector strategy:** Experience has shown that where the STAS is the single plan for agriculture, this creates clarity and consensus and offers a clear orientation to stakeholders in the sector. Development partners in agriculture should also align behind this agriculture strategy, to avoid conflicting agendas competing for the same resources. Projects can still exist but should also be aligned to this strategy. This will allow for an optimum match between the total public resources available and the jointly agreed-upon priorities of the sector.

- **Joint planning and budgeting for activities that depend on several government ministries:** The practice of translating the NDP into Ministerial-level Strategic Plans encouraged a kind of 'silo mentality', hindering effective inter-ministerial coordination. This agriculture strategy aims to overcome this via multi-stakeholder sector and sub-sector working groups (see Chapter 8 on Implementation and Coordination Arrangements) that allow for different ministries and the private sector to agree on a joint way forward and to plan and budget accordingly, thus making optimum use of potential synergies between budgets and plans.

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[48] Sartorius von Bach and Nyambe, 2021.

[49] See also relevant sections in Country CAADP Implementation Guidelines under the Malabo Declaration (NEPAD, 2016).

- **Gradual delegation of responsibilities and corresponding resources to regions:** In line with Namibia's Decentralisation Policy, this strategy supports and encourages the involvement of regional and sub-regional stakeholders. Regions were involved in the formulation and reorientation of this strategy, and they should continue to be engaged during implementation and monitoring. Regional stakeholders should have a voice in identifying investment priorities in their areas, and should play a part in the implementation of investment projects in their region.

7

PILLARS OF THE STRATEGY

The pillars of the strategy are interlinked: Based on the analysis of the state of agriculture, the first priority must be to increase agricultural production and ensure that agricultural enterprises are profitable (Pillar 1). Pillar 2 is about food and nutrition security and the need for human capacity. Investing in skills and opportunities for women and youth will ensure that this pillar contributes to the health, wellbeing and capabilities of the Namibian people. Pillar 3 aims at sustainable and profitable management of land and water. It includes land tenure, soil management, water conservation and sustainable water use. Pillars 2 and 3 strengthen the foundation for the intended agricultural growth of Pillar 1. A prerequisite for all pillars is an enabling environment of good sector governance, characterised by political commitment and leadership, combined with capable and responsive institutions (Pillar 4).

An overview is provided in the table on the next page.

PILLAR 1	PILLAR 2	PILLAR 3	PILLAR 4
Production, productivity and agribusiness	**Food & Nutrition Security and Human Capacity**	**Sustainable Resource Management**	**Enabling environment and responsive**

OVERVIEW OF THE STRATEGY FOR THE TRANSFORMATION OF THE AGRI-FOOD SECTOR (STAS) 2025/26 TO 2030/31		
Objectives	**Outcomes**	**Intervention Areas**
PILLAR 1: Production, Productivity and Agribusiness		
Agri-food sector growth and agribusiness are inclusive and equitable.	The contribution of the Agri-food Sector to the economy is doubled by 2030 from the 2020 baseline. Agriculture growth reaches 6% annually.	1. Livestock production and productivity 2. Crops and horticulture 3. Post-harvest management 4. Agribusiness, marketing and trade 5. Agriculture inputs and services 6. Organised agriculture
PILLAR 2: Food & Nutrition Security and Human Capacity		
Namibia is food and nutrition secure.	Namibian households consume nutritious food and enjoy diversified diets. A competent and healthy workforce drives agriculture growth.	1. Food and nutrition security 2. Skills development 3. Strengthening capacity and governance of producer organisations 4. Opportunities for vulnerable groups
PILLAR 3: Sustainable Resource Management		
Namibia's Agri-food Sector is sustainable.	A vibrant natural resource base is maintained and improved. Agri-food systems withstand and can adapt to the challenges of climate change.	1. Land and rangeland management 2. Biomass production 3. Soil management 4. Water management 5. Irrigation 6. Climate change
PILLAR 4: Enabling Environment and Responsive Institutions		
Good sector governance attracts private investment resulting in equitable growth.	The public and private sectors take on clear and complementary roles and responsibilities. Public spending to the sector is sufficient and of high quality. Public institutions are capable and respond effectively to sector needs. Private sector investment to the sector increases.	1. Policy and regulatory framework 2. Data collection and monitoring 3. Agriculture services 4. Infrastructure 5. Institutional arrangements

Regional priorities

Consultations with stakeholders from all 14 regions showed how priorities are linked to agro-ecological zones. Regions were clustered as follows:

Northern regions	Zambezi Kavango East Kavango West Ohangwena	Oshikoto North Oshana Omusati
Central-Eastern regions	Oshikoto South Otjozondjupa	Khomas Omaheke
Western regions	Kunene Erongo	
Southern regions	Hardap ||Kharas	

The ranking of activities of these groupings resulted in the following overview:

- In **Northern regions**, the emphasis was on water resource management, Green Scheme participation, financial support to farmers and farmer associations, livestock production and marketing, access to inputs and services, drought relief and producer organisation.
- **Central-Eastern** regions proposed tax exemption schemes and advocated for investments in, among others, regenerative agriculture, technology, irrigation and early warning.
- **Western regions** also emphasised livestock production, diversification, early warning systems, drought policy revision, agronomy and horticulture production, food security and food safety, and infrastructure.
- **Southern regions** prioritised more budgetary resources for agriculture, revision of the resettlement policy and loan schemes, better management of irrigation/green schemes, enhancing production of nutritious indigenous crops, investments in research, early warning systems, and technology and innovative PPPs.

The top five priorities across agro-ecological zones can be ranked in order of importance as follows:

1. Improve water resource management.
2. Increase budgetary resources to agriculture.
3. Support and promote regenerative agriculture practices.
4. Increase access to irrigation.
5. Improve food and nutrition monitoring.

The Annex offers an overview of the outcome of the regional-level consultations.

All priorities that were put forward by the regions, have been integrated into this STAS strategy. However, regions will each prepare their own Regional Implementation Action Plan (see Chapter 8) to guide them as STAS implementation rolls forward. It is in these, more detailed regional plans, that STAS activities can be tailored to the opportunities and challenges of each region.

PILLAR 1:
Production, Productivity and Agribusiness



Rationale, objective and outcomes

The Namibian Agri-food Sector is made up of livestock farming of mainly cattle, as well as crop farming with (white) maize, pearl millet and horticultural products, such as vegetables and fruits. Livestock production areas are divided by a veterinary cordon fence (VCF) dividing the country into north and south of the VCF. Markets for cattle farmers, north of the VCF, are located especially within the African continent, such as in Ghana and Angola, while the areas south of the VCF serve niche markets, even within the European Union. Namibia's crop production is hindered by arid and semi-arid climatic conditions, low and variable rainfall, and poor soil fertility. Most communal farmers opt for production systems based on the intercropping of millet and sorghum, which have low yields but are well suited to poor rainfall conditions. Namibia produces about 40% of the food it consumes. Agronomic and horticulture products from South Africa make up 47% of agricultural imports.[50] Maize (36%), wheat (44%) and rice (17%) were the top imported cereal commodities, together representing 98% of imported cereals in 2018. In 2020, agriculture's contribution to GDP was 5.9%. This is the baseline against which performance under this pillar is measured. Activities under this pillar will not only support production, but productivity, via more efficient production practices, will also be encouraged especially through irrigation. This pillar of the strategy contributes directly to the NDP pillar on economic progression which aims to achieve an inclusive, sustainable and equitable growth for the Namibian nation. The intervention areas and activities are described on the following pages, and aim to achieve the following objective and outcomes:

Objective: Agri-food Sector growth and agribusiness are inclusive and equitable.

Outcomes: The Agri-food Sector contribution to the economy is doubled by 2030 from the 2020 baseline. Agriculture growth reaches 6% annually.

[50] Namibia Statistics Agency, 2019.

1.1 Livestock production and productivity

Implement the regenerative rangeland management and livestock production strategy.

The STAS will strengthen the implementation of the *National Rangeland Management Policy & Strategy* (2012) together with its 2019 supplement strategy, *Reviving Namibia's Livestock Industry*. Under this Pillar 1, especially activities towards sustainable stocking rates and regenerative livestock practices are supported. Sustainable stocking rates can be achieved by implementing grazing plans that allow for adequate recovery periods of forage plants between grazing cycles. This involves reducing animal numbers in times of forage shortages and increasing them during periods of excess. Farmers need to be supported in developing forage flow plans, using tools like satellite imagery and stocking rate calculators to make informed decisions on adjusting animal numbers based on annual forage availability.[51]

Promote business-oriented farming in the Northern Communal Areas.

Namibia has a total of 2.9 million cattle, of which the majority (1.6 million) are found in the Northern Communal Areas (NCAs).[52] The Veterinary Cordon Fence (VCF) prevents free movements of livestock and livestock products to the rest of the country and beyond, and limits marketing opportunities for meat produced in the NCAs. This lack of markets restricts production systems mainly to subsistence farming. To promote cattle production in these areas, access to commercial markets is needed. Developing markets for meat produced north of the VCF will serve as incentive to produce more and higher-quality meat on a more commercial basis. Promoting cattle production in the NCAs for commercial markets may also have potential in international markets, an option that should be explored.

Improve the status of animal health.

The biggest challenge in the NCAs is to improve animal health, especially in terms of combating Foot & Mouth Disease (FMD) and Contagious Bovine Pleuropneumonia (CBPP). This is best done by fencing off the Angolan border, introducing zoning, and improving vaccination and surveillance, with high priority given to the introduction of community-based animal health services.

In the free zone, south of the VCF, the current animal health status should be preserved through improved maintenance of veterinary fences and enhanced surveillance services, as well as through strengthening the ability of government to quickly respond to FMD outbreaks, which requires adequate funding and capacity development of the Directorate of Veterinary Services.

Promote use of adapted indigenous livestock breeds.

As Namibia becomes drier and hotter due to climate change, the frequency and impact of droughts will become more severe. The beef industry, most of which is located south of the VCF, is mainly geared towards providing live animals (e.g. weaners) to the South African feedlots. This practice discriminates against indigenous breeds, as South Africa prefers animals from non-indigenous breeds, which are expected to grow faster under South African feedlot conditions. However, this harbours the risk of a situation where indigenous, drought-tolerant breeds disappear. As the production environment becomes more arid and unpredictable, farmers will need to adjust by (also) rearing adaptive smaller-framed indigenous breeds.

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[51] Ministry of Agriculture, Water and Forestry (MAWF), *Namibia Rangeland Management Policy & Strategy* (revised edition from the 2012 NRMP), and MAWF, *Reviving Namibia's Livestock Industry: Regenerative Livestock Production*, 2019.

[52] Cattle marketing constraints and opportunities in north-central communal areas of Namibia, Ohangwena Region (2016).

The use of these adapted small-framed indigenous breeds should be promoted, which includes support to market opportunities for these resilient breeds.

Promote and invest in fodder production.

As an arid country with frequent droughts, acute shortages of fodder exist in Namibia. This will become more frequent and severe against the backdrop of climate change. The Government should promote investment in the production of fodder. Equally, the private sector should invest in fodder production under both irrigation and dryland conditions. This includes the production of fodder crops (e.g. cowpeas), the cutting of natural grasses and the conversion of bush to feed. This fodder can be used by smallholders and serve as roughage in community-based feedlots, especially in the NCAs. Fodder from planted pastures can fill gaps during droughts over the short term, but will never be able to substitute rangelands as the biggest and cheapest source of feeding for livestock. Therefore, the production of fodder should be seen as complementary to activities in regenerative rangeland management.

Protect and revitalise the dairy industry.

To protect and revitalise Namibia's struggling dairy sector, a key activity under the STAS is a comprehensive study by the Livestock and Livestock Products Board (LLPB).[53] This study will analyse the dairy value chain and explore mechanisms to safeguard and grow the industry, such as implementing a market protection scheme similar to that already in place for pork and poultry. The study will evaluate options like import levies or quantitative market share restrictions, aiming to level the playing field for local producers against cheaper imports, especially from South Africa. Follow-up measures for the dairy sub-sector will be guided by the outcome of that study and can include the introduction of producer and retail pricing guidelines to protect local dairy farmers from volatile market conditions, promoting local fodder production and offering support programmes for dairy farmers (such as subsidies for feed and improved access to technology) to reduce production costs. Developing a National Dairy Master Plan, that builds on the outcomes of the LLPB study and ensures that these are implemented, will further reverse the decline in local milk production, stabilise the industry, and enhance national food security.

Promote goat production.

To harness the potential of goat farming, the STAS focuses on enhancing goat production through targeted activities. First, a programme should be launched that supports especially resource-poor households in acquiring and managing goats, particularly in drought-prone areas such as the north-western and southern regions. This should include the provision of training in goat husbandry, focusing on disease control, breeding management, and optimising milk and meat production. Extension services should be expanded to include goat farming, which historically has received less attention than cattle production, despite its economic and food security benefits. Because of the usefulness of goats as a buffer against lean times, the ultimate goal of the STAS should be that all resource-poor households possess a flock of goats, to cover at least their subsistence needs, and where possible to have some surplus produce (meat, milk) to sell at local markets.

Revive the commercial sheep value chain.

To revive the commercial sheep sector, the STAS should prioritise deregulation, specifically by removing restrictions that compel producers to slaughter sheep at local abattoirs. Deregulating the sector allows

[53] This Livestock & Livestock Products Board study will cover diary, pork and poultry.

farmers to resume the export of live sheep to South Africa and other markets, where demand for Dorper sheep remains high. This would encourage investment in sheep farming, helping the value chain regain its former strength. Rather than penalising farmers for choosing export markets, the STAS could introduce incentives for local slaughter, such as offering competitive prices or tax breaks. For communal farmers, the strategy should focus on supporting Fat-tail sheep farming for cultural and subsistence purposes, while ensuring that it does not compete with other forms of livestock production, particularly cattle. Extension services should focus on improved breeding, disease management, and marketing of Fat-tail sheep to ensure that these practices remain sustainable. By addressing both commercial and traditional sheep production, Namibia can build a more diversified and resilient agricultural economy.

Support growth and resilience of the poultry sector.

The commercial poultry and egg industry is characterised by many small-scale producers, active only in local or informal markets scattered across the country. Only one large-scale player is operational in the egg- and-broiler industry (Namib Poultry Industries). Small-scale producers of eggs need to be supported, as the potential for this is considerable. To support the growth and resilience of the poultry sector, the STAS prioritises activities that strengthen smallholder involvement and collaboration with large commercial players like Namibia Poultry Industries (NPI). One key activity would be expanding partnerships between NPI and small-scale producers, building on NPI's existing programme that sells day-old chicks and poultry feed to SMEs, which has already helped to establish over 1,100 smallholder poultry operations. These partnerships could be formalised through cooperatives, helping smallholders to benefit from collective bargaining, reduce input costs, and access larger markets. Additionally, the STAS should include measures to protect local producers from the influx of low-cost imported poultry products, potentially by strengthening Namibia's poultry import restrictions or implementing stricter biosecurity and quality standards to curb illegal imports. Finally, investing in local feed production through initiatives like the Green Scheme could reduce the industry's dependency on costly imports, lower production costs, and improve profitability across the value chain. A fully developed national poultry industry that caters to the domestic market and can grow to meet increasing demand, is projected to be able to contribute 2% to Namibia's GDP.[54] Given the role of poultry in food security, especially in rural households, increasing support for backyard production should also be a priority, as it provides both nutrition and income-generation opportunities.

Develop a Pork Production Master Plan.

To support the growth of the pork industry, the STAS should prioritise the development of a comprehensive nationwide Pork Production Master Plan, to provide strategic direction for addressing the challenges faced by both commercial and small-scale producers. The Master Plan will outline activities such as promoting local feed production to reduce costs, improving market access by establishing more localised abattoirs, and supporting smallholders in meeting the requirements for formal market participation. Additionally, the STAS should focus on providing technical and financial support, including subsidies and targeted loans for infrastructure improvements, and enhancing biosecurity measures across the value chain. These actions will help to create a more resilient and competitive pork industry in Namibia, ultimately contributing to food security and rural livelihoods.[55]

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[54] *Namibia Economist* newspaper, 31 October 2018.

[55] Pig Producers' Association of Namibia and Livestock & Livestock Products Board (LLPB), "Pork Producers Strategic Planning Session Report", November 2023.

Develop a Game, Hides & Skins Master Plan.

To support the game meat and related hides & skins sub-sectors, the STAS should undertake several key activities. First, developing a comprehensive Game, Hides & Skins Master Plan will provide strategic direction in unlocking the sector's potential. Namibia's large game population offers significant opportunities for hide production alongside the game meat industry. By coordinating the harvesting of game for both meat and hides, Namibia can optimise its resource use. Establishing synergies between the game meat and hides sub-sectors through integrated supply chains will ensure that hides from wildlife are not wasted and can be effectively processed into leather products. The Game, Hides & Skins Master Plan should include recommendations on streamlining the regulatory framework, including closer inter-ministerial cooperation between the Ministry of Environment, Forestry and Tourism (MEFT), the Ministry of Industrialisation, Trade and SME Development (MITSMED) and the Ministry of Agriculture, Water and Land Reform (MAWLR). Game meat producers, especially smaller operators, face challenges in accessing finance for investments as game-handling facilities, refrigeration units and transport vehicles. Tailored financial products, such as low-interest loans or credit lines, should be developed specifically for the hides & skins sub-sector.

Promote the hides & skins industry.

Value addition in the hides & skins sub-sector should be promoted by encouraging local processing of hides & skins into finished leather products, rather than exporting raw or semi-processed materials. Investment in local tanneries and leather processing facilities will allow value to be captured within the country. Technical and financial support to SMEs can help them to venture into the production of leather products for both domestic and export markets. A comprehensive quality control system for hides & skins can be established to meet international standards. This includes training farmers, abattoirs and processors on best practices for handling hides & skins to prevent damage and maintain quality. National standards for hide grading and the use of traceability systems can help Namibia to position its products competitively in international markets. New markets for high-quality leather products can be targeted, particularly in regions of growing demand such as Europe, Asia and the Middle East. Establishing trade relations and leveraging Namibia's membership in trade agreements, such as the African Continental Free Trade Area, can provide access to larger markets. Marketing Namibia's hides & skins as eco-friendly and sustainably sourced from wildlife or livestock can also appeal to environmentally conscious consumers. Public-private partnerships in the hides & skins value chain should be encouraged, and government can offer incentives such as tax rebates or low-interest loans for leather production. Training of workers in the hides & skins industry will create a skilled workforce capable of producing high-quality leather goods. Developing guidelines for sustainable harvesting and management of animal populations will ensure long-term availability of hides & skins without depleting resources. Incorporating environmentally friendly tanning methods that reduce water use and chemical pollution will also align the sector with global sustainability trends.

1.2 Crops and horticulture

Promote and invest in grain production.

Namibia is a net importer of staple grain crops such as maize, wheat, pearl millet and rice, due to low local production and productivity. Productivity is mostly affected by drought and technical inefficiencies. Hence, there is potential and a need to increase grain production and productivity in the country. The (planned) expansion of irrigation infrastructure will increase the amount of land suitable for crop production, and a

long-term strategy should include considerations related to increasing the production of grains, especially of maize, wheat and (pearl) millet.

Promote Conservation Agriculture.

Conventional agriculture is still practised at a large scale in Namibia. However, with the challenges of climate change, this practice no longer yields optimum output. Conservation Agriculture (CA), on the other hand, helps to reduce and reverse the impacts associated with both conventional agriculture and climate change, such as land degradation and poor soil fertility. With CA, cultivation practices are more sustainable and ecologically resilient. Crop yields can rise, despite fewer inputs of fertilisers and pest-control remedies.[56] There is a need to promote and invest in CA to mitigate the impact of climate change and to enhance yields as a basis for sustainable crop production and improved food security at both national and household level.

Promote and invest in vegetable and fruit production.

Namibia imports about 50% of its vegetables, such as potatoes, sweet potato, green pepper and tomatoes, as well as a large number of its fruits, such as apples, oranges, bananas and avocados.[57] Of these, potatoes are the number one horticultural product consumed in Namibia, of which 30% is produced in the country and 70% is imported (representing the biggest share of horticulture imports). Namibia also produces dates, grapes, citrus, blueberries and (irrigated) watermelon (of which some fruits, like grapes and dates, have found lucrative export markets, even in the European Union). Domestic market potential is such that there is a lot of scope to expand the production of especially potatoes, but also other vegetables and fruits, in the country. At the macro level, the import substitution with locally produced vegetables and fruits would result in a better balance of trade and a more robust economy resilient to interruptions of trade flow in foodstuffs. At the micro or household level, it would result in increased access to an affordable and nutritious diet.

Improve the status of plant health.

The crop industry is challenged with outbreaks of quarantine pests such as fruit fly, white fly, false codling moth and locust, as well as diseases, and this hampers the marketing of mainly fruits and vegetables within and outside the country, particularly for farmers who are situated north of the veterinary cordon fence. Hence there is a need to improve surveillance and control of pests and diseases across the country, and all planting materials produced in and outside the country must be strictly regulated to control pests and diseases that may otherwise jeopardise the crop industry.

Promote implementation of quality and safety standards for agronomic and horticultural products.

The Namibia Agronomic Board, through the Namibian Standards Institution (NSI), has developed 16 crop-specific commercial quality control and food safety standards for the production and marketing of primary horticultural products. However, there is a need to develop more standards for both primary and processed agronomic and horticultural products. Compliance with the standards published in the *Government Gazette* through the NSI is voluntary, hence there is a need to develop technical guidance and regulations, and to declare compliance with these standards mandatory, with the primary aim of guaranteeing the quality and safety of these food products, thereby protecting consumers and creating healthy business competition.

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[56] Adaptation Fund, Proposal for Namibia (2018).

[57] NSA, *Agriculture, Forestry and Fishing Sector Statistical Bulletin*, Third Quarter, 2022.

Furthermore, there is a need to raise awareness of the standards and technical regulation along the entire value chain, to ensure market access.

1.3 Post-harvest management

Improve post-harvest management.

To address the challenges of post-harvest management, the STAS focuses on several key activities. Capacity-building programmes for farmers will provide training on post-harvest handling techniques, including moisture control and drying methods, including measures to prevent aflatoxin formation. A study of the most effective and efficient storage equipment and infrastructure will be undertaken to guide (public-private) investment in, for example, hermetic storage bags, ventilated silos and cold-storage units, particularly in regions such as the Central and Northern Zones, where crops such as maize are most vulnerable to spoilage and aflatoxin contamination, and in horticulture-producing regions such as Omusati, Zambezi, Kavango (East and West), Otjozondjupa, Oshikoto and Hardap. Research and development on value-addition opportunities, such as conversion of post-harvest residues such as straw into feed, will be undertaken to help reduce waste and increase farmers' incomes. Promoting partnerships with private sector actors and working with regional organisations such as SADC will further enhance Namibia's ability to implement advanced post-harvest solutions.

1.4 Agri-business, marketing and trade

Promote and invest in agro-processing.

Namibia needs to invest in agro-processing and value-addition facilities that are accessible to producers, especially also small-scale producers. One way of doing this is by more effectively utilising the existing network of Fresh Produce Hubs. Some of these hubs already have processing facilities attached (that may or may not need refurbishing), and others may have underutilised infrastructure (such as large fresh produce warehouses), sections of which can be repurposed as processing and value-addition facilities. Serviced plots at Fresh Produce Business Hubs can be made available for lease, and (in cooperation with agriculture research) investments can be directed to incubation centres for upcoming entrepreneurs and to diversified product development (e.g. canned, frozen and dried fruits and vegetables, fruit juices, tomato paste, canned or dried fish, and pressed oil). But even in areas without Fresh Produce Hubs, investments in processing, value addition and packaging are needed. Attention to marketing is needed to assist producers to attain competitiveness in areas of diversified and processed commodities in the domestic, regional and international markets.

Promote value addition

Namibia's Vision 2030 envisions at least 80% of the country's GDP being generated from the manufacturing and services sectors combined.[58] The MAWLR, as custodian of industries through which various primary goods (raw materials) are produced, is advocating for increased agricultural production and improved productivity to ensure consistency in the supply of raw materials to the manufacturing industries, where processing and value addition take place. Productivity is key to sustaining the existing and future value chains in the manufacturing sector, as well as promoting the forward and backward linkages in the secondary

[58] MTI, 2012, p. 2.

and tertiary industries respectively. Under this strategy, the MAWLR supports value addition across the Agri-food Sector, thereby fulfilling its mandate of ensuring national food and nutrition security while at the same time contributing to economic growth and development of the country. The Namibia Growth-at-Home Strategy is an example of an initiative that supports agro-processing and increased value addition to various commodities across different sectors, primarily using raw materials available locally.

Implement the "One Country, One Priority Commodity" concept.

The MAWLR, in collaboration with the FAO, introduces the "One Country, One Priority Commodity" concept. This entails identifying a priority cereal produce and developing such a produce across its entire value chain (i.e. from primary production through processing until marketing). This concept supports the key goal of the Namibia Growth-at-Home strategy and calls for a well-coordinated stakeholder-based approach, where each stakeholder at each level (i.e. primary, secondary and tertiary levels) plays an active role. The implementation of this concept will centre around increased value-adding activities with an ultimate goal of ensuring that produce from the priority cereal is diversified and marketed in both domestic and international markets. Namibia has identified pearl millet as its priority cereal.

Enhance domestic marketing of locally produced horticultural products.

Local producers of horticulture products face challenges in competing for supermarket shelf space with imported produce (especially in the case of South African supermarket chains that use central procurement). The Market Share Promotion (MSP) initiative, introduced by the Namibia Agronomic Board in 2005 for horticulture and in 2010 for agronomy, aims to facilitate producers' access to domestic markets. However, only slow growth in actual local producers' market share was recorded over the years, and an assessment is needed on whether and how the MSP can be improved. Further, additional interventions can be identified that will accelerate the production and marketing of locally produced products to strengthen individual producers' livelihoods, and to reduce Namibia's dependency on imports.

Promote export of locally produced fruits and vegetables.

Local production of fruits and vegetables for export increases, and during the 2022/23 financial year, a 46% increase in export volumes was recorded. Some of the products exported in large quantities includes grapes, tomatoes, onions, sweet peppers, butternuts, dates, blueberries, etc. The biggest portion of our products is exported to Europe, while only small volumes go to Africa, Asia and America. Therefore, there is a need to diversify our markets to countries such as China, particularly for grapes, dates and blueberries, with great potential for citrus export in the future. There is also a need to diversify our export lines to other high-value crops such as citrus and nuts. There also is scope to promote export of processed products such as pasta, instant maize porridge and mahangu biscuits, currently produced in the country.

1.5 Agriculture inputs and services

Promote domestic production of key inputs.

One of the biggest costs in production is obtaining key inputs such as seeds (organic and inorganic), fertilisers and agro-chemicals. Namibia imports most of these inputs from South Africa, although there are some local companies/institutions that produce seeds, fertilisers and agro-chemicals. Promoting investment in the local production of these inputs is key and will contribute to the growth of the industry in Namibia and the lowering of production costs to farmers.

Establish a Seed Certification Scheme.

Namibia is currently a net importer of seeds. Although some cereal seeds are produced in the country, these are not certified, due to the absence of an active seed certification scheme, despite the fact that the Seed and Seeds Varieties Act, 2018 (Act No. 23 of 2018) requires the establishment of such a body. Seed certification is a legally sanctioned system for quality of seed multiplication and production. The implementation of the Seed Certification Scheme will ensure that the domestic producers can bring certified seeds onto the market, which will reduce the dependence on imported seeds. Furthermore, there is a need to enact the Plant Breeders' Rights Act, as this will both ensure quality seeds and protect the breeders of a new plant variety, which is a key condition for attracting investment into Namibia's seed industry.

Provide access to mechanisation.

The Namibia Agricultural Mechanisation and Seed Improvement Project (NAMSIP) was launched in 2017, primarily to address the need for mechanisation of smallholders and also to increase access to quality seed. NAMSIP avails machinery to qualifying farmers and farmer groups under a subsidised loan scheme for (crop and livestock) production, and promotes sustainable farming practices. Initiatives continue to be needed and should be promoted. However, to ensure more sustainable outcomes, the scope for public-private partnerships should be explored as a management model for such initiatives.

Avail customised loans for smallholder farmers and vulnerable groups.

Access to agriculture financing is a key challenge for smallholders who typically resort to borrowing from community members or to pooling resources, which is an informal, unsustainable practice and increases the vulnerability of both lenders and borrowers. There is a need to customise and thereby unlock financing opportunities for smallholder farmers to give them access to formal credit (e.g. flexibility of collateral, and reduced interest rates). Special conditions may be needed for vulnerable groups (which includes vulnerable men).

Provide support to resettled farmers.

Resettlement of formerly disadvantaged Namibians on commercial farms bought or expropriated by the Government is one of the mechanisms used to achieve a fairer distribution of land amongst Namibia's population.[59] The revised Resettlement Policy of 2023 advocates, among other things, an option for freehold rights to be granted to successful beneficiaries upon meeting conditions of their lease agreement to ensure security of tenure for resettlement farmers. Training of farm management is necessary for beneficiaries to ensure productivity. It is generally accepted that for every Namibia Dollar invested in procurement of land, three Namibia Dollars should be invested to support resettled farmers to become productive.

1.6 Organised agriculture

Promote unity within and closer cooperation and synergy between farmers' organisations.

Namibia has four national farmer unions, reflecting the country's historical farming background and the range of production systems. The Namibia National Farmers Union (NNFU), established in 1992, represents communal farmers and has a structure in all 14 regions. Oldest is the Namibia Agriculture Union (NAU),

[59] Rothauge, Overcoming barriers to the productive resettlement of Namibia, 2007.

established more than 75 years ago and representing commercial farmers via 10 regional farmer unions, each representing a group of farmer associations. The Namibia Emerging Commercial Farmers Union (NECFU) was established in 2010 to represent resettled farmers, emerging commercial farmers and beneficiaries of the Affirmative Action Loan Scheme. The youngest union is the Previously Disadvantaged Namibian Commercial Farmers' Union (PDNCFU), established in 2023. Although each union represents a category of farmers, this fragmentation weakens the farmers' voice on issues where interests overlap, hence the longstanding calls for closer cooperation between these unions. For a common goal within the farmer community, there is a need to promote unity within and closer cooperation and synergy between farmer unions. There is also a need to promote unity among other forms of farmer organisations such as cooperatives, association and farmer groups.

Compile 'lessons learned' from experience with farmer organisation.

Experience across the world demonstrates that when farmers are properly organised, agriculture is vibrant, sustainable and prosperous. Farmers often lack economies of scale to benefit from reduced costs for bulk purchases of inputs, or better prices for produce sold in volume to high-end markets like hotels and supermarkets. Well-managed farmer organisations have proven to reap greater benefits for their members, such as joint procurement of inputs at lower cost, access to profitable markets, influencing policy through presenting a collective voice across all value chains, accessing information and machinery, and knowledge sharing and transfer. Experiences of farmer organisations nationwide should be compiled, so that solutions to challenges, success stories, lessons learned and the overall management are documented for future farmer organisations.

Strengthen financial sustainability of farmer unions.

All four national farmer unions receive financial support from the Livestock & Livestock Products Board. And while the NAU is also partly financed through membership fees (from its mostly commercial farmers), the NNFU, NECFU and PDNFU depend on external finance. Ideally, in the interest of unbiased lobby and advocacy, farmer unions should be financially independent. Under this activity, farmer unions are supported in strengthening their financial sustainability, through income generation (e.g. via member fees) and/or resource mobilisation (e.g. via service provision). Nevertheless, it is acknowledged that financial independence is a far-away goal, and to ensure that the interests of communal and emerging commercial farmers are well represented, financial support will continue to be provided. To ensure that such financial assistance translates optimally in farmer representation, feasibility studies should also consider the ratio between costs for organisational overheads and member services. This is important, to avoid a situation where the availability of financial support incentivises an even further fragmentation of the farmers' voice, as it is quite possible that a merger of structures and/or tasks could reduce overheads, while strengthening farmer representation at the same time. In sourcing the funds for farmer union support, different options can be compared and may include a levy-based system at the Namibia Agronomic Board and the Livestock & Livestock Products Board.

Strengthen linkages within the Agri-food Sector.

One of the Malabo Declaration commitments is *"to establish and/or strengthen inclusive public-private partnerships for at least five priority agricultural commodity value chains with strong linkages to smallholder agriculture".* Stronger linkages within agricultural value chains have many advantages, such that farmers

are aware of Good Agricultural Practices (GAP) principles such as the local Primary Farm Assurance (PFA) standards that buyers expect; buyers can enable farmers to meet such standards (information, extension, skills); and producers gain access to (cheaper) inputs, mechanisation and more profitable markets. Such linkages should be promoted through existing structures such as the Namibia Trade Forum, the Agriculture Trade Forum, the Namibia Agronomic Board and the Agro Marketing & Trade Agency (AMTA), and retailers, input providers and farmer unions.

PILLAR 2:
Food & Nutrition Security and Human Capacity

Rationale, objective and outcomes

The areas under this pillar on Food & Nutrition Security and Human Capacity are interrelated: Namibia's ability to produce nutritious food will contribute to the health and wellbeing of the country's people. In addition, investment in human capital through education and vocational, technical and on-the-job training enhances the capacity to drive and transform Namibia's Agri-food Sector. During the Agricultural Conference in 2020, the MAWLR emphasised that innovation, education and skills development are critical aspects to improve productivity in the sector.

Namibia is an upper-middle-income country with a per capita income of around N$3,200 in 2020. This middle-income status masks the extreme poverty that still exists and the inequalities within the population and between regions. Despite its upper-middle-income status, malnutrition remains a challenge and contributes to more than 45% of all deaths of children under 5 years of age. Undernourishment is also a challenge, with 24% of under-5s considered to be stunted, 6% wasted and 13% underweight.[60] These statistics represent a decline especially of stunting from 29%, according to the NDHS of 2006/07.[61] On the other hand, the 2013 NDHS showed that 14% of women of childbearing age (15-49 years) were underweight (with a BMI below 18.5), whereas 32% of women were overweight (BMI between 24.9 and 29.9) or obese (BMI above 30). In addition, as much as 48% of children between 6 months and 5 years, and 21% of women of childbearing age, were anaemic, which tends to be linked to inadequate intake of nutritious food. Although the gathering of (nutritious) wild foods among indigenous communities is an important livelihood strategy, it is highly seasonal and under threat in many areas due to restricted access to lands due to conservancies, fencing-off land for farming, and climate change.

60 Namibia Demographic and Health Survey (NDHS) of 2013.

61 Revised National Food & Nutrition Security Policy (2021).

Namibia imports over 60% of its food requirements,[62] which calls for the country's food systems to be supported and redesigned, including the use and preservation of indigenous foods to enhance the availability of nutritious foods.[63] The revised National Food and Nutrition Security Policy of 2021 calls for food production in Namibia to increase from 30% to 60% of total consumption needs, and for the prevalence of stunting to decrease from 24% to 12% by 2030. It is worth noting that vulnerable groups, such as the youth, (pregnant) women, people with disabilities, orphans and child-headed households, are crucial stakeholders, hence their special needs with regard to food, nutrition and capacity-building are mainstreamed under this pillar. The youth capacity-building initiatives will contribute to the Malabo Declaration commitment which calls for the creation of job opportunities for at least 30% of the youth in agricultural value chains.

This Pillar 2 addresses the challenges relating to food and nutrition security as well as human capacity. It contributes directly to the NDP pillar on social transformation which aims to achieve capable and healthy human resources. The intervention areas and activities described on the following pages aim to achieve the following objective and outcomes:

Objective: Namibia is food and nutrition secure.

Outcomes: Namibian households consume nutritious food and enjoy diversified diets.
A competent and healthy workforce drives agricultural growth.

2.1 Food and nutrition security

Foster public-private partnership to improve availability and affordability of nutritious food.
The Fill-the-Nutrient-Gap in Namibia established that at least one in three households is unable to afford a nutritious diet. Public-private partnerships should be encouraged, established and strengthened to improve availability and affordability of nutritious food through the retail markets and through social programmes, such as cooperation with Namib Dairies, Green Scheme projects, and feeding programmes in schools, hospitals, prisons, police, etc.

Develop and expand agri-food and nutrition programmes for the vulnerable groups.
Food availability and nutrition security is of most concern among vulnerable groups. The level of food availability and nutrition insecurity among the vulnerable groups varies in rural, peri-urban and urban areas. Thus, there is a need to develop specific interventions for these groups, such as community gardening, backyard gardens and school gardens. Backyard gardening refers to small-scale gardening in rural, urban and peri-urban areas. The practice of backyard farming ensures affordability and availability of nutritious foods for communities. This initiative needs to be supported with gardening practices aimed at fostering both the availability of nutritious food as well as livelihood improvement.

Raise awareness on consumption of nutritious food.
Nutrition is a determinant of a healthy and productive nation. Fresh and nutritious foods are best at meeting micronutrient needs.[64] Thus, improving diets, especially of children and women, can have long-term health,

62 Revised National Food & Nutrition Security Policy (2021).
63 National Planning Commission (NPC) and World Food Programme (WFP), *Fill the Nutrient Gap Namibia Report*, 2021.
64 Ibid.

education and economic benefits. The nutrition situation in Namibia is not satisfactory, as malnutrition contributes to over 45% of all deaths of children under 5 years old.[65] Improving the nutrition situation will require multi-stakeholder coordinated action and commitment, including awareness-raising on nutritious foods. Stakeholders in the Agri-food Sector can contribute information (including indigenous knowledge) on agro-biodiversity, nutritious plants, inter-cropping practices (that include protein-rich and nutrition-dense crops such as legumes), and conserving nutrients through drying and processing (e.g. of roots and tubers).

Promote consumption of indigenous foods.

Indigenous plants grow naturally in the wild and have been used by humans for centuries as food and medicine in almost all societies.[66] It is clear that indigenous foods offer significant nutritional benefits and can contribute positively to dietary diversity and health. Promoting awareness and increasing consumption of these foods could indeed play a crucial role in enhancing diet quality and improving food and nutrition security in Namibia. By recognising the nutrient-rich qualities of indigenous foods and advocating for their consumption, there's potential to positively impact the overall nutrition situation in the country. This approach not only supports local food systems but also harnesses traditional knowledge for better health outcomes.[67]

Design a Food & Nutrition Security communication strategy.

Namibia learnt from the COVID-19 pandemic that having a public awareness communication strategy can fast-track behaviour change among the general population. Since Food & Nutrition Security (FNS) is a public concern that requires behaviour change by the general population, there is a need to design and develop an FNS awareness communication strategy. This strategy would be informed by multi-stakeholders (FNS team) aiming for behaviour change towards healthy diets and lifestyle choices.

Promote consumption of fortified and bio-fortified food

Despite considerable progress in improving public health and reducing deaths from diseases such as HIV/AIDS, tuberculosis or diarrhoea, there is an emerging serious public health concern about poor dietary intake among the Namibian population. In fact, micronutrient malnutrition is a global problem as it affects more than a half of the world's population, especially women and pre-school children.[68] Data for Namibia show that iron deficiency affects 48% of children aged 6 months to 5 years and 21% of women of childbearing age in Namibia.[69] This poor dietary intake contributes to maternal and child malnutrition which has serious consequences for survival, growth, healthy development and economic productivity for individuals and society. In addition, the poor dietary intake contributes to more people dying from non-communicable diseases such as stroke, hypertension, heart disease and diabetes.[70] Bio-fortification of staple food crops is a new global public health approach to overcome vitamin A, iron and zinc deficiencies in poor countries. Namibia needs to promote fortified food to supplement diets and prevent micronutrient deficiencies. Producers and consumers should be encouraged to accept bio-fortified crops to increase their intake of the target nutrients.[71]

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65 Revised National Food & Nutrition Security Policy (2021).

66 Mbhenyane, X.G., "Indigenous Foods and Their Contribution to Nutrient Requirements", 2017.

67 United Nations Food Systems Summit Dialogues and Namibia's Pathway document (2020).

68 Nestel & Pfeiffer, "Symposium: Food Fortification in Developing Countries", 2006; and Nestel et al., "Biofortification of Staple Food Crops", 2006.

69 NDHS 2013.

70 NPC and WFP, *Fill the Nutrient Gap Namibia Report*, 2021.

71 Nestel & Pfeiffer; and Nestel et al., op. cit.

Reduce food waste.

Reducing food waste in Namibia requires a multifaceted approach that spans the entire food supply chain. First, investments in agro-processing, cold storage and better transportation infrastructure are needed, especially in rural areas where this can significantly reduce spoilage and wastage of perishable foods. This is particularly important in horticulture-producing regions like Omusati and Zambezi, where large quantities of fruits and vegetables are wasted due to a lack of processing into products with longer shelf lives, or cold-chain logistics. Second, public awareness campaigns should be introduced to educate consumers and retailers about the importance of reducing food waste, including the adoption of "best before" versus "use by" labels to minimise unnecessary disposal. Third, initiatives encouraging value addition will be promoted, such as turning food waste into animal feed or compost, which can reduce overall waste and generate new economic opportunities. Finally, efforts to enhance food redistribution networks play a key role, ensuring that surplus food from retailers, restaurants and households is directed to food banks or charitable projects, rather than being thrown away.

Strengthen FNS data collection, management and use.

Effective planning needs reliable data. Access to current data on malnutrition and food insecurity needs to be improved to provide a baseline also for implementation and monitoring, and for decision makers and other stakeholders. Namibia assesses the status of national FNS through two complementary instruments, namely the Vulnerability Assessment and Analysis (VAA) and the Fill the Nutrient Gap (FNG) Study. According to the 2020 VAA, nearly 430,000 people suffer acute food insecurity. While the FNG study found that intake of micronutrient-dense and protein-rich foods is only around 100 g, the World Health Organization (WHO) recommends 400 g of fruit and vegetables daily per person. These data are important and should be used effectively in informing policy direction and strategic emphasis.

FNS data is collected by several actors for different purposes. Namibia needs to strengthen its current FNS monitoring of data collecting, processing, validating, storing and use in such a way that overlaps are avoided and gaps are closed. To ensure that different datasets can be joined to offer a comprehensive overview and to increase their accessibility and use, all FNS-relevant data should be compiled in a single repository. The Office of the Prime Minister (OPM) and the Namibia Statistics Agency should work together towards a single and accessible repository for FNS data.

Develop national and regional Disaster Risk Profiles.

Namibia is a semi-arid to arid country, receiving rainfall of up to 700 mm annually with high variability, which negatively affects agricultural production and exacerbates food insecurity and malnutrition. Since extreme events like floods and droughts are likely to intensify due to climate change, comprehensive disaster risk profiles are indispensable tools for building resilience. Disaster risk profiles at both national and regional level serve crucial purposes, for the following reasons, among others:

- **Risk assessment and management:** Provide a detailed assessment of the risks associated with various natural hazards, like floods and droughts, including identifying vulnerable populations, infrastructure, and economic sectors that are most at risk.
- **Early warning:** By understanding the specific risks faced by different regions, authorities can establish early-warning systems and emergency response plans tailored to local needs.
- **Resource allocation:** Disaster risk profiles help in allocating resources effectively, such as financial resources for mitigation, infrastructure and capacity-building aimed at reducing vulnerability.

- **Policy development:** Inform the development of policies and strategies at national and regional levels to enhance resilience to disasters, including land-use planning regulations.
- **Community awareness:** Raise awareness about the specific risks that communities face, and empower communities with knowledge to respond effectively, e.g. through training as well as public education campaigns.
- **Monitoring and evaluation:** Serve as a baseline against which progress in disaster risk reduction can be measured. Monitoring changes in risk factors over time helps in evaluating the effectiveness of interventions and adjusting strategies accordingly.
- **International cooperation:** Disaster risk profiles facilitate cooperation and collaboration with other countries and organisations, such as in sharing data, best practices and resources.

2.2 Skills development

Introduce an Agriculture Technical & Vocational Education & Training (ATVET) programme.

The minimum entry requirement at institutions of higher learning is often Grade 12 (or Grade 11 of the new school curriculum), meaning that more than 40% of students cannot currently enrol at institutions of higher learning due to such requirements. ATVET programmes can offer suitable alternative higher learning opportunities as a pathway to gainful employment. This can be done through the existing agricultural development infrastructure, i.e. the Mashare Agricultural Development Institute (MADI) and Tsumis Arid-Zone Agricultural Centre (TAZAC). In addition, the programme should ensure inclusion of the entire value chain. The Namibia Training Authority (NTA) and other stakeholders can assist with design of the curricula of the ATVET programme.

Recognise prior learning and mainstream Agriculture Technical & Vocational Education & Training.

The National Human Resources Plan of 2012 established that a majority (52.1%) of those employed in the Agri-food Sector have no formal education. But, in the Agri-food Sector, even those with no formal education tend to possess valuable practical skills acquired on the job. Therefore, a coordinated approach to Recognition of Prior Learning (RPL) for experienced agricultural workers and farmers should be designed and implemented in the context of the ATVET programme and with the assistance of the NTA (to assess and grade competencies).

Promote targeted training in business management and entrepreneurships for smallholder farmers.

A majority of the Namibian population directly or indirectly depend on agriculture for their livelihoods. Farmers should have access to specialised skills training on business management and entrepreneurial skills, e.g. business models, financial management and human resources management. Thus, service providers need to invest in targeted training in business management and entrepreneurships, which includes the training provided by banks (among others, AgriBank and the Development Bank of Namibia).

Develop farmers' knowledge of irrigation and skills for irrigating.

Knowledge and experience of different irrigation technologies are important to ensure that water, as a scarce resource, is optimally used. This capacity is unfortunately very limited among both commercial and communal farmers, therefore special efforts should be made to build the necessary capacity in relation to the latest technologies.

Promote professional mentorship and training of cooperatives.

The Namibia Co-operative Policy of 2017 provides a regulatory framework on cooperative development in Namibia. About 74.7% of cooperatives are engaged in agricultural activities.[72] Although there has been a significant increase in the number of registered cooperatives since 1992, most of them did not attain economic and financial sustainability after registration.[73] The lack of cooperative development was associated with lack of ownership by some members of the cooperative, insufficient policy intervention aimed at developing cooperatives through, for example, capacity development, cooperative-related skills training, and facilitation of cooperative economic activities. Namibia has only a few successes in cooperative management, one example being Agra, which initially started as a cooperative. Hence, there is a need to promote professional mentorship and training for the success of cooperatives in Namibia.

Support the establishment and strengthen the capacity of cooperatives for vulnerable groups.

The Namibian Government considers that mainstreaming vulnerable groups into the national economic activities is essential for their socio-economic development. One means is through cooperatives, because these present a viable opportunity for vulnerable groups to pool resources for economic activities. It is necessary to support vulnerable groups in their effort to establish cooperatives or to strengthen existing ones, such that members have ownership and are capacitated, and are trained in cooperative governance.

Capacitate extension/advisory staff members on locally available indigenous nutritious food.

Extension services mostly concentrate on standard (staple and cash) crops and livestock. However, extension on locally available nutritious food should be a main component of extension provision. The MAWLR needs to strengthen its capacity for providing advice and extension on locally available nutritious foods (hitherto often neglected in favour of staples and cash commodities). This strengthening can be done by promoting nutrition education in agricultural extension training and including an emphasis on these crops in curricula. If necessary, the MAWLR could hire one or more nutrition experts or assign dedicated technical staff to compile and disseminate knowledge on local nutritious food. Extension messages and advisory services can be adapted to include guidance on the production, processing and consumption of nutritious and locally available foods, such that the extension service system also acts as a platform to deliver nutrition-related information to farming households.

Support entrepreneurial activities.

In Namibia, where natural disasters can disrupt livelihoods and economic activities, fostering a vibrant entrepreneurial ecosystem is essential for building resilience. By providing comprehensive support that includes skills development, access to finance, mentorship, technology adoption, market access, supportive policies and community engagement, Namibia can empower individuals to create sustainable businesses that contribute to economic growth and withstand environmental challenges. Support for entrepreneurial activities should emphasise regions prone to frequent natural disasters, while women and youth especially should be targeted for capacity-building for skills in farming as a business. A significant impact can be made through support in the following areas:

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[72] Namibia Co-operative Policy (2017).

[73] Ibid.

i. **Skills Development:** Providing training and skills development programmes tailored to entrepreneurship can empower individuals to start and sustain businesses. This includes workshops on business planning, financial management, marketing strategies and specific skills relevant to local industries.
ii. **Access to Finance:** Access to affordable finance is often a barrier for aspiring entrepreneurs. Initiatives such as microfinance programmes, low-interest loans and grants for start-up capital can help individuals to overcome this hurdle and launch their businesses.
iii. **Incubation and Mentorship:** Business incubators and accelerators provide valuable support by offering workspace, mentoring by experienced entrepreneurs, networking opportunities and access to markets. This nurturing environment increases the likelihood of business success, especially in challenging environments.
iv. **Technology and Innovation:** Innovation through technological advancements can lead to new business opportunities. Support for technology adoption, research and development, and for innovation hubs can foster entrepreneurial activities that are resilient to climate impacts.
v. **Market Access and Networking:** Facilitating access to markets, both domestically and internationally, enables entrepreneurs to grow their customer base and increase profitability. This can be achieved through trade fairs, networking events and online platforms.
vi. **Gender and Youth Empowerment:** Ensuring that support programmes are inclusive and accessible to women and youth enhances diversity and promotes economic equity. Specific initiatives targeting these groups can address unique challenges that they face in entrepreneurship.

2.3 Strengthening capacity and governance of producer organisations

Redefine farmer categories to enable better-tailored support.

It is observed that clear definition of the farmers' categories enables these to acquire support that best fit their needs and attributes. For instance, a resettled farmer in a commercial area should be offered tailored support that meets the need of a start-up farmer as opposed to a well-established commercial farmer and vice versa. There is a need to review farmers' categories and associated farming systems, as a basis for designing and delivering tailored support. This exercise should be part of, and should also inform, the reorientation of extension provision beyond its current focus on input supply (see Pillar 4.3 on agriculture services).

Explore the scope of Machinery Rings.

Purchasing farm machinery is an expensive exercise, and farmers often face difficulties when they need to replace major machinery and equipment due to the high costs.[74] A Machinery Ring is a co-operative society of farmers and agricultural businesses who/which have the mutual aim of accessing machinery at reduced equipment and labour costs. Machinery Rings have potential in agronomy and horticulture and livestock production, but also in bush control and biomass processing. The benefits of using shared farm machinery and equipment include saving on operating costs, taking advantage of new technology, having access to specialised equipment, attaining a greater economy of scale at a lower financial cost, shared labour and experience, agreements that open new markets, additional savings through joint purchasing of other farm inputs such as fuel, feed and seeds, and collaborative production systems among farmers that make better

[74] Alpaslan Başarık and Saadettin Yildirim, "A Case Study of Sharing Farm Machinery in Turkey", 2015.

use of land resources.[75] The scope of establishing such cooperation platforms for mechanisation should be explored for different value chains, including that of biomass. Based on experiences made elsewhere, the management of machinery rings needs a well-thought-through approach, in which sustainability is achieved through strengthened ownership by members.

Promote public-private partnerships within the Agri-food Sector.

While the Namibian Government has done relatively well in ensuring a conducive environment for agri-business, there is an overlap of operations between the government/public and private sectors. Hence, there is a need for mutual agreements on allocation of responsibilities within the Agri-food Sector through public-private partnerships (PPPs). This will unlock the economic potential within the Agri-food Sector as envisaged in the Harambee Prosperity Plan II. One example of this is the Green Scheme, developed in 2013 to support irrigated crop production. Initially, the Scheme aimed at contributing to food security through the local production of maize and wheat, but after suffering several setbacks, the Government requested proposals by the private sector for additional investment in the Green Scheme projects. Other successful PPP models exist, in the Agri-food Sector and beyond, and such successes should be identified and their potential for upscaling assessed.

2.4 Opportunities for vulnerable groups

Facilitate access to "seed capital" for young agripreneurs.

Young entrepreneurs in agriculture often cite finance as a major factor limiting their growth.[76] Many young people who start an innovative business become demoralised when confronted with the lack of early-stage financing. Aspiring entrepreneurs face several challenges in securing the necessary capital to grow their start-up. Common challenges include difficulty in accessing commercial credit due to a lack of collateral (e.g. no or limited land ownership), and bridging the gap between the depletion of the entrepreneur's own resources (from family and friends) to a time when the start-up is financially viable enough to attract later-stage investment and commercially available financing. It is crucial that this hurdle is overcome, to attract and retain youth in agriculture. Loan conditions can be amended, a programme of subsidies designed, and farmer unions could consider establishing a fund for young agripreneurs.[77]

Promote attachment of youth entrepreneurs to "mentor" institutions.

Mentorship programmes for the youth in the Agri-food Sector should be developed and implemented. This should include attaching young farmers and students to farms and agro-industries to acquire skills in areas of production, processing, marketing and general business management.

Increase women's access to productive assets, including mechanisation.

Although the agricultural sector workforce is dominated by males, women dominate in subsistence and communal farming in Namibia, due to the trend of rural-to-urban migration among men.[78] This activity seeks to improve women's access to productive and titled land, agricultural finance and mechanisation. About

[75] Ibid.

[76] Namibia Youth in Agriculture Dialogue (February 2020) and UN Food Systems Summit Dialogues (July/August 2021).

[77] Southern African Confederation of Agricultural Unions (SACAU) operates such a fund that may be used as a model.

[78] Nangolo and Alweendo, *Agriculture in Namibia: An overview*, 2020.

44% of rural households are headed by females, with most female landowners being widows who inherited the land from their husbands, followed by women who obtained land through divorce or inheritance from families. Since the commencement of the Communal Land Reform Act in 2003, single women can register their land without the consent of family members.[79]

The MAWLR implements a farm mechanisation subsidy under the Dryland Crop Production Programme (DCPP), through which services like ploughing, ripping and planting are subsidised. About 20,000 hectares are serviced across the country, representing about 15,000 producers. The target groups of the DCPP are women and youth, and all efforts must be made to ensure that these groups continue to receive preference among producers who register.[80] Special attention should be given to identifying and promoting technology, equipment and machines that alleviate the burden of typical women's tasks, such as oil extraction from nuts and seeds and the separation of husks from cereals.

Increase youth's access to productive assets, including mechanisation.

Across Africa, agriculture suffers from a withdrawal of young people into alternative professions. According to the last Namibia Labour Force Survey, only 15.4% of employed young people work in the Agri-food Sector. Traditional 'low-input, low-output' models of smallholder agriculture have little appeal for most young people. Yet, modernised agriculture can offer an exciting, independent and profitable livelihood to young aspiring entrepreneurs. Such young 'agripreneurs' need to be supported wherever they are and with whatever means possible, as it is their success that will inspire their peers to follow suit, thereby reversing the trend of an ageing agriculture labour force.

A key asset for production is land. Most youth do not own land. However, secure access to land is already a good foundation for production. Youth's access to land can be facilitated through leaseholds, in the form of contract farming, or via other arrangements (such as between young agripreneurs, offtakers and credit institutions, whereby the offtaker guarantees a market, which serves as collateral to the credit institution). Good practices should be identified, disseminated and upscaled. In addition, Namibia has introduced incentives to promote youth entrepreneurship, including in livestock farming, through government-financed loan schemes. One such scheme, the Namibian Youth Credit Scheme (NYCS) under the Ministry of Youth, Sport and Culture, provides financial support directly to youth without the need for collateral.

Promote targeted capacity-building for women and the youth.

There is much scope for increased rural incomes through value adding, be it in its simplest form by grading produce to capture better market prices, to the processing of produce into sophisticated products even for export markets (such as essential oils or organic cosmetics). Women should be supported even from small levels of backyard processing onwards, whereas the youth may have comparative advantages in identifying emerging (fashionable) markets. Cooperation should be sought with financial institutions (e.g. the African Development Bank, national banks and savings and credit organisations), whereas private agribusinesses can offer technical advice as well as marketing contacts. Capacity development should also be targeted to youth and/or women's producer associations. Such associations should be identified, and programmes to strengthen them should be designed, implemented and upscaled. Capacity-building for women and youth can also be in the form of exchange visits and study tours. Opportunities for these should be identified,

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79 Matthaei and Wolf, "Strengthening women's rights to land in Namibia", 2013.

80 HACCIADEP, MAWF (2017).

(for example together with the Namibian Youth in Agriculture Forum, the Youth Programme of SACAU, the CAADP Youth Network[81] or even the German Farmer Organisation).

Assess opportunities of the African Continental Free Trade Area Protocol for women.
The African Continental Free Trade Area (AfCFTA) Protocol offers a range of opportunities for women in marketing and trade: the Protocol on Rules of Origin permits access to cheap raw materials, which women in agriculture can use to their advantage. The AfCFTA allows countries to select commodities for gradual liberalisation, allowing these value chains to gain in strength prior to regional market integration. The agriculture and trade sectors should cooperate to ensure that value chains important to women are prioritised under this instrument.[82]

[81] The CAADP Youth Network (CYN) gives young people a voice in agriculture policy processes at national, regional and continental level. In 2020, the CYN held a series of country-based dialogues with young aspiring agricultural entrepreneurs, and the Namibia event was used as an input in the STAS formulation.

[82] The UN Women East and Southern Africa Regional Office (ESARO) can possibly assist in this process.

PILLAR 3:
Sustainable Resource Management

Rationale, objective and outcomes

Namibia has an average of 300 days of sunshine per year, with the Kalahari (semi-desert) to the east and the Namib (hyper-arid desert) to the west. Namibia has highly variable rainfall, both spatially and temporally. With the anticipated impact of climate change, these variations are expected to intensify. Dry seasons will likely become more prolonged and drier, while wet seasons may become wetter and more extended. It is this extreme variation that poses the biggest challenge to the Agri-food Sector, forcing it to adapt to mitigate the negative impacts of climate change through adaptation. A challenge is that ecosystems are not managed sustainably, and forested areas were reduced by 21% between 1990 and 2015.[83] Pillar 3 of this STAS addresses especially commitment number six of the Malabo Declaration: "Enhancing Resilience to Climate Variability".

This pillar of the STAS contributes directly to the NDP pillar on sustainable resource management by addressing the sustainable management of agriculture's key resources of land and water. Intervention areas and activities are described on the following pages and aim to achieve the following objective and outcomes:

Objective: Namibia's Agri-food Sector is sustainable.

Outcomes: A vibrant natural resource base is maintained and improved.
Agri-food systems withstand and can adapt to the challenges of climate change.

[83] Nationally Determined Contribution Partnership, "Country Outlook Namibia", November 2017.

3.1 Land and rangeland management

Promote regenerative rangeland management practices.

The livestock value chain can be strengthened by promoting regenerative practices like planned grazing, bush thinning, and soil rehydration techniques. These practices not only increase the carrying capacity of rangelands but also enhance the quality of the livestock produced. Incentives should be developed for farmers who adopt regenerative livestock production methods, such as offering price premiums for regeneratively raised livestock or developing niche markets for high-quality, grass-fed beef.[84] Current best practices in rangeland management can be identified across the country, as well as from the Southern African region. This should include holistic rangeland systems, and splitfarm and multi-camp grazing systems. Lessons learnt from these practices should be compiled, disseminated and tailored to the specific needs and opportunities of Namibia's different agro-ecological zones.

Strengthen and ensure productivity of communal lands.

Communal lands are often in more favourable agro-ecological regions, with relatively better and fertile soils and higher rainfall. However, rangelands in these areas tend to be overgrazed and hardly productive.[85] Namibia's Communal Land Reform Act No. 5 of 2022 indicated that any customary land right or right of leasehold owner must use and manage the land concerned in accordance with accepted farming practices within the concerned area. Therefore, there is a need to ensure that agricultural activities within communal lands are productive. The Government has thus far invested in this process through the Programme for Communal Land Development (PCLD). The PCLD aims to: ensure security of tenure for communal residents through communal land registration; develop and maintain a comprehensive and reliable communal land registry system; promote sustainable use of land as a resource; and secure economic growth from land use.[86] Under the STAS the PCLD should be assessed, weaknesses repaired and implementation strengthened.

Incentivise sustainable and regenerative rangeland management.

Following the Rangeland Management Policy & Strategy and the Regenerative Livestock Production Strategy, farmers should receive incentives to adopt sound rangeland management practices. Incentive programmes can include tax rebates for farmers who sell livestock early to avoid overgrazing during droughts or for those who invest in regenerative infrastructure like water points and fencing. Low-interest loans should be made available for investments in bush thinning, grazing management infrastructure, and restocking. Additionally, revolving funds could be established to support the adoption of best practices, rewarding farmers who improve soil cover and livestock productivity through certified regenerative practices. To facilitate this programme, existing management operations can be graded in, for example, a 4-level system, whereby the grade D (or 4) denotes poor rangeland management, that is depleting the resource and unsustainable, and A (or 1) stands for excellent regenerative rangeland management. Registered producers could be allocated a grade, based on, for example, an annual audit of rangeland management practices.[87] Information and

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[84] Ministry of Agriculture, Water and Forestry (MAWF), *Namibia Rangeland Management Policy & Strategy* (revised edition from the 2012 NRMP), and MAWF, *Reviving Namibia's Livestock Industry: Regenerative Livestock Production*, 2019.

[85] Often described as "the tragedy of the commons", or the economics problem in which every individual has an incentive to consume a resource, but at the expense of every other individual, with no way to exclude anyone from consuming.

[86] National Planning Commission, Medium-Term Expenditure Framework 2022/23-2024/25.

[87] A similar initiative of performance-based incentives already exists in the charcoal sub-sector.

capacity development programmes implemented alongside this performance-based incentive system will enable producers to "graduate" into higher categories of regenerative management practice.

Support infrastructure improvements such as Livestock Water Supply Systems.

Infrastructure improvements, especially water supply systems, are vital for sustainable rangeland management. The STAS should promote solar-powered water points, multiple trough systems within kraals, and well-distributed water access points to avoid overgrazing around single water sources (most suitable in commercial areas, as scattered water points in communal areas may lead to increased livestock theft). These improvements will enable sustainable grazing plans, reduce animal stress, and ensure better distribution of livestock across grazing areas.[88]

Implement Land Use Plans.

The Government introduced the concept of the Regional Land Use Plans, with the first plan completed and approved in 2011. Since then, all regions developed land-use plans, based on consultations with stakeholders. A review of these (older) land-use plans is advised, to assess, together with regional stakeholders, the extent to which these plans were implemented, are still relevant or need updating. Where (components of) plans are still relevant, but were not implemented, their implementation can be supported. Where (components of) plans are no longer relevant, these can be updated.

Improve land administration efficiency and strengthen Land Boards.

Land reform is guided by a series of Acts, and while these are generally good, their interpretation tends to differ area by area. Land Boards are responsible for interpreting and implementing the various Land Acts, which some manage well and others less so. Based on information from Namibia's 14 regions, a capacity development programme should be designed, that brings Land Boards together, informs them about the Land Acts and irons out any differences of interpretation. One objective is to ensure that inflated land administration procedures are made leaner by removing redundant procedures, merging procedures where possible, and making procedures more transparent, for example by ensuring that the valuation process of land cannot be executed by a single person without supervision. Under this strategy, procedures will be improved, and cooperation will be strengthened between all ministries and agencies that have a role in land administration.[89]

Ensure security of tenure in communal areas.

Communal land is vested in the State and there are structures established to administer communal land. These structures are the Communal Land Boards and the recognised Traditional Authorities. The communal land resource is administered in terms of the Communal Land Reform Act 5 of 2002, as amended. This Act sets legally binding procedures that must be followed by the Communal Land Boards and Traditional Authorities in administering the communal land resource among others, communal land allocation, land dispute resolutions, and appeal procedures. Furthermore, the Communal Land Reform Act 5 of 2002 provides for the allocation of different forms of tenure that must be allocated in communal land, i.e. the customary land rights, rights of leasehold and occupational rights. Through the continued implementation

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[88] Ministry of Agriculture, Water and Forestry (MAWF), *Namibia Rangeland Management Policy & Strategy* (revised edition from the 2012 NRMP), and MAWF, *Reviving Namibia's Livestock Industry: Regenerative Livestock Production*, 2019.

[89] Mwando et al., *An In-Depth Assessment of Land Governance in Namibia*, 2019.

of these actors and regulations, the Government will continue to ensure that security of tenure is secured in communal areas.

Community-based management of natural resources through Land User Associations

For the crucial resource of land to be managed sustainably also for future generations, workable options for community-based land management must be used. Good practices can be found in the sub-sectors of wildlife (conservancies), forestry (community forests) and even water (water point committees). These models have proven that communities can coordinate the use of a natural resource, defend their user rights, and protect the resource from depletion. The structure of Land User Associations, as an overarching governing body for the already existing subcommittees on forestry, water and wildlife, should be established. Added to that, a committee on rangeland is necessary, possibly to be called a Grazing Association. A community-based grazing association is important, not only to combat unsustainable grazing practices, but also to address the growing problem of 'grazing theft', especially in the commonage, whereby grazing land is occupied by settlers from nearby villages thus reducing the common grazing resource. The comprehensive structure for community-based natural resource management would then consist of the overarching Land User Association, with four sub-structures of: (i) community forests (for forestry); (ii) conservancies and/or hunters' associations (for wildlife); (iii) water point committees (for water); and (iv) grazing associations (for the rangeland resource). This comprehensive community-based structure can then act as an effective entry point for (among others) the organisation and mobilisation for sustainability campaigns and capacity-building, information dissemination, and data collection. The design of community-based models must be informed by regionally specific opportunities for land use, communities' needs and best practices. Important is that these models are driven and owned by the communities, rather than a top-down approach being followed, as in the case of government cooperatives.[90] Best practices can be sourced also from abroad.[91]

Land purchase for redistribution

At Independence in 1990, about 4,000 white farmers owned about 6,000 farms, which constituted almost half of the country's arable land. An apartheid-era land law blocked black farmers' access to these commercial farms, setting out a different landholding law for blacks living in communal areas under communal land-holding regimes, a form of government-structured customary law. The Land Reform programme was created to address the disparity in land ownership resulting from these past colonial laws. Following the Land Conference and the Land Question in 1991, the Agricultural Commercial Land Reform Act No. 6 of 1995 was promulgated to provide for the acquisition of agricultural land by the State for the purposes of land reform and the allocation of such land to Namibian citizens who were disadvantaged by past discriminatory laws or practices. The Act further provides for two modes of land acquisition, namely the Willing-Seller Willing-Buyer mode, and Compulsory Land Acquisition. The purchase and redistribution of commercial land by government to address land disparity will be continued under this strategy.

Ensure allocation of acquired land.

The National Resettlement Policy aims to ensure that the resettlement process satisfies the political and socio-economic expectations of Namibian citizens and contributes to the overall national development

[90] Across Africa, such cooperatives have proven unsustainable, mostly due to being overly dependent on government subsidies and insufficiently owned by beneficiaries.

[91] In Mozambique models exist at village level where land, water, wildlife and forests are managed together.

objectives aimed at economic progression. In order to cover all kinds of landless, displaced and destitute people in the country, this policy advances three resettlement models which are deemed to be socially, economically and politically appropriate: (a) High Economic Value Model (HEVM); (b) Moderate Economic Value Model (MEVM); and (c) Low Economic Value Model (LEVM). Under this strategy, the Government will continue to ensure fair allocation of land, through these economic models.

Ensure tenure security for marginalised groups.

Secure access to land is vital in ensuring food security among marginalised groups and as a pathway out of poverty. Group resettlements, in which marginalised people are given plots that are too small to be commercially viable, have proven to be challenging. However, there are examples of schemes that have offered resource-poor and marginalised people a new lease on life through a combination of land tenure security, skills in agronomy, horticulture or small-stock production, and access to school and hospitals.[92] A review should be undertaken of different schemes of this kind, both in Namibia and abroad, to identify ingredients of success, and to assess the potential of upscaling these successes in areas of need. Among such areas are the informal settlements around towns, where often the poorest of the poor reside,[93] and so exploring opportunities for allocating land for purposes of urban agriculture should be part of this assessment. In some cases, causes of marginalisation can be addressed without the need for resettling people: The practice of putting up fences around communal rangeland or waterpoints tends to cause marginalisation of people who depend on common resources for their livelihoods. Existing Land Acts can protect such user rights, but these should be enacted adequately, and awareness of their existence and relevance should be created among beneficiaries.

Ensure that resettled farmers are supported.

A review of the implementation and effects of Namibia's National Resettlement Policy (2001, revised in 2023) revealed that most of the resettlement beneficiaries are engaged in traditional farming activities, which tend to limit productivity of the land.[94] Further studies also point out that irreversible degradation of the natural resource base occurred in the process of resettling unskilled, former communal farmers on previously productive commercial farmland.[95] The Government reviewed the National Resettlement Policy in 2023, and is in the process of formulating an Implementation Action Plan that will guide the execution of the 2023 (revised) National Resettlement Policy. One of the objectives is to ensure productivity of redistributed land and propagate economic gains derived thereof. Thus, there is a need to ensure that those resettled are able to produce sustainably. It is generally accepted that for every N$1 spent on land acquisition, an additional N$3 should be spent on capacity-building to ensure that the resettled farmer achieves sustainable (and commercially viable) production.

Ensure targeted interventions for marginalised communities in the resettlement programme.

The Government is firmly committed to assisting the marginalised San, Ovatue and Ovatjimba communities, and other historically disadvantaged populations, through the National Resettlement Programme under

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92 The Queen Sophia Scheme might be an example of successful resettlement of marginalised people, as are some resettlement schemes that benefited the San community.

93 Poverty Assessment (2004).

94 A critical review of the implementation and effects of the National Resettlement Policy (NRP) in Namibia (2004).

95 Overcoming barriers to the productive resettlement of Namibians (2007).

the Ministry of Agriculture, Water and Land Reform. A key element of the programme is promoting secure land rights and viable livelihoods, targeted to a large and dispersed community of landless and poor beneficiaries. The core principle of this approach is to ensure that marginalised communities in Namibia achieve a status and characteristics equivalent to those of other communities. Thus, the Government will continue to invest in the resettlement programme to ensure that there are no longer communities in Namibia that are disproportionately disadvantaged and unable to benefit from opportunities that are open to the country's citizens.

3.2 Biomass

Promote bush biomass production.

To unlock the full potential of Namibia's biomass sub-sector, the STAS should include several strategic activities aimed at removing key barriers and stimulating growth. First, it is essential to simplify and streamline the permitting process. Currently, obtaining permits for biomass harvesting can be cumbersome, requiring farmers to physically visit regional offices to apply. By digitising the permit system and integrating it with existing platforms such as NamLITS, which is already used for livestock management, producers can access permits online, significantly reducing transaction costs and delays. This system can then also be used to synchronise livestock and biomass producer numbers, allowing for a more seamless process across sectors. Second, expanding access to finance is critical for both small-scale and commercial biomass producers. The STAS can promote innovative financing models such as tripartite agreements between producers, buyers (e.g. energy companies or charcoal processors) and financial institutions such as Agribank. In these arrangements, production volumes can be used as collateral to ensure that loans for machinery or operations are secured, reducing the risk of default. Finally, improving access to equipment and machinery is critical to scaling up production. The Namibia Biomass Industry Group (N-BiG) has pioneered a successful machinery leasing model that gives small-scale producers access to essential equipment such as chippers and harvesters. Expanding this model or promoting cooperative-based Machinery Rings in different regions, would help to reduce the high capital costs associated with entering the biomass industry, allowing more farmers and producers to participate. Taken together, these activities significantly strengthen the biomass sector and contribute to economic growth, energy security and environmental sustainability. Furthermore, it is important to define a governance system and best practices for bush management. Plans to establish a Biomass Board with participation from government, the private sector and civil society need to be supported.

Combat bush encroachment.

An important component of rehabilitating the range is the combating of bush encroachment. Bush encroachment refers to the uncontrolled spread of indigenous bush species, such as *Senegalia mellifera*, across large areas of Namibia's rangelands, reducing the land's capacity to support livestock farming and crop production. Bush encroachment reduces biodiversity by crowding out native grass species, and puts pressure on scarce water resources as encroaching bushes consume significant amounts of water.

Combating bush encroachment is crucial due to its severe impact on agricultural productivity, biodiversity and water resources. This phenomenon affects nearly 46 million hectares of land in Namibia, diminishing grazing potential and threatening the livelihoods of many rural communities who depend on agriculture. To combat bush encroachment, strategies need to be tailored to the area, the severity of the problem and available means for combating it. Controlled bush thinning involves selectively removing invasive bushes

and requires technical and capital resources. Indiscriminate removal of all bush is cheaper, but useful and nutritious vegetation is lost in the process. Harvested bush can be used for value-added products like charcoal, woodchips or bioenergy, creating economic opportunities. Integrating sustainable livestock management practices and reintroducing controlled burning will help to maintain balanced ecosystems and prevent further encroachment. A combination of government support, community involvement and partnerships with the private sector is essential to effectively manage and reverse bush encroachment.

3.3 Soil management

Promote the importance of soil quality as a basis for agriculture.

Soil fertility improves when plants grow and their minerals get recycled on the land.[96] Some parts of Namibia no longer have healthy soils, with high microbial activity, and these parts have lost net primary productivity, soil carbon and soil moisture. The decreased productivity of Namibia's rangelands is a direct result of poor rangeland management,[97] the loss of biodiversity, and the loss of carbon from the soil. Bush thickening has occurred as a result, and these encroaching bush species compete directly for moisture with desirable forage species. Since soil health and soil carbon ensure profitability of livestock and crop farming, it is necessary to invest in good practices of promoting soil quality, especially through extension, training and information dissemination for both communal and commercial farmers.

Improve soil carbon.

Improving soil carbon requires practices that increase ground cover, enhance water infiltration and promote microbial activity in the soil. Regenerative grazing techniques, such as planned grazing and multi-camp systems, can be used to restore perennial grass cover and reduce bare ground, which in turn enhances soil organic matter. This approach also includes promoting the use of bush thinning combined with landscape rehydration to improve soil structure and overall rangeland health.[98]

Review the Soil Conservation Act, 1969 (Act No. 76 of 1969).

Namibia's soils are still partially governed under pre-independence legislation. The Soil Conservation Act No. 76 of 1969 is a South African legal instrument that aims to combat and prevent soil erosion, and to promote conservation, protection and improvement of the soil, the vegetation and the sources and resources of the water supplies of the Republic of South Africa. This Act is still applicable in Namibia even today, but it is time that this is updated into a Namibian Act, tailored to the country's needs and opportunities, and with subsequent implementation in Namibia facilitated and supported.

3.4 Water management

Commence and implement the Water Resources Management Act, 2013 (Act No. 11 of 2013)

The water sector has good policies, but implementation thereof is not satisfactory. The priority should now be to operationalise policies and acts through developing required regulation and legislation and focus

[96] Kwaambwa et al., "Options to improve soil fertility with national resources", 2017.

[97] Van der Waal, "Ground cover report", National Rangeland Management Policy and Strategy Project, MAWF, 2019.

[98] Ministry of Agriculture, Water and Forestry (MAWF), *Namibia Rangeland Management Policy & Strategy* (revised edition from the 2012 NRMP), and MAWF, *Reviving Namibia's Livestock Industry: Regenerative Livestock Production*, 2019.

on commencement, implementation, monitoring and reporting. The Water Resources Management Act 11 of 2013 must be implemented via appropriate institutions, legislation and regulations (gazetted in 2023).

Execute the Integrated Water Resources Management Plan of 2010.

Integrated Water Resources Management (IWRM) is identified as essential for the management of the water sector in Namibia.[99] The IWRM Plan (2010) aims to enable Namibia to achieve a sustainable water resource management contributing to social equity, economic efficiency and environmental sustainability in the country. This will result in gains to agriculture from improved land and water management, improved health and sanitary conditions of communities, and reduced risk of floods and droughts. The STAS should focus on enabling and monitoring the implementation of the IWRM Plan.

Strengthen transboundary systems of water use.

The IWRM Plan of 2010 has made provision for the allocation of a reasonable and equitable share in the use of water from transboundary water resources. This must be negotiated between the Basin States that are obliged to manage the transboundary water resource in terms of the relevant rules of international law. All the perennial rivers on Namibia's borders are shared with other Basin States. The IWRM Plan, in line with the negotiation principles, advocates that the use of the water from a shared river by one State cannot be denied by another State. Thus, transboundary agreements should be honoured, and where necessary, revisited and amended to allow equitable access, especially for the irrigation of crops.

Upgrade water monitoring systems.

There is a need for monitoring water quantity in order to determine the water demand and capacity of water infrastructures, and the monitoring of water quality to establish the condition of water, including chemical, physical and biological characteristics, usually with respect to its suitability for a particular purpose. Water monitoring systems should be upgraded to adequately serve these purposes. In addition, monitoring systems are also imperative to determine water sediments, i.e. loose sand, clay, silt and other soil particles that settle at the bottom of a body of water. Furthermore, water monitoring systems are necessary to establish the water flow, meaning the volume of water moving past a particular point during a given particular timeframe. Hence monitoring systems should be installed for conventional water resources, including surface water, rivers, lakes, dams and groundwater.

Promote strategies for harvesting and capturing water.

Insufficient effort is made to develop technologies and implement strategies that ensure maximum rainwater harvesting at all levels, from individual households to large projects. For Namibia, being a very dry country with fluctuating rainfall, this must become a priority. Assessing and promoting strategies for harvesting and capturing water during the rainy season must be based on sound guidelines for efficient water use by sectors, households and individuals.

Improve access to sanitation and safe drinking water for all, particularly in rural areas.

Although great progress has been made in improving access to sanitation and safe drinking water since Independence, the situation is still far from satisfactory, especially in flood-prone areas. More efforts are needed to ensure that the rural population has access to safe drinking water and to sanitation.

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[99] Integrated Water Resources Management Plan for Namibia (2010).

Promote non-conventional water resources.

Namibia depends heavily on groundwater. However, fresh groundwater is sometimes found within the brackish central area, while places of saline water may be encountered in areas usually providing fresh groundwater.[100] Given the high and competing needs within the sector, and for areas where the groundwater happens to be saline, it is necessary to invest in water desalination. Namibia is a world leader in the technology of reclamation of water for potable use, and the scope for expansion thereof should be assessed, especially with respect to the use of desalinated water for irrigation.

EIAs for exploration mining must include consultation with the Water Department.

The involvement of Water Authorities in environmental impact assessments (EIAs) and the supervision of the implementation of environmental management plans (before, during and after large projects) is limited. This may partly be due to limited human power, but it may also be a case of Water Authorities not always being informed by other ministries and stakeholders. This situation should be addressed as a matter of urgency: In future, EIAs should be issued only after engaging and consulting the MAWLR's Water Department, and the conditions of the Water Use Permit must subsequently be honoured (with separate permits for exploration and extraction).

3.5 Irrigation

Document the quantity of water required for irrigation as per land under irrigation.

The Water Resources Management Act 11 of 2013 makes provision for the MAWLR to obtain and record information on the extent of land under irrigation, the quantity of water used or required for irrigation, and the extent, nature and value of crops derived through irrigation, including information on land not irrigated, but which is suitable to be used for that purpose. Hence, as a first part of implementing the Act, it is necessary to document current areas of land under irrigation, as well as potential land areas for irrigation.

Develop a Namibia Irrigation Master Plan.

Yields from irrigated crops surpass those from rainfed agriculture. For instance, in the Maize Triangle and surrounding the Karst areas, white maize production demonstrated significant differences. In the 2017/18 financial year, 14,848 tons were marketed from 1,392 hectares of irrigated production, whereas 15,101 tons were marketed from 6,134 hectares of rainfed production, which translates to a production of 10,6 ton/ha under irrigation versus less than 2,5 ton/ha under rainfed conditions.

In accordance with 2008 Green Scheme Policy, the MAWLR plans to allocate 30,000 hectares of land for irrigation. Two options are being considered: public-private partnership (PPP) and direct development by the Ministry itself. The Irrigation Master Plan will describe and weigh these different options, outline the key areas of focus, and propose efficient irrigation technologies and management models based on Namibia's climate variabilities and conditions.

Low-cost small-scale irrigation technologies for food production

Household food security is very important, and one way to address it is through small-scale low-pressure drip irrigation in backyard gardens. Low-cost small-scale irrigation technologies should be identified and promoted for food production (such as for backyard gardens, school gardens and community gardens).

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[100] Christelis and Struckmeier, *Groundwater in Namibia: An Explanation to the Hydrogeological Map*, 2001.

Research and development in the desalination of sea water

An assessment of Namibia's water scarcity challenges, focusing on regions most in need of alternative water sources, such as the coastal and arid areas, and identifying potential sites for desalination plants, particularly along the coastline, where access to seawater is direct, should be the basis for this activity. Research should focus on identifying and adapting desalination technologies that are best suited to Namibia's specific conditions. This could include reverse osmosis, which is currently the most widely used method, as well as newer technologies like forward osmosis, solar desalination or electro-dialysis that may offer cost or energy advantages. Evaluating energy requirements and potential for integrating renewable energy sources, such as solar or wind power, are key to ensuring sustainability. Pilot projects can be initiated to test the feasibility of different desalination technologies, to provide valuable data on operational challenges, maintenance needs and cost-effectiveness, which can inform larger-scale implementations. Feasibility studies should include economic analyses, comparing costs of desalination with other water supply options, and exploring potential funding models, including public-private partnerships (PPPs).[101]

3.6 Climate change

Endorse the revised National Drought Policy and Strategy.

The 1997 Drought Policy & Strategy was reviewed, and a revised 2022 Drought Management Policy & Strategy has been formulated and will be presented to Cabinet for approval. It is essential that this process is expedited to enable implementation. The strategies for addressing drought before, during and after its occurrence should be rigorously adhered to throughout the implementation period of both the STAS and the revised 2022 Drought Management Policy & Strategy.

Promote the implementation of an Early Warning System.

Namibia is prone to natural disasters, ranging from floods to droughts, veld fires and pests, that affect crop and livestock farming. Given these challenges, the existing Early Warning System should be mainstreamed in agricultural extension and used more widely. Its methods should be refined to improve its accuracy and to contribute more significantly to reducing the risks of low rainfall, pest outbreak, veld fire and drought.

Document and disseminate traditional and indigenous knowledge and coping practices.

Indigenous communities have thrived in arid environments and challenging environmental conditions for centuries. It is imperative to conduct comprehensive research and documentation of these time-honoured mechanisms and strategies. When combined with modern scientific technologies, indigenous knowledge can offer Namibia a distinct advantage in adapting to adverse conditions and mitigating the impacts of climate change. It is proposed that a thorough compilation and documentation of indigenous and traditional knowledge is undertaken, to ensure that this is available also to future generations.

Promote public awareness and participation in climate change adaptation practices.

Climate change is expected to negatively affect the livelihoods of people living in Namibia. Although the country is committed to international goals to mitigate the greenhouse gas emissions, the biggest

[101] The German development bank KfW has been involved in the development of desalination plants. In 2022, KfW provided a loan of over USD 97 million to Namibia, with a significant portion earmarked for enhancing water supply infrastructure. Additionally, KfW has funded feasibility studies for desalination projects along Namibia's coast.

challenge will be to adapt to the impacts of climate change. Adaptation of agri-food systems extends beyond governmental efforts and necessitates raising awareness and motivating the public. This collective effort is crucial for a successful nationwide adaptation to the impacts of climate change. A public-awareness campaign will be designed and disseminated, to create incentive and momentum among the general public to change their behaviour.

Ensure compliance with global carbon footprint requirements.

As Namibia is a signatory of the Paris Agreement on Climate Change, it is obliged to incorporate climate actions in its national plans and strategies towards reducing its carbon footprints. The Paris Agreement is a legally binding international treaty on climate change, which aims to scale up efforts and support actions to reduce emissions, build resilience and decrease vulnerability to the adverse effects of climate change, and to uphold and promote regional and international cooperation. By 2022 Namibia had contributed a combined total of only 0.00013% to global carbon emission. Although Namibia's agriculture contribution to carbon emission is insignificant at international level, at national level the Agri-food Sector accounts for a significant amount of total national carbon emissions.[102] Namibia needs to include climate actions in the sector plan towards reducing the carbon footprint emanating from the sector.

Incentivise farmers to engage in low-carbon practices.

Namibia-based research into effective methods to sequestrate carbon in hot and arid environments and under varying soil conditions is needed to inform producers about tried-and-tested management methods. Incentivising farmers to sequestrate carbon requires the establishment of a baseline scenario, to measure and demonstrate the level of sequestration over time. Carbon-level and microbial activity of soils should be analysed and compared between land under regenerative management, compared to control groups. Incentives should be provided to farmers who apply farming practises that have a lower carbon footprint. The use of solar and wind for irrigation systems should be encouraged.

[102] National Climate Unit, Ministry of Environment, Forestry and Tourism (2023)

PILLAR 4:
Enabling Environment and Responsive Institutions

Rationale, objective and outcomes

Namibia's governing system and public administration are rooted in a solid national Constitution and the rule of law.[103] Namibia, however, having gained independence as a state only in 1990, inherited many of its legal instruments and regulations from the colonial government, and most of these do not effectively respond to the post-independence regulatory needs. Efforts to reform many of the strategic outdated regulatory instruments have been made, and revised laws have been enacted in the past three decades. An enabling environment, supported by responsive institutions, has been created, such that Namibia has been ranked among the top 10 best-governed countries in Africa since 2014, as per the Mo Ibrahim Index of African Governance (2022).[104] Namibia also ranks ahead of its counterparts in Africa and the Southern Africa region in public infrastructure supporting the Agri-food Sector, such as road, seaport and marketing infrastructure, among others. Nevertheless, more regulatory instruments, especially those related to Agri-food Sector governance, need reviewing to strengthen effective and responsive institutions. With regard to national data, progress has been made since Independence in formulating appropriate data collection and data management mechanisms, and by establishing a dedicated Namibia Statistics Agency.[105] However, some fragmentation with regard to agriculture data still exists.

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[103] Article 95 of the Constitution of the Republic of Namibia provides for the "Promotion of Welfare of the People", and Article 23(2) provides for affirmative action through appropriate legislation.

[104] *2022 Ibrahim Index of African Governance – Index Report*, at https://mo.ibrahim.foundation/sites/default/files/2023-01/2022-index-report.pdf. See also Mo Ibrahim Foundation 2024 IIAG (2014-2023 Results), "Governance Profile: Namibia", at https://assets.iiag.online/2024/profiles/2024-IIAG-profile-na.pdf).

[105] Statistics Act No.9 of 2011 established the Namibia Statistics Agency as national data collecting & management agency.

The consensus regarding Agri-food Sector governance is that the sector does not suffer from a lack of policies, but rather it suffers from poor policy implementation and inadequate monitoring of this implementation. Some key contributing factors to this lack of (or poor) implementation are extended waiting periods for endorsement of policies by the Cabinet, poor public policy mobilisation and sensitisation, lack of resources for implementation and/or for monitoring, poor stakeholder coordination, lack of infrastructure (e.g. water infrastructure) and a shortage of human capacity.

This STAS therefore seeks to address the imperfections of a 'one-sided' government-driven implementation by adopting a more joint public-private coordination and implementation. The emerging policy consensus is that the public sector continues to have a role in providing an effective regulatory environment, public goods and infrastructure, but what has proven to work in recent years (as demonstrated by late-developed economies in East Asia and Rwanda in Africa) is the consultative and joint approach between the public and the private sectors. Dedicated support by the private sector to government efforts, such as in the form of providing additional resources towards provision of public infrastructure, is also helpful.

This pillar addresses the need for responsive institutions and up-to-date regulatory frameworks and policies, and as such contributes directly to the NDP pillar on good governance. The intervention areas and activities described on the following pages aim to achieve the following objective and outcomes:

Objective: Good sector governance attracts increased private investments, resulting in equitable growth.

Outcomes: The public and private sectors take on clear and complementary roles and responsibilities.
Public spending to the sector is sufficient and of high quality.
Public institutions are capable and respond effectively to sector needs.
Private investment to the sector increases over time.

4.1 Policy and regulatory framework

Fast-track the review and formulation of regulatory instruments.
Namibia in general has good regulatory instruments (policies, acts, bills, strategies and regulations), but several are outdated and need revising. Policy formulation and the development of regulatory frameworks derived from these is a revolving process that is dependent on the changing environment and circumstances. There is a need to fast-track the review of old policies (such as the 1969 Soil Conservation Act) and/or the formulation of new regulatory instruments.

Develop the Food Safety Act and ensure enforcement of food safety standards.
Food safety standards applicable in Namibia must ensure that no food that is dangerous to health and/or unfit for consumption may be placed on the market or offered for consumption.[106] Food safety standards and regulations are a multi-stakeholder responsibility that cuts across the entire food system (production, storage, distribution and aggregation, processing, packaging, marketing, purchasing, preparation, consumption and waste disposal). According to the Namibia Food Safety Policy of 2014, to ensure that food

[106] Namibia Food Safety Policy (2014).

and nutrition security is not compromised, the Food Safety Act should be enacted, and existing food safety standards regulations enforced along the system. This includes the adherence to food safety standards at farm level and during processing, packaging, storage and distribution.

Lobby for approval of the 2023 Regenerative Livestock Production Policy & Strategy.
The National Rangeland Management Policy & Strategy (NRMPS) was approved by Cabinet in 2012. The policy and strategy were reviewed in 2019, resulting in the presentation of the National Regenerative Livestock Production Policy & Strategy of 2023. This reviewed 2023 NRMPS now has to be approved as a matter of urgency, so that implementation can start.

Roll out implementation of the Namibia Rangeland Early Warning System.
The Namibia Rangeland Early Warning System (NREWS) was developed some years ago to support farmers in comparing the vegetation response of the current growing season with the long-term average response for the same place and the same time. It also provides guidance on available forage at the end of the rain season, to help farmers to predict how many animals can be kept on a unit of land during the dry season, and for how long. Unfortunately, to date, the NREWS is used by only a few commercial farmers, some communal conservancies and some community forests. Given current climate change challenges, this system should be mainstreamed in agricultural extension and used widely. Its methods should be refined to improve accuracy, so as to contribute more significantly to reducing the risks of low rainfall and droughts for livestock farmers.

Provide for a Land User Association and a grazing association in the (new) Land Bill.
The regulation of the use of land in Namibia currently consists of two pieces of legislation: the Communal Land Reform Act and the Commercial Land Reform Act. The Government is in the process of merging these two land laws into a single Land Bill that will govern all land use across the country. Given the importance of community-based management of natural resources, it is proposed that the concept of a Land User Association be introduced in the new Land Bill, so that implementation of the Bill strengthens and empowers local communities in their responsible and sustainable use of local natural resources. In the same Land Bill, a provision should be included also for a Grazing Association, especially in the communal areas. At community level, the Grazing Association should work hand in hand with the already existing Water Point Associations, as the latter focus holistically on water for household consumption as well as on water for livestock production.

Review Namibia's Second National Biodiversity Strategy & Action Plan 2013-2022
Namibia became a party to the Convention on Biological Diversity (CBD) in 1993 and developed a National Biodiversity Strategy & Action Plan for the period 2013-2022. This strategy and action plan's vision is for *"Namibia's biodiversity to be healthy and resilient to threats, and for the conservation and sustainable use of biodiversity to be key drivers of poverty alleviation and equitable economic growth, particularly in rural areas"*. Desertification and drought are key drivers of biodiversity loss in Namibia. Unsustainable land management has led to bush encroachment by invader species, the disappearance of perennial grasses, the prevalence of bare soils, inhibition of nutrient cycling, water infiltration, seedling development and other essential ecological processes.[107] Good management practices, compatible with the ecosystem approach, such as planned grazing, conservation agriculture and community forestry, promote sustainable land management

[107] Namibia's Second National Biodiversity Strategy & Action Plan 2013-2022.

as well as soil fertility. Namibia's Second National Biodiversity Strategy & Action Plan 2013-2022 should be reviewed to assess the efficiency and effectiveness so far, and recommendations should be made as regards its continuation.[108]

4.2 Data collection and monitoring

Improve data collection, management and use.

Data availability is important for evidence-based decision-making. The Annual Agriculture Survey and the Namibia Census of Agriculture are two of the key exercises that produce data that informs planning and decision-making in the sector. Other data collection exercises by sector stakeholders are equally important. While the NSA[109] is mandated to collect, manage and disseminate national data, its ability to collect and disseminate timely data is constrained by resources. Therefore, stakeholder coordination is needed, especially in terms of (human and financial) resources to improve data collection, management and dissemination. In addition, the Agriculture Management Information System (AMIS) established by the MAWLR is a good initiative that needs to be strengthened, updated on a regular basis and made accessible to all stakeholders in the Agri-food Sector. This will improve timely, evidence-based decision-making.

Improve early-warning systems at different levels.

In recent years Namibia has become more vulnerable to climate change, with recurring droughts and floods, and the country is likely to experience more frequent climate change impacts in the future. Early-warning systems are in place, but not all agricultural sub-sectors and not all levels (national, regional, etc.) have access to timely information on climatic conditions. There is a need to improve early-warning systems at different levels. Ideally there should be a nationwide early-warning system, covering all relevant (sub) sectors at national, regional and sub-regional levels, with data produced in a timely manner and easily accessible to the public and decision-makers.

Develop a transparent and trustworthy database on land ownership.

Data on land and land ownership is fragmented, partly because of the different mandates of ministries, organisations and agencies. For example, the MAWLR and NAU each have a database on land ownership. Various government committees, such as those under the Ministry of Finance and the Office of the Prime Minister, collect data for their needs in separate databases. This leads to duplication, partly because different methodologies are used, resulting in different and inconsistent data sets. An assessment of the activities of different actors and the data they collect is recommended. An official institution, such as the NSA, should appoint technical agricultural staff to lead this process. Data relevant to a wider audience can then be compiled and updated in a single repository. This may take the form of a virtual 'gateway' to databases in different locations, but in any case, this pathway should make evidence more readily available and accessible for policy-making and programme implementation.

Update baseline data on water availability and use.

Demand for urban water use is increasing, reducing the availability of water for productive uses (e.g. crops and livestock). However, managing this balance is difficult because baseline data on water availability and

[108] Kwaambwa et al., "Options to improve soil fertility with national resources", 2017.

[109] The Statistics Act No. 9 of 2011 established the Namibia Statistics Agency (NSA) and pronounced its mandate.

water use are outdated. An update of this baseline is urgently needed as a basis for management decisions, such as reviewing the allocation of water between food and feed production.

4.3 Agriculture Services

Improve agriculture advisory services.

Agricultural extension services are provided mainly by the MAWLR and Agribank. Few other actors are involved in the provision of extension services, so farmers often compete for free services provided by the Government. With limited resources, the Government struggles to meet demand. There is therefore a need to mobilise additional resources to improve agricultural extension and attract agricultural service providers. In addition, Namibia is vast, and farms are scattered, making it difficult for extension workers to reach farmers, and expensive to provide agricultural extension services. However, there are alternative and cost-effective models for delivering extension services that Namibia can adopt or improve upon, such as the use of smart agriculture techniques, which include the use of drones for crop spraying as a cheap alternative to machine spraying. Other examples include Agribank's use of social media to disseminate information, virtual/digital extension using web-based applications and video clips, radio/TV extension (in all languages), mentoring of prospective farmers by successful farmers, reintroduction of study groups, compilation and dissemination of local study group results to other areas, promoting best-practice farmers and facilitating the upscaling of their practices, providing para-veterinary services where access to vets is limited, or even involving extension workers themselves in mentoring schemes and programmes at Agra, Meat Board and Agribank. The STAS should assess the feasibility of these options as a basis for transforming the current extension system into a modern and forward-looking agricultural extension service.

Increase investment in agricultural research and development (R&D).

Agricultural R&D is a backbone of innovation and development for the Agri-food Sector.[110] To transform the domestic Agri-food Sector to improve livelihoods, more should be invested in demand-driven agricultural R&D to enable the sector to meet future challenges and become competitive. This includes practice-oriented research such as drought-tolerant and drought-resistant varieties (of crops and livestock), irrigation technologies, artificial intelligence and digitalisation. Investment in such R&D of adapted and appropriate technologies should be encouraged. As agricultural research in Namibia is fragmented with limited coordination between public and private stakeholders, this activity requires joint coordination of resources and investments in R&D by both public and private stakeholders. Results-oriented coordination can enable stakeholders to pool resources towards a common goal, thereby enabling the sector to achieve more with available resources by minimising duplication and waste of (often scarce) resources.

Enhance animal health and animal traceability.

Namibia suffers from regular outbreaks of major economic (including zoonotic) diseases such as FMD, CBPP, avian influenza, rabies, anthrax and swine fever. Surveillance, control and prevention of animal diseases remain a core responsibility of MAWLR veterinarians and animal health technicians. Disease surveillance is supported by various branches of the Veterinary Laboratory, which test for major animal diseases. Private veterinarians complement disease surveillance. Animal disease surveillance relies on regular inspection

[110] Pardey et al., "Investments in and the Economic Returns to Agricultural and Food R&D Worldwide", 2014.

of livestock at herds, abattoirs, commercial farms and communal areas, and during import and export control procedures. While the Government is doing a commendable job in disease surveillance, control and prevention through its agricultural technicians and extension officers, there is a need for continued capacity-building of frontline workers providing animal health advice and vaccination. Disease surveillance, diagnosis, reporting, prevention and maintenance of veterinary and border fences should be continued and strengthened where necessary. The Namibia Livestock Identification and Traceability System (NamLITS) should be supported through the provision of vehicles, equipment and related materials. Where necessary, surveillance and traceability should be better coordinated to improve animal health status throughout the country.

Enhance digital transformation of the sector.

The Agri-food Sector is considered to have the highest level of risks of any sector, such as pest invasions, animal diseases and the effects of climate change. However, Artificial Intelligence (AI) offers a promising opportunity to transform the sector by helping to monitor and/or warn of the threats, thereby helping to better manage these risks. The use of AI technologies will reduce the overuse of water, pesticides and herbicides, maintain soil fertility and increase labour efficiency, thereby increasing farm productivity and improving the quality of crops. In addition, the use of automation technologies in agriculture, such as weeding systems using robots and drones, or soil water sensing methods, as well as the use of drones for spraying and crop monitoring, can improve agricultural efficiency, manage risks and increase yields. AI can also help to analyse changing market demand, facilitate genetic improvement, monitor soil health and optimise yields. The STAS should support the digital transformation in agriculture to enable improved farming practices with optimised input allocation and increased productivity.

Promote technology to increase market access.

The emerging trend in the global marketplace is that consumers are increasingly demanding traceability throughout the value chain and food process. Typically, consumers will scan the QR code on certain food products to choose between alternatives. It is predicted that in the near future, purchases in the Agri-food Sector will depend not only on the price and quality of the product, but also on where and how it was grown, transported and processed. Therefore, the STAS should identify and promote technologies that address this emerging trend in Namibia, especially for commercial products.

4.4 Infrastructure development

Construct necessary infrastructure to support agricultural growth.

Namibia generally has good infrastructure, with a few exceptions. For the Agri-food Sector to thrive, a number of infrastructures are required, such as transport (road, rail, airport and seaport), Information and Communication Technology (ICT), water, electricity, health (veterinary/phytosanitary), marketing and trade, and storage infrastructure. The construction of adequate feeder roads, especially in the NCA, is of paramount importance. There is a need for a comprehensive infrastructure inventory that addresses specific needs by sub-sector for both livestock and crop production to allow for an optimal productivity response. Such an inventory must support the master plan to address supply chain bottlenecks in production, processing, storage, marketing and logistics functions. A matrix of infrastructure, requirements and identified gaps should be provided by all stakeholders, such as the MAWLR, the private sector and communities.

Repurpose the use of existing infrastructure.

The Government has invested heavily in agricultural infrastructure, but some of the best infrastructure has either not been fully utilised since construction or has not been fully completed. There is therefore a need to maintain and, where necessary, improve (including repurposing) existing infrastructure such as abattoirs, meat processing plants and SME parks, green schemes and fresh produce centres. Under the STAS, an inventory and assessment should be made of the existence, status and use of current infrastructure, and recommendations made as to its potential for future use.

Increase national storage capacity for grain and horticultural products.

Local production of cereals such as maize and pearl millet is increasing and there is a need to adjust the national grain storage capacity to meet this growing production. On the other hand, the country usually experiences seasonal overproduction of vegetables such as onion, butternut, cabbage and watermelon. Therefore, there is a need to establish national cold-storage facilities to ensure that such products are stored to maintain quality, and that they are made available to the market at the time of need, as this will also contribute to food security in the country.

4.5 Institutional arrangements

Introduce a new function under the DAPEES[111] to register backyard/home gardens in rural, urban and peri-urban areas.

The frequent increase in climate variability in Namibia poses a risk to the country's food security in rural, peri-urban and urban areas. Under Pillar 2 of this sector strategy, it is proposed that there is a need to sensitise communities on the importance of backyard/home gardens to increase food availability throughout the year and food security even during periods of low or no rainfall. To ensure that this initiative is successful and achieves its intended objectives, it is necessary to establish a register of all backyard/home gardens across the country. The registry is necessary to provide tailored support where needed, to monitor the food and nutrition security situation in the country (and share success stories publicly), and for reporting purposes towards regional and continental agricultural commitments. The MAWLR can manage this registry through extension offices and/or regional council offices throughout the country, so that data can be fed back to headquarters for decision-making.

Promote agricultural technical and vocational training.

The Namibia Training Authority (NTA) is mandated by the Vocational Education and Training Act, 2008 (Act No. 1 of 2008) to regulate the pre-funding of vocational and technical education in Namibia. Agricultural vocational and technical education is still relatively small, with the University of Namibia (UNAM) being the largest provider of agricultural technical education through its Ogongo and Neudamm campuses. Apart from UNAM, the very few private institutions offering agricultural education and training include, among others, the Agra Agricultural Academy for Namibia, David Loopa Agricultural College, Roots Agricultural College, Shalom Vocational Training Centre and DAPP Vocational Training School. The STAS will support a sensitisation of the public on the importance of agricultural education and training, and will support the provision of such education and training in the country.

[111] Directorate of Agricultural Production, Extension and Engineering, MAWLR.

Increase the budgetary resources allocation to the Agri-food Sector.

In the AU Malabo Declaration of 2014, the Government committed to increasing its public expenditure on the agriculture sector to 10%. By 2020, agriculture received about 6.8% of total public expenditure, and in 2023/24 the MAWLR was allocated 0.3% of the public budget. When combined with other allocations to the Agri-food Sector, the total allocation is still below the 10% proposed in the Malabo Declaration. In order to build a strong foundation for sustainable agriculture and achieve food security and sufficiency for Namibians, it is necessary to ensure that sufficient resources are mobilised for the sector, and efforts towards this, such as an Agriculture Expenditure Review, are supported by the STAS.

Implement Namibia's Decentralisation Policy.

Namibia's Decentralisation Policy (1997) aimed at bringing public services closer to the people and increasing the democratic participation of the general public in economic affairs. Since 1997, commendable efforts have been made towards decentralisation, although the process has encountered various challenges that have hindered full implementation of the provisions as outlined in the Decentralisation Policy. In order to accelerate the delivery of services to communities, especially at the grassroots level, it is necessary to mobilise the necessary resources to enable the decentralisation of public services in the Agri-food Sector in accordance with the provisions of the Decentralisation Policy.

8

IMPLEMENTATION AND COORDINATION ARRANGEMENTS

Agricultural development can be achieved when public spending leverages private investment, depending on the effectiveness with which public and private sector investments complement each other and the extent to which the roles of government and non-state actors are balanced. The STAS builds on these intentions by institutionalising cooperation between public and private actors, from the planning stage through implementation to monitoring and reporting. In addition, implementation requires an optimal division of responsibilities between central and local levels. Active coordination between all stakeholders is therefore crucial for the successful implementation of the STAS. Stakeholder coordination will reduce the fragmentation of efforts in the sector and make it more feasible to achieve cumulative impacts towards complex agricultural goals.

The MAWLR is the custodian of this plan, but not all public expenditure or government policies are implemented by the MAWLR, as other ministries also play an important role in creating the conditions for agricultural growth and development. Inter-ministerial coordination is thus an important, integral element of the implementation and coordination arrangements of the STAS.

This chapter outlines the basic components of the STAS implementation and coordination arrangements, and describes the platforms that will anchor and guide the implementation process. The exact architecture, in terms of number, structure and composition of these platforms, will be elaborated in a stakeholder workshop that follows the launch of this STAS.

The STAS will be fully aligned to the NDP planning cycle. NDP5 was extended by two years (to end in March 2025), and NDP6 will cover financial years 2025/26 to 2029/2030. The STAS will be launched at the end of 2024, with implementation starting in the 2025 financial year, so from NDP6 forward, the STAS and the NDP cycles will be configured to run concurrently.

8.1 Agri-food Sector Working Group and Technical Working Groups

Most countries implementing a National Agricultural Investment Plan (NAIP) have established an Agricultural Sector Working Group. Agricultural Sector Working Groups have proven to be an effective means for non-state actors to participate in decision-making, leading to more effective and efficient agricultural development. In Namibia, given the scope of the STAS, the full name of this group would be the Agri-food

Sector Working Group (ASWG). The Namibian ASWG functions as a public-private platform responsible for the overall implementation of the STAS, and would be the main platform for interaction between agricultural stakeholders. In order to fulfil this role, the ASWG should be the principal coordination mechanism and should meet at least once per quarter and up to once a month. The ASWG is usually co-chaired by the two parties most responsible for investment in the sector. In Namibia, this means that it should be co-chaired by the MAWLR (representing government) and farmer organisations (representing the private sector).

The ASWG appoints Technical Working Groups (TWGs) to address thematic issues. TWGs are task-oriented, time-bound, results-oriented working groups with clear terms of reference and an appropriate stakeholder composition, which should always include private sector representatives. The STAS, as a multi-annual strategy, outlines broad directions under key areas of intervention that reflect stakeholder priorities. The exact steps and individual activities required to achieve the objectives under the intervention areas cannot be detailed in this overarching document. This is where the TWGs come in, as they are composed of experts in a particular field, drawn from the public and private sectors (potential members being academia, NGOs and development partners, based on interest or expertise). The TWGs report and provide regular updates to the ASWG and serve as a valuable source of information in ASWG meetings where progress and potential challenges are discussed.

In determining the number of TWGs and the scope and size of each one, it is recommended that existing coordination structures be taken into account. The MAWLR has technical departments, the commodity boards have specialist platforms, and national farmer unions have commodity associations. Thematic TWGs can be set up that build on these existing sub-structures. A system whereby cross-cutting TWGs (on gender, skills and youth) have focal persons in other TWGs may be considered, to ensure that cross-cutting concerns are mainstreamed. The composition and mandate of each TWG will be decided by the ASWG. As is the case for the ASWG, the TWGs should be co-chaired by the government and the private sector, and members can come from main actors of the intervention area.

The ASWG is also responsible for monitoring the implementation of the STAS, and coordinates evaluation missions. TWGs are an important source of information during monitoring and evaluation, and can assist in the data collection for reporting on achievements towards national and international objectives, such as the NDP, the Biennial Review under the CAADP or the UN Sustainable Development Goals. On the basis of these monitoring reports, the ASWG can decide on course corrections, mobilise (development) funds or invite expertise to ensure that the momentum of implementation is maintained. It is essential that the ASWG has its own dedicated Secretariat to facilitate the organisation, administration and documentation of meetings.

8.2 Roles of central government and regional governments

Central government plays a crucial enabling role, providing guidance through policy formulation, legislation and regulation. Inter-ministerial coordination takes place at the level of the NDP, mostly at the planning stage. The STAS itself provides an additional coordination tool by elaborating NDP objectives at the level of the Agri-food Sector. Ministerial medium-term strategic plans and annual work plans and budgets are already aligned with the NDP, and since the STAS represents the agricultural chapter of the NDP, plans at the level of

the different ministries should also be aligned with the STAS as far as the agriculture-relevant component of these ministerial plans is concerned. This should facilitate and be the basis for inter-ministerial coordination.

With regard to decentralisation, Namibia has adopted two approaches. The first is devolution, whereby central government delegates certain functions to sub-national levels for implementation, while retaining overall accountability and the right to withdraw these functions at any time. This is usually done through the Executive rather than the Legislature. Second, devolution involves the central State, through either legislation or constitutional provisions, with the sub-national level assuming full responsibility and public accountability for certain functions. However, it appears that the structure of central government technical departments hinders cross-sectoral cooperation, which is a prerequisite for effective implementation in the Agri-food Sector. It is therefore essential that the relevant ministries exercise the relevant decentralised functions, through either de-concentration or delegation. It is recommended that regions be involved in the ASWG and its TWGs, and actively participate in evaluation activities such as joint sector reviews.

8.3 The STAS Implementation Action Plan

The STAS Implementation Action Plan sets out the operational framework for the Agri-food Sector. It also provides details on costs, baselines and annual targets. The Implementation Action Plan provides the basis for achieving the strategic objectives of the STAS within each pillar. Implementation of the STAS will be effected through public expenditure as well as private investment. The financial implications of the STAS will be calculated using data from comparable interventions and based on market estimates. The STAS budget will reflect all public expenditure, from government and development partners. Under the STAS, the Government will improve the investment climate and enabling environment for private sector activity, thereby leveraging private investment for implementation. Trends in private investment will be assessed and monitored,[112] whereby increased private investment in the Agri-food Sector can be regarded as an indication of the success of the STAS.

[112] This will be done in cooperation with, for example, the Namibia Investment Promotion and Development Board (NIPDB).

9

MONITORING AND ACCOUNTABILITY

To achieve the STAS objectives, a comprehensive and coordinated approach to sector development is required. This approach should be based on good governance, accountability, evidence-based decision-making and transparency by all stakeholders in the Agri-food Sector, including government and non-government actors. This helps to ensure that the desired results are achieved, transforming the sector for prosperity and improved livelihoods. Improved coordination between actors in the sector is needed, and data collection and analysis have to be harmonised.[113] The STAS monitoring and evaluation (M&E) addresses the Malabo Declaration commitment of "Mutual Accountability to Actions and Results".

9.1 The STAS Strategic Result Framework

The M&E of the STAS is based on the Namibia Integrated National Performance Framework of 2016, developed by the National Planning Commission. The STAS employs two distinct M&E approaches.

The first is an implementation-focused M&E, which tracks activities, targets and resources, based on the STAS Implementation Action Plan (IAP). Reporting on the progress of implementation of the STAS should be done on a quarterly basis, by actors highlighted in the IAP. Indicators will be monitored at an operational level, as outlined in the IAP. The IAP also specifies the roles and responsibilities of the relevant institutions, which are required to provide updates on the specified indicators.

The second M&E approach focuses on the overall STAS Strategic Result Framework (SRF),[114] which focuses on outcomes and impacts. The SRF has been designed to monitor and evaluate the transformation taking place within the sector. Reporting on the SRF should be done biannually and is the responsibility of the Directorate of Planning and Business Development of the MAWLR. Reporting on the SRF is aligned with the reporting framework of the NDP (based on the Integrated National Performance Framework).

9.2 MoU between partners in the Agri-food Sector

Once the STAS Implementation Action Plan has been validated, a Memorandum of Understanding (MoU) should be drawn up, setting out the commitment of all relevant stakeholders in the sector to unite behind

[113] This section invokes many lessons from Rwanda's NAIP, currently in its fourth cycle. Called the "Strategic Plan for Agriculture Transformation (PSTA-4) 2018-2024", this Rwandan plan has a well-developed tried-and-tested monitoring set-up.

[114] The STAS SRF is under preparation, and a final version will be produced as part of a stakeholder workshop on implementation and coordination arrangements following the STAS launch.

the plan. It is recommended that the signatories to this MoU include relevant offices, ministries and agencies (OMAs), farmer organisations and development partners. As the STAS is a joint public-private venture, the stakeholders need to focus on delivering results.

The Government needs to ensure that an enabling environment is created in terms of policy development, provision of public goods, and all necessary supporting infrastructure, such as telecommunications and access to roads. On the other hand, the private sector needs to invest in production, marketing, processing, logistics, etc. Such an MoU assures that the STAS can truly be used as a coordination instrument, and it significantly increases the chances of successful implementation.[115]

9.3 Agriculture Public Expenditure Review

The STAS calls for an Agriculture Public Expenditure Review (AgPER). This is a globally recognised standard methodology for analysing expenditure within the agricultural sector. It is sector-wide, not limited to a certain ministry. In general, the AgPER is based on the UN Classification of Functions of Government (COFOG), which defines agriculture to include crops, livestock, fishing, forestry, water-for-production, and issues related to agricultural land. The scope of an AgPER has to be agreed upon with the Government. There are internationally developed toolkits available to assist with this exercise,[116] and a guideline on the domestication of the Malabo Declaration[117] has more information on the use of the AgPER in the context of the Comprehensive Africa Agriculture Development Programme (CAADP) implementation.

9.4 The Joint Sector Review

A Joint Sector Review (JSR) is a standardised monitoring platform used in many of the countries that have a National Agricultural Investment Plan (NAIP). Its effectiveness has been sufficiently demonstrated to recommend its implementation in Namibia.

The JSR is an annual review of the agricultural sector carried out jointly by relevant parties, including government, the private sector, commercial stakeholders and development partners, all in accordance with the agreed strategy. The Agriculture Sector Working Group coordinates the JSR, acting as the lead actor responsible for the terms of reference and supporting the team of experts conducting the review. The JSR results are published and, in some countries, widely publicised to ensure transparency and accountability.

The JSR plays a crucial role in results-oriented monitoring, evaluation and coordination of the STAS implementation. These reviews should be synchronised with Strategic Results Framework reporting to allow for better integration and analysis of data. Although the initial investment in the JSR process is significant, it will become more routine as the format remains consistent. The experts conducting the JSR will report to the Agri-food Sector Working Group, and recommendations are discussed and acted upon within this platform.

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[115] Memorandums of Understanding of this kind have proven to strengthen accountability in the sector.

[116] The World Bank has developed an AgPER toolkit – https://openknowledge.worldbank.org/handle/10986/2822.

[117] "Knowledge Compendium on the Domestication of Malabo" – https://www.nepad.org/publication/knowledge-compendium-domestication-of-malabo-declaration.

9.5 Monitoring and reporting responsibilities

The analysis of the Agri-food Sector identified the lack of data as a major constraint to development. While the collection of baseline data is time-consuming, it is imperative that this situation be rectified without delay to ensure that progress on key performance indicators can be tracked. It is therefore evident that several activities identified by stakeholders as priorities within this sector strategy are related to data collection and mapping.

As the first medium-term sector strategy for the Agri-food Sector, it is incumbent upon this strategy to lay the foundations for a robust Management Information System (MIS) that will serve as the cornerstone for effective monitoring and evaluation (M&E).

The responsibility for reporting on this plan lies with all relevant parties as outlined in the Implementation Action Plan. MAWLR, through the Directorate of Planning and Business Development, will ensure that all parties comply with the reporting deadlines set out in this plan. The Directorate will also be responsible for reporting on the strategic results framework, including high level outcomes and impacts.

10

RISK ASSESSMENT

It would be wrong to assume that the Agri-food Sector or the successful implementation of this STAS plan is risk free. It is therefore essential to manage the potential risks identified, assess their impact and implement appropriate response measures to achieve the objectives of the STAS. In order to ensure comprehensive risk management, risks and corresponding response measures have been identified, as set out below. This risk assessment will be elaborated, for the national and regional levels, with stakeholders during the workshop on implementation and coordination arrangements that follows the STAS launch. It will then be adopted as a management information tool, and annual progress reports should include a backward analysis (did risks materialise and were responses adequate in mitigating these?) and a forward analysis (which, potentially new, risks are expected for the next financial year?).

Risk	Repercussion	Response
The agriculture sector is hit by crises, such as droughts, floods or pandemics.	Resources meant for the STAS implementation are diverted to emergency responses.	Ensure sufficient (ring-fenced) budgetary resources for unforeseen events.
Ageing population involved in agricultural activities	This might result in low productivity in the sector.	Attract youth into agriculture through modernisation.
Limited ownership and commitment at management levels, lack of resource mobilisation, limited funds, ineffective support, and inefficient facilities	The objectives of the STAS are not (fully) achieved, and the needs of the Agri-food Sector are not (sufficiently) met.	Effective leadership and governance must be ensured at sector level to overcome hindrances to transformation of the Agri-food Sector.
The STAS relies on regional- and local-level participation, so the absence or ineffectiveness of regional- and local-level coordination mechanisms hinders implementation.	Absence of implementation, or implementation in silos, leading to a duplication of efforts and a waste of resources	Establishment and effective functioning of the Agri-food Sector Working Group (and its affiliated Technical Working Groups) as a central coordinating mechanism
Organisational and coordination constraints leading to responses to challenges that are not comprehensive and inclusive of all key stakeholders	Opportunities and momentum for change are not capitalised upon, and the full potential of the STAS is not realised.	Continued and transparent (upstream and downstream) communication with relevant stakeholders based on a thorough knowledge of sector actors
The STAS implementation mechanisms proposed rely on the current institutional setup while insufficient consideration is given to the need for transformative management arrangements.	Progress and impact with regard to the transformation of the Agri-food Sector are constrained and not realised, or are only partially realised.	Establishment and effective functioning of a public-private 'management-for-transformation' mode of operation. This may include retaining/expanding the current STAS Task Force, possibly supported by external financial and/or technical assistance.

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ANNEX

REGIONAL PRIORITIES IN THE AGRI-FOOD SECTOR

Comparative Advantages	Regions														
	Omusati	Oshana	Ohangwena	Oshikoto communal	Kavango West	Kavango East	Zambezi	Otjozondjupa	Oshikoto commercial	Omaheke	Khomas	Kunene	Erongo	Hardap	||Kharas
Zoning to enable cross-border trade (Ndiyona to Impalila)							x								
Large-scale production of agronomic crops (sunflower, wheat, pearl millet, maize, rice, sorghum)	x				x	x	x								
Promote private investment of locals in Green Schemes	x			x	x	x	x		x						
Fruit production				x	x	x	x	x						x	x
Promote PPP investment in Green Schemes	x			x	x	x	x								
Invest in local fortification and fortification inputs	x			x		x	x				x			x	
Review the Hardap Scheme model														x	
Open up for Hardap Dam downstream gardening activities														x	
Neckartal Dam development PPP															x
Revive the function of the breeding stations														x	x
Rehabilitate/improve communal facilities, i.e. *mangas*, for animal handling														x	x
Increase subsidised inputs for agronomy and horticulture farming	x			x	x	x	x		x					x	x
Investment in alternative feed supplies for layers														x	x
Investment in farm-level or Green Scheme post-harvest processing facilities	x				x	x	x		x						
Consider bulk production subsidies to lower input cost for production	x				x	x	x		x						
Certification of trainings and ensure recognition of prior learning								x	x	x	x	x	x	x	x
Transboundary water uses, e.g. Orange River basin, land ownership, joint agreements (national level)															x
Incentives for efficient water irrigation (integrated farming systems)	x				x	x	x		x					x	x
Investment in low-cost innovation (Bethanie)															x
Development of the Ohangwena aquifer			x												
Bush biomass industry								x	x						
Investment in value-addition/processing equipment at Fresh Hubs		x													
Urban agriculture (backyard gardening)	x	x				x	x	x	x		x				
Promote pig production														x	
Promote local production of feed for pigs and chicken														x	
Promote bush to feed								x	x			x	x		
PPP Green Scheme (Khowarib, Fransfontein, Kunene River, Otjinungua, Sesfontein)												x			
Convert all dormant research stations to ATVET and introduce relevant technical agriculture courses/fields of study in addition to existing courses	x			x			x							x	
Reintroduce indigenous breeds	x	x	x	x								x	x		
Channelling of water from perennial rivers	x				x	x	x					x			x
Promote small-scale irrigation along Kunene River												x			
Blending and purifying inland water for human consumption												x			
Investment in agronomy and horticulture production, and encourage succession production	x				x	x	x		x					x	x
Promote local chicken feed production	x				x	x	x								
Foster PPP, e.g. Kaap Agric, Agra to help transfer skills				x	x	x	x	x	x	x					
Investment in renewable energy systems (solar and wind)	x				x	x	x		x					x	x
Investment in proper food sanitary and phytosanitary (labelling, inspection, sampling and testing, health-related labelling)	x			x		x	x				x				

Food and Agriculture Organization of the United Nations

SUSTAINABLE DEVELOPMENT GOALS

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Strategy for the Transformation of the Agri-Food Sector

2025/26 – 2030/31

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