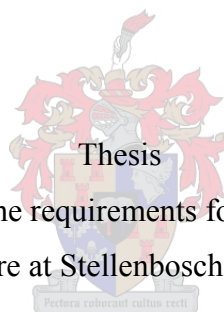


**THE DEVELOPMENT OF THE HORTICULTURAL INDUSTRY IN NAMIBIA:
AN ASSESSMENT OF THE DETERMINANTS OF THE GLOBAL MARKET
COMPETITIVENESS OF TABLE GRAPE PRODUCTION**

BENISIU THOMAS



Thesis

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Promoter: Professor Nick Vink

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DECLARATION

I, the undersigned, hereby declare that the work contained in this thesis is my own original work and that I have not previously, in its entirety or in part, submitted it at any university for a degree.

Signature_____

Date_____

ABSTRACT

The declaration of Namibia's independence from South Africa in 1990 has seen the Namibian government aim to plan and implement development programmes that enhance a growing agricultural sector. The new government is facing challenges regarding the addressing of inequalities of income and the allocation and distribution of resources, which have resulted in implementation of the land reform programmes. On the international front, Namibia is a member country of various trade arrangements, such as the WTO, the SADC and SACU. The main driving force behind Namibia's joining the international communities chiefly has been market access and trade policy reforms. The country's agricultural sector, in particular the horticultural industry, in regards to table grape production, has been significantly affected by both domestic and regional policies, as well as by the WTO rules.

The aim of this study is to determine the environmental factors that create a competitive advantage for the Namibian table grape industry in the international market. A detailed supply-chain analysis, augmented by Porter's 'diamond' model, is used in this study to assess the determinants of the competitiveness of fresh table grapes. Interviews were conducted in informal, semi-structured questions. The questionnaires were mailed to several producers within the table grape-growing industry. Secondary information was obtained from reports, articles and research publications, among other sources. An expert assessment was used to verify information based on the reference methods. Consultations took place in the form of office visits and, in some cases, telephone interviews were held with different experts.

The finding of the study shows that Namibia can supply the European markets during the northern hemisphere off-season with quality fresh table grapes. However, industry growth in the European Union (EU) market is constrained by limited free import quotas and high tariffs, specifically as regards seeded fresh table grapes, which are not exempt from such duties. Such constraints are in place despite Namibia's meeting of international set quality standards, such as EUREPGAP.

Moreover, there is potential for increasing supplies to the regional and Asian markets as well as the US market albeit to the lesser extent.

Finally, Namibian fresh table grapes profitability is significantly affected by the high production and transaction costs incurred, as well as by the decline in business and the

depreciation of the US Dollar against the Namibian Dollar. The study makes the general recommendation that producers should significantly reduce their transaction costs within the chain, by means of vertical co-ordination and integration.

OPSOMMING

Met die verklaring van Namibië se onafhanklikheid van Suid-Afrika in 1990 het die Namibiese regering hulle dit ten doel gestel om ontwikkelingsprogramme te beplan en in werking te stel ten einde daardie land se groeiende landbousektor te versterk. Die nuwe regering moet tans uitdagings met betrekking tot inkomsteongelykhede en die toekenning en verspreiding van hulpbronne die hoof bied wat tot die inwerkingstelling van grondhervormingsprogramme aanleiding gegee het. Internasionaal is Namibië 'n lidland van verskeie handelsreëlings soos die Wêreldhandelsorganisasie (WHO), die Suider-Afrikaanse Ontwikkelingsgemeenskap (SAOG) en die Suider-Afrikaanse Doeane-unie (SADU). Die twee hoof faktore wat daartoe gelei het dat Namibië hom by die internasionale gemeenskappe skaar, is marktoegang en handelsbeleidhervormings. Die land se landbousektor, in besonder die tuinboukundige bedryf met die klem op tafeldruifproduksie, is aansienlik deur binnelandse en streeksbeleid asook deur die WHO-reëls geraak.

Die doel van hierdie studie is om die omgewingsfaktore te bepaal wat in die internasionale mark aan die Namibiese tafeldruifbedryf 'n mededingende voordeel gee. Derhalwe gebruik die navorser 'n gedetailleerde aanvoerkettingontleding, ondersteun deur Porter se “diamantmodel”, om die beslissende faktore vir die mededingendheid van vars tafeldruiwe te evalueer. Onderhoude is met behulp van informele, semigestruktureerde vrae gevoer. Die vraelyste is aan verskeie produsente op die gebied van tafeldruifboerdery gepos. Sekondêre inligting is ook onder andere uit verslae, artikels en navorsingspublikasies verkry. Met behulp van 'n kundige evaluering is inligting op grond van die verwysingsmetodes geverifieer. Oorlegpleging met verskeie kundiges het in die vorm van kantoorbesoeke en in sommige gevalle deur middel van telefoononderhoude plaasgevind.

Die studiebevinding toon dat Namibië die Europese markte gedurende die noordelike halfroend se tussenseisoen van gehalte- vars tafeldruiwe kan voorsien. Die uitbreiding van die bedryf in die Europese Unie (EU-) mark word egter deur beperkte gratis invoerkwotas en hoë tariewe aan bande gelê, in besonder met betrekking tot pitlose, vars tafeldruiwe wat nie van invoerbelasting vrygestel is nie. Hierdie beperkinge word opgelê ten spyte daarvan dat Namibië aan vasgestelde internasionale gehaltestandaarde soos EUREPGAP voldoen.

Die moontlikheid bestaan boonop om lewering aan die streeks- en Asiatiese markte asook die VS-mark te verhoog, hoewel in 'n mindere mate.

Laastens word die winsgewendheid van Namibiese vars tafeldruiwe beduidend deur hoë produksie- en transaksiekoste, asook deur die afname in sake en die waardevermindering van die Amerikaanse teenoor die Namibiese dollar geraak. Die studie maak die algemene aanbeveling dat produsente hulle transaksiekoste binne die ketting aansienlik met behulp van vertikale koördinerings en integrasie moet verminder.

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS

ACP	African, Caribbean and Pacific
AGOA	African Growth and Opportunities Act
BEE	Black economic empowerment
B2B	business-to-business
CAC	Codex Alimentarius Commission
Decosa	Development Consultancy for Southern Africa
EC	European Commission
EPA	Economic Partnership Agreement
ESA	Eastern and Southern Africa
EU	European Union
EU-RSA FTA	European Union-South Africa Free Trade Agreement
FAO	Food and Agriculture Organisation
GAP	good agricultural practices
GATT	General Agreement on Tariffs and Trade
GDP	gross domestic product
GMO	genetically modified organic
GMP	good manufacturing practices
GSP	Generalised System of Preferences
HACCP	Hazard Analysis Critical Control Point
H-O theory	Heckscher-Ohlin theory
MAP	Market Access Program
MAWF	Ministry of Agriculture, Water and Forestry
MAWRD	Ministry of Agriculture, Water and Rural Development
MPP	Market Promotion Program
MRL	maximum residue limit
NAB	Namibian Agronomic Board
NAFTA	North American Free Trade Agreement
NAP	National Agricultural Policy
NASA	National Aeronautics and Space Administration
NCA	Northern Communal Area
NDP	National Development Plan
NGO	Non-governmental organisation
NHDI	National Horticulture Development Initiative
NHTT	National Horticulture Task Team
PPECB	Perishable Products Exports Control Board
RSA	Republic of South Africa
SACU	Southern African Customs Union
SADC	Southern African Development Community
SATI	South African Table Grapes Industry
SCM	Supply Chain Management
SPS	sanitary and phytosanitary
SWOT	strengths, weaknesses, opportunities and threats
TCA	Transaction Cost Analysis
TQM	Total Quality Management
USDA	United States Department of Agriculture
WTO	World Trade Organisation

CHAPTER ONE INTRODUCTION

The total Namibian table grape production has increased from 1 000 tonnes, from Aussenkehr's¹ first 150 hectares in 1991, to at least 12 000² tonnes, with a value of about N\$180 million (\$29 million) in 2003 (Hoffmann, n.d.³). Initially, the grapes were grown on one farm, Aussenkehr, in the south of the country, but the industry has since expanded in terms of the numbers of producers and the production areas. The purpose of this thesis is to establish whether there is an economic rationale to the industry, as regards the future expansion of table grape production in Namibia. To this end, this introductory chapter provides a more detailed description of the research problem that is to be addressed, as well as the motivation for such a study. Finally, section 1.6 provides an outline of the rest of the thesis.

1.1 Background

Namibia became independent from South Africa on 21 March 1990. Historically, Namibia is well-known for its large extractive mineral sector, commercial fishing industry, commercial livestock ranching, and nature-based tourism industry. Agriculture contributes little to the national economy, even though the sector is the largest employer, employing about 70 per cent of the working population (Government of Namibia, NAP, 1995; PriceWaterhouseCoopers, 2005; Vigne & Whiteside, 1997). The majority of those employed in the agricultural sector are subsistence farmers either specialising in the rearing of livestock or in crop production (Government of Namibia, NAP, 1995).

Namibian agriculture is generally characterised by scarce productive land with fragile soils, which are subject to limited water resources, erratic rainfall and regular droughts. Crop production under rain-fed conditions is only possible in areas where the annual average rainfall is at least 400 mm (Government of Namibia, NAP, 1995). The production of crops is further limited by the scarcity of productive arable soil, with most of the soil types consisting mainly of clay. Another problem is that 83 per cent of the rainwater precipitated is estimated to be lost by means of evaporation and 14 per cent by means of transpiration, while 2 per cent runs off into rivers and dams and 1 per cent infiltrates the ground, where it is recharged as

¹ A farm near the Lower Orange River that currently produces the largest volume of Namibian table grapes.

² Compared to South Africa or Chile table grapes production of 12 000 tonnes is small (see section 3.4, in particular Figure 3.2). For the season 2004 to 2005 Namibia fresh table grapes exports was about 13 500 tonnes (Alexander, 2006 Personal communication).

³ Not dated

groundwater (Namibia, Department of Water Affairs, 1990; Vigne & Whiteside, 1997). Due to the poor rainfall, the country is largely reliant on its underground water.

Despite the fact that Namibia is bordered by perennial rivers, namely by the Kunene and Okavango Rivers in the north, the Zambezi River in the northeast and the Orange River to the south, the country faces an ongoing water shortage. Nevertheless, water from the rivers already mentioned is currently being used to irrigate domestic crops and horticultural production (IDC *et al.*, 2004: 6).

The agricultural sector is divided into two sub-sectors: commercial farming, in which farmers operate on freehold title deed land, and communal farming, in which farmers operate on land managed by means of the communal land tenure system. The communal farming areas directly support 95 per cent of the nation's farming population, though they only occupy 48 per cent (33.5 million hectares) of the aggregate agricultural land (Government of Namibia, NAP, 1995: 1). Farming in communal areas is characterised by subsistence rain-fed crops and common grazing for livestock, resulting in low levels of productivity, high variability of output from year to year, and household food insecurity, thus resulting in a high degree of poverty. On the other hand, the commercial farming sub-sector occupies approximately 36.2 million hectares of agricultural land, which is mainly used for extensive livestock ranching (Government of Namibia, NAP, 1995: 1). The government has implemented a willing-buyer, willing-seller policy, as well as an expropriation policy, in order to address land reform (NAU, 2005).

One of the specific objectives of the new government is to develop a viable horticultural industry that complies with international standards. Horticultural production and marketing initiatives are currently being developed and promoted in terms of the Government Green Scheme irrigation policy and the National Horticulture Development Initiative (NHDI) (NAB, 2005: 14).

Moreover, the available literature clearly indicates that most horticultural industry research is aimed at investigating the suitability of conditions for agronomic development and the returns that can be expected by emerging farmers in the Northern Communal Areas (NCAs): Helmsletter (1995); Hishekwa (1996); Sullivan (1996); Ly (1996); Pitois (1996); Vigne and Whiteside (1997); Acquah and Davis (1997); Von Back *et al.*, (1998); Government of Namibia, MAWRD Horticulture Project in the Kavango region (2000); Government of

Namibia, Green Scheme (n.d.). However, the most successful sector in the horticultural production development scenario so far appears to be that of the production of table grapes in southern Namibia.

Table grape production takes place on a large scale along the banks of the Orange River and on a smaller scale under research-based conditions alongside the Hardap and Naute Dams and among surrounding commercial farmers (Hoffmann, n.d.; Inambao, 2005; Kalili, 2000).

The domestic market for table grapes is limited. Traditionally, table grapes have been exported to Europe (Government of Namibia, MTI, 2004). Table grapes tend to reach the European markets between 1 November and 31 January (Hoffmann, 2003: 4). In 2004 at least 75 per cent of Namibian table grapes were exported to EU markets (Hoffmann, 2004: 2). The possible main table grape competitors, which are also traditional suppliers from the southern hemisphere to the European markets, are Chile, South Africa, Argentina and Brazil (TIPS, 2004).

1.2 The statement of the problem

Namibian agriculture usually contributes around 10 per cent to the GDP (PriceWaterhouseCoopers, 2005: 24). In 2005, the contribution of crops and horticultural products to the GDP was estimated to be 1.1 per cent (PriceWaterhouseCoopers, 2005: 10). In addition, agricultural growth until 2006 for agriculture and forestry products was expected to reach 5.1 per cent per annum, which is represented by an expected 6.1 per cent growth in commercial and a 4.1 per cent growth in the subsistence farming sectors (PriceWaterhouseCoopers, 2005: 10). Furthermore, since the advent of independence in 1990, the agriculture sector has constantly ranked third in terms of export earnings, being preceded only by the mining and fishing sectors in that order.

Moreover, Namibian horticultural producers are estimated to supply only 18 per cent of total domestic fruit and vegetables demand, while the remaining 82 per cent is supplied by imports, mainly from South Africa (IDC *et al.*, 2004: 6).

The question that needs to be addressed as the main purpose of this study is whether or not the Namibian horticultural industry, with specific emphasis on table grape production, has any competitive advantage in the international market.

According to Warr (1994), competitive advantage is based on whether a firm or sector can successfully compete in trade in a specific commodity in the international market, given the existing policies and economic structures available.

Porter (1990) identifies six broad criteria that promote the creation of competitive advantage in the environment in which firms compete: factor conditions; demand conditions; related and supporting industries; firm strategy, structure and rivalry; the role of chance events; and the role of government. Thus, the competitiveness of the agro-food and fibre industry in a developing country such as Namibia depends on a number of wide-ranging factors dependent on social, economic, political, technological and physical/biological environmental forces.

The management and co-ordination of the fresh-produce supply chain has become increasingly important in recent years, as companies have experienced a growing need to minimise distribution and inventory costs and to maximise market opportunities resulting from basic changes in consumer preferences and tastes. The paradigm of supply chain management (SCM) is that of a networking approach to chain optimisation, which serves to integrate the best of the value-creating competencies of all actors concerned (Wilson, 1996: 9). In this study a supply chain analysis that considers the level of transaction costs in the chain is used to assess the profitability in the table grape chain. In addition, the Porter's model is used to separately assess the determinants of the global market competitiveness of the Namibian table grape industry.

1.3 Need for the study

Since becoming a signatory of the General Agreement on Tariffs and Trade (GATT) in 1993, Namibia has become a member of the World Trade Organisation (WTO) subsequent to its creation after the signing of the Marrakech agreement in 1994. Thus, Namibia has committed itself to the directives of the WTO, meaning that Namibian producers have to compete in the global market. Furthermore, Namibia is also a member of SACU or SADC, and benefits from the Cotonou Agreement. Trade policy issues existing both within the regional and multilateral context therefore also have to be considered. The existing world trade regime, in terms of WTO rules and other regional agreements, such as the EU, NAFTA and bilateral agreements, is, however, not free (Vink *et al.*, 1998: 257).

In essence, a developing country such as Namibia will continue to be negatively affected both by export subsidies and non-tariff barriers exercised by developed economies. Developing

countries, including Namibia, therefore need to explore available opportunities and to promote the export of products, such as table grapes, in which they appear to have a comparative advantage. Such a shift in focus requires an understanding of the comparative and competitive advantage available to the agro-food industry. This study aims to identify environmental forces that will help to ensure that the Namibian horticultural industry (which specialises in the production of table grapes) remains a player in international markets by encouraging it to become competitive.

1.4 Objectives of the study

The broad objective of this study is to determine the competitiveness of the Namibian table grape industry within the regional and international markets.

The specific objectives of this study are as follows:

1. to determine the environmental forces and issues that make the growing of table grapes competitive in international markets; and
2. to reveal how current policies distort the industry environment and to recommend how the table grape industry should be developed in order to overcome any attendant obstacle.

1.5 Methodology

1.5.1 Data collection

Information regarding the history of the table grape industry was obtained from reports, articles and research publications, among other sources.

In order to establish the current competitiveness of the table grape industry, interviews were conducted with some of the producers and experts within the industry.

Interviews with table grape producers were conducted, making use of informal, semi-structured questions. The questionnaires were mailed to several producers within the table grape-growing industry. This method of data collection has the added advantage of facilitating the contacting of more table grape producers. However, given the small size of the Namibian table grape industry, only eight table grape producers were interviewed. Unfortunately, due to the nature of this type of research and the required information, only limited information was elicited from the participants. General farm managers acted as respondents.

Key informants and resource persons concerned, consisting of subject specialists within the industry, were extensively interviewed. In this way, expert opinion was gleaned on the potential offered by the horticultural industry in general and specifically in relation to the establishment of the competitiveness of the table grape-growing industry. Use of such a method has proved especially useful in the past when the historical data available appeared to be incapable of rendering reliable estimates. However, the method employed does suffer from the obvious disadvantage of not facilitating the sharing of knowledge and information among experts in the field of study concerned (Hardaker *et al.*, 1997: 68).

A disadvantage such as this can, however, be overcome by means of the nominal group approach (which makes use of a group of people brought together to consider certain pressing issues relating to the study) and the Delphi method (which makes use of a selected panel of experts, but which replaces the direct debate and possible confrontation involved in the previous approach, with a planned programme of sequential, individual interrogations usually conducted by means of a questionnaire) (Hardaker *et al.*, 1997: 68). In this study, expert opinion will be gleaned by way of collating the input of several experts in the field from individual consultations conducted with them, in order to support the secondary information obtained.

Finally, recommendations that ensure the development of Namibian's horticultural industry (that specialises in the production of table grapes) will be made on the basis of the findings of the study.

1.5.2 Delimitation of the study

This study aims to assess the competitiveness of the Namibian table grape-growing industry. A table grape supply chain will be analysed.

This study will neither attempt to predict the number of possibly successful horticultural producers in the future, nor is it aimed at determining or evaluating the relevant farmers' preparation and training. However, the study will cover the benefits and constraints faced by small-scale farming, large-scale farming and related table grape-growing projects.

Since the domestic market for table grapes is small, the main focus of this study will be on the assessment of the relevant export markets, given that the main export destinations of table grapes are currently Europe and South Africa.

1.6 Outline of the study

In Chapter Two, a background and overview of the Namibian horticultural sub-sector will be provided. Chapter Three will review the state of the table grape-growing industry worldwide. Chapter Four will provide an overview of the literature currently available on the theoretical approach to competitiveness, as well as insight into methodologies that are used to determine the competitive advantage of an industry. Chapter Five will give the results of the application of some of the methodologies to the Namibian table grape industry. Chapter Six will summarise the main findings of the study and make recommendations for further research within the Namibian table grape industry.

CHAPTER TWO

AN OVERVIEW OF NAMIBIA'S HORTICULTURAL SECTOR

2.1 Introduction

Since Namibia gained independence in 1990, scant research has been conducted into assessing, investigating or examining the competitiveness of the Namibian horticultural industry. The lack of research prevails, despite the fact that a number of horticultural projects have been implemented, largely in Northern Namibia, though particularly in the Kavango region (Government of Namibia, MAWRD Horticulture Project in Kavango region, 2000) and the Omusati region (Hishekwa, 1996), as well as partly in the southern regions of Hardap and Karas (Kalili, 2000). Some surveys, such as that of Foster (2001), have, nevertheless, been conducted preparatory to planning the implementation of basic standards for horticultural production in Namibia. As indicated in the introductory chapter, the most successful sector in the horticultural production development scenario so far appears to be that of the production of table grapes along the Orange River in southern Namibia.

Namibian table grapes have been produced for export to the relatively large European markets during the northern hemisphere off-season. The table grape industry is better adapted to the climatic conditions in the context of horticultural development along the Orange River. However, the prospects, at least for table grapes, depend on whether the industry has a competitive edge in the global market.

As indicated in the introductory chapter, the development of the horticultural sub-sector, in particular the table grape industry, depends on whether the sector has sufficient competitive advantage to compete successfully in the international market, given the existing policies and economic structures (Warr, 1994). Government, therefore, has the responsibility to implement policies as well as to develop infrastructures that allow the producers of table grapes to compete in the global market.

The production of, as well as marketing and trade in Namibian table grapes are discussed in the next chapter (Chapter Three). Chapter Two briefly discusses the production, as well as existing markets, of Namibian horticultural products, including table grapes. This chapter starts with a consideration of the current status of horticultural production and consumption in Namibia. After discussing Namibia's current status as regards its horticultural industry to

date, the chapter concludes with a description of the existing and potential markets for Namibian horticultural products, including table grapes.

2.2 The current status of horticultural production and consumption

The development of the Namibian horticultural sector relies strictly on irrigation. Although the country is generally described as the driest in the world, it is estimated that potentially about 43 500 hectares (Agritel, www.agritel.co.za; PriceWaterhouseCoopers, 2005: 10) of the underdeveloped land could, in fact, be irrigated by water obtained from the perennial rivers (Orange, Okavango and Zambezi rivers) that border the country, as well as from excess underground water that is available countrywide. Thus, effective irrigation facilities are required to increase domestic production and, ultimately, the consumption of fruit and vegetables by the population that currently stands at around 2 million. Appendix A3 illustrates the fruit and vegetable total yield estimates per region for 2005. Appendix A1 indicates fruit and vegetable total demand per region for 2005 (see also Appendix A2). The information in Figure 2.1 indicates some of the main irrigable horticultural production areas.

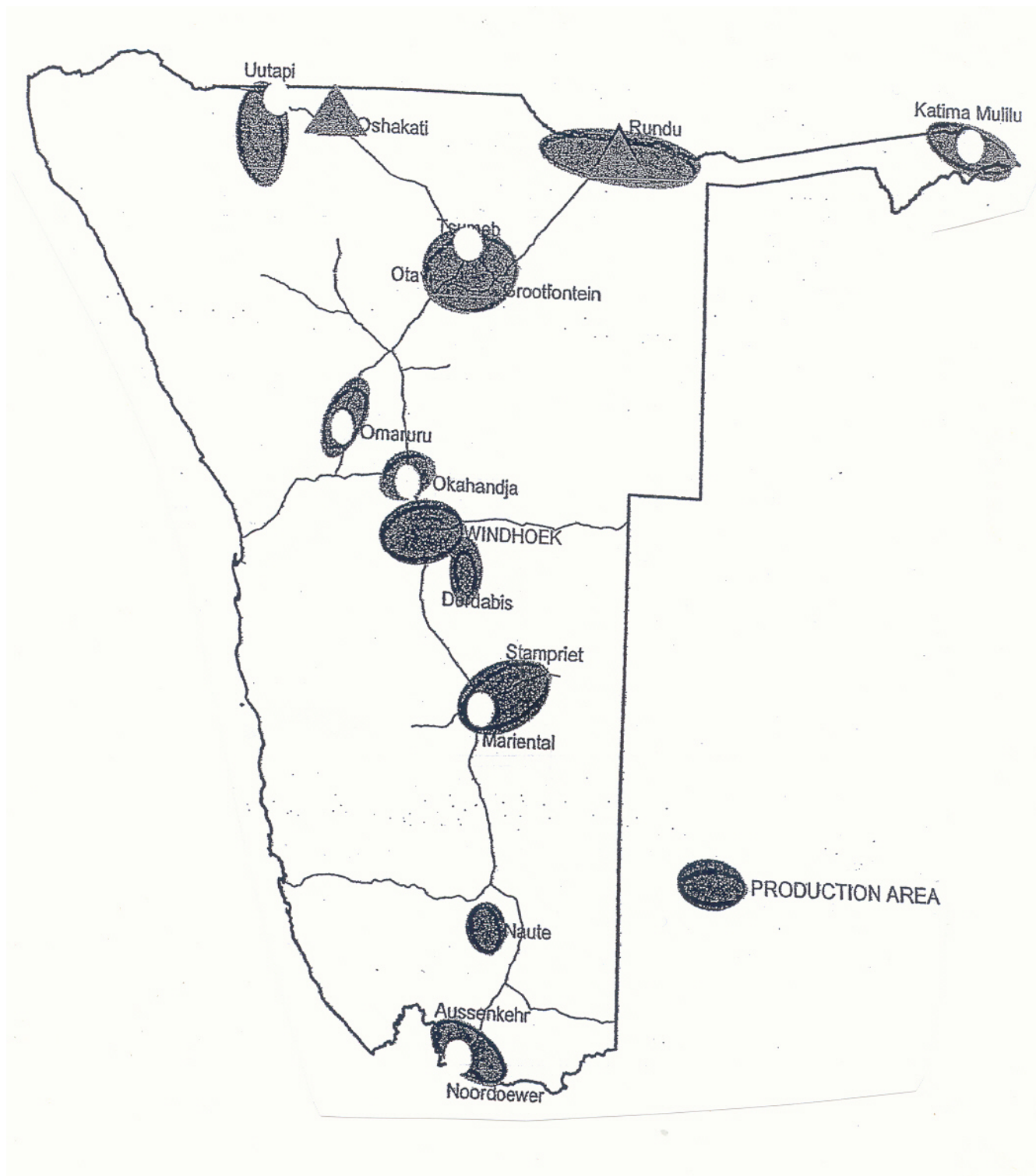


Figure 2.1 The horticultural production areas in Namibia

Source: IDC *et al.*, 2004: 36

The Ministry of Agriculture, Water and Rural Development study (MAWRD, 2000) estimated that Namibia consumes fresh products valued at around N\$200 million (93 000 tonnes) per annum, of which the largest percentage is imported from South Africa (IDC *et al.*, 2004: iv; Namibia Trade Directory, 2005: 90). South Africa currently supplies around 82 per cent of horticultural produce consumed in the country (IDC *et al.*, 2004: 6). The information in Table 2.1 indicates some of the horticultural produce imported and produced in Namibia. The data in Table 2.1 also illustrate the nature of fruit and vegetables that the Namibian horticultural producers are able to export, albeit to a lesser extent, such as onions, watermelons, cabbages, tomatoes and mangoes. In addition, the information in Figure 2.2 signifies that grapes had the highest export propensity.

Table 2.1 Some of the horticultural produce imported into and produced in Namibia

Product	Imports		Local production		Exports		
	Total Demand in tonnes	%share	Total yield	%share	Total expected export	%share	+ signifies a potential for exports
Potatoes	16 924	21.67	2 534	11.06	-14 390	-10.62	-
Onions	12 936	16.57	6 974	30.43	-5 962	13.86	+
Green mielies	12 287	15.73	1 299	5.67	-10 988	-10.07	-
Cabbages	6 659	8.53	2 891	12.61	-3 768	4.09	+
Tomatoes	6 094	7.80	2 646	11.54	-3 448	3.74	+
Oranges	3 745	4.80	1 007	4.39	-2 738	-0.40	-
Bananas	3 721	4.77	n/a	n/a	n/a	n/a	n/a
Carrots	3 011	3.86	845	3.69	-2 166	-0.17	-
Watermelons	2 320	2.97	2 067	9.02	-253	6.05	+
Table grapes	1 137	1.46	n/a	n/a	n/a	n/a	n/a
Pumpkins	1 102	1.41	455	1.99	-647	0.57	+
Butternuts	1 096	1.40	784	3.42	-312	2.02	+
Lemons	1 090	1.40	6	0.03	-1 084	-1.37	-
Lettuces	1 007	1.29	257	1.12	-750	-0.17	-
Mangoes	899	1.15	320	1.40	-579	0.24	+
Cucumbers	478	0.61	40	0.17	-438	-0.44	-
Avocados	242	0.31	n/a	n/a	n/a	n/a	n/a
Cauliflower	441	0.56	106	0.46	-335	-0.10	-
Beetroot	680	0.87	205	0.89	-475	0.02	+
Sweet potatoes	647	0.83	208	0.91	-439	0.08	+
Naartjies	547	0.70	45	0.20	-502	-0.50	-
Peppers	518	0.66	84	0.37	-434	-0.30	-
Gem squash	508	0.65	147	0.64	-361	-0.01	-
Total	78 089	100.00	22 920	100.00	-55 169		

Source: PriceWaterhouseCoopers, 2005: 13. Note: The figures for table grape production for the local market were unavailable at the time of compilation of this thesis. Note: n/a signifies not available

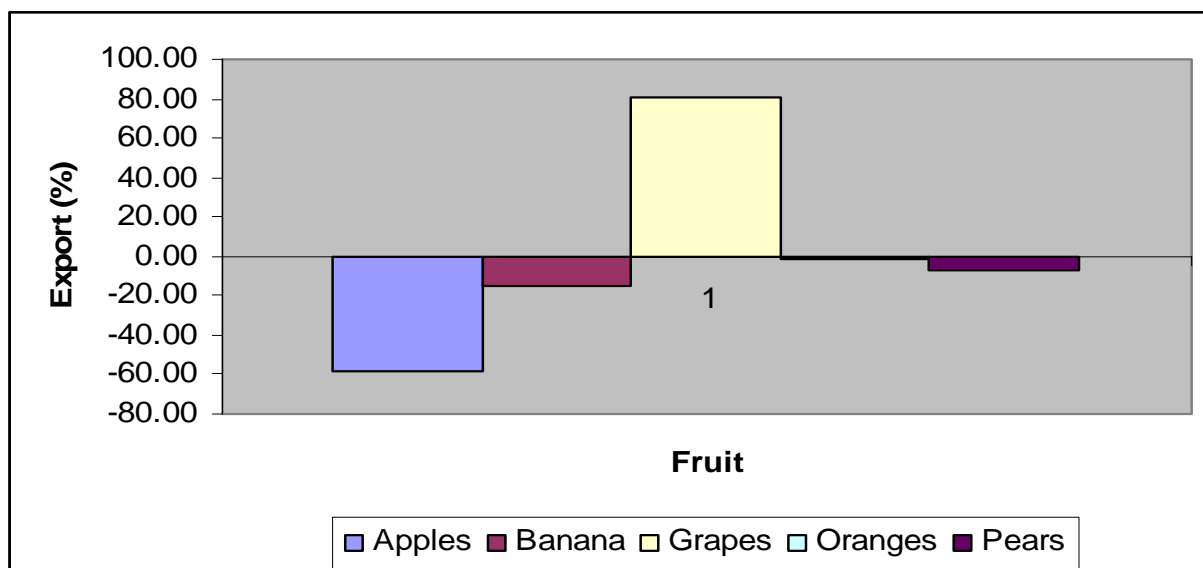


Figure 2.2 Namibian fruit exports quantity (%) in 2005

Source: Adapted from NAB Database, 2005

The role and core functions of government initiatives (the Green Scheme and NHDI) and boards (the Namibian Agronomic Board (NAB) and the South African government's Perishable Products Export Control Board (PPECB)) in horticultural development are discussed next.

2.2.1 The Green Scheme

The Green Scheme Task Team was established in November 2002 (NAB, 2004: 21). This scheme is a project that is promoted by the Ministry of Agriculture, Water and Forestry (MAWF) to encourage the development of agronomic production under irrigation, especially along the perennial rivers (the Okavango, Zambezi and Orange rivers) on the Namibian borders. The purpose of the scheme is to simultaneously increase the contribution of the agricultural sector to the country's GDP and to achieve the socio-economic development and upliftment of local communities (Government of Namibia, Green Scheme, n.d., 7). This initiative aims to create a favourable, commercially viable environment, which will serve to stimulate private investment, to create employment and to promote synergies between both large- and small-scale farmers (Government of Namibia, Green Scheme, n.d., 7; PriceWaterhouseCoopers, 2005: 8–9).

The Green Scheme is primarily aimed at expanding horticultural production through appropriate irrigation practices (Government of Namibia, Green Scheme, n.d., 5). Appendix

A4 indicates the crops earmarked for import substitution and the main potentially viable export products in terms of the Green Scheme, which include maize, wheat, cotton, dates, table grapes, mangoes, tomatoes, chillies and brinjals (PriceWaterhouseCoopers, 2005: 15).

2.2.2 The National Horticulture Development Initiative (NHDI)

The Namibian government developed the NHDI in 2002 in order to promote the efficient expansion of local horticultural production in terms of the findings of the National Horticulture Task Team (NHTT). The NHTT was representative of all stakeholders (producers, consumers, wholesalers and government officials) concerned with the domestic production and marketing of horticultural produce (NAB, 2005). Though the NHTT has focused its development plan on the Namibia Market Share Incentive, the Namibia Horticulture Market Share Promotion scheme is a system of controlling the importation of fresh horticultural produce into the country. In terms of the promotion, which aims to encourage importers to purchase local fruit and vegetables, both importers and producers of horticultural produce pay a levy of 1.2⁴ per cent to the NAB (NAB, 2005: 11).

2.2.3 The role of the NAB

The NAB is a statutory body instituted by the government of the Republic of Namibia in terms of the Agronomic Industry Act (Act 20 of 1992). This Board was originally constituted as a statutory body on 1 April 1985 in terms of the Agronomic Industry Proclamations AG11 and AG12 of 1985 (NAB, 2005: 2). The main objectives of the NAB are to promote the agronomic industry and to facilitate the promotion, processing, storage and marketing of controlled agronomic products in Namibia. In this respect, NAB therefore acts as the official marketing agency of gazetted controlled grains (wheat, maize and their products) and horticultural produce (NAB, 2005). The Board's stakeholders are commercial and communal crop or horticultural farmers, crop processors, consumers and the government (NAB, 2005: 9):

Although NAB is the leader in the control of agronomic crops and horticultural produce, its role in the expansion of some fruit production, such as that of table grapes, has been limited. In general, table grape production and marketing activities are handled by the producers

⁴ All importers of fruit and vegetables must pay the 1.2 per cent per month, while local producers pay per consignment.

themselves, either individually or by means of associations, such as the Namibian Table Grape Growers Association (Namibian Orange River Grape Growers Association, 2004).

2.2.4 The role of the PPECB

The PPECB is the official South African quality certification agency for perishable products. The Board is responsible for ensuring that products meet international quality standards and requirements throughout the entire supply chain. The PPECB renders services such as quality inspection, logistic services, food safety auditing and certification, information services, and the enforcement of specific shipping temperatures (The Trade Chain (Book 8), 2003).

The PPECB has received full ISO Guide 65 (EN 45011) accreditation and hence is authorised to use the EUREPGAP logo on its certificates and promotional material (EurepGAP, www.eurep.org). As a result, fresh produce carrying the PPECB certification, in principle, is subject to a lower level of inspection by EU inspection bodies in comparison to those bodies that do not enjoy the same approval (Erasmus, 2003: 28). The Namibian fruit industry (including table grape production) applies to the PPECB for approval of its fresh produce quality export standards (Hoffmann, n.d.).

2.3 Market situation

As indicated in Chapter One, the domestic market for table grapes is small. The main export destinations are Europe and South Africa. Potential export destinations include the Far and Middle East, as well as the US markets.

2.3.1 Domestic markets

The two types of markets in Namibia are the urban market and the rural market.

Urban market: The largest urban market for horticultural produce, that of the capital, Windhoek, though mainly supplied by imports from South Africa, is increasingly served by local commercial farmers. Urban markets in regional towns such as Oshakati and Ondangwa (north central), Rundu (Kavango region (north east)), Keetmanshoop (Karas region (south)) and Katima Mulilo (Caprivi region (north east)) are also substantially supplied by imports,

though here the local producers play a more significant role than they do in Windhoek (Central). Appendix A1 illustrates the estimated 2005 demand share of fruits and vegetables in these regions. These markets, however, suffer from the disadvantage that, despite being accessible to a large percentage of the population, particularly in the north, the purchasing power available is not as high as it is in Windhoek (Decosa, 2001: 91).

Rural market: Though rural village markets are small, they nevertheless form the main outlet for farmers in communal areas, due to the associated transport costs being relatively low; the farmers concerned being able to sell their produce directly to the consumers; the absence of commission costs; and the relatively low inspection costs (Decosa, 2001: 91).

2.3.2 South African markets

Due to geographical and historical reasons arising from commercial links established prior to independence in 1990, South African businesses have maintained their interest in Namibia, both as a market for South African products and as a source of Namibian products. South Africa currently not only provides the main external market for Namibian food products, but also serves as a transit route for exports to other countries (Sattar *et al.*, 2003: 16).

Namibian exporters to third world countries use the marketing facilities provided by South African firms as intermediaries (Sattar *et al.*, 2003: 16). For example, table grapes are made available to the European market by way of South African firms through Upington and Cape Town. Such arrangements carry the added advantage of providing Namibian firms with relatively easy foreign market access (Sattar *et al.*, 2003: 9).

The data in Table 2.2 show the details of South African fresh table grape exports for 2003 and 2004. In general, though South Africa is a net exporter of most agricultural products, it does import a limited quantity of table grapes. In 2004, South African fresh table grape imports came mainly from Spain, Egypt, France, Italy, and Israel (as reflected in Figure 2.3).

Table 2.2 South African Fresh Table Grape Exports

	2003 (Jan.–Oct.)			2004 (Jan.–Oct.)		
	(Metric tonnes)	% share of total exports	Rank	(Metric tonnes)	% share of total exports	Rank
Belgium	24 569	13.14	3	31 223	14.74	3
Canada	5 572	2.98	6	3 497	1.65	8
France	3 329	1.78	7	3 925	1.85	7
Germany	14 886	7.96	4	15 549	7.34	4
Hong Kong	5 742	3.07	5	5 863	2.77	5
Malaysia	2 119	1.13	11	2 880	1.36	9
Netherlands	69 348	37.07	1	82 823	39.09	1
Russia	2 554	1.37	10	4 425	2.09	6
UE Emirates	2 688	1.44	8	2 315	1.09	11
US	2 628	1.40	9	2 558	1.21	10
UK	25 585	13.68	2	36 015	17.00	2
Others not listed	28 029	14.98		20 784	9.81	
Total	187 049	100.00		211 857	100.00	

Source: Mabiletsa, 2005:10

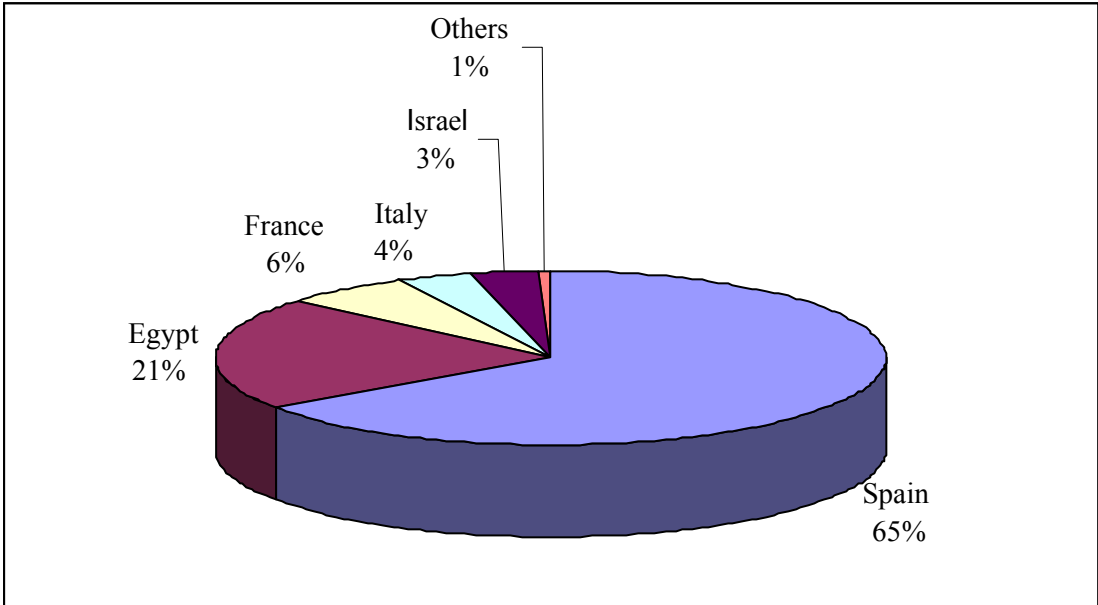


Figure 2.3 South African fresh table grape imports for 2004

Source: Mabiletsa, 2005: 10

2.3.3 European markets

Most Namibian agricultural, forestry and fish products are exported to Europe. The Namibian producers, however, have to meet stringent European food standards regarding their exports in order to secure high prices for their products. Most importantly, Namibian farmers should be aware that the EU market will remain of critical importance for at least some years. Dolan and Humphrey (2000: 147), for example, argue that the market for fresh vegetables imported from Africa has increased in volume and product variety, moving from a demand for off-season supply to an increasingly year-round demand from especially the UK. Additional effort needs to be expended on the marketing of high-value produce, such as table grapes, in the UK, Germany, the Netherlands, Spain, France and Italy (for more details in this regard, see Chapter Three section 3.4). Globally, the EU accounts for 6 of the top 10 international fruit markets, with only that of the US exceeding it in importance (Giles, 2001: 43).

2.3.4 Other markets and potential markets

The growing market for selected food products in Asian and Middle Eastern countries is characterised by consumers who, in general, tend to be less sophisticated than are the consumers in some European markets. In these countries, the consumer demand focus is on the commodity itself, rather than on the variety obtainable, such as the demand for white seedless grapes rather than specifically for Thompson Seedless (The Trade Chain (Book 6), 2003: 22). Such markets offer much potential, due to their high rates of population growth, especially with regards to their rapidly expanding middle classes. Consequently, major retailers such as Wal-Mart, Carrefour/Promodes, Tesco and Ahold are also expected to move into these regions (Giles, 2001: 43). Alternatively, the USA could also be seen as a potential market for some Namibian food and processed products, including fresh fruit (such as table grapes) and indigenous fruit (such as Devil's Claw). The African Growth and Opportunities Act (AGOA), a trade and development programme launched in the USA, allows African countries, including Namibia, to export several of their products both duty and quota free to that country (Sattar *et al.*, 2003: 19). However, African countries have still to meet all the sanitary and phytosanitary (SPS) and other requirements for importing agriculturally-based items into the USA that are stipulated by United States Department of Agriculture (USDA). A small market share (a niche) for Namibian food products in the USA would lead to considerable growth in export earnings.

2.4 Conclusions

A potential exists in regards to producing fruit and vegetables mainly for domestic consumption, as well as in producing high-value crops or horticultural produce, such as table grapes, for the export market. However, fresh produce are highly susceptible to damage and sensitive to temperature fluctuations, making long-distance transportation to domestic, regional and international markets costly. Although irrigable horticulture production remains in its initial stage of development, it is now actively being encouraged by the Namibian government's Green Scheme project. The implementation of this scheme, however, is problematic, as the target group appears to be poorly specified, which might unwittingly lead to the betterment of members of the rich middle class at the expense of any attempt to close the gap between members of the lower income group and those of the minority affluent group.

The most important main markets for the Namibian table grape industry, at the time of preparation of this report, remain South Africa and Europe. Nevertheless, penetration of the Far and Middle East markets holds significant potential, as does the USA market, albeit to a lesser extent.

CHAPTER THREE

A GLOBAL OVERVIEW OF TABLE GRAPE PRODUCTION

3.1 Introduction

The possibilities of producing Namibia's table grapes first emerged in 1988, when Dusan Vasiljevic bought Aussenkehr, a failed vegetable farm on the banks of the Orange River (Hoffmann, n.d). Vasiljevic and his successors built up a new agricultural industry from scratch on land that received less than 50mm of rainfall. The Yugoslavia-born Vasiljevic had learned that Europeans enjoy eating fresh grapes year round, despite their not growing widely in November and December due to inclement weather in the northern hemisphere at that time of the year. As a result, Namibia's fresh table grapes have, since their first commercial large-scale production, been primarily produced for export to the relatively large European markets.

Chapter Three covers the global production of table grapes, starting with domestic production in Namibia. This is followed by a brief discussion of the main table grape varieties in Namibia, the Namibian table grape industry and the global trade, Namibia table grape exports to the EU and related tariff issues, and the expansion of, and possible threats to the table grape industry. The last section of the chapter covers the influence of certification on trade patterns and flows.

3.2 Table grape production in Namibia

Section 3.2 covers Namibia's large-scale production of high-quality grapes along the Orange River in the south, where it borders South Africa, as well as the substantial numbers of grapevines that have been established alongside the Naute and Hardap Dams. As can be seen in Figure 3.1 below, the production of grapes in Namibia has increased since 1995, with a relative decline in 2000. This growth differential can be attributed to the country's relatively favourable climatic conditions for the grape production season.

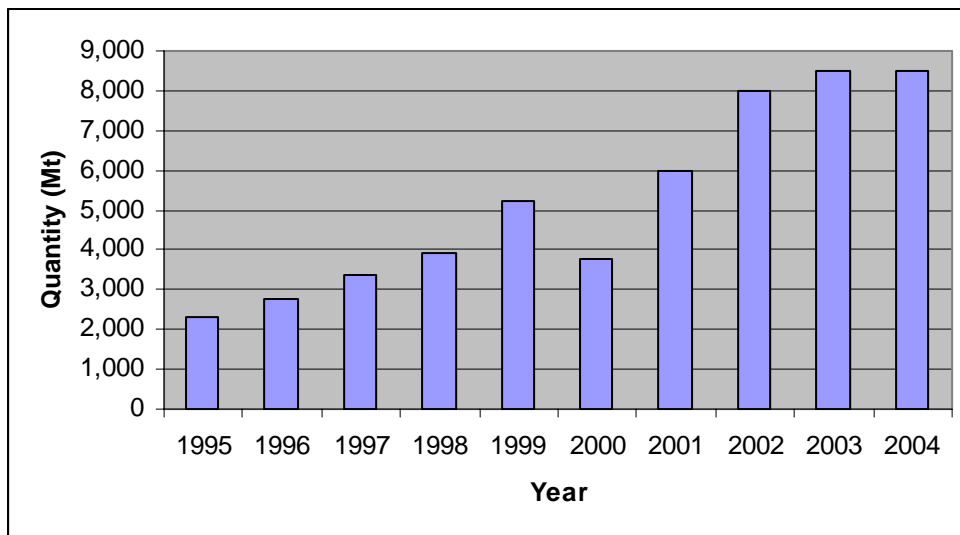


Figure 3.1 Namibian table grape production, 1997–2004

Source: FAOSTAT, 2004

3.2.1 Production in the Orange River area

The course of the Orange River, also known as the Gariep⁵ offers sufficient water resources needed to grow grapes under ideal climatic conditions. Though, at first, most table grape production occurred in the Aussenkehr district, currently it includes Komsberg Farm, about 200km further east along the Orange River (Hoffmann, n.d). The expansion of the grape industry indicates the land that is potentially available for crop cultivation. Additionally, water made available from the Orange River to Namibia is also believed to be underutilised, as of the estimated 1.4 billion cubic meter runoff from the Orange River alone, Namibia is entitled to 500 000 000m³ per annum (Kalili, 2000: 8). However, dam construction, necessary for the capturing and storing of water during times of low water flow, requires investment (Kalili, 2000: 8).

3.2.2 Production in the Hardap Area

The Hardap district is about 600km north of the Orange River, with the land under table grape cultivation depicting a different picture from that of the Orange River area. Traditionally, the Hardap irrigation scheme (which uses water from the Hardap Dam) is well-known for wheat, maize and raisin production. However, recently farmers have been switching to high-value crops such as table grapes, dates, flowers and vegetables aimed chiefly at the export market. This scheme has an export-licensed pack-house capable of accommodating no more than 3 000 tonnes (Hoffmann, n.d). In order to reduce their costs, grape farmers in this area tend to use only one brand, the Kalahari table grape (Hoffmann, n.d).

⁵ The course of the Orange River bordering Namibia and South Africa.

A grape farmer near the Stampriet area has been known to have experienced severe problems resulting from frequent frosts that led to extensive financial loss and negative developments on the foreign markets (Kalili, 2000: 7). Thus, the climatic conditions in this area are not as suitable for grape-growing as they are in the Aussenkehr district.

3.2.3 Production of Naute Fruit Farm

At the Naute irrigation scheme near Keetmanshoop an area of about 40 hectares is covered with grapevines, which were expected to earn N\$6 million in grape exports in the 2005 season (Inambao, 2005: 17). The scheme, however, is better known for the production of dates on about 85 hectares of land. The fresh produce and other agricultural crops, such as lucerne, wheat and maize, are irrigated with water from the Naute Dam (Inambao, 2005: 17).

3.3 The main table grape varieties produced in Namibia

Namibia produces both seeded and seedless table grape varieties, as indicated in Table 3.1. (See also Table 3.2 in this regard).

Table 3.1 Table grape varieties produced in Namibia

White		Red		Black	
Seeded	Seedless	Seeded	Seedless	Seeded	Seedless
Victoria	Thomson	Red globe	Flame	Dan-Ben Hannah	
	Sugraone		Crimson		
	Regal				

Table 3.2 Namibian Grape Company (NGC)⁶ harvest estimates for 2005

Varieties	Harvest Cartons 4.5kg	Percentage (%) of total harvest	Ranking
Dan-Ben Hannah	196 000	16	2
Flame	152 000	13	4
Red Globe	125 000	10	5
Sultana/ Thomson	512 400	42	1
Victoria	180 000	15	3
Crimson	14 340	1	7
Regal	32 270	3	6
Total	1 212 010	100	

Source: Adapted from Inambao, 2005: 31

3.4 The Namibian table grape industry and the global trade

The main export destinations for Namibian table grapes are Europe (mainly Netherlands and the UK), South Africa, and the Far and Middle East, while a relatively small quantity is exported to neighbouring Angola (see Table 3.3).

Table 3.3 Namibia's table grape exports in 2003

Country	1999	2003			
	Rank	Export value (US\$)	% of total exports	Cumulative share %	Rank
South Africa	1	7 393 201.62	93.78	93.78	1
Netherlands	2	253 141.21	3.21	96.99	2
United Kingdom	3	131 689.75	1.67	98.66	3
Germany	4	47 886.58	0.61	99.26	4
Saudi Arabia	-	46 822.43	0.59	99.86	5
Angola	5	10 901.22	0.14	100.00	6
Botswana	-	298.09	0.00		7
Total		7 883 940.91	100.00		

Source: SADC Trade Database

The data in Table 3.3 provide an indication of how little export destinations for Namibian table grapes has change since 1999. Since that year South Africa, Netherlands, the UK, and Germany have maintained their position as prime export destinations, but Angola moved down from 5th to 6th position. The new export destinations in 2003 were Saudi Arabia (5th position) and Botswana (7th position). In contrast, Namibia imports limited quantities of table grapes. In 2003 Namibian fresh table grape imports primarily came from South Africa and

⁶ NGC is a black economic empowerment (BEE) company that produces the largest volume of Namibian table grapes at Aussenkehr (Inambao, 2005).

very small imports from Iran, the Russian Federation, Spain and Poland (SADC Trade Database).

Moreover, the possible main table grape competitors, which are also traditional suppliers from the southern hemisphere to the European markets, are Chile, South Africa, and Brazil. Table 3.4 below shows global table grape exports in 2004. The EU dominates exports with a 37 per cent share. The EU is followed by Chile and the USA both with an 18 per cent share, then South Africa with a 9 per cent share. Brazil is further away with 2 per cent. The data in Table 3.4 also illustrate higher annual growth in value between 2000-2004 for Brazil (43 per cent), Namibia (40 per cent) and Peru (37 per cent) when compared to other Southern hemisphere countries such as South Africa (16 per cent), Chile (7 per cent) and Argentina (0 per cent). Also note that the Namibian table grapes unit value, which indicates average price, is the highest of all the competitors. This probably indicates the high quality of Namibian table grapes exports.

Table 3.4 Global table grape exports during 2004 (countries with share of 1% and more)

exporters	exports value in 2004 (US\$)	exports quantity in 2004 (tonnes)	Unit value (US\$/Unit)	Share in world exports (%)	Annual growth in value between 2000-2004 (%)	Annual growth in quantity between 2000-2004 (%)
World estimation	3 307 966	3 023 157	1 094	100	8	2
EU	1 187 867	890 815	-	37	-	-
Chile	592 326	693 206	854	18	7	n/a
USA	591 581	391 398	1 511	18	6	3
South Africa	283 507	237 110	1 196	9	16	6
Mexico	108 648	148 100	734	3	4	10
Turkey	81 747	159 310	513	2	29	22
Australia	62 804	45 960	1 366	2	13	9
Uzbekistan	60 172	90 054	668	2	25	19
Brazil	52 755	28 815	1 831	2	43	22
Hong Kong (SARC)	48 167	62 310	773	1	-5	5
Argentina	41 561	47 828	869	1	0	16
Egypt	40 060	20 663	1 939	1	62	50
India	24 029	35 525	676	1	12	18
Peru	19 846	11 096	1 789	1	37	39
Namibia	14 332	5 949	2 409	0	40	39

Source: ITC calculations based on COMTRADE statistics, TIPS, 2004

Note: n/a signifies not available

Figure 3.2 illustrates the southern hemispheres' table grape exports in 2004. Chile dominates export with 68 per cent, of the total with South Africa in the second position at 23 per cent. In addition, Figure 3.2 indicates Argentina with 5 per cent in the third position, Brazil with 3 per cent in the fourth position and Namibia with 1 per cent in the fifth position. The information in Figure 3.2 also indicates the dominance of Chile and South Africa in the southern hemisphere table grape industry.

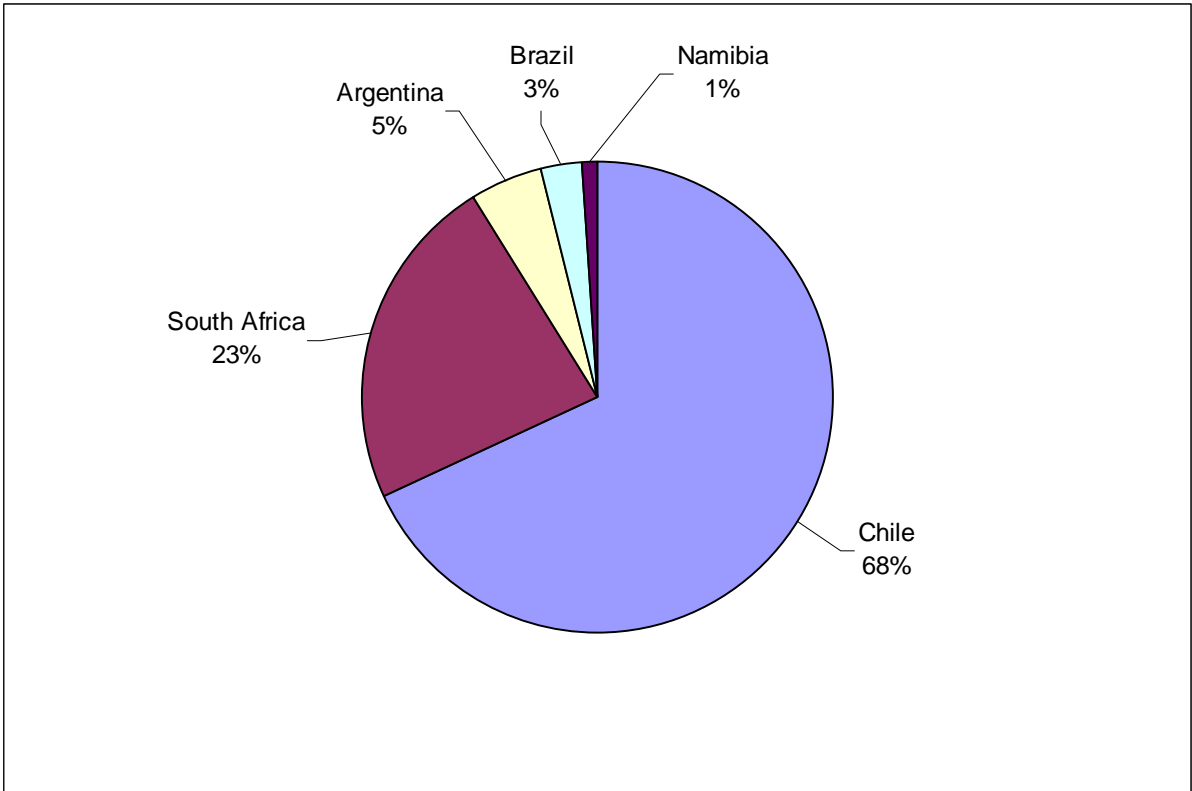


Figure 3.2 Southern hemisphere table grape export market shares in 2004

Source: ITC calculations based on COMTRADE statistics, TIPS, 2004

The data in Table 3.5 show imports of table grapes in 2004. Again, the EU is the largest market with around half of the global imports. The Russian market with 35 per cent was the main growing market for the period. Other markets with impressive import growth are Indonesia (26 per cent), China and Norway (both with 17 per cent). The data from Table 3.4 and 3.5 indicate the EU and the USA as the top two exporters and importers, demonstrating the seasonality of table grapes traded between the northern and southern hemispheres.

Table 3.5 Global table grape imports during 2004 (countries with share of 1% and more)

Importers	Imports value in 2004 (US\$)	Imports quantity in 2004 (tonnes)	Unit value (US\$/Unit)	Share in world imports (%)	Annual growth in value between 2000-2004 (%)	Annual growth in quantity between 2000-2004 (%)
World estimation	4 057 363			100	10	4
EU	1 960 404	1 309 448	-	49	-	-
USA	878 617	531 131	1 654	22	7	6
Canada	277 001	170 307	1 626	7	9	3
Russian Federation	151 777	257 547	589	4	35	35
Hong Kong (SARC)	234 080	86 910	1 543	3	-1	-2
Mexico	93 343	82 819	1 127	2	3	2
China	67 482	0	n/a	2	17	n/a
Switzerland	56 206	34 859	1 612	1	7	-5
Norway	48 574	24 335	1 996	1	17	3
Indonesia	25 642	28 715	893	1	26	28
Singapore	24 715	12 437	1 987	1	3	2
Japan	23 968	13 873	1 728	1	-2	2
Taiwan	23 147	21 587	1 072	1	0	0

Source: ITC calculations based on COMTRADE statistics, TIPS, 2004

Note: n/a signifies not available

In order to obtain high prices, fresh table grapes should be delivered early to the European market. The transport links by means of which fresh table grapes are conveyed to Europe tend to benefit from South Africa's historically longstanding role in the European market (Sattar *et al.*, 2003: 9). However, the prospect exists of exporting Namibian grapes through Namibia's second largest port, Lüderitz⁷, despite this currently not being possible due to a lack of infrastructure. Several studies have been done on the economic viability of Lüderitz as an alternative port for the export of fresh produce from South Africa and Namibia, but the results were kept confidential (OABS, 2003).

Alternatively, for Namibia to expand table grape production, a new market niche needs to be identified. The USA is a potential market for Namibian table grapes because under AGOA Namibia qualifies to export table grapes duty and quota free to that country (Sattar *et al.*, 2003: 19). Increasing market access for Namibia's fresh table grapes therefore means that the grape farmers will increase their production, and hence their exports. The main trends in Namibian table grape trade are illustrated in Figure 3.3 below. These data show that exports

⁷ Exporting through Lüderitz port is expected to cut down on transport costs to Cape Town by around 15 per cent (Alexander personal communication, 13 June 2006).

have increased consistently since 1999 despite a decline in 2003, while import growth first declined, but has remained relatively positive in the past few years.

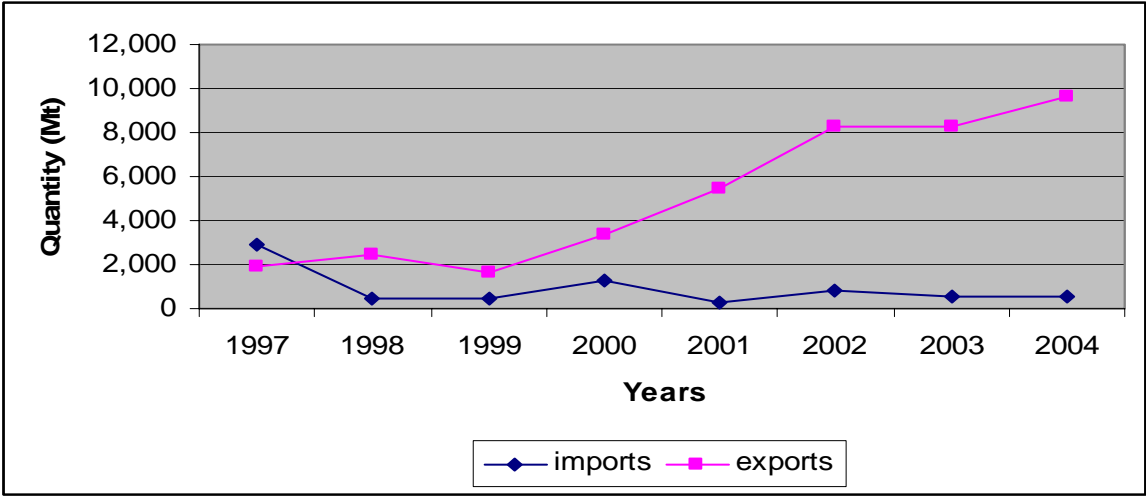


Figure 3.3 Quantity of grape imports into and exports out of Namibia (1997–2004)

Source: FAOSTAT, 2004

Moreover, at global level, in 2005 China was recorded by the USDA (2005) as being the largest producer of fresh table grapes, producing around 5 000 000 Mt in that year alone. Turkey, Italy, Chile and US followed as the second, third, fourth and fifth largest producers respectively (see Figure 3.4).

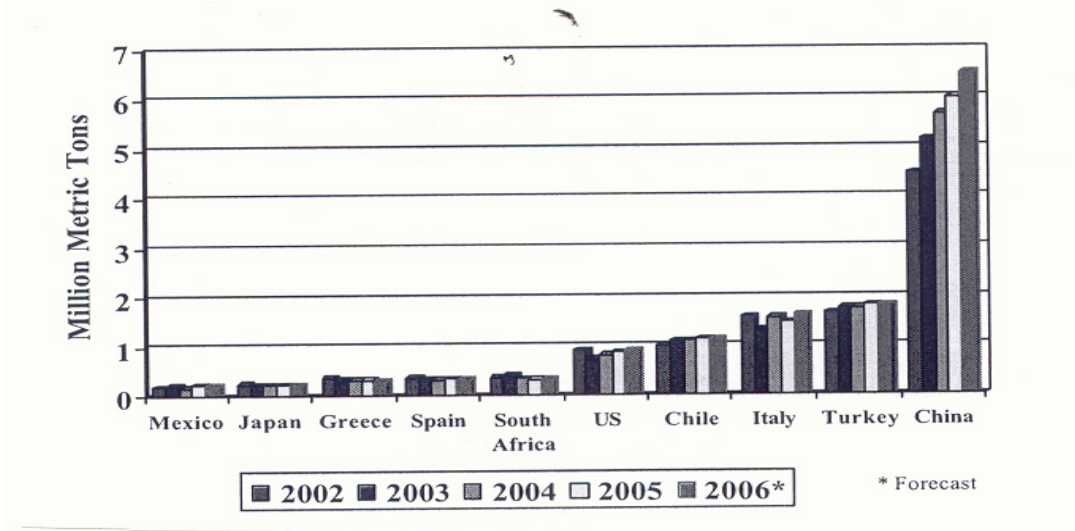


Figure 3.4 Worldwide fresh table grape production (selected countries)

Source: USDA/FAS: April 2006

China, with the world’s largest population of about 1.3 billion, continues to be the leading consumer of fresh table grapes, estimated to have amounted to 4.6 million tonnes for the season 2004/05 (USDA, 2005). The Chinese, however, consume mainly their own,

domestically grown, Red Globe variety (USDA, 2005). Securing a market share in China for some of Namibia’s agricultural products would contribute especially positively to the development of the horticultural industry (in particular the table grape industry).

3.5 Namibia’s table grape exports to the EU and related tariff issues

For the season 2004–2005, Namibian exports of fresh grapes to overseas markets amounted to about 3 million 4.5 kg cartons (13 500 tonnes) (Alexander, 2006 personal communication). According to Hoffmann (2003: 2), only 800 tonnes (which is 6 per cent of year 2005 harvest) exported to the EU qualify for tariff-free import, with growers having to pay the full Generalised System of Preferences (GSP) tariff of 8 per cent for any additional imports according to the EU GSP regulation of 31 December 2001 (see Table 3.6). The duty-free imports of Namibian table grapes at this point in time only covers seedless, and not seeded, table grapes. Such a trade arrangement, in fact, favours Namibia’s fresh table grape competitors in the European markets (Hoffmann, 2003: 2).

Namibian table grape competitors with a definitive tariff advantage in the European markets are Chile, South Africa and Peru, of which the former two have concluded FTAs with the EU. Table 3.6 indicates that both Peru and Costa Rica are exempt from any tariffs and quotas under the GSP scheme, which was first introduced in 2005, becoming effective on 1 January 2006. Thus, Namibia’s competitive advantage has clearly been eroded in the European market, due to the tariff regime imposed by the European Commission (EC) that favours Namibia’s competitors, who perhaps are more important trading partners for the Commission (Hoffmann, 2003: 2).

Table 3.6 Comparison of tariffs: Fresh table grapes as impacted by the EU basic GSP duty

Year	2005	2006	2007	2008	2009	2010
Namibia	8%	8%	8%	8%	8%	8%
RSA	7.13%	5.75%	4.26%	2.88%	1.38%	0%
Chile	5.75%	2.88%	0%	0%	0%	0%
Peru	n/a	0%	0%	0%	0%	0%
Costa Rica	n/a	0%	0%	0%	0%	0%

Source: Hoffmann, 2003: 2

Namibia is currently negotiating in the SADC Economic Partnership Agreement (EPA) configuration with the EC in follow-up negotiations to the Cotonou Agreement for ACP countries (SADCTradeReview, 2005). (For more details in this regard, see the next section on ACP countries). If the ACP/EU Agreement is extended, Namibia should request, during the negotiations, that the quota for its fresh table grape imports to the EU market be brought in line with those granted to its main competitors. The negotiations should also consider Namibia's developmental status, as compared to the standing of its main competitors, such as Chile and South Africa. In addition, any tariff-free import concessions should include both seedless and seeded fresh table grapes from Namibia (Hoffmann, 2003: 2).

3.6 The African, Caribbean and Pacific (ACP) countries

Namibia is a member of ACP countries, thus a signatory to the Cotonou Agreement. The Cotonou Agreement refers to a comprehensive aid and trade arrangement between ACP countries on one hand and the EU on the other, signed in Cotonou, Benin in June 2000. The Cotonou Agreement is an extension of the Lome Convention which was first signed in 1975. The central objective of the partnership agreement is to reduce and eventually alleviate poverty in ACP countries, while at the same time continuing to integrate these countries into the world economy (Kahuika *et al.*, 2003: 30).

Table 3.7 reveals that table grapes are an important agricultural export product from Namibia to the EU, a fact that needs to be addressed during further trade negotiations.

Table 3.7 The export value of fish, meat and table grapes from Namibia to the EU

Product	Exports Value (N\$ million)	% of Total Value
Fish	700	51
Meat	330	24
Table grapes	340	25
Total	1 370	100

Source: Abstracted from NASSP, 2005

Although the Cotonou Agreement has increased market access for ACP countries, poverty levels in most of the countries concerned have gradually increased, while the living standards of those in the EU have continued to improve (SADCTradeReview, 2005: 28). In order to be able to respond effectively to the challenge of lack of competitiveness among the ACP countries, the Cotonou Agreement provides for a new regional trading arrangement to be

negotiated between the EU on one hand and the ACP countries on the other hand, the so-called EPA (SADCTradeReview, 2005: 28).

Formal negotiations of EPAs at ACP country level commenced in September 2002 and should be concluded by 2008 (SADCTradeReview, 2005: 28). There are six ACP regional groupings, each of which has to negotiate an EPA with the EU. Namibia is in the SADC group of countries, which includes Angola, Botswana, Lesotho, Mozambique, Swaziland and the United Republic of Tanzania. South Africa has a free trade agreement with the EU and therefore will participate in the negotiations as an observer. The SADC–EU EPA negotiations were launched in Windhoek, Namibia in July 2004 (SADCTradeReview, 2005: 28). The remaining SADC countries (the Democratic Republic of Congo, Malawi, Mauritius, Zambia, and Zimbabwe) chose to negotiate in the Eastern and Southern Africa (ESA) group, which opened negotiations with the EU in February 2004 (SADCTradeReview, 2005: 24). Once more, South Africa, which is Namibia’s partner in SACU and SADC, has already established an FTA with the EU, thus making it difficult for Namibia and other SACU members to position themselves in the new EPA negotiations, as they are already in effect party to the EU–SA FTA as members of SACU, which body allows South Africa to access Namibian markets duty-free (Kahuika *et al.*, 2003: 30) or vice versa.

3.7 The expansion of, and possible threats to, the table grape industry

The grape industry has a significant role to play in the diversification of the agricultural sector away from the primary farming of pearl millet (mahangu), maize and livestock. However, the Namibian grape industry, like other traditional export industries, is experiencing financial difficulties due to the strength of the local currency, the South African Rand / Namibia Dollar,⁸ when compared with other major currencies, such as the US Dollar. The second main problem is with regard to the increase in international oil prices, which has resulted in increasing transport costs, with a negative impact on the profitability of table grape exports. Another possible future threat to the expansion of grape production opportunities comes from the salinity of the land along the banks of the Orange River. The river drains the principal farming areas in South Africa, from the highlands of Lesotho westwards, which is highly arid and thus subject to very high evaporation rates (Sattar *et al.*, 2003: 9).

Furthermore, most operations in the industry operate more or less year-long with relatively few permanent employees, though the demand for labour in the form of pickers and packing

⁸ The Namibian dollar (N\$) is pegged to the South African Rand (R) (1R = 1N\$).

shed workers increases during the harvest season, which lasts from November to January. Over the last ten years, the table grape industry has created approximately 3 500 permanent jobs and another 7 000 seasonal work opportunities (Hoffmann, 2004: 2), notwithstanding the high cost of establishing a grapevine. Preparing one hectare of irrigated land for grapevines costs about N\$250 000, while it takes three to four years for a vine to develop to full capacity, with each hectare of vineyard accommodating about 4 000 vines (Ntinda, 2002).

Despite the costs involved, the labour force is benefiting from the expansion of the table grape industry. Most workers recruited in the grape production area are migrants from other regions in the country, particularly from the Kavango region (Hoffmann, n.d). Workers are said to experience various problems in their working environment, such as a lack of proper housing and other social amenities (Hoffmann, 2004). In addition, as in the case of the Orange River area in South Africa, the effect of HIV/AIDS on labour is, at this point in time, felt relatively indirectly, due more to a loss in labour efficiency and productivity than in the direct loss of labour. For example, in the case of the death of an employee, the employer generally has to bear the transport costs of the funeral (Burger, 2002).

3.8 Fresh table grape certification

In general, table grape producers in the southern hemisphere sell their produce to the retail chains in the northern hemisphere, where they fetch higher prices than in the southern hemisphere. The higher prices paid by retail chains endow them with sufficient bargaining power to enable them to insist on the producers involved strictly conforming to stringent quality and eco-care requirements (Van Dijk & Kleynhans, 2004: 317). In order to assure consumers of the environmental friendliness of production practices, a number of certification systems have been developed.

Certification is a process by which a client can assess his or her compliance with defined standards. Such assessment is typically undertaken by a third party agency (a certification body) that the client recognises as being ‘competent’ in this regard (Jaffee 2005: 97 cited by Lee n.d: 28). Conformity is ensured by means of regular inspections observation that ensure that the appropriate standards for which the client is certified are maintained and accreditation. While standards of conformity involve evaluation by means of and judgment accompanied by measurement, testing or gauging, accreditation refers to a procedure by which an authoritative body gives a formal recognition that a body or person is competent to carry out specific tasks (Lee n.d.). Certification is a market instrument that enables the

producers to access a specific market, at a premium price. For example, fruit and vegetables exported into Europe need to meet EUREPGAP certification. Additionally, the Hazard Analysis Critical Control Point (HACCP) is important in ensuring the meeting of international food safety standards. Such systems of certification are discussed in this section of the thesis.

3.8.1 EUREPGAP

In 1997 EUREPGAP was initiated by retailers belonging to the EUREP-Retailers Produce Working Group (EUREP), who were intent on developing good agricultural practices (GAP). EUREPGAP, which is a management programme developed in Europe for the sound management of the fruit and vegetable industry, combines GAP, integrated crop management (ICM) and integrated pest management (IPM) practices. Most fresh produce retailers and supermarkets in European countries accept EUREPGAP certification for fruit and vegetables (EurepGAP, www.eurep.org).

EUREPGAP certification guarantees that products imported into the EU comply with set quality, worker safety and environmental care standards (Brodie, 2001: 19; Van Dijk & Kleynhans, 2004: 318). In order to receive EUREPGAP certification, producers need to pass a farm inspection conducted by inspectors affiliated to a EUREP certification body. Such an inspection covers details relating to (EurepGAP, www.eurep.org):

- record-keeping,
- site history and management control,
- water supply and irrigation,
- waste and pollution management,
- water recycling and re-use, worker health safety and welfare,
- variety and rootstock maintenance,
- harvesting and post-harvest treatments, and
- soil and substrate management.

The Namibian table grape producers, as indicated in earlier chapters of this thesis, rely on the South African PPECB for the awarding of their EUREPGAP certification.

3.8.2 The HACCP system

The HACCP system for managing food safety concerns grew out of two major developments (Netterville & Adendorff, 2002: 6–7). WE Deming’s theories of quality management are widely regarded as having been a major factor in turning around the quality of Japanese

products during the 1950s. Deming and others developed the total quality management (TQM) systems that emphasised a total systems approach to manufacturing that could improve quality while lowering costs. The second system was the development of the HACCP concept in the USA in the 1960s by Pillsbury Company, the US Army and the US National Aeronautics and Space Administration (NASA), aimed at ensuring food safety on the first manned space missions (Netterville & Adendorff, 2002: 6–7).

The HACCP system is a preventive approach aimed at identifying, assessing and managing risk relating to biological, chemical and physical hazards of food production and processing (Netterville & Adendorff, 2002: 7). The system enables the assessment of hazards and the establishment of control systems that focus on prevention rather than relying mainly on end-product testing. HACCP is a food safety management system used in the food manufacturing industry to identify areas of high risk in food safety, allowing for the implementation of risk mitigation strategies (Vink & Kirsten, 2003: 105). However, the same principles can be applied to any other segment of the trade chain (such as to production, harvesting, processing or distribution (The Trade Chain (Book 8), 2003: 8). The standard approach to the HACCP system is based on the following seven basic steps (Netterville & Adendorff, 2002):

- (1) Conduct a hazard analysis, considering all ingredients, processing steps, handling procedures and other activities involved in the production of the foodstuff concerned.
- (2) Determine the critical control points involved (CCPs).
- (3) Establish critical limits for ensuring the control of each CCP.
- (4) Establish a system for monitoring control of the CCP.
- (5) Establish the corrective action to be taken when monitoring indicates that a particular CCP is not under control.
- (6) Establish verification procedures to confirm that the HACCP system is under control.
- (7) Establish documentation concerning all procedures and records appropriate to these principles and their application.

Most governments are increasingly adopting mandatory HACCP-based regulations as the best system for ensuring the safety of food. For instance, fresh fruit and vegetables have been identified as a significant source of pathogens and chemical contaminants since, as soon as fruit and vegetables are harvested, physiological changes occur in them, some of which may lead to a loss in quality (Forsythe & Hayes, 2000: 120). The prevention of such microbial adverse effects and chemical contamination should serve to minimise risks throughout the supply chain, from the field to the store and, ultimately, to the final consumer. For example, certain countries have established maximum residue limits (MRLs) for pests and diseases.

Compliance with the residue standards is a prerequisite for access to various overseas markets (The Trade Chain (Book 1), 2004: 32).

3.9 Conclusions

Namibia's fresh table grapes are produced for export to large markets in Europe. The country is gaining a growing reputation as a supplier of high-quality table grapes. For example the Thompson seedless variety is harvested four weeks ahead of some of the traditional southern hemisphere suppliers. The harvesting period for Namibian table grapes lasts about eight weeks from November to January, when it can harvest and export grapes to overseas markets, such as those of Europe. The problem is that countries such as Brazil are also harvesting some varieties ahead of other southern hemisphere suppliers. The Namibian table grape industry therefore needs to improve its competitive position.

Moreover, possible leading table grape competitors, which are also traditional suppliers from the southern hemisphere to the European markets, include Chile, South Africa, Argentina and Brazil. Fresh table grape suppliers (South Africa and Chile) to the European market have a definite tariff advantage over Namibia, in light of their having concluded FTAs with the EU. Moreover, the country's table grape producers have also had to meet stringent fresh produce quality standards as demanded by EU retailers, such as in terms of the EUREPGAP. The Namibian grape industry, in keeping with other traditional exports, is also battling because of a strong local currency. The recent rise in oil prices has also had a negative impact on the profitability of table grape production.

CHAPTER FOUR

THEORY, METHODS AND TECHNIQUES FOR DETERMINING COMPETITIVE ADVANTAGE IN AN AGRICULTURAL INDUSTRY

4.1 Introduction

Developing countries in the southern hemisphere need to explore available opportunities and to promote the export of agricultural products, such as table grapes, in which they appear to have a comparative advantage. This study aims to identify environmental forces that will help to ensure that Namibian horticultural industries (that specialise in the production of table grapes) remain a player in international markets by encouraging them to become competitive, as was highlighted in the introductory chapter. Existing trade policy issues and economic structures therefore have to be considered. These conditions demand that researchers determine or assess whether or not the production of horticultural produce, such as table grapes, in Namibia is competitive in terms of the global market.

The theory of competitiveness is grounded in the theory of comparative advantage. Comparative advantage refers to the ability of one nation to produce a commodity at a lower opportunity cost relative to the output of another nation (Lindert & Pugel, 1996). Competitive advantage indicates whether a firm or sector could successfully compete in trade in the commodity in the international market, given existing policies and economic structures (Warr, 1994). Different methods and techniques are used for measuring the competitiveness of a nation as regards its firms or industries in relation to those of other nations.

This chapter presents a literature review of the different approaches regarding how to determine the competitiveness of an industry, domestically, at both regional level and global level. The chapter starts by describing the theoretical framework of competitiveness, followed by a brief description of some of the methodologies used for measuring the competitiveness of the agricultural sector. The last section of the chapter presents a brief description of supply chain analysis, which is the approach that is used in this study to assess the determinants of competitiveness as regards the Namibian table grape industry. In addition, the Porter model is used separately to determine the environmental forces influencing the competitiveness of the Namibian table grape industry.

4.2 The concept of comparative advantage

In the late 18th and early 19th centuries, first Adam Smith and then, later, David Ricardo explored the basis of international trade in their effort to understand the principles underlying

free trade in goods and services. Their writings were in response to the doctrine of mercantilism prevalent at the time, which guided European thinking in regards to international trade. Simplistically, mercantilists viewed exports as good and imports, except raw materials not produced at home, as bad (Pugel, 2004: 37). Governments therefore imposed taxes in order to limit imports and also subsidised local goods in order to encourage exports (Pugel, 2004).

According to Smith, international trade was based on achieving an absolute advantage and all value was determined by, and measured in terms of, hours of labour spent in obtaining such advantage. David Ricardo and Karl Marx, like Smith, also believed that labour was the basis of all value. However, Ricardo's contribution to international trade was based on a close examination of opportunity costs (Pugel, 2004).

4.3 The Heckscher-Ohlin (H-O) theory

The H-O approach refers to both the short-run and long-run effects on factors of production⁹ as a result of opening up to international trade. Opening up to trade results in expanding the export-oriented sector, which uses the country's abundant factors intensively in production, while there is a contraction in the import-competing sector, which uses the country's scarce factors intensively (Lindert & Pugel, 1996; Pugel, 2004). In the 1950s, Wassily Leontief was puzzled when he decided to test the H-O theory using an input-output matrix analysis for the USA, which he compared to the rest of the world. Since the USA was considered to be the most capital-abundant nation in the world, he expected to find that it exported capital-intensive commodities and imported labour-intensive commodities, in accordance with the H-O theory (Pugel, 2004: 78). The finding was contrary to his expectation: The USA was found to be exporting labour-intensive goods to the rest of the world in exchange for relatively capital-intensive imports. The result of the test posed a paradox not only to Leontief, but also to others, the roots of which, at least partly, lie in the factor immobility constraint imposed in terms of the H-O theory (Reekie, 1989: 98).

The H-O trade theory also led to the finding of the Stolper-Samuelson result, which was later followed by the factor-price equalisation theorem. The Stolper-Samuelson theorem is based on the conclusion that opening up to trade splits industries into specific gainers and losers in the long run (Pugel, 2004). First, it raises the real return for the factor used intensively in the rising-price industry. Second, it lowers the real return for the factor used intensively in the

⁹ Factors of production include land and capital, as well as labour.

falling-price industry. Furthermore, in the late 1940s the factor-price equalisation theorem was established, which concerns the effect of trade on international differences in factor prices (Pugel, 2004).

The factor equalisation theorem, under certain conditions and assumptions, poses the hypothesis that free trade not only equalises product prices, but also the price of individual factors between two countries concerned in economic transactions. In most cases, this might, however, not hold in practice (Pugel, 2004: 85).

4.4 The concept of competitiveness

The concept of competitiveness has been addressed from different perspectives in the literature concerned, though most definitions equate productivity with competitiveness. Tweeten (1992: 27) defines competitiveness as “a nation’s ability to maintain or gain market share by exploiting competitive advantage in the world markets through increasing productivity from technological advances or other sources”. Fafchamps *et al.*, (1995: 343) define competitiveness as the ability of a firm or country to produce a commodity at average variable cost below its price. Moreover, Porter (1990) argues that firms, rather than nations, compete in international markets and that the business environment offered to the firms by the different regions in which they operate is critical to their success. Competitive firms, hence, result in competitive regions or economic sectors (Ortmann, 2000: 371).

Kennedy *et al.*, (1997: 386–387) define competitiveness as the ability of a firm or industrial segment to offer products and services that meet or exceed the customer value currently or potentially and in terms of the possible entry of new products. Their definition stresses customer value expressed as:

$$\text{Customer value perception} = \frac{\textit{perceived benefits}}{\textit{price}}$$

The expression states that any firm wanting to increase its competitiveness must create customer value by providing products whose perceived benefit / price trade-off compares favourably with the products offered by current rivals and substitutes, while making the new entry of rival products difficult (Kennedy *et al.*, 1997: 387). Accordingly, customer benefits can be increased by means of product differentiation by adding value to the products or services concerned. However, value-added competitiveness depends on possessing intimate

knowledge of, and being able to respond to, the complex nature of customer demand (Ortmann, 2000: 372). In terms of agriculture, 'value-added' refers to product orientation, as opposed to commodity orientation (Kennedy *et al.*, 1997).

The addition of value implies further processing, the capturing of profits further afield than those merely present in the market chain, with price and cost being all that matters. Such thinking is based on the perception that transforming raw agricultural commodities will increase the bundle of customer benefits, which depends on the effective implementation of different strategies. Therefore, benefits can be increased by the adoption of different strategies (Kennedy *et al.*, 1997). The first strategy is classic differentiation, which focuses on increasing available benefits to a broad band of customers. The second is the niche strategy, in which a firm becomes so knowledgeable regarding a specific market segment that it is able to design products to benefit a particular niche.

Kennedy *et al.*, (1997: 388) outlined the following market forces that favour value-added competitiveness. The first force to which they referred relates to consumers being very selective about the benefits to which they wish to have access. According to this market force, consumers seek to satisfy individual wants and needs by purchasing products offered in the marketplace, with their demand depending on their income levels, cultural diversity and lifestyle. Another market force consists of new technology that has allowed agriculture to respond to consumer requirements for diversity in different ways. Some of the methodologies used for measuring the competitiveness of the agricultural sector are discussed next.

4.5 Methods used for determining the competitiveness of an industry

Different methods and techniques are used for measuring the competitiveness of a nation as regards its firms or industries in relation to those of other nations. In this section of the chapter the following methods and techniques for measuring competitiveness are discussed: the revealed comparative advantage (RCA) and the Porter 'diamond' model. Other methods and techniques for measuring competitiveness not discussed in this thesis include:

the intra-industry trade model; the benchmarking model; strengths, weaknesses, opportunities and threats (SWOT) analysis, the general equilibrium models; partial equilibrium methodologies and the stochastic coefficient regression method. As indicated earlier, the Porter model is used in order to augment the supply chain analysis, which is the approach chosen for the study.

4.5.1 Revealed comparative advantage (RCA)

The concept of revealed comparative advantage (RCA) is grounded in conventional trade theory (Mosoma, 2004: 134). RCA could be indicated in terms of the trade performance of the individual commodity pattern of trade, which reflects the relative market costs and differences in non-price competitive factors (Balassa, 1965). The Balassa method compares a country's share of the world market in one commodity relative to its share in all traded goods. The relative revealed comparative trade advantage (RTA) index is an improved version of the Balassa original version (RCA), as expounded by Vollrath (1991), which reflects both imports and exports and is formulated as:

$$RTA_{ij} = RXA_{ij} - RMP_{ij}$$

$$RXA_{ij} = (X_{ij} / \sum_{1,1 \neq i} X_{i1}) / \sum_{k,k \neq i} X_{kj} / \sum_{k,k \neq i} \sum_{1,1 \neq i} X_{k1}$$

$$RMP_{ij} = (M_{ij} / \sum_{1,1 \neq i} M_{i1}) / \sum_{k,k \neq i} M_{kj} / \sum_{k,k \neq i} \sum_{1,1 \neq i} M_{k1},$$

where X = exports, M = imports, subscripts *i* and *k* denote the product categories, and *j* and 1 denote the country categories.

The numerator is equal to a country's exports or imports in a particular product category, relative to the exports or imports of the product for all other countries. In contrast, the denominator reveals the exports or imports of all products by considering the commodity in terms of the percentage of all other countries' exports or imports of all products. The level of these indicators shows the degree of revealed export competitiveness and import penetration. A value lower than 1 indicates a competitive trade disadvantage, while a value higher than 1 indicates a competitive trade advantage (Mosoma, 2004: 134).

The main problem with this technique is that it does not reveal how an industry acquired its competitive edge. Therefore, it fails to significantly reveal what the reasons are for the non-competitiveness of an industry or how the situation could possibly be rectified (Mosoma, 2004: 134).

4.5.2 Porter's 'diamond' model

Porter (1990) argues that nations are most likely to succeed in industries or industry¹⁰ segments where the national 'diamond'¹¹ is most favourable. His method evaluates both the competitive nature of the farmer and also that of all participants involved in the supply chain. However, what must be noted is that the strongest and most enduring competitive advantage for nations is primarily created by those factors that have the least mobility (Oster, 1994). The six determinants, as enumerated by Porter, are discussed below (Porter, 1990).

1. Factor conditions refer to the nation's position in terms of the factors of production, the natural resources level or the production costs, such as the price of variable inputs (labour, pesticides, machinery, fuel or diesel) infrastructure and knowledge resources. The minerals resource base and land quality are relatively immobile, although iron can be moved and fertiliser applied (Oster, 1994: 107). Besides the relative immobility of both physical and organisational infrastructure, infrastructure forms the basis of comparative advantage. Furthermore, technological and organisational capabilities are a major source of persistent competitive advantage for a nation, emanating from the education system, prevailing culture and history.

Home-based technologically active firms provide the educated labour force, communications networks and technical and managerial structure to support technological innovation. However, globalisation is changing the ways in which knowledge is produced, converted to technology and then transformed into goods and services (Howells & Wood, 1993: 3).

In general, human resources are somewhat more mobile. However, the physical movement of labour across national borders, in most instances, has been limited. Without physical movement of labour, a considerable increase in the diffusion of knowledge is one reason that, as industries mature, even if they require labour with particular skills, they tend to spread out across the world (Oster, 1994: 107).

Notably, capital perhaps is the most mobile of the factors of production, thus its availability is no longer likely to form a very stable competitive advantage for an area (Oster, 1994).

¹⁰ Porter (1990: 33) defined an industry as a group of competitors producing products or services that compete directly with one another.

¹¹ 'Diamond' is a term that Porter uses to refer to the six determinants of competitiveness as a system.

The effects of climate and global warming, no matter whether positive or adverse, are also significant for agricultural production.

2. *Demand conditions* are based on the nature of domestic demand for an industry's product or service. Such conditions involve the effects of domestic composition, demand size and growth pattern, as well as the interplay of demand conditions (Porter, 1990).

3. *Related and supporting industries* refer to whether a nation's supplier industries and related industries are present or not determine the extent of internal competition. If present, they are able to benefit from labour attracted to an area in order to serve its core industry (Porter, 1990). The general emphasis is on the level of skilled labour available to support industry.

4. *Firm strategy, structure and rivalry* relates to the national conditions governing how companies are formed, organised and managed, as well as to the nature of domestic rivalry. The process of competition weeds out inferior technologies, products and management practices, leaving only the most efficient firms as survivors (Oster, 1994: 109). When domestic competition is vigorous, firms are forced to become more efficient, to adopt new cost-saving technologies, to reduce product development time and to learn to motivate and control workers more effectively. The presence of fierce domestic competition also encourages firms to look to outside markets for growth, particularly in industries in which scale economies are important (Porter, 1990).

5. *The role of chance* occurrences has little to do with national strategising, being largely outside the sphere of influence of specific firms. Some examples that are of particular importance in influencing competitive advantage (Porter, 1990) include: acts of pure invention; discontinuities in input costs; technological discontinuities; significant shifts in world financial markets and exchange rates; surges of world and regional demand; political instability; HIV/AIDS; and wars.

6. *Acknowledgement of the role of government* recognises that, in general, government plays a significant role and can influence each of the above determinants, with the exception of chance events, either positively or negatively through government policies and operational capacity. Figure 4.1 shows the complete system of Porter's 'diamond' model.

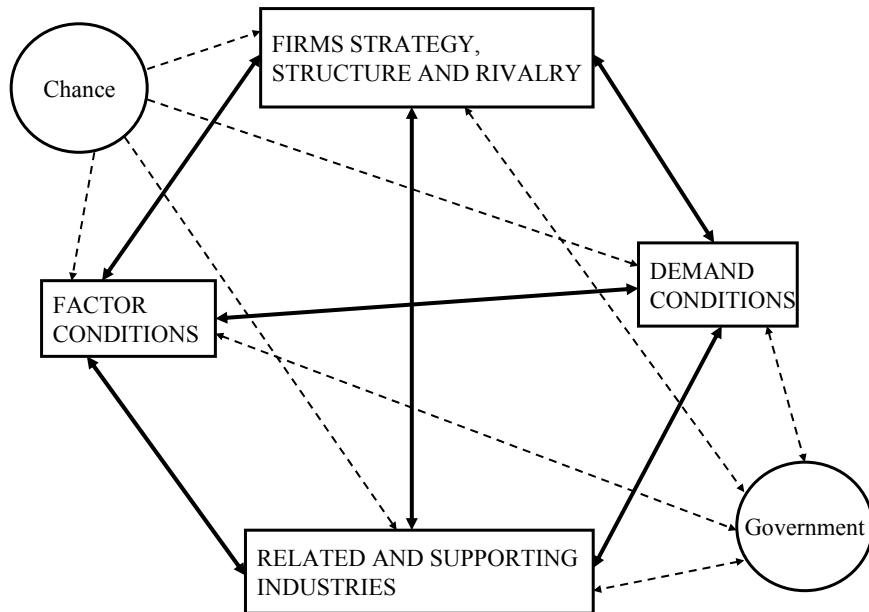


Figure 4.1 The complete system of the Porter ‘diamond’

Source: Porter, 1990:127

The next section briefly discusses supply chain analysis, which is the main approach used in this study to assess the determinants of competitiveness of the Namibian table grape industry.

4.6 Conceptualising supply chain analysis

According to Min and Zhou (2002: 231–232), a supply chain is an integrated system that synchronises a series of interrelated business processes in order to: (i) acquire raw materials; (ii) transform the raw materials into finished products; (iii) add value to the products; (iv) distribute and promote the products to either retailers or customers; and (v) facilitate information exchange among various business entities (e.g. suppliers, manufacturers, distributors, third-party logistics providers, and retailers). Such a supply chain is traditionally characterised by a forward flow of materials and a backward flow of information (Beamon, 1998: 281; Min & Zhou, 2002: 231–232). The main objective of a supply chain is to enhance the operational efficiency, profitability and competitive position of a firm and its supply chain partners (Min & Zhou, 2002: 232).

Supply chain analysis stresses the importance of interdependencies between multiple firms, revealing how inter-organisational relationships can serve as a source of competitive advantage (Lazzarini *et al.*, 2001:1). Supply chain analysis, however, is not fully equipped to discuss relations among suppliers, because it focuses on elements related to vertical

transactions, such as logistics management and the design of contractual arrangements between buyers and suppliers (Min & Zhou, 2002). In order to maintain or increase profitability in an industry chain, such as that of table grape production, reducing transaction costs¹² is critical. One of the main problems with the transaction cost approach (TCA) is that the successful measurement of transaction costs has not kept pace with its development (Hobbs, 1996: 20–25).

Excessive transaction costs are one of the reasons why agriculture cannot maximise its role as a catalyst in southern Africa (Troskie, 2001: 265). Uncertainty about product quality creates transaction costs, which therefore encourage vertical coordination between buyers and sellers (Verbeke *et al.*, 2002: 100). In general, the task of collecting, storing and making available safety-related information aimed at reassuring consumers is considered to be particularly difficult for agriculture in comparison with other industries. Such difficulty is largely due to the large numbers of primary producers present in the agricultural sector. However, trust is said to be a prerequisite for successful supply-chain coordination (Hayes, 2000: 18–19).

According to Williamson (1989), vertical coordination methods serve to minimise transaction costs. The work done by Zuurbier in 1999, as cited by Van Rooyen and Esterhuizen (2001: 14), indicated that vertically integrated supply chains and networks, as well as trust relationships, are expected to determine the structure of food and agribusiness in the near future. If the supply chain functions effectively and efficiently, value will be added to it, while if its functioning is ineffective and inefficient, value will be taken away (Mosoma, 2004: 133). Hence, while a competitive supply chain enhances farm-level profitability, an uncompetitive supply chain jeopardises it. In Namibia, considerable gains in both commercial and developing agriculture can be gained by means of the implementation of a supply-chain model that would serve to reduce excessive transaction costs, involving an integration of business transactions among all production and marketing processes.

¹² The term ‘transaction costs’ refers to a legal agreement or contract between two or more partners engaged in trade, including the costs of searching for trading partners, as well as of related negotiations, information management, monitoring and even the enforcement of contracts. Arrow (1969, cited by Williamson, 1985: 18; Furubotn & Richter, 2000: 40) defined transaction costs as the costs of running the economy. However, such costs need to be distinguished from production costs, which have tended to be a preoccupation of neoclassical analysis. Transaction cost economics seeks to understand the interplay between institutional factors and market and non-market exchange in relation to positive transactions (Kherallah & Kirsten, 2002: 117). Transaction costs economics embodies the economic foundations of supply-chain management that date back to the relatively early work done by Coase (1937) in pioneering the outcome of transactions costs when he established that market exchange is not costless.

Furthermore, in institutional economics, the emphasis is on formal institutions, such as laws, contract rules, and formal codes of conduct, and official arrangements, which, together, make up the governance structure¹³ (Bijman, 2006: 207). Informal institutions, such as norms, traditions, customs and culture, also influence transactions. Social network theorists use a broader definition of governance structure to include informal institutions (Bijman, 2006). The current analysis depends on the broad approach, defining governance as a structure consisting of the set of both formal and informal institutions that regulate a particular transaction.

The two main functions of a governance structure are coordination (aimed at securing mutual gain) and safeguarding (in order to avoid conflict and the premature termination of an agreement) (Bijman, 2006: 208). A governance structure consists of a specific set of governance mechanisms, such as a particular distribution of property rights, social mechanisms and coordination mechanisms. Property rights and coordination mechanisms are formal mechanisms, while social mechanisms are informal mechanisms. Informal institutions are not easily established and require a long time to materialise (Bijman, 2006: 211), meaning that changes in institutions only become effective after some time. For this reason, this study does not take into account the working of informal institutions, but rather focuses on formal governance mechanisms.

4.7 Conclusions

The competitiveness of an industry, such as that of table grape production, is embedded in the comparative advantage theory. The competitiveness of an industry is defined in terms of its productivity. In general, different methods can be applied in order to determine the competitiveness of an industry, in this case within the agricultural sector, with regards both to domestic and to international production and marketing. Such methods have definite advantages and disadvantages, but could be helpful in understanding the production and marketing of commodities. Some can also help in suggesting policies for a government, particularly in the case of a developing country, such as Namibia.

Based on all the methods and techniques discussed in this chapter, a supply chain analysis that qualitatively considers the level of transaction costs is used in this study. In addition, the Porter model is used to determine the environmental forces separately influencing the

¹³A governance structure is understood as a system of norms inclusive of their instruments of enforcement (Furubotn & Richter, 2000: 486).

competitiveness of the Namibian table grape industry. However, this model was used to a limited extent in this study. The problem experienced with using the Porter model lies with the critical interpretation of the results. Such a model, however, was used merely to augment the supply-chain analysis findings.

CHAPTER FIVE

THE DETERMINANTS OF COMPETITIVENESS IN THE NAMIBIAN TABLE GRAPE SUPPLY CHAIN

5.1 Introduction

As indicated in previous chapters, one of the most important influences on competitiveness in industry is the external environment, particularly the given set of food and agricultural policies that operate in the agricultural product market. Another important influence on the profitability of agricultural products is the institutional framework, such as the level of transaction costs in the supply chain.

In this chapter, supply chain analysis, complemented by the use of the Porter 'diamond' model, is used to determine and assess the factors influencing the competitiveness of the table grape industry in Namibia. The chapter starts by discussing the table grape chain and contractual information. The final section of the chapter briefly discusses the findings of the application of Porter's 'diamond' analysis.

5.2 The table grape chain and contractual information flow

As explained in earlier chapters, supply chain analysis stresses the importance of interdependencies between multiple firms, revealing how inter-organisational relationships can serve as a source of competitive advantage (Lazzarini *et al*, 2001:1). Supply chain analysis focuses on elements related to vertical transactions, such as logistics management and the design of contractual arrangements between buyers and suppliers (Min & Zhou, 2002: 232). Additionally, in order to increase profitability in the Namibian table grape industry chain the reduction of transaction costs is critical.

The development of the Namibian table grape industry depends on whether the industry has a competitive advantage in the global market. This section aims to discuss the supply chain of Namibian table grapes, which are exported to the EU market.

Figure 5.1 summarises the path that Namibia's fresh table grapes follow from the farm to consumers in Europe, consisting of four main phases: the farm level (the growers); the exporter level (South Africans); the importer level (Europeans); and the final consumer.

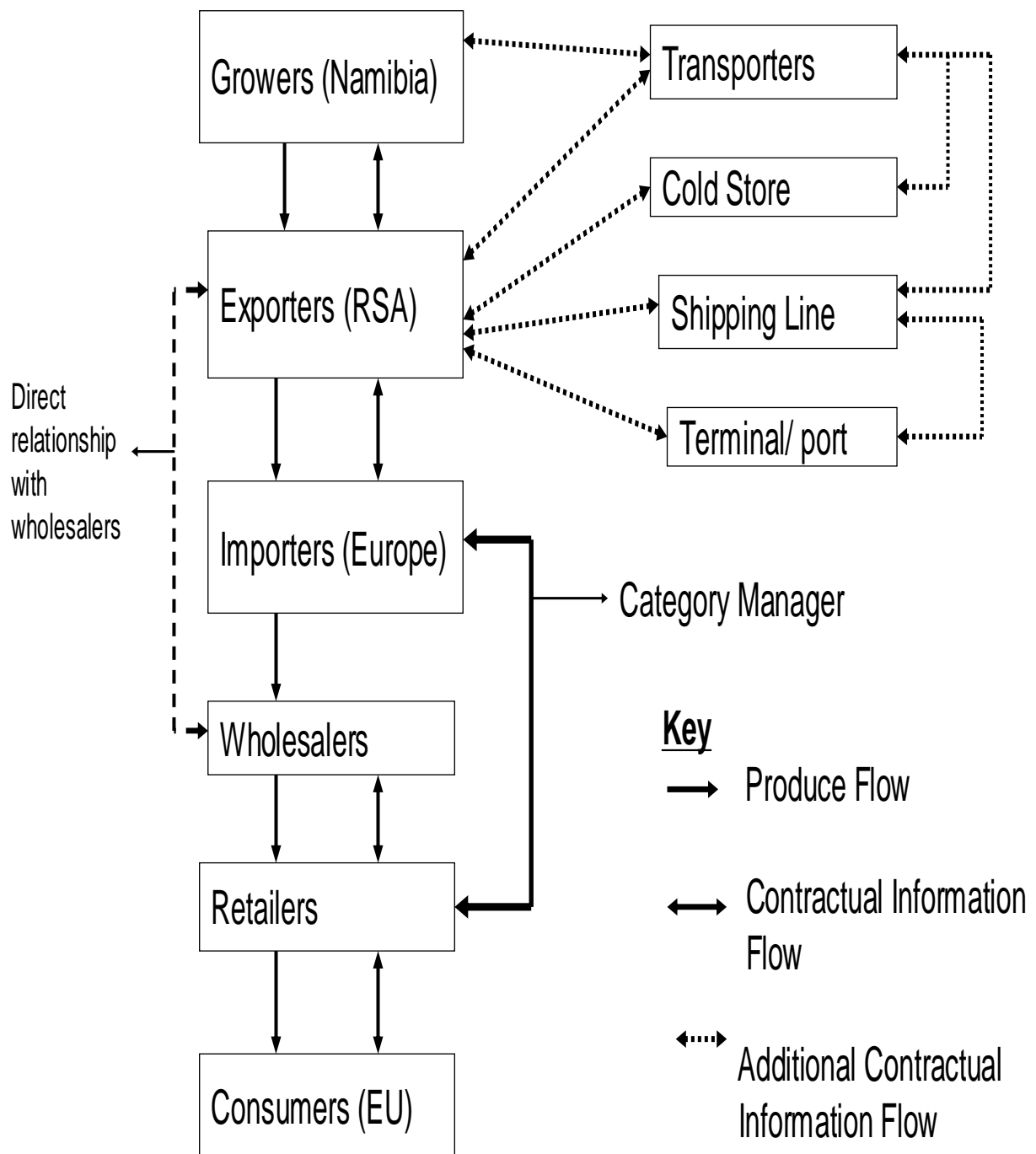


Figure 5.1 Namibia's table grape supply-chain relationships

Source: Own adapted

Table 5.1 outlines some issues of concern regarding production and transaction costs that occur at different stages of the Namibian table grape supply chain.

Table 5.1 Issues of concern at different stages of the Namibian fresh table grape supply chain

<u>Grower</u> (Namibia)	<u>Exporters</u> (SA)	<u>Importers</u> (Europe)	<u>Retailers</u>	<u>Consumers</u> (Europe)
<p><u>Production concerns</u></p> <ul style="list-style-type: none"> - Climatic conditions - Geographical location - Farm size - Limited number of growers - High input costs - Price takers - Credit (financing) - Government support 	<p><u>Logistic concerns</u></p> <ul style="list-style-type: none"> - Cold storage - Transport - Shipping line 	<p><u>Supply concerns</u></p> <ul style="list-style-type: none"> - Consistency of produce - Logistics - Traceability 	<p><u>Demand concerns</u></p> <ul style="list-style-type: none"> - Consistency of produce - Pricing of produce - Traceability 	<p><u>Produce concerns</u></p> <p><u>Food safety</u></p> <ul style="list-style-type: none"> - Organic produce - GMO products/produce - Environment-friendly
<p><u>Transaction cost concerns</u></p> <ul style="list-style-type: none"> - Shirking - Asset specificity - Economies of scale in production - High investment level - Managerial and entrepreneurial - Information asymmetry - Hold-up - Unfriendly financial markets - Adverse selection (inconsistency in quality) 	<p><u>Transaction cost concerns</u></p> <ul style="list-style-type: none"> - Quality specificity - Economies of scale in marketing (reputation) - Contract enforcement - Prisoners' dilemma/marketing opportunism - Moral hazard (inconsistency in quality) - Information asymmetry 	<p><u>Transaction cost concerns</u></p> <ul style="list-style-type: none"> - Quality specificity - Contract enforcement - Financing - Product development 	<p><u>Transaction cost concerns</u></p> <ul style="list-style-type: none"> - Information asymmetry - Monopolistic behaviour - Quality specificity - Contract enforcement 	<p><u>Transaction cost concerns</u></p> <ul style="list-style-type: none"> - Information asymmetry - Quality specificity

5.2.1 Namibian table grape growers

The Namibian table grape industry is still significantly in its developmental stage, with a limited numbers of growers centralised geographically in two major production areas, Aussenkehr and Komsberg in the southern part of the country. As farming is a risky business, due to climatic reasons and other natural phenomena, the harvesting of crops can occur later than expected. However, Namibian growers are always assured of being able to harvest the Thompson seedless variety, for which currently there is preference in the marketplace, earlier than can some of their competitors. In addition, the short harvest period, which basically runs from November to December, covers all varieties (red seedless, white seedless, red-seeded and black-seeded), allowing farmers to supply European markets with quality table grapes.

Namibian table grape farmers are, therefore, increasing their volume of output in an effort to meet the demand for niche markets. However, producers are experiencing high production costs, including the costs of variable inputs, such as chemicals, fertilisers and plant materials, which are mainly imported from South Africa. In fact, Namibian table grape producers gain from inputs supplied by South African companies, since the country has limited production input suppliers.

The production of fresh produce also requires substantial investment in assets. In the case of table grape production, the most distinctive factor is perishability, which involves much contractual risk. For example, such risk may involve the opportunistic behaviour of one of the contracting parties or the 'hold-up'¹⁴ problem. The advantage or disadvantage of asset specificity¹⁵ in the table grape production chain is determined by: specificity of location; time specificity; physical specificity; human specificity; and dedicated specificity.

The advantage of asset specificity is the ability to enter the Namibian table grape production industry, while the disadvantage of asset specificity is the ability to exit the industry. Entry, in itself, demands expensive irretrievable investment in physical infrastructure and thus reduces the likelihood of the competition entering the market quickly. Asset specificity thus may prohibit the entry of new and emerging small farmers.

¹⁴ The hold-up problem arises when one contracting party tries to exploit the other party's vulnerability in relation to specific investment in a particular asset (Martinez, 2002:6; Royer, 1999: 49). However, transaction cost theory states that asset specificity and the closely related hold-up problem are the reasons for vertical co-ordination in an agricultural economy (Szabo & Bardos, 2005: 6).

¹⁵ Williamson (1985) distinguishes asset specificity as: site specificity, physical specificity, human specificity, and dedicated specificity.

This study has also discovered that Namibian table grape producers tend to own their own cold stores and pack-houses, which are situated near their farms, which ensure the maintenance of the high quality of fresh table grapes once they have been harvested. In addition, table grape producers, as highlighted in earlier chapters, export through South African exporters. According to Fundira (2004), because of the number of reputable exporting firms dominating the market, producers take most of their produce to only one firm (size investments), leading to a relation of dependence.

Whereas Namibian fresh table grapes are sold under a generic brand name (namely Namibia), each producer group or market organisation seeks to sell under its own brand name, such as that of a consumer brand or of a business-to-business (B2B) brand. However, establishing a brand requires substantial investments in advertising and reputation building (Bijman, 2006: 216). Thus, an owner of a brand would, by all means possible, try to safeguard the brand by protecting his/her investments against opportunistic behaviour.

Moreover, bounded rationality¹⁶ makes it costly to devise a comprehensive contract in cases where contracting parties (such as between growers and exporters or between exporters and importers of table grapes) are susceptible to opportunistic behaviour, as contracts need to be renegotiated in response to changing market conditions for table grape production. Thus, in cases where the degree of asset specificity is high, uncertainty is expected to significantly affect the degree of vertical co-ordination possible, because more value is then placed on on-going relationships.

The degree of uncertainty present in a situation is directly proportional to the amount of competition present, such as where a table grape grower suspects an imminent decrease in the number of buyers. An introduction of a new product (such as a new variety of seedless or seeded table grapes by other table grape-producing countries, such as Brazil, as highlighted earlier) also increases uncertainty, since uncertainty exists as to whether the new product will succeed with the global table grape consumer.

Furthermore, special attributes, such as being environmentally friendly, non-GMO or organic, which are difficult to measure at the level of the produce itself, also may lead to incomplete

¹⁶ Human agents are extendedly rational in their behaviour, though only in a limited sense (Williamson, 1985: 30). Such limitation amounts to a bounded rationality (Douma & Schreuder, 2002: 145).

information regarding product value and producer effort being provided among trading partners. Consequently, producers or exporters may need to engage in costly searching and sorting in order to obtain information regarding the attributes of table grapes.

Finally, since the Namibian table grape industry engages mainly large farmers (growers), rather than small enterprises, growers bear the risk of employee shirking.¹⁷ Moreover, the profits associated with the table grape production industry mean that new farmers are tempted to join the industry. The new entrants, however, lack managerial and entrepreneurial ability, which demands upstream and downstream vertical integration.

5.2.2 South African fresh produce exporters

Namibian growers export their fresh produce by means of South African exporters. Exporters of fresh table grapes need an outlet, such as that provided by the European markets, while importers in the same markets also need an assured produce supply, inevitably involving the development of contractual relationships and information flows. When exporters enter into contracts with producers, they also enter into contracts with the transporters, cold store providers and shipping lines involved. Thus, the Namibian table grape growers benefit from the marketing facilities provided by South African firms.

In general, the largest exporters are attempting to guarantee their own position by not only strengthening their forward integration, but also by diversifying their production bases, investing in, or managing, production capability in other countries (Dolan & Humphrey, 2004). For example, a South African fresh produce exporter company (SA Fruit Exporters Pty Ltd (SAFE)) was involved in managing the production and marketing of table grapes for the Namibian Grape Company (NGC)¹⁸ at the time of writing this thesis. This type of arrangement is of benefit to the development of the Namibian table grape industry with regard to the global markets.

The supply chain allows for the supply of a greater volume of the Namibian table grape. However, interviews established that both the exporters and the Namibian growers suffer from incomplete market information (information asymmetry) within the supply chain. Therefore, the need exists for greater transparency in the Namibian table grape industry chain

¹⁷Shirking is defined as a deviation from expected behaviour by employees that reduce the productivity of the firm concerned (Karaan, 1999: 686).

¹⁸ Information gathered during interviews with NGC farm managers.

as to the exact numbers of table grape cartons per variety routed per destination on a weekly basis. Such transparency would, however, require greater coordination amongst the participants, with the Namibian table grape industry needing to strengthen its vertical lines with those of the South African industry, which is well developed and more experienced in relation to the global markets.

Information asymmetry also exists in regard to packaging techniques and other related value-adding services. A table grape exporter may perceive moral hazard¹⁹ in the case of new entrants, because of the potential inconsistency in the quality of produce. Similarly, producers may also perceive adverse selection, due to the potential inconsistency in the quality of produce.

Moreover, the economies of scale in marketing arise largely from the essential role played by quality specificity, which mainly refers to issues of grading and quality assurance. Thus, new contracts appear to result from a desire to increase table grape quality, in order to increase the global market share.

In order to compete in the global market, Namibian fresh table grapes, like other fresh produce in the export sector, need well-developed organisational capabilities, investment in post-harvest facilities, and sophisticated logistics. The marketing facilities provided by South African firms acting as intermediaries foster the Namibian table grape exports to third countries (EU).

Organisational capability

The production of Namibian table grapes must be managed so as to produce high quality and to prevent deterioration of the product. Good management by the Namibian table grape growers is a benefit to the competitive position of the industry in the global market. In addition, regulatory requirements, such as those of EUREPGAP, require a fresh produce body to oversee the use of chemicals, to undertake audits and to develop monitoring procedures. As highlighted in Chapter Two, the Namibian table grape industry, at the time of the study, applies to the South African PPECB for approval of its fresh produce quality export standards.

¹⁹ Moral hazard is an *ex post* form of opportunism that exists after a transaction has taken place, resulting from the hidden actions of individuals or companies. Adverse selection (hidden information), which is an *ex ante* opportunism, exists prior to a transaction taking place (Douma & Schreuder, 2002).

Post-harvest facilities

The quality requirements of the EU retailers necessitate close management of post-harvest activities. In the case of Namibian table grapes, after harvesting grapes are placed in cold store, cooled, graded, packed, and then transported by refrigerated vehicle to Cape Town. The skills and infrastructures provided by the South African companies add value to the Namibian table grapes, which are exported to the EU market.

Logistics

Logistics is now a core competence in the table grape chain, as exporters, supplying the European market, require a quick and efficient response to changing orders. Logistics capability also places a premium on the provision of up-to-date market information within the supply chain. The costs of inventory,²⁰ however, are covered by the fresh produce being traded. In the case of the Namibian table grape industry, such costs are eventually passed on to the growers by the exporters.

5.2.3 European fresh produce importers, retailers and consumers

Most importers of fruits and vegetables in Europe sell the product directly to retailers. Such a route also applies to Namibian fresh table grapes, resulting in relatively little competition being expected among retailers within the same markets. In general, the relationship (with regard to information flows) between the fresh produce importers and the retailers concerned is managed by a category manager or category captain²¹.

The retailers aim to supply the customer with a product that is consistent all year round in appearance and taste (Dolan & Humphrey, 2004). Accordingly, they do not necessarily want consumers to have information regarding the origin of the produce, as doing so would encourage consumers to express choices or preferences when buying fresh produce, such as table grapes. However, the fact is that table grapes offered by various countries so differ in

²⁰ Reliability of supply is most easily achieved by keeping stock in the system, though supermarkets in the EU wish to minimise the time spent from farm to supermarket shelf and pass the costs of inventory control back to exporters (Dolan & Humphrey, 2000: 163).

²¹ The category manager or category captain plays a much broader role in managing not only the supply chain, but also the marketing side of the category. Category management involves shifting functions away from the supermarkets and retailers involved to the category manager, who takes over particularly those functions previously performed by the supermarket (Dolan & Humphrey, 2004:22–23). Further along the chain, the impact of category management might be less direct, however, as change is inevitable. Category management represents a clear shift away from a quasi-hierarchy (combining co-operation with asymmetrical power relationships) to increasingly networked relationships (co-operation between "equals") between supermarkets and importers (Dolan & Humphrey, 2004: 23).

quality that such difference should be reflected in the prices concerned. In this way, emphasis should be placed on the importance of branding Namibian table grapes, in order to make consumers aware of the freshness of the grapes involved. However, it seems that the retailers (such as those in Europe) find it difficult to abide by their own rules, such as EUREPGAP, especially as regards traceability.

Finally, consumers in Europe are also concerned about the environment in which table grapes have been grown. Environmental uncertainties and changes are a reality in any agricultural sector worldwide. Water quality, in terms of suspended solids (particles), pH levels and mineral composition temperature (evaporation) can be significantly influenced by run-off and low rainfall. Precautionary measures, therefore, need to be taken in order to minimise any losses that may, consequently, be suffered. Another important environmental factor for consideration in Namibia is that the main table grape production area (Aussenkehr) is located in an area with potential for open-cast mining exploration and mineral extraction. Therefore, mining in this area might be seen to jeopardise Namibian table grape quality standards on the global market.

5.3 Application of the Porter ‘diamond’ model

The Porter ‘diamond’ model was used to assess each of the determinants of competitiveness separately. The problem with using this technique, as stated earlier, lies with the critical interpretation of the results, so that a supply chain analysis would be more appropriate for the critical analysis of various factors involved in the different phases of the chain. However, in this study such a model was used merely to augment the supply chain analysis findings, as indicated in the previous section.

Table 5.2 illustrates the determinants of competitive advantage in the Namibian table grape industry, as gleaned from interviews with some of the producers in the table grape industry, as reflected in the introductory chapter. In addition, the information gathered during discussions with different experts was also considered. Consultations took place in the form of multiple office visits, with, in some cases, telephone interviews also being held with different experts. In Table 5.2 the impact of environmental forces, as determinants of the competitiveness of the Namibian table grape industry, is indicated as either constraining, enhancing, neutral or with no effect on competitiveness. The main findings are now discussed.

Table 5.2 Determinants of the competitive advantage of the Namibian table grape industry

Environmental forces	Impact on competitiveness
FACTOR CONDITIONS	
Cost of production	–
Natural resources	=
Location	=
Labour	
Cost of unskilled labour	–
Quality of unskilled labour	–
Availability of unskilled labour	=
Cost of skilled labour	–
Quality of skilled labour	+
Availability of skilled labour	=
Administration costs (related to labour matters)	–
Infrastructure	
Quality of infrastructure (poor)	–
Availability of infrastructure	+
Capital	
Cost of capital	–
Availability of capital	+
Knowledge	
Cost of knowledge	–
Availability of knowledge	=
Quality of knowledge	=
Technology	
Cost of technology	–
Availability of technology	=
Quality of technology	=
DEMAND CONDITIONS	
Market size	–
Availability of market information	=
Quality of market information	+
Quality of products	+
Market growth	+
RELATED AND SUPPORTING INDUSTRIES	
Financial institutions	+
Research institutions (absent)	0
Transport companies	+
Supplier of packaging material	+
Electricity supplies	+
Agricultural suppliers:	=
* <i>competitiveness</i>	=
* <i>sustainability</i>	=
* <i>linkage</i>	+
Related industries	=
0 currently No impact – Constraining = Neutral + Enhancing	

Environmental forces	Impact on competitiveness
FIRM STRATEGY, STRUCTURE AND RIVALRY	
Adaptability of firm	+
Culture of firm	+
Structure of firm	+
Flexibility of firm	=
Pricing strategy (with growers being price takers)	0
Managerial capability of firm	+
Market power of buyers	=
Market power of suppliers	–
Threat of substitute	–
Threat of new entrants	=
GOVERNMENT SUPPORT	
Indirect support	–
Trade policy	=
Land reform policy	–
Fiscal policy	=
Irrigation policy	+
BEE policy	=
OTHER DETERMINANTS (CHANCE)	
Economic stability	=
HIV/Aids	–
Political stability	=
Price stability	=
Crime	–
Exchange rate (with strong Nam Dollar)	–
0 currently No impact – Constraining = Neutral + Enhancing	

Source: Own database

1. *Production factor conditions*: Currently, the factor conditions that chiefly constrain table grape competitiveness are: the cost of production; the cost and quality of unskilled labour; the cost of skilled labour; the administration costs associated with labour; the cost of capital; and the cost of technology. The main factor conditions that enhance competitiveness are the quality of skilled labour, the availability of capital and the availability of quality infrastructures (see Table 5.2).

2. *Demand conditions*: The demand conditions, as determinants of the competitiveness of the Namibian table grape industry, as shown in Table 5.2, enhance market growth, the quality of market information and the quality of products. While the availability of market information has a neutral impact, the size of the domestic market has a constraining impact.

3. *Related and supporting industries*: The related and supporting industries are mainly South African industries, including the input suppliers, exporters, and logistics providers. Namibian related industries include the financial institutions and the electricity suppliers involved. Transport companies, supplier of packaging material and electricity supplies were indicated in this study as factors enhancing competitiveness. However, research institutions were indicated as having no impact on the competitiveness of the Namibian table grape industry (see Table 5.2). Such a finding indicates the absence of research institutions able to carry out research in the industry.

4. *Firm strategy, structure and rivalry*: The adaptability, culture, structure, managerial capability and market power of buyers have been rated as enhancing the competitiveness of the Namibian table grape industry. The threat of substitutes and market power of suppliers has a constraining impact, while the pricing strategy has no impact on the competitiveness of the industry (see Table 5.2). This lack of impact most probably indicates that Namibian table grape producers are price takers, rather than direct influencers on the price.

5. *Government support*: Details regarding the impact of the government in terms of policy and attitude as determinants of table grape industry competitiveness are presented in Table 5.2. However, the study makes clear that government policy generally serves to constrain the competitiveness of the table grape industry, in regard to aspects such as land, Black economic empowerment (BEE), and lack of involvement in building houses and in providing an appropriate health infrastructure for workers.

6. *Chance factors*:²² The main chance factors that have a constraining impact on competitiveness are the high levels of HIV/AIDS and crime. Price, as well as political and economic stability, has a neutral impact (see Table 5.2).

The information contained in Table 5.3, which is drawn from Table 5.2, shows the most important factors influencing the competitive success of the Namibian table grape industry. These factors include: factors of production (land, labour and capital); water; the infrastructure; the cost of production; product quality; market growth; market size; the managerial capability of a firm; crime; and the exchange rate.

Table 5.3 The most important factors influencing the competitive success of the Namibian table grape industry

ENHANCING	CONSTRAINING
– Quality of skilled labour	– Cost of production
– Availability of capital	– Cost of unskilled labour
– Quality of information	– Quality of unskilled labour
– Quality of products	– Cost of skilled labour
– Market growth	– Administration costs (related to labour matters)
– Financial institutions	– Poor quality of infrastructure
– Transport companies	– Cost of capital
– Supplier of packaging material	– Cost of knowledge
– Electricity suppliers	– Cost of technology
– Agricultural suppliers linkage	– Domestic market size
– Adaptability of firm	– Market power of suppliers
– Culture of firm	– Threat of substitute
– Structure and managerial capability of firm	– Government indirect support
– Market power of buyers	– Land reform policy
– Irrigation policy	– HIV/Aids
	– Crime
	– Strong Nam dollar

(The competitive forces listed above are not ranked in any specific order.)

²² Unexpected world events, such as the September 11 onslaught in the USA, the South-East Asian financial crisis of 1997, the Iraqi war and the outbreak of the SARS virus in 2003, can have profound influences on fresh produce sales, as no amount of planning can prevent such forces from taking their toll (The Trade Chain, (Book 6), 2003: 7).

Land

As highlighted in the introductory chapter, Namibian agriculture is generally characterised by scarce land, with fragile soils and regular droughts. The government has implemented a willing-buyer, willing-seller principle, in order to address land reform. However, the land policy is indicated in Table 5.3 as a factor constraining the competitive success of the Namibian table grape industry. Such a policy is difficult to implement in the scarce productive land which is centralised geographically along the Orange River.

Water

As highlighted in the introductory chapter, Namibian agriculture is generally characterised by limited water resources and erratic rainfall. Due to the poor rainfall, the country is largely reliant on underground water and perennial rivers, such as the Orange River, on the border of the country. The development of the Namibian table grape industry depends on the water supply of the Orange River. Thus, irrigation policy is indicated in Table 5.3 as a factor enhancing the competitive success of the Namibian table grape industry.

Labour

Labour management is an important factor in enhancing the productivity of the Namibian table grape industry. The cost and quality of unskilled labour, however, is indicated in Table 5.3 as the factor constraining competitive success in the table grape industry. The interviews with table grape producers established that general farm workers in the industry usually are relatively unskilled in viticulture production and marketing. In contrast, general farm managers in the industry are relatively skilled in viticulture production and marketing. As highlighted in Chapter Three, the problems (such as proper housing and other social amenities) currently experienced by workers in the Namibian table grape industry have a negative impact on the productivity of the industry.

Capital

The cost of capital is indicated in Table 5.3 as a factor constraining the competitive success of the Namibian table grape industry. This constraining impact most probably indicates that the Namibian table grape industry involves major start-up costs, such as the high investment cost involved in establishing a vineyard. However, the availability of machinery and tractors, which are needed for the production of table grapes, would enhance productivity.

Cost of production

The cost of production is indicated in Table 5.3 as a factor constraining the competitive success of the Namibian table grape industry. Interviews with table grape producers established that the potential profitability of Namibian table grape production is significantly affected by the high cost of production, which, as indicated earlier in this chapter, demands up-stream vertical integration. Reducing the cost of production would positively improve the profitability of the industry even in the global competitive environment. Increasing such profitability would mean that the producers would be able to pay their production expenses and transport costs; to create more jobs; to assist the government in combating the HIV/AIDS pandemic; and to build houses for their workers.

Infrastructure

As discussed in the previous chapters, the physical infrastructure forms the basis of comparative advantage. The poor quality of physical infrastructure is indicated in Table 5.3 as a factor constraining the competitive success of the table grape industry. The interviews with table grape producers established that generally, the Namibian roads and telecommunication networks are of good quality. In addition, table grapes are exported through Cape Town and Upington, thus, benefit from the South African roads networks and airports that meet international standards. However, there is a need to construct a dam as a source of supplying irrigation water to table grape farmers.

Quality of products

As discussed in the previous chapters, the quality of fresh produce is important to global consumers. The quality of table grape is indicated in Table 5.3 as a factor enhancing competitive success in the global market. The Namibian table grape industry by and large applies to the South African PPECB for approval of its quality standards relating to fresh table grapes (see section 2.2.4 in this regard).

Market growth

Namibian table grapes are produced for export to the relatively large European markets. In Table 5.3 global market growth is indicated as a factor enhancing the competitive success of fresh table grapes. Thus, market shares in other parts (Africa, Asia, Middle East and USA) of the world would further enhance the growth of the Namibian table grape industry.

Market size

In Table 5.3 the domestic market is indicated as a factor constraining the competitive success of the Namibian table grape industry. Thus, the domestic market for table grapes is limited. The main markets for Namibian table grapes, as indicated in earlier chapters, are EU and South Africa.

Market information

The availability of market information is crucial to the competitive success of the table grape industry. In Table 5.3 the quality of market information is indicated as being a factor that enhances the competitive success of fresh table grapes.

Managerial capability of a firm

The management capability of a firm is indicated in Table 5.3 as a factor enhancing the competitive success of the Namibian table grape industry. Management capability can therefore be seen as an important factor in the competitive success of the table grape industry.

Crime

In Table 5.3 crime is indicated as a factor that constrains the competitive success of the Namibian table grape industry. Crime can therefore be seen as an important factor influencing the competitive success of the industry.

Exchange rate

In general, the Namibian dollar (N\$) is strong when compared to major currencies, such as the US\$ (see section 3.7). The strength of the N\$ means that the Namibian table grape is less competitive in the global markets. For example, table grape farmers would not be able to export to large global markets, such as the EU, in light of the high shipping costs entailed by the strong N\$. Thus, stronger N\$ is indicated in Table 5.3 as a factor constraining the competitive success of the Namibian table grape industry.

The competitive success of the Namibian table grape industry also is determined by rivalry among producers; by the threat of new entrants; by the threat of substitutes; and by the market power of buyers and suppliers. A summary of how these forces serve as determinants of the competitiveness of the table grape industry is presented in Table 5.4 (see also Table 5.2 in this regard).

Table 5.4 Competitive forces: the threat of new entrants and substitutes, the market power of buyers and suppliers

Competitive forces	Main contributory factors
Rivalry among table grape producers	Low – because the industry is relatively growing from year to year. The numbers of producers in the industry is significantly small, thus it is relatively easy to enforce quality standards. The production of table grapes is geographically centralised along the Orange River in two major areas, Aussenkehr and Komsberg in the southern part of the country, so the rivalry among producers is less intense.
Threat of new entrants	Low – because new entrants would find it difficult to negotiate contracts with exporters in order to access the global market. In addition, the high investment cost of establishing a vineyard also serves as a barrier to new entrants.
Threat of substitutes	Low – Due to the climatic conditions that tend to favour the production of grapes along the Orange River, the threat from potential substitutes is low.
The market power of buyers	High – The buyer concentration is the EU markets. The retailers in EU currently set prices for table grapes, seemingly depending on their quality and the consistency of supply.
The market power of suppliers	High – Switching costs to alternative suppliers are relatively high for production inputs among South African companies. In addition, Nampower, a Namibian electricity supplier, is more or less a monopoly, as the company market power is extremely high, in light of the fact that changing to South African companies would result in high switching costs.

5.4 Conclusions

The Namibian table grape industry is still significantly in its developmental stage, with a limited numbers of growers centralised geographically in two major production areas – Aussenkehr and Komsberg in the southern part of the country. Namibian growers are assured of always being able to harvest the Thompson seedless variety, for which currently there is preference in the marketplace, earlier than can some of their competitors.

The production of fresh produce requires substantial investment in assets. In the case of table grapes, the most distinctive factor is perishability, which involves much contractual risk. The advantage of asset specificity is the ability to enter the Namibian table grape industry, while the disadvantage of asset specificity is the ability to exit the industry. Entry, in itself, entails the irretrievable expenses of investing in physical infrastructures and, thus, of reducing any chance of quick entry by the competition. Asset specificity thus may prohibit the entry of new and emerging small farmers.

The Namibian table grape industry currently experiences high transaction costs caused by contractual and exchange arrangements among participants within the supply chain, which are particularly exacerbated by the perishable nature of the product. The transaction costs are increased in light of the absence of incomplete information within the chain. Subsequently, strengthening vertical coordination would significantly contribute to reducing transaction costs along the course of the chain.

Moreover, the main factors that enhance competitiveness for the Namibian table grape industry in terms of Porter's 'diamond' model include: the quality of the products; the financial institutions involved; the nature of the electricity suppliers; agricultural supply sustainability; irrigation policies; and the adaptability, culture, and structure of the firm. The main constraining factors, in terms of the model, include: the cost of production; administration costs (related to labour matters); technology costs; the market size (particularly that of the domestic market); the market power of suppliers; the threat posed by possible substitutes; the high level of crime; and inadequate government support.

In summary, the Namibian table grape chain is relatively competitive in the international arena. Though there is evidence that the primary production is becoming more competitive, one can also argue that the development of the Namibian table grape industry is a part of the South African table grape industry, especially in relation to the existing vertical lines.

CHAPTER SIX CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

The broad objective of this study was to determine the determinants of competitiveness in the Namibian table grape industry within both regional and international markets. Interviews were conducted in informal, semi-structured questions. The questionnaires were mailed to several producers within the table grape-growing industry. Secondary information was obtained from reports, articles, books and research publications. Expert assessment was used to provide valuable information regarding agricultural and related issues in Namibia and beyond, particularly as regards the potential offered by the horticultural industry in general and the competitive position of the table grape industry in terms of the global markets in particular.

In order to determine the environmental forces that affect the level of profitability of the table grape industry, a supply-chain analysis augmented with Porter's model, was considered in this study. Thus, this chapter provides an overview of the conclusions, the research outcome, policy considerations, the limitations of the study and recommendations: for further studies and development in the table grape industry in Namibia.

6.2 Summary and conclusions

The Namibian table grape chain was associated with high transaction costs, resulting from contractual and exchange arrangements, particularly brought about due to fresh grapes being perishable products with a short shelf-life. In general, transaction costs are increased by clear evidence of incomplete information within the table grape chain. For example, though Namibian fresh grape producers tend to meet EUREPGAP set standards, there is still much room for the implementation of public and private traceability systems by means of automated data capture, electronic data processing and electronic communications, which are important for the accurate speeding up of access to information regarding production and the provenance of healthy quality fresh produce.

6.2.1 Policy considerations

The findings of the study clearly showed that the table grape industry is facing challenges with regard to agricultural policy impact, as regards both domestic and trade policies.

Land reform is among the important policies in the development of the agricultural sector in general and, in particular, the table grape industry. This policy aims to address issues relating to the equal distribution and allocation of economic resources that were caused by the past unjust systems of the colonial and apartheid administrations. The main problems with the current policies relate to their implementation. In the case of the land reform policy, the government is committed to the willing-buyer, willing-seller principle, which is implicated by respect for property rights.

Furthermore, Namibia is a member country of different international trade arrangements. The key trade arrangements affecting the Namibian agricultural and related sectors include: SACU, the SADC and the WTO. By its membership of these regional and international trade arrangements, Namibia benefits from market access and associated trade policy reform. Policy reform includes: the reduction of tariffs, infant industry status, the imposition of anti-dumping duties, and policy relating to competition. Moreover, the trade arrangements among WTO member countries are supposed to prepare producers for competing in the global market, though unfair trade practices of mainly the EU and the USA are evident from the developing countries' point of view. Developing countries, such as Namibia, are not in a position to provide domestic support and export subsidies to their farmers, as is the case with developed economies, such as the EU and the USA. The export subsidies, as well as the sanitary and phytosanitary (SPS), are controversial, since they violate international norms in respect to fair trade, thus prejudicing any global trade competitive advantage.

As EU retailers and supermarkets aim to supply their customers with a product that is consistent in appearance and taste all year round, they do not necessarily want consumers to know about the origin of produce, for fear that consumers would express choice or preference in relation to the buying of fresh produce. A problem of this nature could be addressed by means of the branding and labelling of fresh produce from Namibia, and so ensuring that consumers are aware of the quality of Namibian fresh table grapes.

6.2.2 Production considerations

While the domestic market for fresh grapes is limited, table grapes are produced for the export markets, particularly those of the EU. Namibia is gaining a solid reputation as a supplier of high-quality table grapes which reach the European markets during the period between November to January. The main suppliers that serve as the main competitors in the southern hemisphere include Chile, South Africa and Brazil. For example, Chile and South Africa

have a definitive tariff advantage over Namibia, as they have already concluded FTAs with the EU. In light of such agreements, table grapes tariffs have been scaled down in the case of South Africa, while the tariff-free quota has been drastically enlarged at least to 30 000 tonne per annum, in the case of Chile (Hoffmann, 2003). Although Namibia also enjoys an 800 tonne per annum (Hoffmann, 2003) tariff-free quota for seedless table grape exported to the EU, this benefit is not applicable to seeded table grapes. This issue, therefore, urgently needs to be addressed in trade negotiations with Namibia considering its development status as compared to the status of its main competitors, including Chile and South Africa.

The table grape producers in Namibia should realise that product differentiation and the ethnic market niche are important forces in issues relating to global competitiveness. For example, Asians tend to consume mainly the Red Globe variety of seeded grape. The European market also tends to consume significant quantities of the Red Globe variety. The latest trends in global market demand for table grapes, however, have shown an increase in the consumption of the seedless varieties. The EU market is therefore characterised by consumers who are generally more sophisticated and who tend to demand specific kinds of food, while also being willing to pay more for healthy, safe fresh produce (table grapes). Namibian producers therefore have to engage the resources available to them in order to achieve sustained access to the EU market.

Factors that impede the viability of table grape production also need to be taken into consideration by potential fresh produce farmers, however. For instance, the role of the NAB in the development of the table grape industry is not, as yet, clearly defined, resulting in the advisability of table grape industry growers paying the 1.2 per cent levied by NAB on importers and producers of horticultural produce (from which table grape growers are currently excluded), in order to enable the Board to be in a position to accelerate trade negotiations on their behalf, especially in relation to tariff and quota negotiations.

Therefore, it is of cardinal importance that role-players in the Namibian horticultural industry maintain open communication channels in order to be able to understand one another's needs better. That is to say, in order to be able to take well-balanced economic decisions, sufficient and complete information should be available about the markets and the levels of production and consumption available, as well as about who the buyers and sellers are. The development of the horticultural industry, in particular the fresh table grape industry, will largely be determined by how transparent the market is. However, such transparency implies that

sufficient market information be freely available to all role-players concerned. Farmers must be trained in how to gather and interpret market information, as well as in how to use market instruments. Farmers themselves should stay alert to issues impacting on the global changing environment. Policy-makers, producers and consumers should all be better informed about the agricultural and food-related issues facing them, as well as of the consequences of taking alternative policy decisions, including considerations of the impact of various externalities on issues of social welfare and of how best to internalise them.

Furthermore, investing in horticultural development in Namibia needs to be thoroughly thought through, in order to ensure that the costs and benefits, as well as institutional analysis, is capable of showing a viable sustained profit margin. The availability and location of the infrastructure concerned is another important factor determining the competitiveness of any industry. Associated costs also require consideration, as such costs can help to determine the profit margins involved.

Finally, due to Namibian table grape production still being in its developmental stage, farmers have to contend with high levels of risk. The existence of many possibly unknown environmental factors requires that public and private institutions at all levels undertake a concerted effort to develop the horticultural sub-sector in particular table grape industry. Thus, in order to reduce risk, farmers need to diversify their production. The marketing of table grapes should also be vertically coordinated in order to reduce the level of transaction costs experienced within the chain.

6.2.3 Technical support and the availability of information

As the Namibian horticultural industry is still in its initial stage of development, much less research has been done in this field than in the same field in other countries also involved in horticulture. The findings of the current study clearly indicate that the research institutions in Namibia do not, as yet, significantly impact on the development of the table grape industry in the country. The lack of extensive formal horticultural research, combined with the highly site-specific nature of horticultural production, necessitate interested parties taking some initiative in this regard.

Both public and private institutions should establish and strengthen agricultural research, specifically in relation to the competitive advantage of individual industries within agro-food products. Although the government currently in power has encouraged horticultural research

since 1996, still more work needs to be done in this regard. Public sector research investments should be expanded and private R&D encouraged. The reluctance of most private firms to invest in research militates against the capturing of data relating to the increase in surplus benefiting the buyers of their products. Thus, their private marginal benefit from research is less than the socially marginal benefit concerned. Private firms underinvested in R&D cannot, therefore, be regarded as being Pareto optimal. The information made available from public research might encourage private firms to underinvest, as such information is subject to free-ride.

Researchers and other parties with an interest in the table grape industry would greatly benefit from efficient collaboration and information dissemination, while a regular research platform would encourage the development of appropriate responses to the cross-sectoral and multi-disciplinary expertise needs of the agricultural sector. For example, the need exists to understand the benefits made available by international food bodies, such as the Codex Alimentarius Commission (CAC) (HACCP) and EUREPGAP (for fruit and vegetables), in addition to being accommodated within the trade policy regulatory framework. Such rules and regulations not only protect the consumer, but also protect producers from unfair competition by those who falsely claim that their table grape meets international standards when, in fact, it does not.

Moreover, those involved in all aspects of viticulture production, handling, storage, processing or distribution of table grapes must be well trained in good agricultural practices (GAP) and good manufacturing practices (GMP). Training in horticulture should be intensified by local institutions of high education and colleges, while appropriate extension and communications programmes should also be developed. Extension officials must receive ongoing in-service training in order to be able to disseminate the latest relevant information to farmers in the industry, who will then, in turn, be able to improve the quality and safety of their products.

6.3 Recommendations

Despite the time and space limitations set this thesis, following from the insights gained during the research for this study, a number of recommendations are worthwhile mentioning in connection with the possible further development of the Namibian table grape industry.

- 1) The Namibian table grape industry is very labour-intensive, creating wide-reaching employment opportunities for both permanent and seasonal workers. The current positive growth that is evident in the industry means that more job opportunities will become available in the future, though this trend may not continue for much longer, as the development of the industry stands to be hampered by negative social and humanitarian influences. Housing, health facilities and other social development areas need to be attended to by both the private sector and government. Little has so far been done by either the government or the private sector to address the immense social problems facing workers in the table grape industry.
- 2) Current government policies aim to address the equal distribution and allocation of economic resources, which were unequally distributed in the past. The table grape industry offers an opportunity of addressing government land reform programmes. The industry presents an opportunity for the introduction of equity-sharing schemes between employers and employees. The disadvantages that come from implementing such schemes should, however, also be clearly explained to the beneficiaries concerned.
- 3) In order to ensure sustainable development of the Namibian table grape industry it is of the utmost importance that government supports the development of physical infrastructure along the Orange River such as roads and dams construction.

BIBLIOGRAPHY

- Acquah, E. T. & Davis, R.**, 1997. *Stimulating indigenous agribusiness development in the Northern Communal Areas of Namibia: A concept paper*. Washington, D.C. AMEX International US Agency for International Development.
- Agritel**: <http://www.agritel.co.za/> [Accessed on 05/03/2006].
- Alexander, E.** Personal communication. 13 June 2006.
- Balassa, B.**, 1965. Trade liberalization and revealed comparative advantage. *The Manchester School*, 33: 99–123.
- Beamon, B.M.**, 1998. Supply chain design and analysis models and methods. *International Journal of Production Economics*, 55: 281–294.
- Bijman, J.**, 2006. Governance structure in the Dutch fresh-produce industry. In: Ondersteijn C.J.M., J.H.M. Wijnands, R.B.M. Huirne and O. van Kooten (eds). *Quantifying the agri-food supply chain*, 205–221. Wageningen. The Netherlands. Springer.
- Brodie, L.**, 2001. EurepGAP: The countdown to 2003 has begun. *Deciduous Fruit Grower*, 51(6): 19. October.
- Burger, H.**, 2002. Comparative analysis of four early white, seedless table grape cultivars in the Orange Rivers area. Unpublished MScAgric thesis, Stellenbosch University.
- Coase, R.**, 1937. The nature of the firm. *Economica*, 4: 386–405.
- Decosa** (Development Consultancy for Southern Africa), 2001. *Consultancy on the Prospects of Domestic Import Substitution in Various Agricultural Commodities*. Windhoek. DECOSA.
- Dolan, C. & Humphrey, J.**, 2000. Governance and trade in fresh vegetables: The impact of UK supermarkets on the African horticulture industry. *The Journal of Development Studies*, 37(2): 147–176.
- Dolan, C. & Humphrey, J.**, 2004. *Changing Governance Patterns in the Trade in Fresh Vegetables between Africa and the United Kingdom*. Environmental and Planning A. Available: <http://www.gapresearch.org/production/IFAMSubmission.pdf>. [Accessed 17/06/2006].
- Douma, S. & Schreuder, H.**, 2002. *Economic Approaches to Organisations*. 3rd edition. Harlow, England. Prentice Hall.
- Erasmus, G-C.**, 2003. Developing an international export marketing strategy for South African table grapes. Unpublished Master of Business Administration thesis. University of Stellenbosch.

- EurepGAP:** <http://www.eurep.org/>. [Accessed on 27/02/ 2006].
- Fafchamps, M., De Janvry, A. & Sadoulet, E.,** 1995. Transactions costs, market failures, competitiveness and the state. In: Peters G.H. and D.D. Hedley, (eds). *Agricultural Competitiveness: Market Forces and Policy Choice. Proceedings of the 22nd International Conference of Agricultural Economists*. Harare, Zimbabwe. Dartmouth Publishing (UK): 343–354.
- FAOSTAT,** 2004. Available: <http://www.faostat.fao.org/> [Accessed on 1/5/2006].
- Forsythe, S.J. & Hayes, P.R.,** 2000. *Food, Hygiene, Microbiology and HACCP*. 3rd edition. Caithersburg, Md (USA). Aspen Publishers.
- Foster, K.,** 2001. *Volunteer (VSO) Placement to Prepare a Plan of Action for Implementation: Basic Food Standards for Horticultural Produce in Namibia*. Chatham Maritime, Kent (UK). Natural Resources International.
- Fundira, T.,** 2004. A Transaction Cost Analysis of the Fruit Supply Chain in South Africa: A Case study Approach. Unpublished MAgriAdmin thesis, University of Stellenbosch.
- Furubotn, E.G. & Richter, R.,** 2000. *Institutions and Economic Theory: The Contributions of the New Institutional Economics*. Ann Arbor (USA). University of Michigan Press.
- Giles, J.,** 2001. What are the future prospects for South Africa in international fruit markets? *Deciduous Fruit Grower*, 51: 42–57.
- Government of Namibia, Green Scheme Irrigation Policy Draft Document** [n.d.]. Windhoek, Ministry of Agriculture, Water and Rural Development. Windhoek.
- Government of Namibia, MAWRD-Horticulture Project in Kavango Region.,** 2000. *Horticultural Production and Marketing in the Kavango Region*. Rundu. Natural Resources International.
- Government of Namibia, MTI (Ministry of Trade and Industry),** 2004. *Namibia Exports*. Available: <http://www.mti.gov.na> [Accessed 11 February 2004].
- Government of Namibia, NAP (National Agricultural Policy),** 1995. Windhoek: MAWRD.
- Hardaker, J.B., Huirne, R.B.M. & Anderson, J.R.,** 1997. *Coping with Risk in Agriculture*. New York. CAB International.
- Hayes, P.B.,** 2000. Enhancing the Competitiveness of the Rooibos Industry. Unpublished MPhil in Agricultural Systems Management thesis, University of Stellenbosch.
- Helmsletter, D.,** 1995. Gardening around Olushandja dam. Windhoek. MAWRD.
- Hishekwa, M.P.R.,** 1996. Surveys on production and marketing of fresh fruit and vegetables in North and North Eastern Communal regions. In: MAWRD. *Report of the Workshop, Okashana Conference and Training Centre, 11–12 April 1996*.

- Hobbs, J.**, 1996. A transaction cost approach to supply chain management. *Supply Chain Management*, 1(2): 15–27.
- Hoffmann, J.** (n.d). Greening the Namibian Desert: African Success Story. Available: <http://www.saiia.org.za/modules.php>. [Accessed on 05/12/2005].
- Hoffmann, J.A.H.**, 2003. *Tariffication by the European Union of table grape imports originating from Namibia*. Windhoek. Namibian Agricultural Trade Forum (ATF).
- Hoffmann, J.A.H.**, 2004. *Table Grape: One of Namibia's Most Promising Agricultural Export Crops*. Windhoek. Namibian Agricultural Trade Forum (ATF).
- Howells, J. & Wood, M.**, 1993. *The Globalisation of Production and Technology*. London and New York. Belhaven Press.
- IDC**, in association with AGRITEL & MBB Consulting Engineers., 2004. *National Horticulture Development Initiative: Feasibility Study into the Development of Infrastructure for the Marketing of Horticulture Produce in Namibia*. Windhoek: IDC (International Development Consultancy).
- Inambao, C.**, 2005. Grapes and dates articles. Windhoek. *New Era*, 16 December: 11(99).
- Jaffee, S.**, 2005. *Food Safety and Agricultural Health Standards: Challenge and Opportunities for Developing Country Exports*. Report 31207, Washington, D.C. World Bank Poverty Reduction and Economic Management Unit.
- Kahuika, S., Stork C., Von Krosigk, V. & Shilimela, R.**, 2003. *Trade Assessment: Namibia and Angola*. Windhoek. Nepru.
- Kalili, N.**, 2000. *Grape Production in Namibia*. Working Paper no.76. Windhoek. Nepru.
- Karaan, A.S.M.**, 1999. Bridging the small–big divide: A transaction cost approach to enterprise modelling for mussel mariculture in Saldanha Bay. *Agrekon*, 38(4): 680–691.
- Kennedy, P.L., Harrison, R.W., Kalaitzandonakes, N.G., Peterson, H.C. & Rindfuss, R.P.**, 1997. Perspective on evaluating competitiveness in agribusiness industries. *Agribusiness*, 13(4) 385–392.
- Kherallah, M. & Kirsten, J.F.**, 2002. The new institutional economics: Applications for agricultural policy research in developing countries. *Agrekon*, 41(2): 111–134.
- Lazzarini, S.G., Chaddad, F.R. & Cook, M.L.**, 2001. Integrating supply chain and networking analyses: The study of net chains. *Journal of Chain and Network Science*.
- Lee, C-H.G.** (n.d). *Private Food Standards and Their Impact on Developing Countries*. European Commission. DG Trade Unit G2. Available: <http://www.delpry.cec.eu.int/contenidos/index.php>. [Accessed on 15/06/2006].
- Lindert, P.H. & Pugel, T.A.**, 1996. *International Economics*. 10th edition. Chicago. Irwin.

- Ly, B.T.**, 1996. Horticulture in Northern-Central region. In: *MAWRD. Improvement of Production and Marketing of Horticultural Produce in Central-North and North-eastern Communal Areas: Report of the Workshop, Okashana Conference and Training Centre*, 11–12 April 1996.
- Mabiletsa, P.**, 2005. *South Africa Fresh Deciduous Fruit*. Pretoria. USDA Foreign Agricultural Service. Gain report number SF5001 & 5034.
- Martinez, S.W.**, 2002. Vertical coordination of marketing systems: Lesson from the poultry, egg and pork industries. *Agricultural Economics*, Report No.807. USDA.
- Min, H. & Zhou, G.**, 2002. Supply chain modelling: past present and future. *Computer and Industrial Engineering*, 43: 231–249.
- Mosoma, K.**, 2004. Agricultural competitiveness and supply chain integration: South Africa, Argentina and Australia. *Agrekon*, 43(1): 132–144.
- NAB** (Namibian Agronomic Board), 2004. Windhoek. *Annual report*, 17.
- NAB** (Namibian Agronomic Board), 2005. Windhoek. *Annual Report*, 18.
- NAB Database**, 2005. Domestic demand and production (yield) for year 2005 of horticultural produce. Windhoek. NAB.
- Namibia Trade Directory.**, 2005. *A Review of Namibia Trade and Industry*. Windhoek. Namibia Trade Directory.
- Namibia. Department of Water Affairs.**, 1990. Regional Master Water Plan for the Owambo Region. Windhoek. Unpublished Report.
- Namibian Orange River Grape Growers Association**, 2004. Press Release. Aussenkehr. Grape Growers Association.
- NASSP** (National Agricultural Support Services Programme), 2005. *ATF-NASSP Consultative Forum on Namibia's SADC–EPA Negotiations*. Windhoek. NASSP Report No. 004/2005.
- NAU** (Namibia Agricultural Union), 2005. *A Framework for a Sustainable Land Use and Land Reform Programme in Namibia*. Available: <http://www.agrinamibia.com.na/> [Accessed on 1/16/2006].
- Netterville, R. & Adendorff, K.**, 2002. Quality systems in the fresh fruit export industry. *South Africa Journal of Industrial Engineering*, 13(2): 1–14.
- Ntinda, A.**, 2002. *Namibia Eyes European Table Grape Markets*. <http://www.snni.org/cgi-bin/snni/archives/snnarch.cgi>. [Accessed on 11/02/ 2006].
- OABS** (Optimal Agricultural Business Systems), 2003. *Fruit Logistics Project, 2002–2004*. CSIR. Stellenbosch.

- Ortmann, G.F.**, 2000. Promoting competitiveness in South African agricultural and agribusiness: The role of institutions. *Agrekon*, 39(4): 367–400.
- Oster, S.M.**, 1994. *Modern Competitive Analysis*. 2nd edition. New York and Oxford. Oxford University Press.
- Pitois, C.**, 1996. Horticulture in Northern-Central region. In: *MAWRD. Improvement of Production and Marketing of Horticultural Produce in Central-North and North-eastern Communal Areas: Report of the Workshop*, Okashana Conference and Training Centre, 11–12 April 1996.
- Porter, M.E.**, 1990. *The Competitive Advantage of Nations*. New York. Free Press.
- PriceWaterhouseCoopers.**, 2005. *Irrigation in Namibia: Green Scheme and Horticulture Initiative for Namibia Cost-benefit Analysis*. Windhoek. PriceWaterhouseCoopers.
- Pugel, T.A.**, 2004. *International Economics*. 12th edition. New York. McGraw-Hill.
- Reekie, W.D.**, 1989. *Industrial Economics: A Critical Introduction to Corporate Enterprise in Europe and America*. Aldershot. Edward Elgar.
- Royer, J.S.**, 1999. Cooperative organisational strategies: A neo-institutional digest. *Journal of cooperatives*, 14: 44–67.
- SADC Trade Database:** <http://data.sadctrade.org/st/Table Viewer/tableview.aspx> [Accessed on 16 October 2006].
- SADCTradeReview**, 2005. Official SADC Trade, Industry and Investment Review: SADC 25th Anniversary Commemorative Edition (9th) 1980–2005. Southern African Marketing Co. (Pty) Ltd, in association with Southern African Development Community.
- Sattar, A.A., Diz, M. & Franklin, D.L.**, 2003. *Competitiveness of the Food Processing Cluster in Namibia*. Windhoek. Sigma One Corporation.
- Sullivan, M.**, 1996. Horticulture in Northern-Central region. In: *MAWRD. Improvement of Production and Marketing of Horticultural Produce in Central-North and North-eastern Communal Areas: Report of the Workshop*, Okashana Conference and Training Centre, 11–12 April 1996.
- Szabo, G.G. & Bardos, K.**, 2005. *Vertical Coordination by Contracts in Agribusiness: An Empirical Research in the Hungarian Dairy Sector*. Hungarian Academy of Science. Institute of Economics.
- The Trade Chain.**, 2003. *Consumer Demand*. Fresh Produce Exporters' Forum The Trade Chain of South African fresh Fruit Export industry, Book 6 of 9.

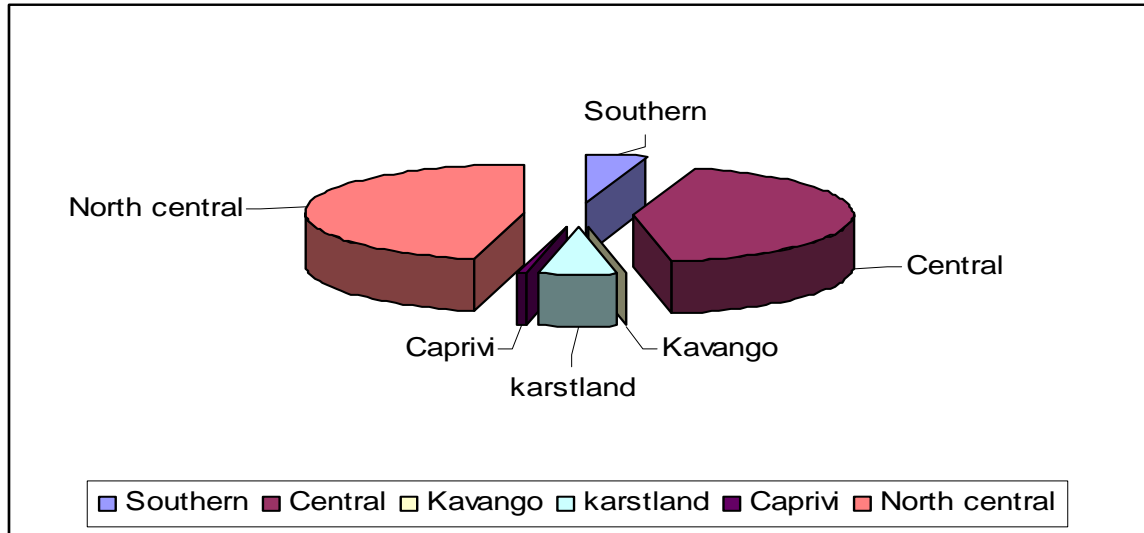
- The Trade Chain.**, 2003. *Quality Management*. Fresh Produce Exporters' Forum The Trade Chain of South African fresh Fruit Export industry, Book 8 of 9.
- The Trade Chain.**, 2004. *Production*. Fresh Produce Exporters' Forum The Trade Chain of South African fresh Fruit Export industry, Book 1 of 9.
- TIPS**, 2004. Available: <http://www.tips.org.za> [Accessed on 11 October 2006].
- Troskie, D.P.**, 2001. Structural Adjustment in the Wheat Industry of the Western Cape Province. Unpublished PhD (Agric) thesis, University of Stellenbosch.
- Tweeten, L.**, 1992. *Agricultural Trade: Principles and Policies*. Boulder, CO: Westview Press.
- USDA.**, 2005. *World Table Grape Situation and Outlook*. Available: <http://www.fas.usda.gov/http/horticulture/grapes.pdf>. [Accessed on 14/2/2006].
- USDA/FAS.**, 2006. *World Table Grape Situation and Outlook*. Available: http://www.fas.usda.gov/http/hort_circular/2006/0406/table%20Grape%20Situation%0and20%Outlook%202006.pdf. [Accessed on 31/05/2006].
- Van Dijk, T. & Kleynhans, T.E.**, 2004. An evaluation of the environmental care orientation of deciduous fruit producers in Western Cape. *Agrekon*, 43(3) 317–330.
- Van Rooyen, C.J. & Esterhuizen, D.**, 2001. Competing at the “cutting edge”: opportunities for agribusiness partnership and cooperation in the Southern Africa region. *Agrekon*, 40(1): 13–24.
- Verbeke, W., Doyer, O.T. & Visser, D.P.**, 2002. Viewpoint: Supply chain management and traceability in pork chains: The Belgian and South African case. *Agrekon*, 41(1): 97–107.
- Vigne, P. & Whiteside, M.**, 1997. *Encouraging Sustainable Smallholder Agriculture in Namibia*. Hillside. Environment and Development Consultancy Ltd.
- Vink, N. & Kirsten, J.**, 2003. Policy successes and policy failures in agricultural land reform in South Africa: The 1990's. *The South African Journal of Economic History*, 18: 96–117.
- Vink, N., Kleynhans, T.E. & Street, K.**, 1998. The competitiveness of Western Cape wheat production. *Agrekon*, 37(3): 255–267.
- Vollrath, T.L.**, 1991. A theoretical evaluation of alternative trade intensity measures of revealed comparative advantage. *Weltwirtschaftliches Archiv*, 130: 265–279.
- Von Back, H.S., Spoelstra, M. & Bruhns, P.**, 1998. Baseline Study of Horticultural Production and Marketing in the Northern Communal Areas. Windhoek. MAWRD unpublished document.

- Warr, P.G.**, 1994. Comparative and competitive advantage. *Asia-Pacific Economic Literature*, 8(2): 1–14.
- Williamson, O.E.**, 1985. *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting*. New York. Free Press.
- Williamson, O.E.**, 1989. Transaction cost economies. In: R. Schmalensee & R.D. Willig (eds). North Holland. New York. *Handbook of Industrial Organization*. Vol. 1.
- Wilson, N.**, 1996. The supply chain of perishable products in northern Europe. *British Food Journal*, 98(6): 9.

APPENDICES

Appendix A: Namibian fruit and vegetables production (yield) and consumption (demand)

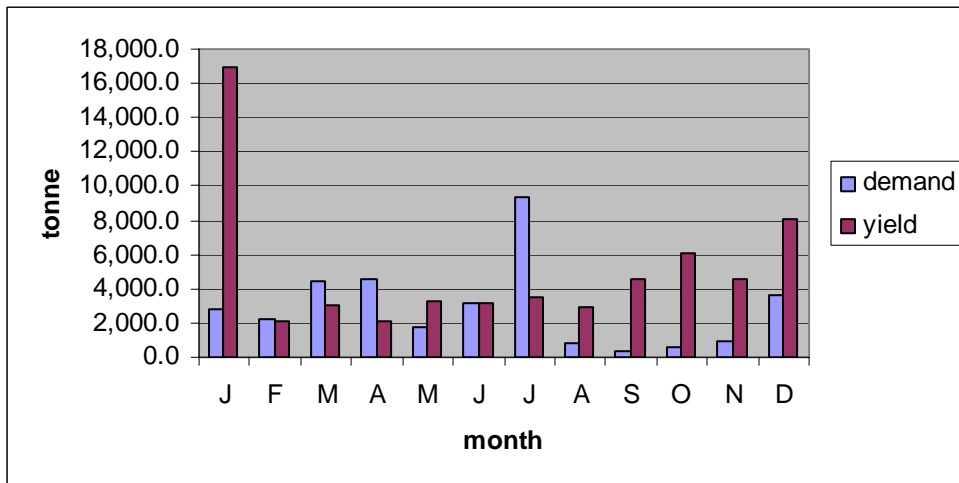
Appendix A1: Fruit and vegetable total demand per region for 2005



Note that *karstland* include the area near Tsumeb, Otavi and Kombat.

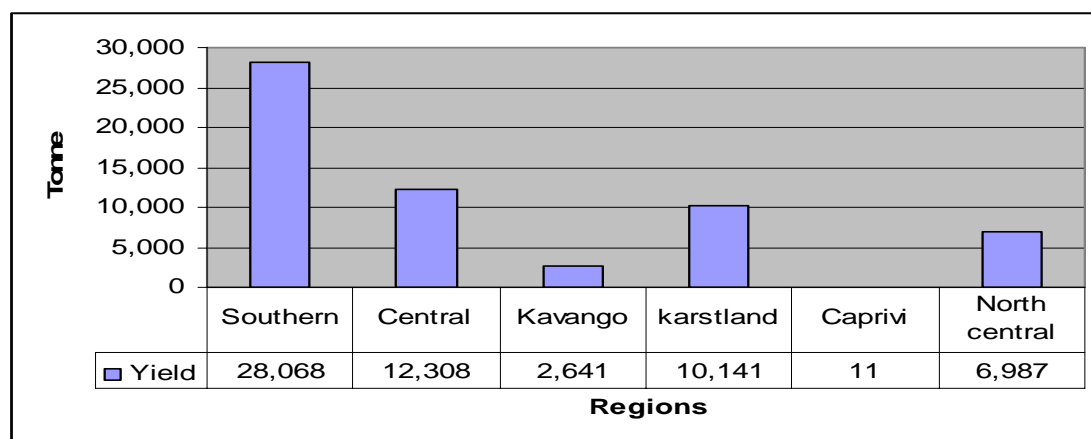
Source: Compiled with data from NAB Database, 2005

Appendix A2: Namibian fruit and vegetable monthly yield and demand for 2005



Source: Compiled with data from NAB Database, 2005

Appendix A3: Fruit and vegetable total yield per region for 2005



Source: Compiled with data from NAB Database, 2005

Appendix A4: Crop hectares earmarked for export production

Produce	Hectares required for import substitution	Hectares earmarked for export production	Total area	% of total area
Maize	9 631.30	205.9	9 837.2	36.43
Wheat	8 333.30	175.7	8 509.0	31.51
Cotton	n/a	1 535.0	1 535.0	5.69
Cabbages/lettuce/cauliflower/broccoli	89.3	n/a	89.3	0.33
Beans	9.6	n/a	9.6	0.04
Potatoes and sweet potatoes	429.6	n/a	429.6	1.59
Onions	213.9	n/a	213.9	0.79
Tomatoes/Cocktail tomatoes	49.3	572.4	621.7	2.30
Peppers	37.2	n/a	37.2	0.14
Pumpkin/Gem squash/Butternuts	38.7	n/a	38.7	0.14
Carrots	37.1	n/a	37.1	0.14
Beetroot	14.6	n/a	14.6	0.05
Oranges/Naartjies/Lemons	270.3	n/a	270.3	1.00
Grapes	95.8	1 145.1	1 240.9	4.60
Watermelons/Sweet melons	13.5	n/a	13.5	0.05
Mangoes	17.5	572.4	589.9	2.18
Cucumbers	12.7	n/a	12.7	0.05
Avocados	49.4	n/a	49.4	0.18
Dates	0.2	2 290.0	2 290.2	8.48
Asparagus	2	n/a	2.0	0.01
Chillies	0.6	572.4	573.0	2.12
Brinjals	1.3	572.4	573.7	2.12
Spinach	5.1	n/a	5.1	0.02
Guavas	2.5	n/a	2.5	0.01
Garlic	4	n/a	4.0	0.01
Total	19 359	7 641	27 000	100.00
% of Total Area	72	28	100	

Source: PriceWaterhouseCoopers, 2005: 15