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HAROLD PUPKEWITZ GRADUATE SCHOOL OF BUSINESS

**Assessing the Namibian government's policy on improving national food
production: A case study of the Agronomic sector**

Fanuel Eita Ekondo

Thesis presented in partial fulfillment for the Degree of Masters of International
Business in the Harold Pupkewitz Graduate School of Business at the Polytechnic of
Namibia

Supervisor: Prof. Ravinder Rena

July 2013

DECLARATION

I, Mr. Fanuel Ekondo, declare that the present work “Assessing the Namibian Government’s Policy on improving National Food Production: A case study of the Agronomic Sector”, carried out under the guidance of Prof. Ravinder Rena, is my original work and has not been submitted in any other Institutions for any degree.

Date: June 2013

Signature

Place: Windhoek

[Fanuel Ekondo]



UNIVERSITY of the
WESTERN CAPE



ECONOMICS

FACULTY OF ECONOMIC AND MANAGEMENT
SCIENCES

Professor Dr. Ravinder Rena
B.A.(Econ), B.Ed., LL.B., M.A., M.Phil., Ph.D.(Econ) (Gold Medallist)
Department of Economics
Private Bag: X17 Modderdam Road
Bellville 7535 Cape Town, South Africa
Email: rrena@uwc.ac.za ; profravinderrena@gmail.com

CERTIFICATE

I certify that the Master's Full-thesis entitled "*Assessing the Namibian Government's Policy on improving National Food Production: A case study of the Agronomic Sector*" is the original research work of Mr. Fanuel Ekondo, Student ID: 9760849. This research was planned and carried out under my supervision for the award of Degree in Master of International Business and this has not been submitted for the award of any degree in the past.

A handwritten signature in black ink, appearing to read 'Ravinder Rena'.

Place: Cape Town
Rena]

[Prof. Ravinder

Date: 24 May 2013
Supervisor

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Abbreviations

BoN	Bank of Namibia
CAADP	Comprehensive Africa Agriculture Development Programme
CEPA	Cambridge Economic Policy Associates Limited
CPI	Corruption Perception Index
DFID	Development Fund For International Development
GDP	Gross Domestic Product
FAO	Food and Agriculture Organization of the United Nations
FDI	Foreign Direct Investment
IFAD	International Fund for Agricultural Development
IIED	International Institute for Environment and Development
MAWF	Ministry of Agriculture, Water and Forestry
MCA-N	Millennium Challenge Account - Namibia
MNCs	Multinational Corporations
MSP	Market Share Promotion
MSPS	Market Share Promotion Scheme
NAB	The Namibian Agronomic Board
NDPs	National Development Plans
NDP1	First National Development Plan
NDP2	Second National Development Plan
NDP3	Third National Development Plan
NEPAD	New Economic Partnership for African Development
NHDI	National Horticultural Development Initiative
NIC	Namibian Investment Centre
OECD	Organization for Economic Co-operation and Development

ORIP	Orange River Irrigation Project
UNCTAD	United Nations Conference on Trade and Development
SPS	Phyto-sanitary Standards
SSA	Sub-Saharan Africa
Nam Bic	Namibian Business and Investment Climate Survey
USD	United States dollar

ABSTRACT

The third National Development Plan, extending from 2007-12, seeks amongst other things to boost agricultural production at household and national levels in order to increase food security and create opportunities for employment. Government has indicated that Green Scheme initiative is hampered by low incentives for engaging in agricultural production and processing, and by unfavourable responses to manufacturing by food processors, manifested by the apparent low level of investment in agriculture and the food-processing sector. We conducted a questionnaire-based study focusing on the operators of eight major irrigation projects in northern and southern Namibia to determine the challenges faced in the economic, political and legal environment, aimed at understanding the underlying constraints to large-scale food production under irrigation. The main objective of the study is to understand the effective mechanisms necessary to boost agricultural production through sound investments into the sector. Data was collected through semi-structured interview questions and answers recorded on the questionnaire sheet. Respondents indicated that no incentives for investing in agriculture and food production were provided. Private operators of agro-irrigation projects bemoaned the unreasonable limited lease period (5-10 years), making it difficult to recoup any large-scale investment. Technical problems included lack of expertise to operate and service recently

acquired modern technologies. Respondents suggested the introduction of longer leases, enabling investors to recoup their costs and realize profits from their investments. Project operators called for the training of competent personnel to provide technical services and know-how on the projects as well as the acquisition of new technologies to replace the obsolete equipment currently in use.

Keywords

Food Security, modern technologies, The Green Scheme, Investment in agro-economic sector, Government Policy, Public-Private Partnership

Chapter 1: Introduction to the Study

1. Background

1.1 Overview of Research

This chapter introduces how the study was undertaken. It covers the background to the problem and explains the significance of the study. The aims and objectives of the study are presented. The problem statements as well as the research questions are also covered. Moreover, the chapter presents the assumptions underpinning the study. Lastly, the structure of the study is given.

Namibia is generally described as a semi-arid country (PricewaterhouseCoopers, 2008; Namibia National Investment Brief Namibia, 2008), with cereal production mainly in the northern parts of the country. Agricultural production therefore fluctuates in response to climatic conditions. The country's aridity and the small population relative to the land size has resulted in high transport costs and low agricultural output. Hence, food self-sufficiency varies between 35% to 75% of total demand (Frøystad, Hoffmann & Schade, 2009). Subsistence farming that is commonly undertaken in communal areas, particularly in the north, is characterised by low levels of agricultural productivity, high incidences of poverty, food insecurity, lack of appropriate farming technologies and high unemployment (Namibia National Investment Brief,

2008). The country has a low and erratic annual rainfall, averaging 330–500 mm and surface water is scarce, making rain fed cultivation extremely risky. The irrigation option is only possible along bordering perennial rivers, namely: Kavango, Cunene, Zambezi and Orange rivers. This situation threatens the country's food security and leaves Namibia with two options — to rely on imports for everything it cannot produce locally through rain fed production, or utilising water from its perennial rivers, all of which Namibia shares with its neighbouring countries, namely: Angola, Botswana, South Africa and Zambia (Government of the Republic of Namibia, 2005). The portion of land that is currently under irrigation amounts to approximately 8600 hectares. In the light of the current national water and land resource infrastructure, the projected development potential of demarcated pieces of land through irrigation is approximately 43,500 hectares (Namibian Agronomic Board [NAB] Tender Briefing Document, n.d.).

Like many developing countries in the sub-Saharan region, Namibia faces many developmental challenges. The most notable challenges include unequal income distribution, illustrated by the Gini-coefficient of 0.6, poverty, climatic factors such as drought and frequent floods, the HIV/AIDS epidemic, the quality of education, and exposure to globalization resulting in rising food and oil prices. Rising oil prices inflate transportation and fertilizer costs leading to higher prices. The

impact thereof on Namibia is not only limited to imports but also extends further to the internal distribution of staples. Namibia is vast and sparsely populated resulting in long distances from major supply centres for staples to outlying customers. Namibia's economic policy is centred on Vision 2030, implemented through National Development Plans (NDPs). The third National Development Plan extending from 2007-12, seeks amongst other things to boost agricultural production at household and national levels in order to increase food security and create opportunities for employment. The agricultural sector contributes about 6% to Namibia's annual Gross Domestic Product (GDP) (Visser, 2011).

Over 70% of the total population depends on agriculture for their livelihoods. Apart from its sizeable contribution to the Gross Domestic Product (GDP), agriculture is the most employment-intensive sector in the country having provided more than 102,000 jobs in 2004 (Ministry of Agriculture, 2008) and remains central to Namibia's pursuit for food security. Namibia's National Agricultural Policy (NAP) is focused on the creation of an enabling environment for increased food production, improved employment opportunities, incomes, household food security, and the nutritional status of all Namibians. It also aims to foster profitability and increased investment in agriculture, as well as the vertical integration and domestic value-addition for agricultural products (PricewaterhouseCoopers, 2008).

In recognition of the strategic role agriculture holds in the socio-economic development of Namibia, the government through the Ministry of Agriculture, Water and Forestry (MAWF) undertook to create an enabling environment for the development, management and sustainable utilization of agriculture, water and forestry resources. According to the Ministry of Trade and Industry (2009), Government, through MAWF has initiated various programmes aimed at agricultural development, increasing food production and contributing to the attainment of household food security while reducing the need for food imports.

The programmes include:

The crop production enhancement programme. – This entails the provision of high quality seeds, fertilizers and ploughing services for dry-land maize and mahangu production.

Irrigation projects. (also referred to as the Green Scheme). The establishment of large-scale irrigation projects countrywide such as Shadikongoro, Vungu-Vungu, Mashare, Shitemo, Musese, Ndonga Linena and Sikondo in Kavango region, Etunda in Omusati, Hardap in Hardap, ORIP and Naute in Karas and Katima farm in Caprivi region.

Food storage and conservation. – An initiative about developing strategic food reserves in pursuit of national food security. Government has undertaken to construct strategic storage reserves in six grain-

producing regions namely Kavango, Caprivi, Ohangwena, Oshikoto, Oshana and Omusati. The strategy further provides local grain producers with a market.

Enhancing production, processing and marketing of perishable produce. – A government initiative to complement irrigation development envisaged under the Green Scheme with investment in infrastructure for horticultural marketing.

Namibia is, however, faced with many daunting challenges. These include: a jobless economic growth; high income inequality; high unemployment; lack of skills and poor quality of education; and a shallow economic base. Moreover, the cost of doing business in Namibia remains high, underpinned by the lack of adequate infrastructure, high input costs such as telecommunications and inflexible labour market (Bank of Namibia, 2009).

1.2 The Green Scheme Policy

The Green Scheme Policy (GSP) is a program of investment and promotion of food production through irrigation. The Green Scheme (GS) is an initiative conducted by the Ministry of Agriculture, Water and Forestry (MAWF) to encourage the development of irrigation based agronomic production in Namibia. The GS initiative aims to increase the contribution of agriculture to the country's GDP, to achieve the social

development and upliftment of communities located within suitable irrigation areas, including human resource skills development (Green Scheme Policy, 2008). This will possibly enhance cross-border investment and facilitate the exchange of relevant and limited resources with neighbouring countries. The GS is viewed as an effective way of reducing poverty, improve food security and enhance agricultural productivity. By so doing, Government is helping to improve the livelihood of the poor. Government intends to encourage private investors to enter remote and underdeveloped areas through agricultural concessions.

In order to enhance production, processing and marketing of perishable produce, the government further intends to complement irrigation development stipulated under the Green Scheme with investment in infrastructure for horticultural marketing. To date, the Ministry of Agriculture, Water and Forestry has commissioned the construction of cold storage facilities at Rundu, Oshakati and Windhoek. Hopefully, this envisaged development will facilitate the collection, sorting, grading, packaging and distribution of perishable produce (Ministry of Trade and Industry, 2009).

1.3 Research Problem

Government through the Ministry of Agriculture, Water and Forestry has indicated that GS initiative is hampered by low incentives for engaging in agricultural production and processing, and unfavourable responses to manufacturing by food processors (Ministry of Trade and Industry, 2009). In the same vein, Government and leaders are concerned by the low level of investment in agriculture and the food processing sector. The question arises as to why there is a low response to numerous Government initiatives for fast-tracking agricultural production and food processing altogether. Could there be underlying constraints in the legislation framework or at operational level that hampers investment in the agronomic and horticultural sub-sectors?

In view of the above concerns, a study was conducted on the operators of eight major irrigation projects in northern and southern Namibia to determine the challenges faced in the economic, political and legal environment. The study seeks to understand the underlying constraints to large-scale food production under irrigation, and gauge practical solutions for enhancing investment in crop and horticultural production.

Similarly, the study enlisted the opinions of five key informants with extensive understanding of the local agricultural industry on the

underlying challenges behind the low response to government-initiated strategies aimed at fast-tracking agricultural development.

The findings from the study are of paramount importance in pinpointing the genuine shortcomings of the current investment promotion approach and incentive framework. Armed with this understanding, concerted efforts should be made to harmonize the investment process to the ultimate benefit of all stakeholders involved. There is a firm conviction that achieving this objective holds the potential to boost agricultural development and help address pertinent challenges of poverty, food security and unemployment.

1.4 Objective of the Study

The main objective of the study is to understand the effective mechanisms necessary to boost agricultural production through sound investments in the sector. The study aims to help key players in the private and public sector in Namibia to make informed decisions on stimulating agricultural production and marketing including the enhancement of the entire food value chain. Moreover, the study provides information on recent industry developments and dynamics that can be helpful for strategic positioning of the industry. It covers the main issues related to production and marketing of agronomic and horticultural products, including market establishments and associated logistics.

The specific objectives of the study are:

1. To establish whether the incentives offered by Government, if any, are worthy or valuable from an investor's perspective.
2. To identify factors which hinder investors in the agricultural sector.
3. To establish the perceived ideal mechanisms required to entice investors to inject more resources into the project as well as the role that government can play in this endeavour.

1.5 Research Questions

In the study, the researcher solicited the views of investors from selected projects in view of how government assisted current entrepreneurs, as well as the nature of challenges faced by operators of the identified projects. The study further attempted to establish the mechanisms required to be in place in order to encourage investors to invest more resources in the projects. In the final analysis, the research explored how government can encourage others to get involved as well as assigning a rating to government's efforts to improve national food production.

1.6 Significance of Study

The Namibian government continually promotes agricultural development as a strategic sector and a vehicle for socio-economic advancement and wealth creation. This strong conviction is enshrined in

the country's agricultural policy, and further portrayed by government's occasional interventions to boost agricultural output through irrigation development and investment in infrastructure for horticultural marketing. In spite of all these noble efforts, the resultant impact on agricultural production, employment creation, profitability and overall investment in the sector remains visibly low and falls short of government's expectations.

This study engaged a group of large-scale agronomic and horticultural producers to determine the challenges faced in the economic, political and legal environment, with a view to understanding the underlying constraints on large-scale food production under irrigation, and gauge practical solutions to enhance investment in agronomy and horticultural production. Moreover, the researcher enlisted the opinions of key informants with extensive understanding of the local agricultural industry on the underlying challenges behind the low response to government-initiated strategies aimed at fast-tracking agricultural development.

The views of these key stakeholders in agriculture could prove to be the missing piece of the jigsaw puzzle. The researcher holds the opinion that the people on the ground could assist immensely to pinpoint the shortcomings of the current investment promotion approach and investment incentive framework. Subsequently, and armed with this basic

understanding and employing a bottom-top decision making approach, concerted, synergistic efforts can be made to harmonize the investment process to the ultimate benefit of all involved.

1.7 Limitations of the Study

In any research undertaken, limitations of the study are inevitable and this study is no exception.

The study will be limited to crop farmers operating on state developed agro-projects.

The study will not attempt to quantify the value of investments in state developed agro-projects either individually or collectively. The researcher will not evaluate the aggregate value of investments in the sub-sector nor will the study determine the rate of return on investment(s).

The study seeks to gauge the farmers' views on boosting food production in an economical manner by addressing missing links in the investment promotion framework. As a result, the research questionnaire will be limited to project heads (managers) or their immediate assistants.

1.8 Assumptions of the Study

1. A basic assumption is that a comprehensive national agricultural investment strategy is a key requirement for increased food production and a buoyant/dynamic agricultural sector performance;
2. Another assumption is that continued Government support is essential for the smooth running of the agricultural and crop sub-sector in particular;
3. It is assumed that farmers are frank in their criticism of the government (if any) and do not seek unreasonable incentives to produce food;
4. It is further assumed that farmers and key informants involved in the study are conversant with and fully comprehend the agricultural sector investment strategy;
5. Finally, there is an assumption that the views generated by the respective subjects are feasible and based on practical examples in other sectors or countries.

1.9 Format of the Study

The format of this research is outlined as follows:

- Chapter 1 – This chapter has presented the background, the problem statement, research questions, objectives, significance, and

organisation of the study. Limitations and assumptions of the study are also discussed in the chapter.

- Chapter 2 – Literature Review: This chapter outlines the relevant literature on the study. It also highlights contrasting and critiquing views of different authors on the available literature and studies.
- Chapter 3 – Methodology: This discusses the research design. This includes: the target population, the research instrument used, the pilot study conducted, data analysis, reliability and validity of the data analysed, and discussion on the limitations of the study.
- Chapter 4 – Results: This chapter discusses the finding of the research. The data is presented in tabular and graphical format. The findings were correlated and compared to results of previous studies. Diverging emergent factors were highlighted.
- Chapter 5 – Recommendations and Conclusion: This chapter makes recommendations and identifies future research on the subjects. An overall conclusion of the research is presented in this chapter.

1.10 Summary

It is imperative that the agricultural sector designs effective mechanisms necessary to boost agricultural production through sound investments.

This chapter has presented an introduction and background to the study.

Chapter 2 presents a summary of the literature review.

Chapter 2: Literature Review

2. Introduction

The previous chapter introduced the research and set the scene of what prompted the study and what it would investigate. This chapter provides a summary of what was found in the literature review in relation to the research objectives indicated in the previous chapter.

The World Bank Group Agriculture Action Plan (FY2010-2012, 2009) reported that agriculture accounts for a significant portion of household income, and provides essential food security, in many of the poorest countries. It further argued that improved agricultural performance can lead to dramatic improvements in the incomes of the poor, provide affordable food, and spur structural transformation. However, the outcome may be completely different if the approach employed uses highly mechanised machineries and less human capital. FAO's Policy Assistance Series 2 report, on the other hand, emphasized that improvements in the livelihoods of the poor would be best achieved when such economic interventions and growth occur in the sectors in which the poor work, in areas where they live, using the factors of production they possess and generating outputs they consume. Thankfully agriculture can satisfy all these criteria and has a proven ability to act as a growth catalyst to initiate broad-based and fast-track economic development.

2.1 Investments in Agriculture from a Global Perspective

With the global population expected to reach 9.1 billion by 2050, and the fact that most of this population increase will occur in developing countries, global demand for food, feed and fibre is expected to grow by 70% (FAO, 2009). Increasing rates of urbanization, rising incomes and shifts in diet structures are some of the causes for future high food demand. Yet 75% of the poor in developing countries live in rural areas, and their livelihoods are directly or indirectly tied to the agricultural sector. Reinforcing the agricultural sector serves not only to improve access to nutritional food, but also to reduce rural poverty significantly, as compared to investment in other sectors. Empirical studies suggest that investment in the agricultural sector is essential to combating hunger by increasing the availability of food, raising the incomes of the rural poor and thereby enhancing their access to food (World Food Security and Investments in Agriculture, 2009 & FAO, 2006). In order to meet the expected demand for food production, investment in a developing country's agriculture has to increase by at least 60 percent over current levels through a combination of higher public investment and better incentives for farmers and the private sector to invest their own resources.

The FAO Investment Centre considered effective investment in agriculture and rural development as both the means to provide more food for the majority and the way to improve rural livelihoods so that the poor

can afford the food they need. Ultimately, countries with remarkable success in reducing hunger are those with higher net investment rates in agriculture per agricultural employee. Classic examples can be found in countries such as China, Ghana, India, Latin America and Vietnam, which have observed dramatic reductions in rural poverty through rapid agricultural growth. FAO's Policy Assistance Series 2 further maintained that many developing countries that have succeeded in improving food security adopted policies and strategies with common characteristics in the form of political stability, good governance, strong economic growth propelled by agricultural growth, twin-track food security strategies and integration into world markets.

The world population has recently hit the 7 billion mark and a similar trend is expected to continue until 2050. Yet global food supplies are failing to keep up. In all likelihood, the current levels of food production should be boosted to exceed the rate of population growth in order to provide the world's population with an adequate diet. A shift in global policy is thus needed, to deal with the growing population as well as to keep pace with its changing preferences, with agriculture as the main focus. This can be achieved if governments allocate public spending towards agriculture and increase incentives for private investment in the sector (World Food Security and Investments in Agriculture, 2009).

Private investment in the agricultural sector offers notable potential to augment public resources. Most developed economies with a strong agricultural base have derived significant benefits from this through better access to capital, technology and skills, employment creation and productivity efficiencies (Food and Agriculture Organization of the United Nations [FAO], IFAD, United Nations Conference on Trade and Development [UNCTAD] & World Bank Group, 2010). In addition, current market trends embracing new technologies, the emergence of value chains, demand for traceability, rigorous market standards and consumer demands favour large-scale production and integration. Some large-scale investments have yielded considerable benefits through contract farming, other out-grower arrangements, and joint ventures with local communities by leasing the land or by formulating innovative schemes for risks and rewards.

According to Alweendo (2010), it is well accepted that public investment in agricultural development is of vital importance in transforming the traditional agriculture through investment in physical and human capital and research and development. Public investment in agriculture will lead to new inputs, productivity increases, and transformation of the agricultural sector towards export-oriented industries, self-sufficiency in food security, employment creation and poverty reduction. Investment in agriculture has the potential to promote

forward and backward linkages that will enhance the acceleration of economic growth.

The surge in food prices experienced over the past few years, and which is most likely to continue, exerts further undue pressure on most families who will be forced to make serious spending cuts elsewhere to buy the food they need. FY2010-2012 (2009) stated that global food prices are increasingly being driven by events outside the food sector. Exchange rate depreciations have kept food prices high for many developing country importers. Similarly, tighter lending practices of commercial banks have led to higher interest rates for farmers, agribusiness borrowing, and lowered subsequent investment in the sector. The report further stated that the increase in demand for biofuels also distorts the agricultural market as more farmers are being incentivized to switch to crops suited to biofuel production.

Ideally, recent hikes in global food prices should serve as an incentive for investors to enter the sector with favourable and increasing demand. This view is further consolidated by the continued growth in global population, increasing income, urbanization and the knowledge that food, which is a basic need, has no direct substitute.

2.2 Agricultural Investments in Sub-Saharan Africa

In sub-Saharan Africa, increased investment in the sector is dire considering the fact that approximately 70% of the population derive its livelihood from agriculture, whereas hunger and poverty remain a familiar pattern. In most of these countries the share of agriculture relative to GDP exceeds 20% and even in countries where this is less than ten per cent of GDP, agricultural development has the potential to stimulate growth in other sectors of the economy through backward and forward linkages (Mhlanga, 2010). Given the region's resource-constrained governments and the current phenomenon of dwindling donor funds, the private sector both domestic and foreign has an important role to play in boosting agricultural investments in the SSA region. Despite the numerous benefits and successes associated with agriculture, the SSA region lags behind in terms of both agricultural output and investment compared to other advanced economies such as America, Europe and Asia. On average, African countries allocate only 4% of their budgetary expenditures to agriculture, compared with up to 14% in Asia (NEPAD-OECD Africa Investment Initiative, 2011).

The World Bank report (2008) implored developing countries to exploit agricultural production to reduce poverty and use the sector as an engine for economic growth. The report specifically points to increased investments in irrigation development, as pivotal to increased agricultural

output. The report further emphasized the need for investment in supporting infrastructure such as irrigation, roads, transport, power, and telecommunications because these facilities help immensely to ensure that small-scale farmers have access to markets, finance and research. In a related development, the African Union Summit of 2003 in Maputo adopted a resolution to increase national budgetary allocation to the agricultural sector to at least 10 per cent of the annual budget (Green Scheme Policy, 2008).

Access to finance is seen as essential to food production, therefore countries need to improve access to agricultural financing through bankable leases. Easy access to finance enables farmers to gain access to efficient technology as well as other appropriate resources.

According to Mhlanga (2010), there are two notable developments worth mentioning regarding the investments in the agricultural sector in SSA. These entail the recent wave of interest in purchasing farmland in SSA and the proliferation of investment funds geared towards African agriculture. Available literature points to the lack of a comprehensive database that provides accurate and comprehensive data on agricultural investment by local firms in the SSA region. Similarly, Fortune Global 500 and Jeune Afrique Les 500 responsible for providing rankings on large foreign and local firms involved in agribusiness operations in Africa did not take into account the multinational corporations (MNCs) from

other developing countries, mainly from Asia, that are proving to be significant role players in SSA. Examples include Karuturi, an Indian company involved in floriculture production in Kenya, and currently diversifying into rice and wheat production in Ethiopia.

The enterprises involved in the agro-business sector can be divided into nine subsectors, namely: beverages, fisheries, food producers and processors, forestry and paper, horticulture, input (e.g. seeds, fertilizer production and agricultural equipment), rubber and leather, textiles, and tobacco. The food and food processors subsector was found to be the largest (in terms of the number of enterprises) in the region, with textiles manufacturing and distribution as well as forestry and paper subsectors making up a sizeable number. However, in terms of value, the latter is in pole position with investments worth approximately USD 8.6 billion. According to a study conducted by FAO on private sector agribusiness investment in sub-Saharan Africa in 2010, approximately 60% of the agribusiness in the region are export oriented, whereas 32.4% produced exclusively for the local markets (Mhlanga, 2010).

2.2.1 Investments in SSA's Arable land.

Resource rich countries with land and water constraints have either purchased or intend to purchase or lease large tracks of land in SSA for agricultural production. These countries are motivated by the desire to ensure long-term food supplies or biofuel production for investor

countries. Often these agreements have political backing. The Korean Republic, United Arab Emirates, United Kingdom, Germany, Brazil and the United States of America are some of the countries who directly or through local-based firms have shown interest in leasing or investing in crop or biofuel production in Madagascar, Sudan, Ethiopia, Swaziland, Angola and Zambia.

In collaboration with corporations, financial institutions and equity funds have entered the frenzy of land purchases in SSA. Some of the firms are either raising money to invest in farmland or are already piloting farming schemes in Malawi and other parts of the African continent. The investments are understandably encouraged by the increasing rate of return in agriculture supported by rising agricultural commodities and land speculation. According to Mhlanga (2010), some land-rich SSA countries like Zambia have openly encouraged investments into their farmland, going as far as demarcated thousands of hectares of land into blocs for sale to foreign and local investors.

Other factors making land purchases attractive in Africa include the availability of under-utilized fertile soil and a suitable climate for the production of a variety of crops. Additionally, land prices in Africa are low by international standards. Moreover, the continent is blessed with a steady supply of low-cost labour for the envisaged farming enterprises. When viewed in the light of the rising demand for food and the scarcity of

land and water in most parts of the globe, the value of arable land is expected to skyrocket by the day.

Foreign investment in agricultural land has nonetheless raised serious concerns. The main critic questions the logic behind the decision to allow foreign nations to buy up land to secure their own food security at the expense of host countries. Another concern is that of the environmental impact emanating from such investments particularly when production involves the use of chemicals and heavy impact machinery. Concerns over loss of habitat due to land clearing, possible relocation of inhabitants to make way for foreign investors, as well as unequal bargaining power in negotiating compensation packages and benefits sharing agreement have also been raised. Some investors have reportedly justified their investments by growing biofuels in sand soil unsuitable for food production. Yet genuine and well-thought-out investments could offer many valuable benefits to host governments in the form of revenue generation for the rural poor, job creation, development of rural infrastructure, increased food security, import substitution and spillover effects in terms of agricultural skills and technology transfer.

Without doubt international media have mainly focused on foreign private investors while ignoring local private investors. A study by the International Institute for Environment and Development (IIED), FAO and the International Fund for Agricultural Development (IFAD) found that

private domestic investors accounted for most agricultural projects covering a total of 362 000 hectares valued at USD 54 million, compared with 240 000 hectares worth USD 24 million (Mhlanga, 2010).

2.2.2 Factors influencing private investments in agribusinesses.

A report compiled by Cambridge Economic Policy Associates Limited (CEPA) for DFID pointed to the lack of profitable opportunities and high business risks (actual and perceived) that cannot be mitigated in a cost-effective manner as the main reasons behind low agribusiness investment in Africa. The trend has nevertheless shifted in recent years, with agriculture being viewed as a sector with ample investment opportunities for the profit-oriented private sector and as a prime driver of agriculture-related industries and the rural non-farm economy (World Bank, 2007). The unit below elaborates on the elements leading to opportunities (or lack thereof) and the risks for agribusiness investments in the SSA region.

2.2.3 Factors associated with the host country.

2.2.3.1 *Size of the Market.*

The size of the market, often expressed by the GDP of a host country or its population size, has been found to be a major determinant of investment. A significant relationship exists between market size and FDI flows. A large market size appeals to investors as it better presents a

greater demand for goods and services, and furthermore, it offers the investor economies of scale. This concept is only relevant to investment projects targeting the domestic market.

2.2.3.2 *Natural resources.*

The availability of ample natural agricultural resources is a major attraction factor for investment in the agribusiness sector. Fisheries are on the increase in east Africa due to the presence of big fresh water lakes. Closely linked to natural resources are the availability and supply of human resources. Most African countries have an abundant, low-skilled labour force for agricultural farming purposes. Yet, with an increase in demand for processed foods in both domestic and global markets, skilled labour is also an important requirement in the development of agro-industries and other value-added trades.

2.2.3.3 *Infrastructure.*

The extent of infrastructural development in a given economy determines the cost and efficiency of business operations. Limited and poor quality infrastructure such as roads and bridges in most SSA countries hampered effective transportation of produce from the production point to respective markets, thereby reducing the enterprise's profit margin. Trader surveys in Benin, Madagascar and Malawi found that transport costs accounted for 50-60% of the total marketing costs

(World Bank, 2007). This situation is further exacerbated by the shortage of other basic infrastructure such as electricity and telephone networks.

Irrigation infrastructure is crucial to agricultural production and the horticultural sector, yet only 4% of the area under production in SSA is irrigated, compared to 39% in South Asia and 29% in East Asia (World Bank, 2007). Furthermore, information and communication technology infrastructure are a precondition for the development of agro-industries; the shortage or lack thereof severely compromises value addition. Further compounding the infrastructural dilemma is the perishable nature of agricultural products and the need for specialised facilities such as cold storages and refrigerated transport.

Food testing laboratories and the certification process also add to the list of sector-specific infrastructure to remain competitive and ensure adherence to phytosanitary standards. According to Msuya (2007), poor infrastructure was found to be more constraining to agricultural prosperity than trade barriers.

2.2.3.4 *Macro-economic environment.*

Like other economic sectors, agriculture requires a healthy macro-economic environment with low inflation and stable exchange rates. These stable conditions enhance competitiveness of agricultural output and encourage investments in agro-processing plants. Moreover, investors

prefer simple and clear tax regulations that are favourable to agriculture. High, inconsistent taxes and constantly changing tax regulations greatly hamper agricultural investments.

2.2.3.5 *Corruption and trade regulation.*

According to Mhlanga (2010), corruption and bureaucratic customs processes add costs to doing business, thereby reducing profitability of investments. The sensitivity of agro-products in terms of perishability and cost renders efficiency an indispensable component of the value chain. Private investors in SSA have confirmed making informal payments in exchange for service provision. The poor ranking of most SSA countries on Transparency International's Corruption Perception Index (CPI) is of concern to investors.

2.2.3.6 *Political instability.*

Uncertainty and risk emanating mainly from political instability in developing countries have been identified as disincentives to investment (Jenkins & Thomas, 2002). High incidences of conflicts in SSA in the recent past caused a negative perception of the region in the eyes of investors portraying it as having high incidences of wars and conflicts. Political instability can destroy a once flourishing industry overnight and the recovery process can be extremely lengthy.

2.2.3.7 *Access to finance and technology.*

Financial constraints in agriculture is pervasive in many SSA countries due to several structural, sector-specific shortcomings which severely affect operators of agricultural enterprises. These factors include: physical absence of banking facilities in rural areas; lack of financial products tailored to the risks and cash flow patterns in agriculture; weak business management skills in agricultural enterprises; inherently high transaction costs associated with providing financial services in small doses to low density areas with poor transportation and communications infrastructure; and underlying problems with the business environment, which greatly increase lending risks and limit the scope for viable lending to finance agricultural investments (Mhlanga, 2010). For most owners, financial constraints stem from the lack of asset ownership to serve as collateral often required by lenders and lack of access to affordable finance (World Bank, 2007). The paucity of term-lending and high interest rates constrain investment in the sector while limited access to technology has also led to underdevelopment of the sector.

2.2.3.8 *Institutions and support services.*

Agriculture often thrives on adequate public investments in the supply of goods and services such as extension services, a steady supply of agricultural information and measures aimed at the protection of agricultural infrastructure. Mechanised agricultural processes require

timely availability of additional support services in the form of machinery repair services. Furthermore, the risky nature of agricultural operations calls for market-based tools to mitigate risk such as crop and weather insurance, and future commodity markets. The absence of these mechanisms in most SSA countries prevents some entrepreneurs from investing in agriculture (Mhlanga, 2010). The long-term nature of agricultural investments makes secure property rights imperative. As a result, uncertain land ownership/tenure and shorter lease periods have hampered investment in agriculture.

2.2.3.9 *Agriculture supply chain.*

High risks both actual and perceived originate from coordination failures along the agriculture value chain. While agricultural enterprises tend to be independent, the industry is highly integrated. Most agricultural investments depend on the quality of both downward and forward linkages for successful operations. For instance, an investment in cold storage facilities relies on the continuous supply of agricultural produce from individual farmers and will be more economical if agricultural production increases. In the same vein, investments in processing facilities will only be profitable if an expanded supply of high quality and competitively priced produce is available. The quality of the produce in turn is dependent upon every player in the supply chain

adhering to and satisfying the production standards set. Unfortunately, in many SSA countries, the supply chain is not well coordinated.

2.2.3.10 Producer groups and associations.

Lack of effective producer associations leads to increased production and distribution costs as individual operators are unable to take advantage of economies of scale. Producer groups and farmers' associations enable individual farmers to access inputs and markets easily. Moreover, by teaming up in groups participants can better access agricultural finance, by reducing client analysis and selection costs for lenders, thus making them preferred borrowers.

Other factors restrict foreign investments to certain areas such as export trade although some of these may be valid to encourage the development of infant industries.

2.2.3.11 External factors.

External factors in the form of market protection often adopted by developed countries and the volatility of agricultural commodity prices hinder the mobilization of investments in agriculture. Tariffs and non-tariff barriers on agricultural commodities also tend to discourage exports. Chief among the non-tariff barriers is the stringent international sanitary and phytosanitary standards, adopted in export markets to guard

against health risks and promote food safety. Many emerging agro-enterprises in SSA countries will find compliance standards very high.

Subsidies provided to producers in industrialized economies distort the market thereby rendering products from SSA economies less competitive in international markets. According to the World Bank, agricultural subsidies in developed countries have contributed to years of under-investment in the agribusiness sector in developing countries (World Bank, 2007). Country factors like national priorities in the form of securing long-term food security play a major role in driving investments in agriculture while increased globalization led to fierce competition prompting some investors to opt for emerging markets in SSA countries.

2.2.3.12 Business Environment Assessment.

Investors are also increasingly relying on business climate assessments to guide their investment decisions. These are measures generated by reputable international institutions combining several factors to determine a country's competitiveness relative to other countries. Typical examples include the Ease of Doing Business Index (World Bank), Index of Economic Freedom (Heritage Foundation) and the Global Competitiveness Index by the World Economic Forum.

Generally, government policies, factors, laws, institutions and the way of implementation shape the business environment. It is widely

accepted that the extent to which a given country provides an enabling business environment strongly shapes costs and risks of doing business and thus influences the decisions of domestic and foreign investors (Mhlanga, 2010). Most importantly, a good business climate provides opportunities and incentives for firms to develop and thrive.

2.4 Agricultural Development Challenges on the African Continent

African farmers have the potential to meet much of the rising demand for food, and, at the same time, provide substitutes for more expensive imports from the global market. However, African farmers face more trade barriers in accessing inputs and more trade constraints in getting the agricultural produce and food to consumers in mostly urban areas. The consequence of this is often cited as some of the major reasons for Africa's inability to feed its growing population and continued reliance on imported foodstuffs. Key barriers to farmers' accessing inputs, outdated regulations, which limit access to best seeds, high prices of fertilizer, high transport costs and export bans, are among the issues which have kept Africa's farm yields low and have restricted market access (World Bank, 2012).

Research has shown that African farmers only provide 5 per cent of the continent's cereals. This was attributed largely to lack of research and development facilities. Farmers in landlocked countries have to grapple

with high prices of fertilizer and contend with high transport costs worsened by the logistical challenges of moving products from centres of production into the market. Among the factors affecting Africa's trade in staples are export and import bans, variable import tariffs and quotas, restrictive rules of origin, and price controls. These are often determined without transparency, and are poorly communicated to traders and officials at the border. This then creates uncertainty about market conditions, limits cross-border trade and raises food price volatility.

The study confirms that suppliers from outside the continent have been meeting the continent's growing demand for food, a market gap, which can be exploited by African farmers. The market value of Africa's food staple production is at least US\$50 billion annually and the rising population means that demand for food staples is growing dramatically with economists suggesting that demand will double by 2020 due to rapid urbanisation.

“Enormous potential to produce and trade food staples in Africa remains unexploited. Thus, despite being rich in agricultural potential, the continent increasingly imports from outside of the region to satisfy demand.” (World Bank, 2012:12)

In 2008, Africa was estimated to have imported cereals worth around US\$15.2 billion and this was despite the fact that huge swathes of fertile land remain underutilised. The World Bank cites that up to 400

million hectares of potential farmland, stretching from Guinea through to Uganda and Tanzania, encompassing Malawi, Zambia, Angola and Mozambique, are unutilised. According to the World Bank report (2012), many of the key barriers to trade in food staples relate to the regulatory and competition issues along the value chain. As (trade) tariffs have come down, so a tangled web of rules, fees and expensive services is strangling Africa's regional trade in food. The trade barrier restrictions apply to agricultural inputs such as seed and fertilizers up to the final produce. The study says that farmers in Burundi, Malawi, Zambia and Uganda buy fertilizers at prices ten times higher in other countries.

Trade connections in Africa were developed to link to overseas markets and as a result, there are key gaps in infrastructure and logistics even in countries which share borders, making it difficult for the continent to trade within itself. Roadblocks in Africa were cited as one of the most persistent problems that cause delays and offer ripe opportunities for bribe seekers. Multiple roadblocks over short distances and unofficial payments at each roadblock add up to significant expense and delay, raising transport costs and undermining the efficient use of transport equipment and drivers.

The farmers in rural areas endure the most of transport and logistical costs and the World Bank estimates that transport prices per tonne per kilometre from farm gate to primary markets are three to five

times higher than those from secondary to wholesale markets located in capitals. Export restrictions also decrease food security and when farmers are unable to secure higher prices in neighbouring markets, they shift to producing other crops or reduce output altogether. Lower output prices then result in lower incentives for farmers to increase output, which hurts net buyers since food staples are kept below potential. Thus food trade restrictions may exacerbate the price spiral and instability in regional markets, especially when implemented in an ad hoc and uncoordinated manner by different countries at the same time.

2.5 Socio-economic Environment of Namibia

Since independence Namibia has witnessed many achievements ranging from the political to the economic and social domain. The country has a mature democracy, well functioning governance institutions as well as policies that protect private properties. Namibia continues to enjoy macroeconomic stability, economic growth and a steadily rising income per capita since independence. Significant progress was also made in the form of access to basic education, expansion of health and social facilities, access to potable water, expansion of physical infrastructure such as rural roads, and rural electrification.

Table 1.
Namibia's socio-economic developments

Accomplishments	Period	Figures
Children's access to education	1991-2008	83-92 per cent
Additional schools built	2000-2008	259 (3875 class rooms)
Health facilities	Pre-independence - 2008	93-343
Access to potable drinking water	2008	+90 per cent
Access to rural electricity	Pre- or at independence	24-44 per cent

Source: The data are adapted from "Vision 2030; how can we realize it?"

(2009). Bank of Namibia

Despite the achievements made since independence, Namibia is faced with many daunting challenges. These include: a jobless economic growth; high income inequality; high unemployment; lack of skills and poor quality of education; and a shallow economic base. Moreover, the cost of doing business in Namibia remains high, underpinned by a lack of adequate infrastructure, high input costs such as telecommunications and an inflexible labour market. In a separate analysis, MCA Namibia program (n.d.) maintained that many of Namibia's challenges relate to the country's apartheid history, the vast size of the country compared to its relatively small population, a small local market, skills "anorexia" with a labour force characterized by a mismatch between skills availability and

skills requirements, a limited track record in internationally competitive production due to a long history of import substitution and polarized industrial development centred in South Africa during apartheid.

According to the 2004 Labour Force Survey, there has been a general increase in the rate of unemployment over the three periods of which the Labour Force Survey is available (1997-2004) (Bank of Namibia, 2009). In 2011, the unemployment rate in Namibia has been reported to be as high as 51.2 percent. The youth and the unskilled are the most unemployed. Moreover, the Bank of Namibia (2009) points to an association between poverty and unemployment; that is, most of the unemployed are concentrated in the poorest households.

Related to the challenge of high unemployment is the fact that the Namibian labour market is perceived to be too rigid to facilitate job creation. Faced with one of the highest unemployment rates in the world, Namibian labour laws have been benchmarked to the high standards of advanced economies. According to international surveys, the cost related to hiring and firing of labour is among the highest in the world. The new labour law also makes provision for generous paid leave and this together with the high number of public holidays impacts significantly on the overall productivity of the country (Bank of Namibia, 2009).

The Namibian Business and Investment Climate Survey (2011) has further identified access to and cost of finance as the biggest obstacle to

business growth followed by the scarcity of skilled workers. The same study also claimed that medium and large enterprises struggle to obtain work permits for foreign experts thereby exacerbating the problem of skilled labour. Similarly, Bank of Namibia (2009) identified limited human resources capacity as a key binding constraint that prevents other sectors from reaching their optimal potential. It can therefore be safely asserted that the aforementioned factors that constrain investment in general also affect investment in the agricultural sector. Logically, addressing the above-mentioned shortcomings will further boost economic growth with the agricultural sector being a key beneficiary.

2.6 Agriculture-based Investment in Namibia

A country's investment needs depend on factors such as its size, population and level of economic and infrastructural development and the development level of its agricultural sector and agri-businesses (FAO, 2009). Crops contribute 24% to Namibia's overall agricultural output value. Without sustained and targeted investment, the agricultural sector cannot achieve its production potential. Local food production is critical for Namibia if the nation is to become self-sufficient, and ensure national food security (Republic of Namibia, 2012).

In its study on devising strategies that would enhance Namibia's economic growth if implemented, the Bank of Namibia identified three growth enhancing and employment creating sectors as transport, tourism

and agriculture (Bank of Namibia, 2011). Similarly, Namibia's recently adopted industrial policy, as highlighted in the current national development plan (NDP4), implored the country to focus mainly on strategic areas where Namibia holds a clear comparative advantage. The four strategic areas were identified as logistics, tourism, manufacturing and agriculture (Republic of Namibia, 2012).

The fundamental objective of the agriculture investment program is to utilize natural resources optimally and sustainably in enhancing the contribution of the potential of agriculture to economic growth and national development (PricewaterhouseCoopers, 2008; Alweendo, 2010). Accordingly, the program is geared towards improving food security, food self-sufficiency, employment creation and rural development. Presently, livestock and grain production represent the foundations for the growth of agricultural incomes, exports and rural employment, consequently contributing to import substitution and household food security.

The Government of Namibia's main challenge is the lack of necessary human capacity with the required technical knowledge and skills to develop and implement projects in general. The investment program seeks to improve crop production, horticulture, livestock, agricultural infrastructure and capacity development. In order to fast-track economic development, the Namibian Government has formulated long-term strategic objectives in the form of National Development Plans

(NDPs) and Vision 2030 to guide its development agenda. The formulation of the Green Scheme policy was guided in part by Namibia's regional and international commitments such as the Comprehensive Africa Agriculture Development Programme (CAADP) of the African Union and the New Partnership for Africa's Development (NEPAD). Among the commitments are: creation of public-private partnerships for the development and management of basic infrastructure for irrigation and promotion of private sector investment in agriculture; development of the enabling legal environment for access to and use of agricultural land that will encourage long-term investment; and creation of national programmes to enhance small-scale irrigation management. It was further agreed that Governments promote and invest in roads, storage facilities, markets and marketing infrastructure, packaging and handling systems, and input supply networks to raise the competitiveness of local production in the local, regional and international markets (Green Scheme Policy, 2008:2).

2.6.1 Controlled crops.

Mahangu (Pearl Millet) and white maize are staple foods in Namibia, produced under-rain-fed as well as irrigation conditions. According to NAB (2009), government has declared the two crops as controlled crops. The control helps to ensure that all domestically marketable grain surpluses are sold before imports are allowed in the country. It was jointly agreed that during the closed-border period, the

price of mahangu and maize would remain as it was before such closure period. It can be concluded from the report that the control of grain crops favours local production as Namibian producers are assured of the market for their grains, at competitive prices. From a commercial perspective, this approach favours increased investments in the sub-sector while risk and uncertainty have been mitigated to an extent. Extending the approach to include a host of local produce will further propel agricultural output with poverty reduction and employment as spin-offs.

2.6.2 Horticulture fresh produce.

Horticultural production in Namibia has picked up from negligible levels to sizeable quantities and the growth trend continues. From 2008 to 2009, an increase of 4.8% from 46,636 to 48,889 was recorded (NAB, 2009). Production growth can be attributed to rising demand for fresh fruit and vegetables as well as the conducive marketing environment favouring local producers through the market share promotion (MSP). The major commodities produced include grapes (34.6%), onions (15.7%), potatoes (10.5%), tomatoes (9.1%), butternuts (2.2%) and other products accounting for 10%. Despite this, Namibia imports potatoes accounting for 34.6% of imported tonnage, onions (24%), apple (14.2%), oranges (6%), carrots (3.7%) bananas (3.6%), tomatoes (3.5%) and other commodities representing 10.4%. A study by PricewaterhouseCoopers, commissioned to estimate the maximum import substitution possible under

the MSP given Namibia's climatic regime, has revealed that the maximum possible local production would satisfy 60% of domestic demand.

The National Horticulture Development Initiative (NHDI) was established to improve the domestic horticultural production potential in the country and as such to promote the consumption, import substitution, agri-processing and export marketing of fresh produce in Namibia (PricewaterhouseCoopers, 2008). In order to enhance its agronomic production potential, it is imperative that Namibia overcomes challenges posed by climatic and soil conditions, water availability as well as issues around services and marketing infrastructure, access to finance and technologies as well as skills development.

Amongst others, NHDI has focused on the implementation of an Import Permit System, as well as promoting the local purchasing of horticultural produce by domestic retailers and consumers through the Market Share Promotion Scheme (MSPS). Under MSPS, importers of fruit and vegetables are required to buy an escalating percentage share of their produce from Namibian producers before they can be issued with an import permit (NAB, 2009). The import permit allows them to bring the rest of their stock from other countries, especially South Africa.

The market share of locally produced horticultural products has increased by 15% on average, from 7% in 2004 to 35% in 2008, and is still growing. Clearly, the initiative is beneficial to the local economy,

understood to have spared the Namibian economy nearly N\$280 million in imports per annum, by creating jobs and providing the citizens with high quality, fresh fruits and vegetables (NAB, 2009). The increase in fruit and vegetables further enhances the opportunity for the establishment of processing (value-adding) industries for fruits and vegetables that are seasonally produced in larger quantities than the (local) market can absorb at once.

2.7 Product Quality and Marketing Constraints

Studies have revealed that marketing of agricultural products in Namibia is a major problem for both communal and commercial farmers. DECOSA (2001) observed that the problem partly stems from the fact that often neither the producer nor the extension officer or consultants fully understand the system of competitive production and marketing. The report claimed that in most instances, products are grown and even harvested without due consideration to appropriate storage facilities and only thereafter will attempts be made to sell the products. Thus, production planning based first on real investigations of the market requirements is seldom practised in Namibia.

An evaluation report of a sister project, Etunda, conducted in 1996, further identified a lack of a marketing strategy to overcome limited local demand as a major constraint. In a related development, the Ministry of Agriculture shared similar sentiments that the marketing opportunities for

horticultural and agronomic crops produced at regional level are still limited. While emphasising the need to encourage smallholder farmers to produce for the market, it recognised the importance of increased support services in the form of extension staff, the establishment of appropriate handling and storage facilities as well as intensified marketing strategies for controlled crops like fruit, vegetables, millet and maize (Government Information Bulletin, 2010).

The study further identified other serious challenges, which are summarized below:

A poor knowledge of own production costs and price structures; lack of market information (some producers often do not know the market prices of local competitors or imported products with the effect that sometimes local farmers ask for unrealistic sales/prices); lack of willingness and skills to negotiate with purchasers (there are farmers who fix their price and are not willing to negotiate selling prices with the purchaser); and lack of knowledge of different marketing tools, i.e. the farmer seldom uses any canny marketing arguments such as fresh product or produced in Namibia. The report further identified a lack of quality standards.

2.8 Investment Promotion and Incentives

According to NEPAD-OECD, Africa Investment Initiative (2011) measures to promote investment in agriculture can include specific incentives, such as tax holidays, to encourage investors to target the agricultural sector. However, the effectiveness of such measures in attracting investment has not been conclusively demonstrated. The report argued that incentives tend to reduce the government's ability to mobilize domestic resources for development purposes, while their implementation raises administrative costs.

The Namibian Investment Centre (NIC) is Namibia's official investment promotion agency and first port of call for investors. Established under the Foreign Investment Act of 1990, the overall objective of the NIC is to attract foreign investment to stimulate economic growth and expedite industrial transformation of Namibia (Namibia Trade Directory, 2009). NIC offers a variety of services to existing and potential investors, including the provision of information on incentives, investment opportunities and the country's regulatory regime.

The Foreign Investment Act, enacted to attract foreign investors and stimulate local investment, provides for the following: liberal foreign investment conditions; equal treatment of foreign and local investors; no local participation requirements; and obtaining a Certificate of Status Investment. The Act further provides for openness to all sectors of the

economy to foreign investment. However, in terms of the Agriculture Commercial Land Reform Act 1996 the acquisition of farmlands has been limited.

2.8.1 Incentives for manufacturers/exporters.

Incentives regimes are designed to give Namibian-based entrepreneurs who invest in manufacturing and re-export trade a competitive edge. Manufacturing activities in all sectors, including local value-added processing of Namibia's minerals, fish and agricultural products currently exported mainly in raw form stand to benefit from these incentives. The incentives comprise the following: subsidized loans from the Namibian Development Corporation; cash grants for exporters of locally manufactured goods of up to 50% of the real cost of specified export promotion and marketing expenses incurred; and acquisition of industrial studies from the government at below cost.

2.8.2 Special Non-tax Incentives for manufacturers.

Non-tax Incentives for manufacturers include the following: export promotion funding of certain export promotion activities up to a maximum of 50% of direct costs; industrial studies undertaken by Government can be made available at 50% of their production costs to companies that wish to develop investment opportunities. Other incentives currently under investigation include the following: reduced airfreight for exporters;

subsidized transport; subsidies on electricity, housing, training and relocation cost; and price preference on tenders (PricewaterhouseCoopers, 2008).

Nevertheless, from an independent analytical viewpoint the overall local investment climate paints a gloomy picture. According to the *Namibia Investor Roadmap Audit*, there exists a lack of clarity on the exact administrative procedures central to investment ranging from immigration, business registration and other pertinent issues (Elago, 2010). This important information on processes and procedures could either not be found on the internet or, in some cases, it is outdated. Furthermore, the global competitiveness report for 2009-10 World Economic Forum places Namibia among the lower 25 countries whose higher education and training systems perform poorly and do not enhance efficiency in the economy. The country is reported to have an inadequately educated workforce.

With regard to the issuing of work of work permits, the process takes too long to approve a permit by which time an applicant would have taken up an offer elsewhere. It is further reported that the institutional set-up for investment promotion lacks the necessary structures, mandate and efficacy needed to effectively promote investment and provide the necessary "after care". In all fairness the afore-said scenario needs to be addressed rapidly if Namibia wishes to rank amongst and compete with

the top investment destinations in the region and ultimately in the world. An ideal starting point will be to engage flagship nations that have succeeded in this endeavour or in most of the challenges that Namibia is faced with.

2.9 Summary

This chapter has summarized the trends in the agriculture sector over the recent past and highlighted the overall progress that has been made in most areas at global, regional and at national level to increase agricultural output through increased investment in the sector. However, the sector is faced with numerous challenges in the form of the growing global population, rising inputs, and scarce and diminishing resources including land. The following chapter will discuss literature relating to the research methodology that was adopted for this study.

Chapter 3: Research Methodology

3. Introduction

Chapter 2 presented the literature reviewed. This chapter describes the research methodology adopted in this study.

The methodological design is set to achieve the following objectives stated earlier in Chapter 1:

- To establish whether the incentives offered by Government, if any, are worthy or valuable from an investor's perspective.
- To identify factors that are hindering agricultural investors and where possible the magnitude of such impact on agribusiness (project) performance.
- To establish the perceived ideal mechanisms required to entice investors to inject more resources into the project as well as the role that government can play in this endeavour.

3.1 Rationale for the Methodology and Research Strategies

Methodology refers to the overall approach to the research process, from the theoretical underpinning to the collection and analysis of the data. Collis and Hussey (2003) identify two main research paradigms, namely the **positivistic paradigm** and the **phenomenological paradigm**. The positivistic approach attempts to explain social phenomena by

establishing a relation between variables, which is information converted into numbers. Phenomenological approaches are particularly concerned with understanding behaviour from the participants' own subjective frames of reference. The phenomenological paradigm suggests that social reality lies within the unit of research, and that the act of investigating the reality has an effect on that reality. This paradigm pays considerable regard to the subjective state of the individual. According to Leedy and Ormrod (2005), face-to-face interviews yield the highest response rate and allow the researcher to clarify ambiguous answers.

The researcher chose the qualitative method, where data was collected through semi-structured interviews, to gain more understanding of the words, ideas and the meaning respondents attach to certain phenomena (Saunders, Lewis & Thornhill, 2007).

3.2 The Research Philosophy

A qualitative study refers to a person's perception of the meaning of an event, attempting to understand people's perceptions, perspectives, and understanding of a particular situation. In other words, it tries to answer the question, what is it like to experience such-and-such? The research uses the Qualitative method, because the data generated is based on semi-structured interviews, experiences, behaviour of interviewee; whereas the Quantitative method is based on statistical data generated through questionnaires to vast numbers of people (Saunders et al., 2007).

The Qualitative method enables the researcher to gain more insight through the responses of the interviewee and might lead the researcher into an area of discussion that might not have been previously considered by the researcher, thus adding depth to the data and value to the research.

The main objective of the study is to understand the effective mechanisms necessary to boost agricultural production through sound investments into the sector. The study aims to help decision makers and other key players in the private and public sector in Namibia to make informed decisions when allocating scarce resources to stimulate large-scale agricultural production, marketing including the overall enhancement of the food value chain.

3.3 Research Design

The research design is the method and the procedure that enables the researcher to collect the data that answers the research questions (Saunders et al., 2007). Research methods are chosen therefore, to try and describe, translate, explain and interpret events from the perspectives of the people who are the subject of the research.

There are two types of research designs, namely: the quantitative and the qualitative approach, and both have their advantages and disadvantages. The researcher's choice is the qualitative approach; semi-structured interviews were used for this research (Saunders et al., 2007). The

qualitative method investigates the why, and how, and not just what, where and when. This research therefore adopted both positivistic and phenomenological approaches, that is, a survey that also contains qualitative work from participants' observation. Thus, a smaller sample is needed to investigate rather than larger random sample (McCall, 1992).

Because of the limited number of projects operating under the green scheme initiative in the country, eight prominent irrigation projects were selected and studied. Five such projects are situated in the northern regions of Omusati and Kavango, and the remainder are located in southern Namibia, mainly in Hardap and Karas regions. A questionnaire-based interview targeted technical staff employed by the projects as well as prominent executives from the agricultural industry as key respondents. The research team under the tutelage of the study supervisor concurred that the projects studied represented a representative and unbiased sample of subject being investigated. The main methods of conducting the survey were a combination of face-to-face or telephone interviews, using questionnaires.

3.4 Data Collection Method

The data collection method for this research was through the face-to-face "semi-structured in-depth interview" as well as via the telephone. In semi-structured interviews, the researcher prepares a set of questions ahead of the interviews. The interview question might be either recorded

or written as noted and that is according to the interviewee choice (Saunders et al., 2007). Data was collected through semi-structured interview questions and answers recorded on the questionnaire sheet.

At the onset of the study, the researcher with the help of available literature on the topic under focus identified and visited five large-scale state developed agro-projects in northern Namibia for face-to-face interviews using a brief questionnaire. The procedure was extended to three more such projects (two of which are in southern Namibia) to increase the sample size. Due to distance and cost considerations, the latter were conducted telephonically. The researcher called the respective project heads and set up fixed appointments a couple of days in advance to inform them about the study as well as to get their approval to be interviewed.

The study draws on a four-pronged methodology combining both quantitative and qualitative research methods. First, a literature review generated a wealth of information – though mainly derived from electronic and print media about agricultural investments at global, regional and at national level. Empirically based literature on the research topic (academic research, “grey literature”) is currently limited, partly due to the recent nature of the phenomenon studied. Because of this, the study relied on reports from reputable institutions to a greater extent and related studies, mainly as a source of intelligence about ongoing and

proposed agricultural investment initiatives. In choosing media sources, the study prioritised those with a reputation of credibility, and sought to ensure diversity of perspectives.

Semi-structured interviews with project operators and key informants provided insight on the issues underpinning large-scale agricultural operations in the country and how these ultimately influence agricultural investment. Initially, the researcher with the help of available literature identified large-scale agro-projects to ask for the manager's consent and set up an appointment telephonically. Upon obtaining consent from the project operators, the researcher gained access to the site for a face-to-face questionnaire-based interview. It is essential that researchers establish rapport with and gain the trust of the people being interviewed. Key informants included staff from investment firms, institutional service providers, regulatory bodies and government officials notably from the Ministry of Agriculture. See Appendix I and II for questionnaires to Project Operators and Key Respondents respectively.

3.5 Types of Questions Asked

Alreck and Settle (1985) stated that there are two basic formats for survey questions: unstructured and structured. Unstructured questions are sometimes termed "open-ended" questions because respondents can give a personal response to the questions. According to Behr (1988), respondents can state their case freely in the open-ended section of the questionnaire

and this evokes further and richer responses than the closed questions. Structured survey items ask a question and then list the alternative answers the respondent must choose from. Both open-ended and closed questions were used in the questionnaire for empirical study.

The first set of questions dealt with the individual project's descriptive information as regards its name, size of the project and the duration of the existing management team. Subsequent questions inquired about production levels, the nature of crops grown as well as the reasons for the choice of crop. Thereafter the study delved into the operations framework and function of the project. Here emphasis was placed on how government assisted green scheme projects if at all and then followed the perceived challenges encountered at project level be they operational, market or policy related. Participants were further asked to share their views on how government can get potential investors in the agribusiness sector on board. In the final analysis, research participants were asked to rank the extent to which government tries to encourage national production based on a Likert scale (excellent, very good, good, fair or bad).

3.6 Pilot Study

A pilot study is a small scale preliminary study that is conducted before the main research (Stachowiak, 2008). It is usually carried out on members of the relevant population, but not on those who will form part

of the final sample. It is useful in testing logistics and gathering any information that will be valuable when the larger study is done (Altman, Burton, Cuthill, Festing, Hutton & Playle, 2006). Testing a questionnaire (mostly through a pilot study) is important and is done before the final administration of the questionnaire. The purpose of the 'pilot test' is *"...to refine the questionnaire so that respondents will have no problems in answering the questions"* (Saunders, Lewis & Thornhill, 2003). The testing phase further allows the researcher to examine reliability and validity of the data.

Because of the small size of the target group, the vastness of the projects targeted, it was decided in consultation with the study promoter that the study be rolled out to five previously stated agro-irrigation projects. In order to increase the sample size, the research was extended to three more such projects, identified with the assistance of the Green Scheme Agency office. Nonetheless, minor changes were incorporated and adopted for the subsequent interviews.

3.7 Kinds of Sampling Design

The purpose of the sample design is to make the research topic manageable (Collis & Hussey, 2003). The various methods, which can be used to select a sample, are discussed below:

- Random sampling: For small populations numbers are chosen at random, for large populations numbers are taken from tables of random numbers;
- Systematic sampling: the population is divided by the required sample size (n) and the sample chosen by taking every 'nth' subject;
- Stratified sampling: each identifiable stratum of the population is taken into account (Collis & Hussey, 2003).

This form of qualitative research was non-random in the selection of data sources. Given a handful of projects that were under focus, the researcher purposefully selected projects and individuals who would yield the most information about the dynamics of agro-projects and how this was influenced by the prevailing external factors. A phenomenological approach was therefore adopted, whereby the researcher attempted to understand the interviewees' perceptions, perspectives, and understandings of a particular situation.

3.8 Target Population and Sample

Sampling is concerned with the selection of a subset of individuals from within a population to estimate characteristics of the whole population. A population can be defined as including all people or items with the characteristic one wishes to understand. Because there is very rarely enough time or money to gather information from everyone or

everything in a population, the goal becomes finding a representative sample (or subset) of that population (Cameron, 2006).

Survey research involves acquiring information about one or more groups of individuals about their opinions and experiences by asking them questions and tabulating their views. The ultimate goal is to learn about a large population by surveying a sample of that population. The selection of projects and respondents was based on their active participation or association with the green scheme initiative, and as documented in various types of literature pertinent to the program.

The researcher obtained a detailed list of projects listed under the Green Scheme initiative by the administrative agency. From the list of projects provided, only those that were operational at the time of study, growing at least some agronomic and or horticultural crops were selected. The researcher interviewed the head of operations (manager) at every project except for one, where the project manager assigned a long-serving production foreman to be interviewed. Given the limited number of state developed agro-project in the country, and by adhering to the list provided by the GS agency, the number of respondents or individual projects visited represents a fairly representative sample of such projects.

3.9 Collection of Questionnaire

The lead-time from distributing the questionnaire to the tabulation of the results in chapter four was kept to a minimum. This ensured that the results were not stale, optimizing the accuracy of the outcomes. Any doubt as to the interpretation of the questionnaire was dealt with immediately and this too expedited the process. The general response to the questionnaire was that the questions were unambiguous and the respondents were able to supply the necessary information required.

3.10 Instrument for Data Collection

The type of research method used to collect data was the qualitative method. The research instrument is shown as Appendix I. A paper sheet was used to collect data and then record the answers, statements and views expressed by the interviewee for analysis by the researcher.

3.11 Questionnaire Construction

Easterby-Smith, Thorpe and Lowe (1991) stated that although questionnaires seem simple to use and analyse, their design is not simple as the main decisions to be made in terms of their design, centre around the type of questions to be included and the overall format of the questionnaire. Based on this fact, questionnaires need to be constructed according to certain principles. The questionnaire was constructed to facilitate face-to-face semi-structured interview. Semi-structured

questionnaires can be highly effective when participants feel comfortable with the interviewer (Leedy & Ormord, 2005). The questionnaire began with an explanatory paragraph to ensure that the respondents are aware of the context in which the questions are posed. Precise instructions were given to respondents. Questionnaires were numbered. Generally, a funnelling approach was applied, which entails moving from general to specific questions, grouping questions according to their order of importance topic. According to Leedy and Ormord (2005), participants may be more truthful in questionnaires than they would be in electronic interviews, as they are assured that their responses will be anonymous (Leedy, 1989).

A structured survey and review of available literature therefore formed the core of the study, focusing on agro-projects operating under the GSP. The questionnaire of this study required mainly data of a qualitative nature – hence direct interviews were conducted. The interview was semi-structured, thus, seeking defined answers to closed questions while containing some open-ended questions for further development of answers. Additional information came from documents on agricultural investments in Namibia and the SSA region. A basic questionnaire was formulated and discussed with the study promoter for relevance. A few changes were suggested and subsequently incorporated

prior to the eventual rollout of the study to pre-identified agro-irrigation projects.

3.12 Data Collection Procedures

At the onset of the study, the researcher with the help of available literature on the topic under focus identified and visited five large-scale irrigation establishments in northern Namibia listed under the green scheme initiative for face-to-face interviews using a brief questionnaire. The procedure was extended to three more projects (two of which are in southern Namibia) to increase the sample size. Due to distance and cost considerations, the latter were conducted telephonically. Face-to-face interviews took place on September 13 – 15, 2011 while the additional telephonic interviews were conducted on January 16-18, 2012.

Initially, the researcher solicited views of project managers in relation to the questionnaire during the interview and summarized the views into meaningful subject themes. The researcher further identified and contacted four carefully selected key informants on the local agricultural industry for expert insight. The representatives hailed from seasoned institutions with extensive involvement agriculture. A brief questionnaire was also completed by way of face-to-face interviews whereby their opinions, discussions plus any suggestions or comments were noted and summarized. From the data gathered, similarities, and divergent viewpoints were identified. The perspectives garnered helped to

formulate a structured snapshot of the prevailing agricultural scenario as presented by different interviewees.

3.13 Data Analysis

Data analysis is a practice in which raw data is ordered and organized so that useful information can be extracted from it. The process of organizing and thinking about data is key to understanding what the data does and does not contain.

The analysis of research data is essential as it helps to measure, make comparisons, examine relationships, provide forecast, construct concepts and theories as well as to explore, control and provide appropriate explanations. Both quantitative and qualitative techniques were employed. Quantitative analysis uses the syntax of mathematical operations to investigate the properties of data. Qualitative analysis on the other hand endeavours to search out patterns, amazing phenomenon and inconsistencies in a given study.

Overall, the study used a combination of primary data obtained from a survey involving project operators, selected key stakeholders, as well as secondary data from government and industry. The findings were collated with available literature for appropriate discussion, followed by the conclusion and recommendations from the results of the survey.

3.14 Validity and Reliability

3.14.1 Validity

Validity can be separated into two forms: internal validity and external validity (Miles & Huberman, 1994). First, internal validity indicates whether the results really implicate something about the described relation (Saunders et al., 2003). In other words, there should be a causal relation between the acquired concepts. This can be disturbed by other factors like history, tests, instrumentation, mortality, maturation and ambiguity concerning the causal relation (Saunders et al., 2007).

3.14.2 Reliability

Miles and Huberman (1994) stated that the underlying issue of reliability is whether the process of the study is consistent, reasonably stable over time and across researchers and methods. Baker and Saldanha (1998) gave the same description by stating that reliability is the degree to which a procedure for measuring produces similar outcomes when it is repeated. In other words, any other researcher should be able to replicate the same research and come up with the same conclusions. To reach reliability within this research, a couple of criteria were taken into account. First, reliability is reached by the clear formulation of the research questions, by describing every step of the research very precisely, and surveys were distributed among the sample representatives.

3.15 Ethical Considerations

The study topic was presented and discussed at length with the promoter at institutional level, after which permission to undertake the study was granted. Following a series of stakeholder consultations, participants willingly participated when they were approached for consent. They were not coerced in any form or manner. The study incorporated basic ethical issues in research, namely: protection from any form of harm, informed consent, right to privacy and honesty. Prior to the interview, participants were briefed about the content and purpose of the study. Upon completion, the researcher thanked participants and reassured them that the basic codes of ethics would be adhered to throughout.

3.15.1 Informed consent.

This aspect constituted the core of the study approach regarding the participants' involvement in the research. The following issues were explained prior to and during the interviews:

- A brief description of the nature of the study
- A description of what participation will entail, and the duration
- The guarantee that all responses will remain confidential and anonymous

3.15.2 Right to privacy.

The study respected the subject's right to privacy. In keeping with this, the researcher undertook to present a research report in such a way that the participants' responses were kept strictly confidential.

3.15.3 Honesty.

The research findings were presented in a complete and honest fashion, without misrepresentation of what was carried out or misleading others about the actual findings. In view of this, the researcher therefore can testify that under no circumstance did the researcher fabricate data to support a particular conclusion.

3.16 Summary

This chapter discussed the methodology by referring to the research design, types of questions asked, sampling, the data analysis and the pilot study. The information gained from the questionnaire will be considered in the following chapter and ultimately aid the researcher by giving the necessary feedback required to solve the main problem. This leads to the next chapter in which the findings and analysis will be presented and discussed.

The following chapter discusses the results from the study. A presentation and discussion of the results are made in the chapter that follows.

Chapter 4: Results and Discussion

4. Introduction

The previous chapter looked at the research methodology that was employed in this study and the sampling method used.

This chapter presents the results and the analysis of the data.

4.1 Sample Information

The sample consisted of eight operators of eight major irrigation projects in northern and southern Namibia and six key informants. The eight irrigation projects were under different management. The time the management had been in charge of their respective projects ranged from 9 months to 36 months. The area of land under cultivation ranged from 90 hectares to 1420 hectares and the mean area under cultivation was 754.3 hectares. The information was obtained from the directors and production managers and, in one instance, the management consultant was the source of the information. These people were deemed knowledgeable enough to render accurate and relevant information.

4.2 Crops Under Cultivation

4.2.1 Maize Production

Seven of the eight irrigation projects studied cultivated maize. The size of the land cultivated ranged from 40 hectares to 400 hundred hectares. The mean under maize cultivation was 218.71 hectares, while

the total area under maize cultivation was 1531 hectares. Various reasons were proffered to explain why the different irrigation opted to cultivate maize. Three out of the seven respondents indicated that their choice of maize was informed by the fact that it had an assured market. The other reasons given were that it is easy to grow, and less affected by seasons like other crops. NAB (2009) maintains that white maize is the next staple food crop in Namibia. One irrigation project indicated that the decision to cultivate maize did not come from the management of the project but was a directive from the parent ministry. The maize is being cultivated in the summer months only. In the current season, the eight irrigation projects produced 12095 tons of maize. One of the projects is producing up to 50% of its maximum capacity while the rest are producing at levels less than 10% of their respective capacities. Two of the projects have received authorisation from government to grow maize.

4.2.2 Wheat Production

Four out of the eight projects included in the study are engaging in wheat production. The production of wheat is only undertaken in the winter months. This finding is supported by the Namibian Agronomic Board (2009), stating that wheat is a winter crop, and all wheat in Namibia is produced under irrigation, grown mainly at projects situated next to dams and perennial rivers. Of the four projects studied, three of them also cultivate maize in the summer months. Hence, the strategy

seems to be that of alternating between the two crops depending on the season. All in all, a total of 865 hectares is under wheat cultivation. Between them, the different irrigation projects produced 8211 tons of wheat in the season under consideration. There was unanimity on the reasons for cultivating wheat as all the projects indicated that the two reasons for doing so were ease of cultivation and the presence of an easily accessible and assured market. Information concerning the capacities to produce wheat was not always available. However, of those projects that provided this information none was utilizing capacity beyond 10%.

4.2.3 Other Crop Production

Besides maize and wheat, the projects are cultivating other crops as well. These crops can be categorized under one generic crop genre, which is horticulture. The crops under this group are tomatoes, potatoes, onions, peas, butternuts, soya beans, cabbages, watermelons, pumpkins, cucurbits, mahangu, sunflower and cowpeas. One project is in fact specializing in these crops only. Information was not provided on the acreage dedicated to these crops. This probably suggests that management of most of these projects consider the cultivation of these crops a peripheral appendage to their business.

The reasons for cultivating these crops were given variously as: the need to diversify into other cash crops, the need to improve soil quality by rotating crop production, and the attractiveness of the export market.

Project managers also indicated that potato production was motivated and informed by the shortage of the product on the local market, while onions were on demand and fetching good prices on the export market.

Respondents further cited diversification and improvement of the projects' cash-flow position as some of the reasons for engaging with horticultural farming.

4.3 Provision of Incentives to Investors in Agro-Irrigation Projects by Government

Out of the eight projects under consideration, five were managed by private companies whereas the other three were government owned. The five privately managed entities indicated that no incentives were provided. Private operators of agro-irrigation projects bemoaned the challenges facing their investments and the unreasonable limited lease period (5-10 years), which made it difficult to recoup any large-scale investment.

J. Gondi of NIC stated that while the Namibian Government has introduced various initiatives aimed at encouraging investment and development of the agricultural sector, it did not provide real incentives to private investors (local and foreign) intending to enter this sector (personal communication, February 12, 2012). This might have been an oversight on the part of Government at a time which, through the Foreign Investment Act (no. 27 of 1990 as amended 1993), only provided

incentives to manufacturers and exporters of manufactured goods in the form of tax breaks in an attempt to encourage job creation in the country.

4.4 Analysis of the Assistance from the Namibian Government

All the eight projects under consideration reported that they had received assistance from the government of Namibia. This assistance came in various forms. The most common reported forms of assistance were provision of land, equipment, and finance for infrastructural development. All the eight projects had received land from the government of Namibia or rented it from the government. All eight projects also had equipment and infrastructural projects assisted by the government of Namibia. Additionally, one project had as recently as 2008 received financial assistance to the tune of three million Namibian dollars from the government. However, although all projects reported having received assistance from the government of Namibia, most did not quantify the amount of assistance. We could therefore not ascertain the adequacy and relevance of this assistance.

4.5 Common Challenges Encountered

Myriad problems of varied nature were reported. However, these challenges can be organized into several sub-categories. In the financial and economic domain, the main challenges cited are lack of capital to expand capacity and to replace obsolete equipment, government

determination of prices of crops, and the high cost of fuel, electricity, fertilizer, seed and other inputs including labour. One project reported that the long distance between the farm and the nearest market pushed the transactional costs and transport costs to astronomical levels. Banks were reportedly unwilling to finance communal lands, which were regarded as state land where no security against loans is guaranteed. Infrastructural challenges mainly focused on inadequate infrastructure and the need to repair, rehabilitate and restore some of the existing infrastructure. Lack of adequate storage facilities was also reported to wreak havoc with perishable products. This, too, is closely related to the lack of finance. The findings confirm earlier observation by the World Bank Report (2008), which noted that investment in infrastructure such as irrigation, roads, transport, power and telecommunications is critical to the promotion of smallholder farmers in terms of access to markets, finance and research (Green Scheme Policy, 2008:2).

Climatologically related challenges included the vagaries occasioned by climate change and the consequent flooding and its impact on crops, yields and profitability. One project pointed out that flooding caused by rains emanating from Angola submerged pump stations along the river causing crop failure. The unpredictability of the seasons due to climate changes was also a commonly encountered problem. Technical problems included lack of expertise to operate and service recently

acquired modern technologies. Such services were reportedly available in Windhoek but the distance between the project sites and Windhoek was deemed prohibitive. High breakdown rates and down time as well as ageing equipment were technical problems that were also mentioned.

General challenges articulated were lack of appropriately skilled and knowledgeable employees, which hampers diversification into other crops and the communication problems between management and employees precipitated by the language differences between the two groups.

4.6 Proposals for addressing the Challenges and Increasing Investment

The multiplicity of the problems and their diversity meant that no single panacea was suggested. Instead, the project managers and directors put a plethora of solutions forward. The recommendations can be aggregated into policy interventions and technical interventions. The commonly articulated policy interventions were the introduction of longer leases or increased tenure, which would in turn give more time to the projects to recoup their costs and realize profits from their investments. Government should intervene by compelling banks to finance agricultural projects aggressively and introduce a mechanism where high potential communal land can be traded as surety or security against loans. Government should further avail more irrigation land. A stable macro- and

micro-economic environment as well as political stability should prevail and be fostered at all times. The technical suggestions included training of a cadre of competent personnel to provide technical services and know-how on the projects as well as the acquisition of new technologies to replace the obsolete equipment currently in use.

4.7 Proposals to Encourage Entry by Other Players into the Sector

The respondents were asked to suggest measures that could be implemented by the government in order to encourage other stakeholders to enter into the sector. A plethora of suggestions arose. These were as follows:

- **Retreat into protectionism:** the government was urged to put in place protectionist measures designed to insulate farmers from foreign competition by making farming the exclusive preserve of local farmers. Measures similar to those obtaining in the maize and wheat industries were mooted. These measures could be extended particularly to the horticulture industry.
- The land acquisition process, which was deemed long, convoluted and time consuming, should be streamlined with a view to expediting the whole process. This would not only save time but also truncate the transaction costs.

- It was recommended that government help facilitate the diffusion of markets such that the distance between the projects and the nearest markets could be reduced, which would in turn result in reduced transport costs and a shorter time to markets. This policy intervention would also reduce the storage costs associated with perishable products.
- The government, as the appointing authority, was urged to screen potential investors rigorously. The failure rate among weak investors was viewed to be sending wrong signals to potential investors, thereby discouraging them from committing their resources to this sector. Properly screened and vetted investors would amplify the success stories from this sector and in the process lure other investors to the sector.
- Respondents urged government to conduct a skills audit with a view to establishing the gap between the required skills and the skills currently available in the industry. The skills gap analysis is considered as a prelude to other policy measures aimed at addressing the dearth of qualified labour in the industry, particularly in the cultivation of non- traditional crops such as maize and wheat.

- Respondents further recommended the fine-tuning of marketing strategies. It was suggested that the government of Namibia should escalate its marketing activities targeted at investors, in the process highlighting the profitability and attractiveness of the industry.

4.8 Views on Government Efforts to Improve Food Production

The respondents were asked to rate the efforts that the government of Namibia is currently making in order to improve food production. Invariably, they all responded that the government efforts were inadequate and needed to be scaled up.

4.9 Analysis of Key Informants' Interviews

A total of six in-depth interviews were conducted with key informants. Their responses were captured and grouped into different thematic classes. These results are presented below:

4.9.1 Unsuitable Land and Climate.

The soil tests that have been conducted on some of the land indicated that the land is not suitable for crop farming. Although suitable land was identified near the projects, red tape and government inertia have prevented the projects from being relocated to those areas. The allocation of land in the case of some projects did not seem to have been subjected to appropriate scientific soil tests to ascertain the suitability, or

otherwise, of the land being allocated for agronomic and horticultural production.

4.9.2 Institutionalized Corruption.

The key informants expressed the view that corruption informed some of the decisions and the activities in the projects. This has resulted in heightened conflict between the management of the projects and some of the government officials. These corrupt activities have become a hindrance to the development of the sector and discouraged potential investors.

4.9.3 Production Costs.

The high production costs as well as the electricity and other energy charges are acting as a disincentive to potential investors. Government intervention was considered as a panacea to these problems, which are a product of government policy.

4.9.4 Insufficiently Developed Horticulture Market.

The key informants indicated that there is willingness on the part of the investors to venture into horticulture and other crops besides maize and wheat. However, they highlighted the fact that currently this market is under-developed in Namibia. Because of the small local market, players with limited experience in the export markets are averse to the idea of investing in the sector. It was therefore, suggested that the government

should direct its effort at encouraging farmers to participate in the export market by promulgating appropriate incentives for exporters.

4.9.5 Equipment and Input Costs.

One of the key factors underlying the subdued activity in the agricultural sector in the views of the respondents was the prohibitive cost of inputs and equipment. As a result, the obsolete equipment in the sector was not replaced, despite the fact that its performance was sub-optimal. It emerged from the study that most equipment on these projects was obsolete and needed replacement – however, investors are unable to commit more resources in capital expenditure due to a grossly shorter lease period. Respondents further identified the high cost of inputs, which limits the area under tillage, which in turn limits the production. The spiral effect inevitably reduces the profits and subsequently dissuades farmers from making further investments on the farms. This has created a vicious cycle, which can be circumvented by more favourable incentives, and increased public investments into the sector.

4.10 Suggested Policy Interventions by the Key Informants

The key informants were requested to proffer possible policy interventions. The suggested interventions were captured and are presented below.

4.10.1 Tap into Underground Water Reserves.

Studies conducted in the past have revealed that there are some strong underground water reserves in many regions. Currently, these water reserves are lying idle. The government should invest in developing these water reserves so that they can be tapped into. This, together with an increase in the irrigation capacity in some regions will grossly increase the capacity of the farmers and also enhance the performance of the agricultural sector.

4.10.2 Revision of Vision 2030.

Industrial development should become a cardinal principle of Vision 2030. It was therefore suggested that Vision 2030 should be revisited in a manner that incorporates industrial development policy, thus making it the cornerstone of economic development. This should be accompanied by a massive mobilization of resources to give momentum to industrial development. Industrial development could then be a solution to some of the equipment cost and maintenance problems.

4.10.3 Provision of Tenable Leases.

The current system does not allow farmers to use the properties as collateral or surety. This hinders access to finance. It was thus suggested that the government should provide tenable leases against which the farmers can gain access to capital to finance their activities. Respondents

suggested that the lease period be extended to 25 years subject to performance appraisal. Henceforth, investors should be sufficiently compensated for their expenditures in the case of non-renewal of the lease agreement.

4.10.4 Coordination of the Supply Side.

The key informants suggested that there was a need for a closer coordination of the supply side of the sector. Large farmers were encouraged to come together in a cartel and closely coordinate their crop production in a manner that prevents over-production of certain crops. Over-supply of certain crops was deemed to be the cause of low prices as supply outstrips demands. Proper coordination was seen as a solution that would give the large farmers more control of the pricing mechanisms in the market.

4.10.5 Affirmative Action.

Affirmative action in the awarding of government contracts and tenders was opined as a policy tool that has the potential to empower indigenous farmers through procurement of locally produced food. Government departments such as hospitals and schools were singled out as starting points for such a policy.

4.10.6 Increased Transparency and Reduced Corruption.

Transparency and openness are considered as ways of encouraging more investors and expediting the process of getting investment proposals approved.

4.11 Summary

The foregoing chapter presented the data analysis and the results thereof. The environment in which the agricultural sector is operating, is characterized by a number of misgivings. Areas of dissatisfaction have been identified and cardinal suggestions have been made to make the sector conducive.

The next chapter presents the conclusions and recommendations to this study.

Chapter 5: Conclusions, and Recommendations

5.1 Conclusion

Farmers in the study area planted cereals, mainly maize and wheat, citing the ease to grow and market assurance as well as government backing as their main reasons for the choice of crops. They further incorporated some horticultural crops in order to diversify production, improve soil quality, enhance cash flow and to take advantage of favourable returns from the export market.

The government on its part has contributed considerably to the development of agro-irrigation projects by providing serviced land, equipment, infrastructure and in some instances operating capital in the form of finance. The operators however pointed out that in some cases the equipment was insufficient or exceeded their economic lifespan considering the long period that has passed.

Participants in the study shared a myriad of challenges facing their production entities. These include obsolete equipment that need urgent replacement, and the high cost of inputs such as electricity, fertilizer and seeds. Participants particularly cited the absence of tenable land rights on communal land as a major obstacle to increased investments into the projects on the part of both investors as well as banks, which customarily desist from lending large amounts of money to projects on state land

without security of tenure. Participating farmers highlighted the distance to the market and the import of locally produced food as a disincentive to production.

Technical shortcomings reported were in the form of back-up technical expertise to operate and service acquired modern technologies. Currently, the closest these can be found is Windhoek, which lies some 789 km away from the nearest town, Rundu. Skills shortage in general hampers expansion and diversification efforts.

Climate was also listed among the stern challenges faced by large-scale agro-irrigation project operators. Atypical occurrences of flooding and weather point to the possible impact of a changing climate and are a great cause for concern. Flooding in particular and unpredictability of weather patterns greatly complicate planning, resulting in devastating crop damages and substantial financial losses.

5.2 Recommendations

Agriculture should be a national priority, paving the way for Namibia to position herself strategically in a global food and fibre value chain. In this context central government needs to channel resources into strategic sectors such as agriculture and demonstrate its commitment to existing and potential investors. Measures to promote investment in agriculture can include specific incentives, such as tax holidays, to

encourage investors to target the agricultural sector. However, incentives should be continuously assessed, to evaluate their actual social and economic benefits. Namibia should set up a fully resourced one-stop shop for investors that offers comprehensive information and services to potential investors. Ideally, the facility should be accessible from all corners of the country in order to enhance efficiency and minimize costs.

Development initiatives such as modern, well-run infrastructure and business-friendly regulations have a stronger impact on investment attractiveness. Effective investment promotion can serve to highlight profitable investment opportunities, including by identifying relevant local partners and by portraying the positive image of the agriculture sector as an investment target. In addition, government should ensure that existing agro-irrigation projects are sufficiently capitalised before initiating new ones.

5.2.1 Human resource and skills development.

Agriculture's relatively weak performance is symptomatic of inadequate investments in human capital, agricultural infrastructure, research and extension networks (Skoet, Stramoulis & Deuss, 2004). The government should devise a human resource database to facilitate the audit of critical skills in the country. Bank of Namibia (2009) identified limited human resources capacity as a key binding constraint that prevents

other sectors from reaching their optimal potential, making human resources in Namibia an obstacle to sustainable development through investment in agriculture. Clearly, there is a need for the development of carefully crafted human resource development measures to tackle this acute development constraint.

A qualified human resource base is critical for successful use of the processing investments. Targeted investments in human resource development is needed to train citizens to operate and manage processing systems, and to design, fabricate, repair and maintain processing equipment and related infrastructure. Training and skills improvement efforts can include measures such as creating and strengthening training institutes for agriculture, developing extension services to farmers for specific needs, as well as providing farmers with valuable market information. Furthermore, government should implement measures aimed at promoting training and mentoring of local farmers and ease the process of skills and knowledge transfer between suppliers and investors in agriculture. This also includes assisting them in acquiring new technology to be able to comply with sanitary-phytosanitary standards (SPS), fertilisation methods, and financing requirements.

5.2.2 Infrastructure development.

Good infrastructure is a key ingredient for food security facilitating low food prices and efficient markets that are responsive to market forces. Sound infrastructure minimizes transportation costs in respect of both produce and inputs (such as fertilizer) and food storage (Postnote, 2006). Developing agriculture-related infrastructure is an indispensable way to boost productivity, improve incomes and ensure food security. Such infrastructure includes irrigation, used directly in the production process; information communication technology to support farmers' commercial operations; and transportation and storage for the post-harvest phase.

5.2.3 Tenable land rights.

The fact that resettled people do not have the right to trade over that land and thus cannot use it as collateral, makes it difficult for commercial banks to lend money to these people (Kaakunga & Ndalikokule, 2006). Land is suggested to be one of the best collateral assets available. However, for land to fulfil that role, property rights must be clearly defined, and it must be easily exchanged or tradable to facilitate access to credit for the majority of the people, mainly in the rural areas. While commercial land has been and continues to be used as collateral for ensuring access to credit, at the moment communal land could not serve the same purpose due to its ownership structure.

5.2.4 Financial sector development.

An effective agricultural lending scheme addresses firstly the information system necessary to facilitate smooth lending transactions. Financial markets contribute to improved economic outcomes by channelling resources to appropriate projects, stimulating savings and investment and minimizing transaction costs. With regard to the development of agricultural activities, a solid financial sector can contribute to providing financial services for agricultural production, targeting large investors as well as local farmers and smaller entrepreneurs through specific agricultural credits. Agribank, established by the Agricultural Bank of Namibia Act, 2003 (Act No. 5 of 2003), should be sufficiently capitalised to advance money to persons and finance large-scale investments in the agricultural sector.

5.2.5 Climatological challenges.

Farmers should set up comprehensive information systems clearly documenting the all-critical weather elements of relevance to crop production and incorporate them into available early warning system data to devise carefully thought-out cropping schedules. It has emerged during the study that a seasoned, knowledgeable farmer exists in the north-eastern region where most agro-irrigation projects are situated and by sharing production information costly errors and subsequent losses could be averted altogether.

Government and donors should not only need to increase their financial commitments to agriculture, but also need to carefully review policy, growth, and investment options that will reduce poverty and catalyse overall economic growth. A change of approach is needed to ensure that grassroots communities directly realize the benefits from these interventions. National investments in irrigation, research, rural infrastructure, technology generation and dissemination, education and capacity building, natural resource conservation, and standard setting and monitoring are necessary to increase productivity, reduce transactions costs and improve competitiveness (Skoet et al., 2004). It is important to emphasize the significance of continued and increased investments in the agricultural sector in order to avoid a more severe future food shortage. A collaborative effort in the form of public-private partnership can pave the way for success in the 21st century provided that the new approach steers clear of counterproductive resource consuming mechanisms.

5.2.6 Project operations.

The operations of the agribusiness projects must become divorced from the outside agencies that have been involved in its development and they must be set up as independent agribusiness entities.

In the final analysis, although the private sector is expected to shoulder most of the development in agriculture, public investment is essential in

stimulating private investment. Increased government spending in research, agricultural infrastructure development, technology transfer, adequate investments in human capital and adequate capitalisation are necessary to boost agricultural performance in Namibia.

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APPENDIX I

11. Questionnaire for operators - GSP projects

Name of Project:

Size in Ha:

Duration of existing/current management:

1. Type of crops grown:
.....

2. Reason for choice of crop:
.....

Total area under cultivation last season: Summer crop Winter crop

3. Current production output (realized): Maximum potential output:

4. In your view, does Government provide appropriate incentives to investors into the Green Scheme?

5. Challenges facing the project (list):

- a. How did Government encourage/assist you?
- b. What problems/concerns have you encountered?
Operational, Market, Policy related
- c. What should be in place for you to invest more resources into the project?
- d. How can government encourage others to get involved?

	Excellent	Very good	Good	Fair	Poor
Indicate the extent to which you rate Government's current efforts for improving national food production.	1	2	3	4	5

APPENDIX II

12. Questionnaire for operators – Key Informants

1. Estimated value of local agricultural industry

2. Investment opportunities (if any) in local agricultural sector

3. Challenges/constraints associated with investing in local agriculture
 - i. Production/operational

 - ii. Market environment

 - iii. Policy/legal environment

 - iv. Other

4. Suggested options to boost agricultural output for
 - i) Government

 - ii) Private sector

Thank you!