

Competitiveness of the Food Processing Cluster in Namibia

Submitted to



U.S. Agency for International Development

**Small and Medium Enterprise Competitiveness Enhancement Program (SMECEP)
Contract Number 690-C-00-02-00002-00**

Project Activity Number: 673-001

Prepared by:

**Abrar A. Sattar
Miguel Diz
David L. Franklin**

October 2003



Sigma One Corporation

**Private Bag 13368
Windhoek, Namibia
Tel 264-61-247-129
Fax 264-61-248-591
info@sigmaone.com.na**

**Post Office Box 12861
Research Triangle Park, NC
Tel (919)361-9800
Fax (919)361-5858
Mail@SigmaOne.com**

Competitiveness of the Food Processing Cluster in Namibia

Submitted to:

**U.S. Agency for International Development
Contract Number 690-C-00-02-00002-00**

**Small and Medium Enterprise Competitiveness Enhancement Program
(SMECEP)**

Submitted by:

Sigma One Corporation

Table of Contents

Presentation

1.0 Cluster Overview	1
1.1 Summary Profiles of Products from Agriculture or Natural Resource Origins.....	3
1.2 Food Processing and the Economy	13
2.0 Demand Conditions	15
2.1 Domestic Markets for Food Products in Namibia	15
2.2 South African Markets.....	16
2.3 European Markets.....	17
2.4 Regional Markets.....	17
2.5 Angolan Markets.....	18
2.6 USA Markets	19
3.0 Factor Conditions.....	20
4.0 Firms' Structure and Strategies.....	24
5.0 Cluster Foundations	27
6.0 Enhanced SME Competitiveness in Food Processing.....	29
Bibliography.....	31

Presentation

This report on the competitiveness of the food processing cluster in Namibia was compiled by Abrar Sattar and David Franklin, both of Sigma One Corporation. It was prepared for the Small and Medium Enterprise Competitiveness Enhancement Program (SMECEP) under contract with the USAID Mission to Namibia. The purpose of the report is to provide guidance for the implementation of the SMECEP in providing direct assistance to SMEs in the food processing cluster in Namibia with a view to enhancing their competitiveness.

The information for this report was assembled from multiple sources including notes and materials from field work by Mr. Miguel Diz and professionals from the Institute for Management and Leadership Training (IMLT) during May/June 2002 and the authors' interviews of entrepreneurs and informants in Namibia, most recently with the assistance of IMLT in February of 2003. International market and product information was researched and prepared by Ms. Leigh Anne Friesen of Sigma One Corporation in Research Triangle Park, North Carolina and IMLT in Namibia. Information and data were also obtained from Namibian government documents and from Namibian enterprises in the food processing cluster. A list of the official documents is appended to this report; we do not, however, identify our informants in the enterprises to respect the confidentiality and proprietary nature of the information they provided to us during our interviews. We also, gratefully, acknowledge the contributions of Patron Investments (Pty), Ltd. during the planning stages in May 2002.

The analysis for the report uses the Porter (1990) Cluster Competitiveness framework as the basis for the information gathering tasks and for the presentation of the report. Porter depicts four major determinants of industrial competitiveness as vertices of a "Diamond"¹. In this conception "clusters" are groups of interconnected firms, suppliers, related industries, and institutions that arise in particular locations. According to Porter, it is through the forces of competition and collaboration among competing firms that the cluster imparts competitiveness to the individual firms.

The four determinants of competitiveness, within this framework, are demand conditions (markets), factor conditions, the firms' structure and strategies, and the related and supporting industries (cluster foundations). Demand conditions are given to the individual firms and the cluster by conditions in the market place as a function of what the firms' customers want (volumes, attributes, quality and timing) and what they are willing to pay in the presence of alternative offerings from competing firms. Factor conditions are the human resources, material inputs, technologies and knowledge used in producing the products and services within the individual firms in the cluster. The firms' structure and strategies relate to the numbers and types of firms in the cluster and the strategies they pursue in responding to opportunities and challenges in the markets for their products and services and for their productive inputs. Cluster foundations are determined by the backward and forward linkages of firms to their suppliers, logistic systems and the physical and institutional infrastructure that supports the firms within a given cluster. The cluster foundations include the role of government and business associations in support of the cluster. Governments can facilitate the development of clusters by maintaining stable and transparent policy and regulatory frameworks, and business associations can help clusters to grow by facilitating intra-cluster cooperation and by advocating for public infrastructure, public services, and sound policies in support of cluster development.

¹ Michael Porter, *The Competitive Advantage of Nations*, 1990, The Free Press, New York.

1.0 Cluster Overview

This section presents an overview of extant conditions in the food processing cluster in Namibia. The central focus of the overview is the role of small and medium enterprises within the cluster. The principal inputs into food processing are derived from agriculture, and accordingly, the overview includes a synopsis of agricultural products which are produced in Namibia and that have a potential for processing by small and medium enterprises.

The competitiveness conditions in the food processing cluster in Namibia are generally weak, particularly as they relate to small and medium enterprises. Weak cluster foundations and scarce factor conditions play an important role in the generally poor competitiveness of the SME firms in the cluster. In many cases the firms in the cluster experience problems with raw materials, because they are produced or harvested in limited quantities or are at risk of being depleted (if naturally growing). The weak cluster foundations have their origins in the legacy of dependence on South African food products that persists twelve years after independence. These weak conditions in the food processing industry are further aggravated by the poor supply conditions for raw materials from agricultural activities that are inherent to Namibia's fragile ecology and arid climate. As a result, Namibia is a net importer of most food and agricultural products, and most of these products are imported from South Africa.

The Namibian government is eager to reduce this "dependency" by encouraging domestic production and value-added activities in the food processing sector in Namibia. This stated aim of the government has important consequences for the way the firms in this cluster structure themselves and the types of expansion strategies they adopt. The impact of the government's support services to the cluster is critical to understanding the competitiveness of the firms in the cluster.

The government's focus arises from the importance of rural and natural resource-based activities in the livelihoods of the majority of the population. Two-thirds of Namibia's 1.8 million people live in rural areas and depend on agriculture and natural resources as their primary source of livelihoods. The following sketch of agricultural conditions in Namibia is offered as a basis for understanding the role of government in the food processing industry and the nature of the raw material sources for food processing enterprises in Namibia.

Land in rural areas of Namibia is used through communal arrangements or through usufruct rights granted to individuals via 99-year leases. Leases are held mostly by commercial farmers (primarily for livestock enterprises) and by other commercial enterprises in tourism and mining. Most of the rural population that depends on communal land is engaged in animal husbandry (herding of livestock), harvesting of naturally growing food products for subsistence, and some small-scale crop farming. These three activities are usually undertaken concurrently by rural households. Most of subsistence farming households do not have the means, skills or training to undertake and manage investments of any scale from their own assets. Those households that have assets (usually live animals) such as livestock are not keen to sell them until late in the animals' lives. In traditional rural households, animals, primarily beef cattle, are held as stores of wealth and as symbols of social and political prestige. Given these important social and cultural roles for cattle, the traditional herding enterprises are managed to preserve wealth and prestige, rather than to optimize profit flows over the lifecycle of the animals. As a result, such livestock enterprises do not appear to be

competitive in terms of commercial notions of profits and resource efficiency. The cropping activities of poor rural households are, in turn, focused on food security and the reduction of economic vulnerability. As a result of such perspective, the farm households appear to operate under “safety first” objectives, rather than profit maximizing objectives. Consequently, the supply response to pricing incentives is dampened for both livestock and crop products, and this helps explain the relative scarcity of raw materials for the food processing firms.

Never-the-less, the coping and survival strategies of Namibian rural households and farmer-entrepreneurs are rational approaches to risk mitigation given the arid and semi-arid climates, fragile ecology, and poor linkages to markets that dominate the environment in which these rural enterprises operate. In most instances, the key risk management techniques involve spreading their time and effort among multiple economic activities, while simultaneously, trying to ensure that the combined income from all the activities will assure survival of the household from year to year.

As a consequence of these realities and the government’s stated aim of increased domestic production and processing of food products for local consumption and for export, the government has opted to support empowerment schemes that promote the formation of “Communal Trusts” to increase the capitalization and capabilities of rural enterprises. Communal Trusts play an important role in firm-level competitiveness by helping the previously disadvantaged low income rural dwellers to move closer to commercial-scale operations. One of the approaches in use includes mentoring of low income producers by commercial farmers using a “business incubator” framework. Commercial farmers are motivated to participate in these empowerment approaches, because they offer a means for maintaining their usufruct rights to land and for their continued participation in government sponsored programs, such as access to credit from the Agricultural Bank of Namibia.

The government also encourages the transfer of commercial land holdings to previously disadvantaged individuals using the “willing buyer and willing seller” principle to establish the price for such transfers. The empowerment arrangements often involve schemes for providing capital to enable the “willing buyer” to have the resources needed to acquire land usufruct rights from commercial farmers. Those that are able to purchase the land-use rights, lack the “know-how” to leverage their assets for working capital and generally lack knowledge to make the land fully productive on a commercial basis. The government, for socio-economic and other reasons, has stepped in to facilitate such land transfers and their subsequent productive use. The government provides support services to newly empowered smallholders, to communal trusts, to traditional communal farmers and to commercial farmers. These services involve irrigation schemes, agricultural extension services, input supplies and access to credit through the Agricultural Bank of Namibia. As such, the government has a major influence on the productive use of land and water resources throughout Namibia.

Significantly, the government is also working to stimulate the development of “downstream” processing capabilities as an effort to create and expand markets for the natural-resource based producers and to generate employment opportunities for workers in the food processing enterprises. The policies and institutional actions of government appear focused on these income generation objectives for agriculture and the downstream activities in the food processing industry.

In a large part due to government support, many food products are produced at some small scale and a few of them are processed for domestic sales and fewer are exported. The technical ability to produce or process a small quantity of many food items (often under very difficult agronomic circumstances) with government support can lead to the impression that many products are viable for production in Namibia, because the support services tend to mask the opportunity costs of producing these items competitively. The influence of government support services in expanding the production of certain crops in the fragile environments of Namibia also tends to understate the risks to long-term sustainability of intensive commercial production of these crops and livestock species in certain localities of Namibia. Consideration of these policies regarding land use and long-term natural resource sustainability are not within the purview of this report. The foregoing is intended simply to say that the government is a driving force in the vocation of land, water and human resources in Namibia's agriculture, and that this is an important backdrop for the prevailing conditions in the food processing industry in Namibia.

A partial list of what can be harvested from natural (non-cultivated) growth or from husbandry activities in Namibia includes many different types of products. Livestock (cattle and smaller species) and their multiple derivative products, such as meats, skins, milk, butter and biltong (air-dried and cured animal flesh) represent the major economic activity in the agricultural sector. Ostrich meat and other ostrich products are produced for export and for local consumption. Marine fisheries and aquaculture products are a very significant economic activity that operates as an enclave industry within Namibia's waters and at the two principal seaports. Grapes are produced for export in fresh form from the Orange River region in the South, and many relatively low value horticultural products such as tomatoes, squash and vegetables are produced, on a smaller scale, primarily for local or domestic consumption. Maize and pearl millet (mahangu) are the basic food staples. Dates, olives and olive products are being introduced and promoted for commercial production. Several indigenous plants, nuts and shrubs that yield fruit or roots that have a medicinal value, such as, Devils Claw (over 90% of world supply comes from Namibia), or other specialty market niches such as the marula fruit, the Ozombantu nut, the African potato, and prickly pear are also considered in this report. All of these natural resource-based and agricultural activities are the sources of raw materials for the food processing industry in Namibia.

1.1 Summary Profiles of Products from Agriculture or Natural Resource Origins

Some of the products from the natural resource base in Namibia that have the potential as raw materials for the food processing industries in Namibia are presented in synoptic profiles below. These profiles are offered as an aid to the reader in the subsequent discussions of cluster competitiveness for food processing industries. The information is structured to help address elements affecting the four determinants of competitiveness in subsequent sections of this report. The list is not intended to be exhaustive of the potential raw materials; it was selected from the predominant ongoing economic activities and those in which the government has expressed interest for future development.

Beef and Beef Products

Namibian beef is exported to South Africa and Europe, primarily. In 1999, Meat Co. (a parastatal firm) processed about 159 thousand heads of cattle. About as many were sent alive to be slaughtered in South Africa. The combined market value of these exports is about US\$ 200 million

dollars. Most of the beef is exported in chilled or frozen straight cuts (sides, quarters, loins, rumps, etc.) with no additional processing. A number of abattoirs (but not all) meet the European Union standards and are approved for exports to Europe. Meat Co. is the leader in beef processing and exporting, and its abattoirs slaughter beef in a Halal way (under certification from the Namibia Islamic Trust). This makes the Middle East a potential market that could be exploited by Namibia.

Most of the cattle slaughtered in modern abattoirs are bought from commercial farmers. A limited number of cattle come from the northern communal herds. In the northern areas, meat can be purchased from vendors in open areas by the road, usually under a tree or from open markets in villages and towns. Private butcheries that meet the Namibian government health standards are under development, but the scope for private butcheries will remain limited to urban areas as most rural dwellers are very poor to afford regular purchase of meat from a commercial outlet. At the present time, most retail sales of meat in urban areas are made through supermarkets that purchase from Meat Co. or from a few independent abattoirs.

Limited amounts of beef are also processed into meat products, such as boer wors sausages and salami. For example, a Namibian company produces processed beef products from Grade C beef cuts which it mostly buys from Meat Co. At times, the beef processor has to import the specific cuts it needs, as they are not available locally at the time they are needed. The firm has operated for decades, but finds itself unable to grow, because it is caught between a small domestic market for its products and inadequate supplies of raw materials that prevent it from expanding sales into neighboring countries.

Leather is another important value-added by-product from beef cattle production. The major world markets for leather goods are the US, Japan, and Western Europe. Namibia has tanneries to produce leather, but they, too, have had raw material access problems. Private tanneries are exporting skins to Italy. A former manufacturer of leather seat covers for up-market automobiles relocated from Windhoek to South Africa recently, because they were having to import high quality leather from the USA and Australia. Namibian leather was not of sufficient quality to meet the exacting demands of the automobile manufacturers, and although, Namibian labor appeared low cost, this apparent advantage was not sufficient to overcome the costs and logistic disadvantages occasioned by the need to import leather. Achieving competitiveness in leather for the world's premium markets would enable the industry to spread overhead costs on a broader base of revenues and thus enhance greater competitiveness in meat and derivative products.

Biltong is a traditional form of dried meat consumed in Southern Africa. South Africa is the largest producer and consumer of biltong made from beef or game. The name originates from the Dutch word BIL meaning buttock and TONG meaning strip. While often compared to the USA's "beef jerky", many connoisseurs disagree, maintaining that biltong is a gourmet delicacy in its own right. It is made by salting, spicing and drying selected (less desirable) cuts of beef or game. Biltong is a popular consumption item in Namibia, and most food stores (and petrol stations) and increasingly tourist locations have biltong for sale. In Namibia, most livestock producers produce biltong for their own consumption. Biltong is easy to make and requires no special tools; the meat is first cut into thin slices, dipped in curing spices and hung to expose the meat to the dry, clear, and warm Namibian air (while avoiding direct sunlight). After a specified time (depending on the meat and weather), the biltong is ready to eat. The biltong that is not consumed at the farm is delivered (with minimal packaging) to stores that display them in transparent containers.

Producing biltong at a larger scale for commercial sales requires more organization. A handful of producers are making biltong in larger quantities for commercial distribution and sale. Producers of beef biltong use cuts as they are guaranteed to have been handled in a hygienic way. For game, they have to obtain the meat from farmers directly, and they work with the farmers to ensure hygienic handling of the meat. Biltong from these larger commercial-scale operations is processed for sale either in bulk or in individually wrapped packs.

As per anecdotal accounts, Namibian biltong is gaining a reputation in South Africa as the superior biltong. This is attributed to the taste of the Namibian meat and to the weather conditions in Namibia that allow perfect curing to occur. Some of the large producers are sending part of their production to South Africa.

To our knowledge, no Namibian biltong producer is selling into Europe. Judging by the number of online sites offering biltong in the USA, there appears to be a growing USA market for biltong among immigrants from Africa. According to the online retail sources for biltong in the USA, dry biltong strips sell for about US\$ 15-18 per pound. However, meeting USDA requirements for the import of biltong into USA requires special procedures at the factory and proper handling all the way to the consumer to meet US government food safety and animal health requirements. For a small-scale producer, these requirements can be financially and technically overwhelming.

There is an opportunity for the Namibians to build country recognition around their biltong exports to South Africa and other destinations. There also exists the possibility of facilitating seller buyer arrangements with US buyers of biltong and assisting the Namibian firms to comply with USDA and FDA regulations. There is, at this time, very little communication among the biltong producers in Namibia. They see each other as a threat to their business. Accessing international markets would be helped by the formation of an association, however small, to develop and promote a positive image for Namibian biltong and to coordinate compliance with animal health and food safety standards in the importing countries.

Ostrich Production and Processing

Ostriches have been raised commercially for over 100 years. Currently, ostriches are produced primarily in Southern Africa, the USA, and Australia. Some reports indicate that North America, Japan and Europe's high-end tourist and "white-tablecloth" restaurant trade are the most promising markets for ostrich meat products. In the beginning of commercial production of ostriches, feathers were the preferred product. Now, hides, meat, and oil are the products of principal economic interest. The unique characteristic of ostrich feathers is that they are symmetrical. The feathers have a variety of contemporary commercial applications, ranging from feather dusters, to automobile manufacturing, and to the electronics industry. Las Vegas showgirls frequently sport elaborate ostrich plumed headpieces. Unfortunately, despite such uses, the international market for feathers is of low profitability, because the process is costly, and the demand for feathers has decreased.

Ostrich leather has evolved as a desirable product in the fashion industry. The distinguishing quill pattern and suppleness of ostrich hide make its leather high in demand by western boot makers, shoe manufacturers, and makers of wallets, briefcases and other accessories, including clothing, and expensive upholstery. A complete Grade One hide—about 14 square feet of ostrich leather sells for

around US\$414 (US\$ 350 per square meter), which is more than ten times the market value of a top quality cowhide.

Ostrich oil, extracted from its lard, produces other commercially viable products. These products include fine skin lotions, soaps, foot massage cream, facial scrub, and body milk. Cosmetic products, such as a 50 gram container of day cream, retail at high prices (about US\$ 10/jar), typically at high end specialty boutiques.

Ostrich meat is identified as “the other *red* meat”. The color, flavor and texture of ostrich meat is similar to beef, but with two-thirds less fat. Ostrich meat ranges from tender to medium tender. There are 17 types of internationally recognized cuts of ostrich meat. Meat from the leg is usually ground or processed. In the USA, at retail, one-pound fillets sell for US\$11-15, steaks about US\$9, and ground ostrich meat sells for about US\$3-5 per pound. These numbers imply that prime cuts of ostrich meat could be exported to the USA at a price of approximately US\$ 7 per kilogram (FOB Walvis Bay) if appropriately packaged, and if the meat were certified in accordance with USA food safety and animal health standards. The exportable meat would account for less than half the value paid to growers for live birds, so that the Namibian processor would be required to find a market for all products derived from each bird. This may limit the potential to expand the subsector for the purpose of increasing meat exports to the USA, since the hides need to be processed into top quality leather in order for the overall venture to be profitable.

Ostriches were initially brought from South Africa to be propagated for game purposes. Gradually, ostrich eggs became a major export item. In 1995, Namibia exported close to 30,000 ostrich eggs and over 10,000 live birds. A decision was then made to set up an integrated ostrich processing industry and the Ostrich Production Namibia (Pty) Ltd, commonly known as OPN, was formed. OPN operates a state-of-the-art integrated ostrich production and processing operation. Shares in OPN are held by the Government Institutions Pension Fund (GIPF), commercial ostrich growers, communal farmers (in a Communal Trust), and others. OPN owns a hatchery, an abattoir (near Keetmanskoop) and a tannery. The ostriches are grown and processed using the highest standards, and the meat is exported to Europe by a South African marketing company. The commercial farmers and the communal farmers are closely supervised by OPN to insure that the birds are raised to exacting standards. Each bird is tagged and each shipment of meat can be traced back to a specific batch of birds if need be (this is a requirement for entering the EU market).

OPN processed 28,000 birds last year, and the plant has a technical capacity to process 400 birds a day for 223 working days, giving it a capacity of 90,000 birds per year. Hence, it is operating at a third of its technical capacity. Our informal observation is that OPN is not profitable at the current level of operations, but it may become profitable at larger throughput if it can produce hides for the high quality global markets. The current operations have placed pressure on OPN to increase bird production. This pressure comes at a time when prices for feed and fodder (alfalfa from South Africa) have increased 40% in less than a year. Fodder is estimated to be 50% of the operating cost of growing an ostrich over a 14-month period, the normal cycle. The higher fodder prices have made commercial farmers reluctant to take on more ostrich production.

OPN pays about N\$ 1,300 to 1,600 per bird to the grower, and the growers' claim that this price is below their breakeven point. The meat is cut into one of the 17 recognized cuts of the International Ostrich Association. This constitutes only about 12 to 14 kg of the total bird weight. Most of these

cuts are exported to Europe. Other meat parts and skins are exported to South East Asia. The bones and remaining materials are crushed to make oil. The value of the prime cuts of meat sold for export accounts for approximately half of the price paid for the live birds by OPN to the growers. OPN must cover its costs and make a profit from the sale of leather (or hides) and the other by-products—oil, ground meat, bones, eggs and feathers. If the hides can be tanned into top quality grades, the firm can be highly profitable.

Feathers are sent to a local company, The Namibia Feather Company, in Keetmanskoop. The firm employs handicapped persons among its staff to manually clean the feathers by hand. Next, they are made into dusters or exported in bunches to South Africa. The same company also receives egg shells from OPN. The shells are cleaned and exported, with some being supplied to upscale shops in Windhoek. Every part of the ostrich is put to some commercial use.

The Communal Farmers Trust is a co-owner of OPN. At the moment there are 9 farmers on each of the 6 ostrich farms that the Trust manages. OPN processed 3,000 birds (or 10% of their total) from birds grown on communal farms. A trust manager handles the business affairs of the communal farmers and the Trust. The arrangement is as follows: OPN supplies the fertilized eggs, fodder, and other supporting infrastructure that the communal farmers need to grow the ostriches. The communal ostrich farms were constructed by OPN and have similar facilities and outlook to those of the commercial farmers. OPN sends the vaccines and other inputs as needed during the growth cycle and they send their own specially designed truck to pick up the ostriches when they are ready for slaughter. The growers receive cash advances during the growing season against the purchase price of the ostriches. OPN pays the same price to the communal farmers as to the commercial farmers and they obtain a bird of a similar quality from both. At the time of purchase of the live birds by OPN, the monthly advances and the costs of the inputs supplied by OPN to the grower are subtracted from the purchase price and the Communal Farmers Trust receives the balance.

There is scope to expand ostrich production and processing in Namibia. A conservative estimate is that production can be doubled to an annual 60,000 birds, within the existing processing infrastructure. The world demand for ostriches and its many products is growing. The fact that the birds are slaughtered in a Halal way makes it easy to target niche restaurants in the Arab world where “exotic” meat is appreciated. The challenge is to find the best markets for all the different products, because the enterprise can be profitable only if it can sell “all of the bird” at relatively high prices. The key strategic thrust would be to process more hides into top quality leather, without this thrust it would be nearly impossible to be profitable as an enterprise.

Commercial farmers may be willing to take on expanded production if the prices were to go up, but it appears that OPN is already paying prices that are at a premium to world market conditions. There is scope to expand communal farming, but it requires additional capital expenditures by OPN (or someone else) to build new farms and train more communal farmers. Also, it is not clear that communal farmers offer any cost advantages, because they experience higher mortality rates among their birds.

Mahangu

Pearl millet, commonly named mahangu in Namibia, is one of the most important human staple cereals grown in the world today after wheat, rice, maize, barley and sorghum. Mahangu is a

drought-tolerant crop and a staple food for more than 60 per cent of the country's population. It is also the backbone of the economies of rural areas in the North. The production of this type of millet is unique to Northern Namibia and to date has been primarily a subsistence crop, often grown communally. Commercialization efforts are currently underway, and they appear quite successful. Mahangu is usually grown under rain fed conditions. The Kavango Region is the largest mahangu growing area. In a year with good rains, Namibia can harvest 100,000 metric tons of mahangu. In a bad year, production drops to about half of that.

Millers of mahangu are working with growers to secure adequate supplies for their mills. One operator in the North has a group of eight commercial growers directly linked to his mill through a complete "contract farming" system. Each of the growers has 100 hectares for growing mahangu. The miller assists the growers financially and logistically from sowing to harvesting. He also purchases mahangu from a hundred or so other growers in the area. The average purchase price last year was about N\$ 1.70 per kg to the grower, which is comparable to farm-level prices for pearl millet in Sahelian West African countries and comparable to the world price of maize. The millers sell a 5 kg sack of mahangu flour for N\$ 23.50. On average, 50 kg of field mahangu will yield about 45 kg of processed mahangu flour, varying with the variety produced. As such, milling of mahangu is a very profitable activity in Namibia. Some unprocessed mahangu is also being exported to South Africa. The more popular variety for consumption is not the best flour yielding variety, however, traditional consumers are very particular about having the right aroma from the mahangu meal. They prefer to obtain mahangu flour from smaller and rustic mills in their communities or to grind the flour themselves.

The government recognized the economic potential for mahangu growing shortly after independence and has promoted its production in recent years. A number of documents and analyses describing mahangu production and post harvest techniques and related issues have been produced for wide circulation. A Mahangu Marketing Intelligence Unit (MMIU) of the Ministry of Agriculture was established in the late 1990's with offices in Oshakati, Rundu and Windhoek. The MMIU has its mandate to link buyers and sellers and promote processing of mahangu in Namibia. Its efforts seem to have paid off. There is a growing number of small scale millers of mahangu throughout northern Namibia. At last count, there were about 13 medium to large scale mahangu processors and over 500 small scale processors of mahangu in the North. Additionally, one large commercial milling firm has mills throughout Namibia where it processes and distributes mahangu flour, and meals and flours from other cereals.

Product lines from mahangu include fine-textured mahangu flour, pure mahangu, oshikundu mahangu (a fermented drink), mixed mahangu, mahangu rice, and mahangu porridge. There is also talk of producing mahangu pasta. West African countries use millet to produce couscous, infant food, baked goods (cakes and croissants). Entrepreneurs in Northern Namibia are also experimenting with making cakes and cookies from mahangu. This usually requires very fine textured flour that has been milled at least twice.

Grapes

Table grapes are the largest horticultural export from Namibia and the sector is expanding rapidly. In 1999, Namibia produced 5,227 metric tons of grapes. All production is targeted for export to Europe. The Orange River in the South offers the water resource needed to grow the grapes, under

ideal climatic conditions for table grapes. Grapes are a high value horticultural crop requiring advanced production and post harvest handling techniques and tools. Furthermore, it costs about N\$120,000 to develop one hectare of irrigated land for grape production, and a reasonable size orchard would involve 200 to 300 hectares under production. Currently there are a handful of operations of this size along the Namibian banks of the Orange River.

Namibia enjoys a small market window of about eight weeks towards the end of the calendar year, when it can harvest grapes and deliver them to markets in Europe along with the South African Northern Cape producers and fetch high prices. This market window allows it to fetch prices of up to N\$ 250 per box (N\$ 200 on average). At this high price, the Namibian production is considered to be highly profitable and profit margins can average around N\$25 per box after accounting for post-harvest handling, packaging, cooling, transportation and distribution costs, including the financial costs for development of the plantations and the needed cold-storage and handling facilities. The window closes when South American grapes enter the European market and prices drop drastically after the first of the calendar year.

Namibia's advantages are in the early shipments to obtain the highest seasonal prices in Europe. There are well-established market links (along with the Northern Cape grape producers), and, at the present time, adequate water availability in the main production zone. The transport links to get the product to Europe are a benefit from South Africa's longstanding role in the European market for table grapes. Most Namibian grapes are exported through Cape Town using sea freight. Some of the very early shipments leave by air from Uppington in South Africa, along with South African grapes from the Northern Cape Province, and fetch sufficiently high prices to recover the added air-freight costs. This window is very small and disappears in 2-3 weeks. There is potential for high returns to investors if input costs can be controlled, workers' skills further enhanced, and Namibian logistical options developed. There is also potential for an extended season to begin earlier, with earlier plantings in combination with direct shipping to deliver the product in Europe a week or two earlier. The key to the business is to deliver the highest quantity of the highest quality grapes for the Christmas and year-end holiday season.

Expanded grape production offers opportunities for large and well capitalized commercial firms. Given the need to invest in packing sheds and cold stores as well as the development of the orchards, a minimum investment requirement is in the order of N\$ 50 Million dollars in addition to the land acquisition costs along the river. A possible future threat to this opportunity is from salinity of the land along the banks of the Orange River, because the river drains the principal farming areas in South Africa (from the highlands of Lesotho westward to the Gariep), and the Gariep Region (Namibia's and South Africa's shared course on the Orange River) is highly arid and thus subject to very high evapo-transpiration rates. In its long course from Lesotho, the river accumulates salts from drainage of RSA farms and this salinity is intensified with the high rates of evaporation in the Gariep.

Grapes are not an activity for SMEs, given the capitalization and technology required. There are few opportunities for SMEs as service providers to the producers, packers and shippers of grapes from the Orange River, as well. Most operations are fully self contained and operate with relatively few employees throughout the full year; it is only at harvest time that there is a high demand for pickers and for packing shed workers. Labor use may increase up to fivefold during the harvest season, but this employment opportunity is only for a few weeks in November through January. The

Gariiep suffers from a scarcity of people, because the climatic conditions are very rigorous (very hot and very dry), and there is a risk that the prospects for seasonal employment could induce migration into the region, and that there would not be sufficient economic activity during the ten month “off-season” to offer adequate livelihoods to the migrant workers.

Medicinal Herbs, Plants and Nuts

The Namibian deserts offer a number of plants and herbs that have been traditionally processed for their medicinal value. There is also a growing trend for use of organic or naturally growing medicines in the richer countries of the Northern Hemisphere. The government of Namibia recognizes this and has sponsored activities and workshops to promote existing products and discover new ones. A key concern in exploitation of these plants has been the issue of sustainable harvesting. There are few accurate estimates of sustainable yields for most of these species.

Devil's Claw

Devil's Claw (scientific name: *Harpagophytum procumbens*) is a plant that is found throughout Southern Africa, primarily in the Kalahari Desert. Its commercial product are its tubers that grow off a tap root. From the flowers grow woody, sharply curved, sticky, barbed fruits. That is where the plant gets its common name, Devil's Claw. Although the name comes from the fruit, the part of the plant used for its medicinal value is the tuber.

The tuber has medicinal properties and other uses. It is best known for the treatment of arthritis. Several active ingredients possess anti-inflammatory properties, anti-rheumatic, and analgesic properties, which help alleviate chronic muscle and joint aches, such as found in fibromyalgia. It is reported to have sedative and diuretic properties, as well. It can also be used externally as an ointment to treat skin rashes and wounds.

In Namibia, Devil's Claw has been gathered for decades, if not longer. As many as 12,000 Namibians are known to be “wild-crafters” that bring in the harvest to the dozen or so exporters of Devil's claw from Namibia. In the past, and perhaps even today, the harvest has been done in a destructive way, leaving the plant little chance to produce again. The key here is to leave the tap root intact and only remove the tubers. This requires careful and tedious digging around the plant to reach the tubers. The useful tuber material from each plant is in the range of 1 to 5 kilograms, depending on the stage when the plant was harvested. The exporters of Devil's Claw are taking steps to communicate appropriate harvesting techniques to the “wild-crafters” to promote sustainable output levels. There are also government extension efforts attempting to promote sustainable harvesting practices. A permit is needed to harvest Devil's Claw, and another one to export it.

The world export of Devil's Claw for 2002 was about 700 tons. Namibia exported about 650 tons of Devil's Claw, making it the dominant exporter. The main export destinations were Germany, France and the United Kingdom. Devil's claw was exported “unprocessed” to be refined into oils and paste used to make the medicines.

The government is undertaking cultivation trials for Devil's Claw. Cultivation is seen by some as the answer to reduce pressure on the harvest of the naturally growing resource. Private

entrepreneurs have also taken to cultivating the plant and are reporting good yields. Cultivation requires drip irrigation and a structured business venture to manage planting and harvesting. This approach requires capital investments and cultivation knowledge, which the average wild-crafter does not have. Concerns have been expressed on the loss of income opportunities for the wild-crafters, if Devil's Claw were to become a cultivated species. Additionally, cultivation of the species would enable its germplasm to be transported for use and cultivation in other arid localities, such as Western India, Northern Chile and Arizona in the USA.

In the past 30 years, the exporter's price has fallen from around US\$ 25 per kilo down to US\$ 4 to 5 per kilo in recent years. This drop in prices over a period in which natural and exotic medicinal products are gaining in popularity among consumers in rich countries may imply that efforts to cultivate the plant, if successful, could lead to further drops in prices. It would, thus, appear that this crop does not offer a high potential for SME involvement, given the high costs and risks of converting this activity from its rustic base to a more commercial venture.

Marula

Marula is prevalent throughout the sub-Saharan bush along the Rift Valley, from Ethiopia to Southern Africa. The female tree bears a fruit, which is succulent and tart with a unique and pleasant flavor. It is oblong and the size of a medium plum. A ripe Marula fruit is light yellow in color and composed of a leathery skin enclosing white fibrous flesh and a large stone. The stone contains two or three kernels that are rich in oil and protein. In a good season, a single tree can bear as much as two tons of fruit, with each fruit containing four times as much vitamin C as an average orange.

The principal uses are for the fruit itself. It has excellent thirst-quenching properties and is ideal for a warm dry climate like Namibia's. Adults use the fruits to make a home-brewed drink. More recently, the fruit has been used to make jams, jellies, liqueurs and wines, and as the main ingredient for exotic dishes. The stone of the Marula fruit is hard, but once it has been split successfully, there are many uses for it. The kernel is of significant nutritional value, and many regard it as a delicacy. The oil it contains is used for cosmetic purposes (soaps, creams, etc.), and as nose and eardrops. Because the oil content is high, the nut can even be lit with a match and used as a candle.

Marula fruits generally ripen at the end of the rains. In most cases they are ready just after people have finished with the agricultural harvest. This gives chances for many farmers to collect their fruits after they have harvested their food crops.

The fruit is consumed in the form of a ground powder or paste, which is then cooked and consumed with the main daily meal. Marula is also used to brew beer, which can be purchased in open markets. In the past this beer was made only for personal consumption, however, it is now a high value product on street markets. The oil is used for cosmetic production. The gum secreted by Marula is used to make ink by dissolving it into water and adding soot. The San people from the Kalahari use the gum and the poisonous larvae of a small beetle to put on tips of their hunting arrows. Also the bark is a coagulant because it contains 10-20% of tannin and alkaloids, hence it is effectively used in treating diarrhea. It is reported to be used in treatment of diabetes, dysentery, and malaria by traditional healers. Marula fruit skins are used as fertilizer in mahangu fields.

Marula tree species are fairly productive. Estimates of seasonal fruit crops from individual trees in Southern Africa range from 315 kg (17,500 fruits) to 1643 kg (91,300 fruits). For example, an average annual yield of 570 kg per tree is recorded in Namibia where up to 70,000 fruits have been counted on a single tree. Marula can be raised from seeds, but propagation is better achieved through cuttings. Generally, Marula is a fast-growing plant and fairly drought-resistant, reaching 3.5 meters in 8 years (depending on rainfall).

There are approximately one million trees in the northern regions of Namibia. These trees have definite owners and are specifically claimed by families. There is no standard price for the fruit, but informally it sells for N\$0.50 per kilogram in the open markets. There are no mechanized implements for kernel decortication (to extract the oil producing part of the seed). The ex-factory price of crude Marula oil is about US \$14-16 per kilo, but is expected to decrease significantly next year due to improved extraction technologies.

The Namibian government has launched the Indigenous Fruit Task Team (IFFT), which has the responsibility for the promotion of Marula nut processing, among other nuts and fruits. This effort is likely to enhance knowledge of the precise information on the multiple uses of Marula and processing techniques.

Prickly Pear

The prickly pear is the fruit of a green cactus. Like many desert plants, it thrives in a variety of areas, it is tolerant of different soils, temperatures, and moisture levels. For this reason, it has also been considered a weed-like nuisance. However, there are various commercial uses of the plant, including culinary--omelets, fresh fruit, jelly, and even flour (from seeds). It can also be used to make cactus pear dessert, cactus pear bread, and cactus pear punch. The South African Prickly Pear Association recorded more than a doubling of prices and tonnage from prickly pear sales from 1995 (554 tons for about one million Rand) to 2002 (1011 tons for three million Rand) on sales in the fresh produce markets in South Africa.

In Namibia, the prickly pear provides food and forage for subsistence and commercial farmers. In addition, valuable products and by-products derived from the prickly pear are much in demand on the international market. The multiple uses of and processing possibilities for Prickly Pear include:

- Food items, such as, fruits and fruit peel (fresh, dried, canned, and frozen), juice and pulp; alcoholic beverages, jams, jellies and candies;
- Medicinal treatments for diarrhea (stems), diuretics (flowers and roots), amoebic dysentery (flowers), diabetes mellitus (stems), hyperlipidemia (stems), obesity reduction (fibers) and the fruits have anti-inflammatory properties, as well;
- Cosmetics, such as, soaps, shampoo, astringent and body lotions, and humectants creams;
- Prickly Pear can also be used to make adhesives and glues, fibers for handicrafts, paper from the stems, dyes, mucilage for food industry (stems), and as ornaments.

Fishing and Aquaculture

Marine fish exporting to Europe is a highly integrated activity carried out by Namibian and foreign firms located in the Walvis Bay area. The estimated value of the exports of processed (frozen and canned) marine fisheries products is about US\$ 250 million dollars. The marine fisheries resources of Namibia have been traditionally exploited by off-shore factory ships, primarily. The government is now working with the industry to promote “Namibianization” and empowerment to increase the participation of domestic factors in the industry. The industry employs about 12,000 Namibians in boat crews and as workers in on-shore processing plants. The firms are vertically integrated, well connected to the European markets, and highly capital intensive. As such, they provide few opportunities for increased SME participation as suppliers of services or intermediate inputs.

Regarding fresh water fishing, the few perennial rivers on Namibia’s northern and southern borders do not have the sufficient biomass of marketable fresh water fish to make commercial fishing an economically viable activity. Aquaculture is an option under consideration and being promoted as both a saltwater and fresh water activity. For example, fresh water aquaculture is being undertaken near the Hardap Dam by a private entrepreneur using government ponds, and experimental trials of aquaculture possibilities are underway in the Caprivi Region, along the Zambezi river. There is some commercial culture of marine species near Luderitz (farmed oysters). Aquaculture is a high technology venture with significant start-up costs and water requirements and, would, therefore, only be a possibility for a large scale enterprise or a well organized communal activity.

1.2 Food Processing and the Economy

The economic contribution of primary agriculture, forestry and fishery products, meat and fish processing, and the manufacturing of food products and beverages was about 17% of the GDP for Namibia in 2001. Meat and fish processing and the manufacturing of food products made up about seven percentage points of the 17%. In comparison, government services accounted for 21% of GDP, and mining and quarrying contributed about seven percent.

In terms of exports, Namibia exported N\$ 3,823 million (approximately US \$ 560 million dollars) combined worth of live animals, fish and fish products and meat, beverages and other food products in 2000; of these, fish and fish products accounted for one-fourth of the value. Food products, other than fish, accounted for 13% of the total exports from Namibia. Primary ores and minerals accounted for 60% of exports, and of these diamonds represented the bulk, since diamonds alone made up 48% of total exports. The food processing cluster (including fish) is an important contributor to Namibia’s export performance after minerals including diamonds. This raises the national profile of the cluster as an important foreign exchange earner. The food processing sub-sector is also seen by government as a potential major source of incomes for very low income “upstream” producers in the agricultural and natural resource-based enterprises. The notion is that a modern food processing industry would provide a market for higher value products from agriculture, and generate employment within the processing plants.

The Census of Manufacturing Establishment 1994/95 by the Ministry of Trade and Industry indicated that food and beverage processing firms produced about 75% of manufacturing value-added in Namibia and represented 40% of all the manufacturing establishments in the country. The food processing (fish included) sub-sector employs about 20,000 workers in seasonal and

permanent jobs and this represents more than two-thirds of the workers in the manufacturing sector. The meat processing industry alone accounted for more than ten percent of manufacturing value-added. The formal and larger firms in the sector are located in the central regions near the capital city of Windhoek or the Port of Walvis Bay, yet there are important smaller enterprises operating in the northern regions of the country. Notably, the labor productivity of the food processing sector was only second to that of the chemical industry. These important economy-wide linkages of food processing to export earnings and the potential income and employment for poor rural households make clear the motivations of governmental authorities in fomenting development of Namibia's food processing industries as a means of expanding markets for agricultural and natural resource-based food production.

2.0 Demand Conditions

Small and medium scale food producers and processors in Namibia are poorly linked to markets and they generally lack access to information about markets for their products. Only the large fisheries (principally owned by the European marketing firms themselves) and meat operations have strong connections to their markets. Most others produce in the hope that their products will sell. This observation applies in different ways to the different types of firms. For the individual gatherer of natural products, even simple information such as knowing where to go locally to sell their harvest is not available. In many cases, the harvesting takes place first, then the search for the market begins. The notable exception to this is mahangu cultivators who have access to market information supplied by the government. Many small-scale producers of other crops take their chances on selling in the open market. Some small-scale commercial producers and processors, on the other hand, usually have their product sales lined up, even prior to planting or beginning a processing cycle. In many cases, the market for the small-scale commercial firms is the government. Some medium scale processors have arrangements to supply their products to retail outlets in the main urban areas as well as to South Africa. With the exception of informal trade across borders (primarily to Angola) and formal exporting of beef, fish, and ostrich products, little else is exported from the food processing cluster in Namibia even though the Namibian economy is intrinsically open to international trade.

2.1 Domestic Markets for Food Products in Namibia

Most small-scale farmers, wild-crafters or processors will sell their product locally. Farmers, especially, do not have the transport or funds to transport their product beyond their place of production. They, therefore, sell their product on the farm or place of production. In the event of a sale to a market intermediary (a wholesaler) who transports the goods to the local markets, it will often be the latter who will arrange the transport. The consumers in the market for basic food products are not particular about packaging as most products are supplied for immediate consumption. Most fruits, vegetables, fish and meat in the local open markets are supplied with minor post-harvest processing. For example, meat is butchered by a local butcher with a knife (usually under a tree) and offered for sale until the day's supply is exhausted. The only packaging used are plastic bags. The seller will estimate market demand for his products primarily from previous experience or word of mouth feedback. Buyers come mostly from the town and surrounding areas and have limited purchasing power. The prices obtained are low. Interestingly, within the open market, at any given time, there can be intense price competition among the several hawkers trying to sell the small quantities they each have on offer. The open market will also sell "locally" home produced medicines, oils and alcoholic drinks from indigenous fruits or nuts like Marula.

The food supermarkets in urban areas are stocked with processed food imports from South Africa, with the possible exception of fresh meat. Even fresh fruits and vegetables are from South Africa. The local producers or processors are challenged to break the locked in contracts through which South African firms supply the supermarket chains that are also partially owned by South African interests. The challenges come from the high cost of producing locally what the South Africans can supply competitively or from meeting the specifications required by urban customers of the supermarkets. These challenges include delivering regular fixed quantities over time, as required by supermarket purchasing managers. As a result, the food items produced and processed by

Namibians are sold in “local” corner stores that can have more flexible purchasing arrangements, regarding volumes, timing and quality standards.

Purchasing power in Namibia is unequally distributed. With two-thirds of the population in rural areas, and only about one-eighth living in urban areas of more than 20,000 inhabitants (NEPRU, 1996), the domestic market for processed food products is thin. Furthermore, more than half of the entire population subsists on incomes less than US\$ 2 dollars per day (IIASA, 2001). With these data and information from UNDP about the functional distribution of national income, we estimated that the urban market for all food products in Namibia is about 500 million US dollars per year, and it would be difficult to estimate how much of this is in the form of processed foods. Cereals, unprocessed meats, and other basic products with low processing could easily absorb half of the market, so that the urban market for processed foods in Namibia is about US\$ 250 million dollars, and most of this is imported from South Africa. According to the SADC Trade Review, total annual food and beverage imports from South Africa are about US\$ 300 million dollars.

The size of the urban market for processed foods in Namibia is less than half of the value of Namibia’s exports of processed fish and meats. Therefore, any major expansion of production from the food processing cluster would need to be focused on external markets and expansion of exports of specialty products.

2.2 South African Markets

South Africa is currently the best external market for Namibian processed food products, including the RSA’s role as a vehicle for exporting to other countries. This is true for historical reasons arising from commercial links established prior to independence. South African businesses have maintained their interests in Namibia, both as a market for South African products into Namibia and as buyer of Namibian products for sale in South Africa or for exporting to third countries via South Africa. Most Namibian exports of food products exported to third countries are through marketing arrangements with South African firms as intermediaries. For example, ostrich meat from Namibia is sold to Europe under arrangements with a South African ostrich meat marketing company. This provides Namibian firms with ready markets, but prevents them from developing a separate identity, because the buyer in Europe is simply purchasing products from South Africa. South African marketing arrangements for many Namibian food processors may be the most cost efficient way to export to third countries, and it would be difficult for new entrants in Namibia to compete directly for the South African consumer market, unless it is for specialty products, such as Namibian biltong.

At the present time exporting to South Africa is made easy in part by Namibia’s membership in the South African Customs Union (SACU), but South Africa’s participation in the SADC free trade area and in the recent (2000) South Africa-European Union Free Trade Agreement will tend to erode any preferential advantage for Namibia in the South African market. It will also increase the competition from the EU and SADC member countries within Namibia’s markets. SACU allows South Africa to access Namibian markets without duties. Namibia has used the SACU agreement to export live animals, beef, and beef products to South Africa.

SACU was imposed on Namibia and the other members by the Apartheid regime in South Africa in 1910 (revised 1969) as a means of protecting South African industrial production. This arrangement

has tended to concentrate manufacturing in South Africa and to retard it in Namibia and the other countries that are members of SACU. Negotiations to reform SACU have been underway since 1994, but the negotiations were complicated by the countries' participation in a myriad of other trade agreements, including SADC, COMESA, the SA-EU FTA, SADC-EU FTA and the Lomé Convention between European and African, Caribbean and Pacific Developing Countries. The net effect of all this for Namibia appears to be lower revenues for government from the customs union and increased competition from its neighbors in its domestic market and in the South African market. Nevertheless, South African businesses will continue as a very important conduit for Namibian products into the European market, and perhaps other international markets.

2.3 European Markets

Europe is the biggest destination for Namibian exports as a whole (65% of total exports). Most fish and fish products are exported to Europe. Most of the ostrich meat is exported to Europe. This is also the market that is being targeted by exporters of indigenous fruits, nuts or plants. Some small-scale processors are successfully exporting unrefined oils made from sunflower or indigenous melon seeds to Europe. Most existing Namibian processors (small scale or commercial) can comfortably meet European requirements for these exotic products. Other more conventional products face strong non-tariff barriers into the EU markets in the form of food safety regulations. New entrants have difficulty getting easy, cheap or quick access to information about markets in Europe (and the sometimes stringent product quality and safety requirements that must be met) or they lack business contacts to access the European markets directly. This is one key reason why they link up with a South African firm that offers to market the product for them.

The European Union – South Africa Free Trade Area agreement signed in 1999 will affect Namibia through its membership in the South African Customs Union. This SA-EU FTA aims to reduce EU duties on selected agricultural exports from South Africa over a ten-year period. The effect of this agreement for Namibian exports is not clear and the costs could be high if South African exports to Europe receive favorable treatment over Namibian exports. On the other hand, Namibia has had preferential access in to the European Union under the Lomé Convention. The convention is being renegotiated as the Cotonou Agreement to bring the EU-ACP relationships in to line with the World Trade Organization. The net effect would appear to be that Namibian enterprises would need to become more competitive to retain or expand market share in the European markets. The changing trading arrangements between South Africa and the EU may also serve as a disincentive for South African firms to serve as a marketing conduit for Namibian products.

2.4 Regional Markets

Namibia is a member of the Southern Africa Development Community(SADC), and the Common Market for East and Southern Africa (COMESA). The intent of these two organizations is to promote regional integration by reducing trade barriers among the countries. However, most of the countries in the region produce the same basic food products that Namibia might export to them. The land freight costs to transport the goods dissipate any potential advantages Namibia might have. Hence, other than South Africa, very few exports go to the regional markets, with the exception of Angola. The food has the additional hurdle of meeting sanitary and phyto-sanitary (SPS) requirements. The SADC protocol on SPS says that member states should implement internationally mandated SPS standards leading to harmonization among SADC states. This implies that Namibian

agriculturally-based products formally entering other SADC states have to meet the international SPS standards. In addition, the importing country may have its own conditions. The regional markets for Namibian exports have not materialized as many observers expected. Most countries in the region are producing locally what Namibia might export or they are able to import it from South Africa at competitive prices inclusive of freight costs. The prospects for expanding Namibia's presence in the SADC and COMESA markets for processed foods appears limited. These regional integration efforts may even result in increased competition by other Southern African firms in Namibia's domestic market.

2.5 Angolan Markets

Angola appears to offer a golden opportunity for Namibia to export many of its food and processed food items. Angola is at the early stages of recovery from decades of civil strife that left the country without government institutions and with much of the infrastructure destroyed. This has severely limited Angola's ability to undertake organized economic activities. Namibians enjoy warm ties with the Angolans, especially those in the southern part of Angola. Many Namibians in the North are related to Angolans. There are no duties for goods passing the border and many Angolan traders and consumers cross the border everyday to purchase goods in Namibian towns.

Angolans need all types of things, including household goods, clothes, flour, basic foods, soft drinks, wine, and beer. One result of this growing border trade is that the Oshikango border post is now a thriving Namibian town that has become the main route of goods exported from Namibia. Many of the goods are sold by Chinese or other Asian traders. Most of these goods, including many canned food products, have been imported from Asia. Namibia also serves as a transshipment point for South African products en route to Angola. These goods are purchased by the Angolan traders for resale in Angola. A review of customs papers near the Rundu border identified soft drinks, beer and wine as the principal exports into Angola in 2002. Our field investigations also revealed that unprocessed crops like mahangu are being imported into Namibia from Angola.

The prospect for increased Namibian exports of processed food items to Angola is significant. Meat Co. has been in discussions with the Angolans to export meat products. Maize or mahangu flour milled in Namibia is purchased by Angolans. At present, the risks of doing business in Angola are compounded by the absence of stable institutions. The absence of institutions and extreme poverty leads to frequent theft and highway robberies. As a result, insurers are unwilling to insure Namibian (or South African) trucks going to Angola and the goods are transferred to Angolan trucks at the border. Additionally, the risk of non-payment is considered sufficiently high to require that traders deal in cash transactions (usually in US dollars) prior to delivery of goods.

In due course, if peace persists, Angolans are likely to build up their institutions and infrastructure. Namibian firms can be part of the reconstruction. Discussions are on-going between Angolan and Namibian entrepreneurs (often in collaboration with a South African firm) to set up businesses in Angola or northern Namibia that cater to Angola's needs. Angola will become an increasingly attractive export market (for all goods). When the Angolans catch up, they will have the potential to export to Namibia, as well. Angola offers more fertile lands and water to grow crops and trees than Namibia. This potential is waiting to be realized and synergies among the food processors of Namibia and farmers of Angola are waiting to be exploited. Angola could be a raw material supplier to Namibia for its processing industry and the Namibian food processors could capitalize by trying

to link up with buyers in Angola. At a small scale, this is already happening. The key issue of the high risk of doing business in Angola remains, however.

2.6 USA Markets

The United States of America is a new alternate market for some Namibian processed food items. Ostrich meat, biltong and indigenous fruit and nuts products such as Devil's Claw offer possibilities. The African Growth and Opportunity Act (AGOA) provides duty free access for several Namibian products. They must still meet all the SPS and stringent United States Department of Agriculture (USDA) requirements for importing agriculturally-based items into the US, along with meeting any relevant US Food and Drug Administration food safety requirements. The prospect of exporting ostrich meat (if the US ostrich producer prices can be met) to the sophisticated uptown restaurants in USA or Devil's Claw for use in oils and herbs for the body exists and would require the establishment of market linkages.

AGOA is not a panacea for Namibia, particularly for processed foods. AGOA does not affect the stringent food safety, plant and animal health regulations that must be met by imports from any country. The food products that Namibia could export into the USA market currently face low tariffs within the USA's tariff structure under the Generalized System of Preferences (GSP), and AGOA, therefore, does not provide any exceptional advantage to Namibia or other African countries for processed food products which could be produced for export into the USA. The biggest advantage of the USA market would be for specialty products such as biltong and exotic foods and medicinal plants, because the USA market is so vast. Purchasing power in the USA is 100 fold that of all of Sub-Saharan Africa, so that capturing a small share of a niche market for specialty products in the USA could mean a very larger increase in exports from Namibia.

From the foregoing, it appears that the best strategy for Namibian food processors would be to seek to expand exports of exotic and specialty natural products (aromatic oils and biltong) into the USA and Europe. Expansion of Namibia's existing participation in European markets would appear to be the initial thrusts of such a strategy, and expansion into specialty niche markets for the USA would build upon the interest in the USA markets that has been created by AGOA. It would also appear worthwhile to consider a selected few items for promotion in Asian and Middle Eastern markets, but the first of these produces much of the same as Namibia (e.g. western India) and the Middle Eastern market would probably be best served as an adjunct to the European market. For example, fresh apples from South Africa find their way into the Gulf States via marketing arrangements with European firms. The product mix for the Northern Hemisphere markets would be very different than for the regional and domestic markets. In these latter, South African firms are likely to remain dominant for the foreseeable future, and there is little to be gained by attempting to compete (with new investments) against the well established capability already in place in South Africa. Basic food products such as mahangu flour and fresh fruits and vegetables (with little processing) could expand in domestic markets and into Angola, but the prospects for both of these markets is not large given the small size of the markets and the predominance of South African capacity, even in these basic foods.

3.0 Factor Conditions

Namibia is a net importer of most processed food items. In principle, Namibians could produce many food items in a small-scale for sale in Namibia, but South Africa is the main supplier of processed food items to Namibia. South Africa's food processing sector is well established and well capitalized and as such is able to produce items at marginal costs far below those of any new entrant to large scale food processing. Lower-scale food processors in Namibia can be competitive in certain items, such as mahangu meal and flour, but not in "high-street" items such as fruit preserves and juices or processed dairy products. On these latter items, the South African firms are able to exploit economies of scale and the advantages they received from the South African State to countervail against international sanctions during the Apartheid era. Even in the more rustic items, such as mealie (maize) meal, Namibian food processors face significant problems with inadequate supplies of raw materials, and therefore, find it difficult to compete against South African products.

Elements that affect the factor conditions for the food processing sector in Namibia include raw materials for processing, water, access to fertile land, inputs like fertilizers and pesticides, tools, freight (availability and costs), labor, capital, and post harvest and packaging technology. These are discussed in the following paragraphs.

Raw Materials

Efficient processing relies on a consistent source of raw materials that can be acquired at reasonable and predictable costs. Namibia's arid climate and desert ecology presents severe challenges to sourcing of the necessary raw materials at competitive costs on a consistent basis. As a result, many food processors resort to importing raw materials from South Africa. This is true even for meat processors, in cases where they need substantial quantities of special cuts that the Namibian supplier is unable to provide, at the time requested. Situations like this point to the vulnerability of developing a processing industry in Namibia. There has been some popular discussion of raising tariffs to protect the local raw materials industry. That can only lead to higher raw material costs for the processors and would be counter to multiple commitments made by Namibia within its various regional trading arrangements (SADC, COMESA, WTO, etc.). In the case of naturally growing indigenous fruits, nuts or plants, there is widespread concern of running out of the natural raw materials due to unsustainable levels and techniques of "wild-crafting" or harvesting.

Water

Water is very scarce in Namibia, and food growing and processing requires lots of good quality water. There are no permanently flowing rivers inside Namibia's borders. The areas near the perennial rivers of the North (Kunene, Kavango and Zambezi) and the Orange River in the South along with few a dams (like the Hardap) offer the best opportunities to develop efficient irrigation systems, which could be fed from these water sources. The high day time temperatures and generally dry air in Namibia lead to high evaporation rates, and drip irrigation systems would be preferred to other irrigation technologies. Many of the existing irrigation systems use the pivot (spraying) system, which is less efficient (in this regard) than drip irrigation. Furthermore, water from the rivers would need purification prior to use in food processing activities for products that would enter international markets.

Namibia does not currently use its full quota of water allocated to it from the perennial rivers along the northern border. The Kunene River in the North has a canal that supplies water to the Oshakati area. But no other canals exist to enable irrigation much further away from the rivers. The Etunda Irrigation Scheme takes water from the Ruacana Dam, about 40 kilometers away. There have been discussions and projects planned about building more canals connected to the perennial rivers. All of these initiatives are far in the future, and not of direct relevance to the purposes of this report. Furthermore, a venture is underway to establish a cotton gin in Rundu, and this is expected to increase the use of irrigated land and water for growing cotton. One consequence of this may result in a reallocation of land and water from existing food crop production uses to cotton production. Another, perhaps, more deleterious effect would arise from the large buildup of insect pests that accompany cotton production. Cotton is notorious around the world for being the single largest user of chemical insecticides. High value fruits and vegetables cannot usually be grown profitably in proximity to cotton plantations.

In terms of rainfed agriculture, the north of the country receives the most rainfall and field crop farmers use planting cycles that can take advantage of the available rain to grow basic crops such as mahangu. Even in this drought tolerant crop, yields can be reduced to half in a season of poor rains. Rainfed agriculture is not likely to become a major source of raw materials for the food processing industry, given its unpredictable output.

Ecological factors and Land Use Patterns

Namibia has land that is mostly suited for the many drought resistant plants that grow indigenously. The northern areas can produce field crops such as mahangu and maize, if the planting cycle coincides with the rains. Commercial and small scale farmers report a high incidence of insect pests when trying to grow fruits and vegetables, and this leads to the requirement for sophisticated and expensive integrated pest management techniques to extract breakeven yields. These conditions will be aggravated over time in the irrigated schemes, as insect pest populations will build up and be sustained by the more permanent cropping systems that irrigation enables. The ecology does not appear to favor agricultural development, unless it is achieved at large scale with relatively expensive and sophisticated technologies for water use and pest control. Only high value crops would sustain such a development.

The ecology of the northern border areas along the rivers is very similar in topology, morphology, latitude (photo-period) and climate as the Rio Fuerte region in the State of Sinaloa in northwest Mexico, and the ecology along the Orange River in the South is similar to the Rio Yaqui and Rio Mayo Valleys in the State of Sonora. These areas in Mexico are major suppliers of raw materials to Mexico's food processing industry as by-products of fresh horticultural exports to the USA. The food processing cluster evolved there, because the ecological advantages and massive investments in irrigation schemes are coupled with the proximity of the huge USA market. Fresh produce from these valleys in Mexico can be delivered via trucks into the northeastern United States, which encompasses 40% of the USA purchasing power, within five days of harvest. The sector in Mexico is highly capitalized and operates with sophisticated levels of production technologies and post-harvest processing. Namibia does not have the market opportunities to sustain such a highly capital intensive development except for a few high-value crops that could be exported in fresh form into Europe during the Northern Hemisphere winter season (October to February). Namibia could also

look to Western India for possible models for using arid lands to produce “medicinal” herbs and exotic crops alongside basic food crops.

Inputs for Farming

Inputs for farming are generally available from a single vendor (a commercial scale cooperative) that obtains products from South Africa. Many commercial farmers purchase directly from South Africa. The development of the agricultural base for raw materials for food processing in Namibia will remain closely linked to South Africa, at least in the case of agricultural inputs. Namibia’s market for these items is too small for it to become of interest to Asian, European or North American vendors of such inputs, in general.

Post-harvest Handling, Packaging, and Processing Technologies

State of the art post-harvest handling techniques and tools are available to medium or large-scale processors of high value products. The equipment is sourced from South Africa and the post harvest techniques are developed with South African collaboration. The Grape industry is a good example of the use of proper post harvest handling techniques. The small-scale producers cannot make the necessary investments to obtain proper post-harvest handling equipment nor do they have ready access to the knowledge of what are appropriate post harvest handling technologies.

Few tools or machinery are produced in Namibia for the food processing industry. These are ordered to specification from an overseas supplier, usually through a South African dealer. For the small-scale industries, the preferred country of import for machinery is China or India for machinery that can produce products of a quality and finish acceptable to the local market (for example, the mahangu mills). For the medium to large-scale processors that supply higher value products to overseas markets, the machinery will typically come from Europe (often Germany) or Japan. The supplier of the machinery will usually provide set-up assistance and startup training.

Most medium scale (and larger) processors own trucks for deliveries within Namibia and have established business relations with trucking firms for the routes to South Africa. Many small processors suffer from a lack of an established vibrant distribution system. The lack of such systems influences the scale of operations; businesses have to be large enough to afford their own transportation capacity to make deliveries and sales within Namibia.

Labor

There is a high rate of under-employment in Namibia as evidenced by the large number of persons whose incomes are less than US\$ 2 dollars per day (55% of the population). While literacy rates are reasonably high, there is a dearth of skills for farming and for even the most basic of food processing activities. Most workers would require substantial training in basic skills and in “process-specific” abilities. The costs for such training and the lead time to train the labor pool before they can be productive is an effective barrier to entry into the food processing industry in Namibia, because these conditions increase the start-up costs and risks. The government has in place affirmative action requirements that must be met and empowerment schemes that support the processor if employing the disadvantaged. The affirmative action requirements are a disincentive to achieve the scale of operations at which these become binding. On the other hand, the government

usually offers access to credit schemes for firms that fulfill certain empowerment goals. The net effect of all this is that government and government regulations become a major determinant of the business strategies of firms in Namibia including the scale of operations as a result of affirmative action and empowerment objectives. Even though the government has a pro-active and pro-business posture, there is significant risk involved in setting up businesses that depend a lot on the performance of government employees as regulators or effectively as partners.

Capital

Farming, fishing and food processing are high-risk activities anywhere in the world. The situation in Namibia is no different. The majority of existing food processing enterprises are either linked to small local markets (mahangu flour) or to large-scale export markets (processed fish and meat). These offer limited possibility of further expansion. There are a number of rustic gathering activities for exotic plants; and these, too, offer limited opportunity for expansion. The areas in which there may be opportunities for expansion will be in higher value products for export to the Northern Hemisphere. The nature of these products creates an inherent bias toward larger scale operations (e.g. table grapes and ostrich products). Consequently, the development of a food processing industry, if it develops, will require substantial flows of long-term capital, which will have to be obtained from international sources, possibly as direct investment by multi-national firms interested in sourcing high-value specialty products from Namibia. The prospects for growth from internally generated cash flows from small and medium enterprises in the cluster does not appear to have high prospects, given the thin domestic markets in which these firms operate.

Factor conditions are not a source of competitive advantage for SME firms in the food processing cluster in Namibia. While labor would appear to be low cost, the lack of skills and the need for training imply that only larger scale firms can afford the training expenses. At these larger scales, the government's affirmative action and empowerment objectives become barriers to new entrants. There are no readily abundant supplies of raw materials to serve as a basis for competitive advantage, as well. The firms that exist in the cluster are in "mature" activities (maturity as defined by Porter) such as fish and meat processing, and these operate in commodity markets where prices are determined by global competition. There are, therefore, few opportunities to gain competitive advantage through innovation, particularly in factor use. The few prospects that exist are in the processing and sale of indigenous (exotic) products, and within these, there are serious problems with sustainability of the natural resource base for raw materials.

4.0 Firms' Structure and Strategies

The food processing industry in Namibia is characterized by the presence of several types of firms that range from individual gatherers of raw materials (e.g. “wild crafting” of Devil’s Claw), to the highly organized firms in fisheries and meat processing. Firms in this sector can be categorized into nine loosely defined types:

1. The individual farm family unit or gatherer is the most prevalent type. It is also the least formally organized. The lead entrepreneur is usually a woman that does most of the work to harvest or gather miscellaneous food items (including naturally growing plants) for barter trade or sale. Livestock herding is usually done by a male. For decades Devil’s Claw has been “wild crafted” in this way but this is changing now. Wild crafting is a term used to describe the harvesting of naturally growing food products such as indigenous vegetables, fruits and nuts. Often the farmer may supply to an informal cooperative arrangement, but no prior obligations exist on either side. In simple terms, the arrangement is: bring what you have, when you have it, and we will see if we buy it.
2. The small scale crop farm enterprise is a relatively new phenomenon in Namibia, because cropping is not the desired activity of most rural farmers as it limits them to stay in a specific locality and to follow schedules of planting and harvesting where they would prefer to move about. They are primarily pastoralists, rather than sedentary farmers. The farmers know that they are taking very high risks with their time and effort to grow crops for sale, and they still tend to maintain multiple economic activities simultaneously to spread the risk and ensure that there is food to eat. The higher risks to this group emanate from the challenging crop production environment. Not knowing if the plant will give fruit in the absence of rain in sandy soil with little fertilizer and the presence of pests, and not having an assured market for the product that is harvested make this group highly vulnerable.
3. Informal cooperative arrangements, such as those that collect indigenous fruit, or nuts, are quite prevalent as a means to enable the exchange of food and raw materials among the farm households. In some cases, the purchasing arrangements have been highly formalized, but, generally, a formal cooperative agreement does not exist. The lead person to organize such arrangements is usually the purchaser of the raw materials.
4. The formal cooperatives are recently introduced farming arrangements, often under the mentorship of a large commercial farmer or a mine with a socio-economic empowerment agenda. Formal cooperatives are used more often for acquiring inputs and organizing farming than for the marketing of outputs.
5. Communal Trusts are used for organized farming (such as ostrich growing) and small scale crop production by indigenous farmers under technical mentorship and financial support of a commercial firm. This is rapidly becoming a preferred way for the government to facilitate close linkages between commercial firms and the disadvantaged population to enable transfer of skills and knowledge. The commercial firm, in return, receives support from the government in tax incentives or subsidies to expand their core businesses and to fund the Trusts. Access to credit from the Agricultural Bank of Namibia is a very important incentive used by government to promote such arrangements through official credit guarantees. The

Bank's lendable funds are at times also sourced with sovereign guarantees to international lenders.

6. Small to medium scale commercial firms are a common type of organization among the Namibian white population. The commercial farmer usually has livestock and a small "vegetable garden". The activities on such farms are highly organized and all necessary and recommended procedures are generally followed. The small commercial farmer firm is well capitalized to handle the size of operation with sufficient working capital, but they may lack the ability to expand their activities. Many of these farmers have a job in the formal market in an urban area, as a primary occupation, or they own retail shops (not related to their farm business) in the towns and cities. The operational day-to-day affairs of the farm are run by a farm manager. The owner will sometimes visit over the weekend to supply inputs or arrange sales. Some of the farmers will develop these small scale activities into their primary occupation, but rarely will this activity be the sole source of income. There are scattered commercial operations to grow vegetables in the North and the South near the perennial rivers. This group usually has tied their operations to supply government needs such as schools and hospitals as independent contractors. Government purchases are often the only market for many of these producers and processors. Some of these firms intend to use government contracts as a base from which to grow their businesses for sales to privately owned operations in Namibia or for export to South Africa.
7. Small scale processors are characterized by the small localized vendors, such as butcheries or the makers of local alcoholic drinks, oils, herbs and medicines from indigenous fruits. These operations do not, usually, process their own raw materials, because they obtain them from intermediaries that buy directly from the producers. A recent development is the growing number of small-scale millers that are processing mahangu into flour for a service fee. According to one estimate there are now over 500 such units operating in the North. In other cases, processors of nuts and seeds extract oils for the commercial markets. For example, in one case, melon seed oil is exported in unrefined form to refineries in Europe that use it in making cosmetic products for sale by the world famous Body Shop stores chain. Apparently this one buyer has expressed a requirement for a three-fold increase in supplies of these products from Namibia. This represents a market potential of one million US dollars from SMEs in this activity for this one buyer alone.
8. Medium to large scale commercial integrated processors, such as the grape exporters in South, the commercial ostrich processor and most of the firms in the marine fishing industry tend to operate as highly capitalized and self contained enclaves, in which there is little firm-to-firm collaboration or outsourcing. The key characteristic of this group is its highly sophisticated firm linkages to their international marketing firms that make them highly dependent on these specific links for the success of the operation.
9. Some medium to large scale operations are either government owned (Etunda Irrigation Scheme and Meat Co.) or firms that have a substantial government equity stake through GIPF or some other financial institution. The Ostrich Production Namibia (OPN) has a large government equity stake, as does the Naute Date production project. While these are not private firms, it is important to recognize their role in the sector to help understand the potential for SME growth. For example, the Ostrich Communal Trust is an equity owner in

OPN. The Trust is facilitating economic activities for 54 communal ostrich growers in the South. These enterprises provide few opportunities for SME participation except as producers of raw materials.

Current SME Strategies

Two key strategies are observed for firms in the cluster. The first is the traditional reliance on multiple sources of income, simultaneously. The second is the reliance on government support and signals to plan their business operations or expansion plans.

Most Namibians rely on multiple sources of incomes to mitigate risk of losses from any one of them. This is even more important and prevalent when relying on income from the food cluster. The higher risk associated with the food processing cluster is recognized by the participants and addressed mainly through ensuring multiple sources of income (in cash or kind). The implication for firm strategies is that most entrepreneurs will spread their resources (time, effort and any assets) among multiple economic activities. Yet the food growing or processing sector activities require consistent dedication in terms of time and effort as recommended schedules of sowing, harvesting, and processing are critical for most plant and animal-based products. Not surprisingly, the spreading of their time and effort to multiple activities reduces the chance of success of any one of the entrepreneurial activities.

The government's generous support to the sector results in a "dependence" on and linkages to government sponsored projects, government purchases or facilitation of private entrepreneurial initiatives. This typifies the strategies that most firms develop to start or expand their businesses. Simply put, firms respond to government signals first and then price signals for their products in making decisions about start-up or expansion.

While appropriate and targeted government support may be necessary to initiate activities in this cluster, many firms come to treat the government's role as the only necessary and sufficient condition for success. A review of most business plans for firms in this cluster had, as their strong suit, some element of government support to make the venture successful. This element could be in the form of cooperation from a local council or purchase of the expected output of the firm by a government agency. This approach to strategies for success by a firm is dangerous as it can and does lead to the initiation of unsustainable activities that grind to a halt as soon as government support is withdrawn or decreased. Furthermore, it clouds the ability of the firm to undertake a true estimation of the full costs of undertaking that business opportunity, and often leads to false conclusions on the profitability of the venture.

5.0 Cluster Foundations

The Government of Namibia has given high importance to food production and processing as vital economic activities. The government's concerns include food security for the low income populations. These are coupled with empowerment objectives to incorporate previously disenfranchised persons into the economic mainstream, and, together, these concerns have sustained an extensive government support mechanism. As such, the government's involvement has become the primary determinant of the competitiveness of firms. The government tends to be the leader in organizing the cluster, guiding the activities and in providing support services. Government supporting mechanisms range from irrigation schemes (with plots available for rental to private entrepreneurs) and industrial parks, equity stakes in private ventures, and facilitation of loans or loan guarantees, as well as a proactive investment promotion effort.

The private sector, in turn, has learned to rely, if not become dependent on, the government support mechanisms. As a result, the firms are less focused on profits, returns on investment or market price signals, and they focus more on what the government pronouncements are for the cluster or what the government is willing to do to support specific projects. The decision of the government to guarantee a loan or to take up an equity stake (say through GIPF) is often (though not always) instrumental in the venture becoming a reality. Government support for generating interest in new economic activities is considered necessary by some, due to the higher risk nature of activities in this cluster arising primarily from Namibia's challenging factor conditions, but it largely explains the strategies adapted by SMEs in this cluster.

Infrastructure

The high-end food processing enterprises in fisheries and meat products enjoy excellent physical and institutional infrastructure facilities. For example, the Walvis Bay and Luderitz ports are geared to handle fish exports to Europe and have all the necessary facilities and institutional arrangements in place. Interestingly, the support extended by ports to the fishing industry can cause difficulties for exporters of other food products to access the port facilities to suit their needs. Grapes and dates are exported through Cape Town, partly as a result of the strong presence of the fishing industry in these Namibian ports.

The government also has an ambitious system of industrial parks, but the food processing cluster has not evolved around these facilities. Food processing activities need to be located near the sources of raw materials and near ample supplies of water for the various processes and for hygiene. Most of the industrial parks are located near the major cities and away from perennial rivers.

Support Services

At present, extension services in Namibia are focused on farm production issues, almost exclusively, with little attention to post harvest issues. The extension service (with the help of donors) is at the early stages of changing its outlook to focus more on export-oriented production. Additionally, the focus of the extension service has been on livestock management, as it has been the mainstay of Namibian agriculture. More recently, the extension service has undertaken a number of trials on various inputs for food processing. The extension services are gaining experiences in "new" products. For example, efforts are underway to study and promote cultivation of currently "wild-crafted" indigenous fruit trees, plants and shrubs. Cultivation trials for Devil's

Claw to develop and document appropriate cultivation techniques are underway. This new government emphasis is crucial in addressing concerns expressed about sustainable wild-crafting of indigenous fruits and trees.

Public/Private Dialogue

There is extensive public/private dialogue on how to increase economic activities in the Cluster. Government officials are readily accessible and willing to discuss all matters of importance related to the cluster. There are no private sector led associations with specialized focus on food processing, though organizations such as the Namibia Agricultural Union represent sub-sectors within the cluster. Members of the Namibia Chamber of Commerce and Industry (NCCI) related to the food processing cluster use the NCCI platform to put forward their issues to the government. However, the discussion is often led by the government. The focus of these discussions is usually on ways for the government to assist the private sector through skills training, input subsidies or loan facilitation and favorable regulatory decisions. The traditional role of public/private dialogue is often appropriated by the focus to secure government support for specific private sector “projects”. This compromises the power of public/private dialogue to enhance cluster competitiveness as a whole. The dialogue, thus, becomes an exercise in rent seeking by the enterprises and of “picking winners” by the government officials involved. This process inhibits, rather than stimulates market competitiveness, no matter how well intentioned the objectives of government and its officials.

Business to Business Linkages

Business-to-business linkages vary by the type of firm structure. For example, the ostrich industry has highly integrated linkages where one firm is dependent on the input or output of many others and it is, in turn, dependent on its distributor for downstream market linkages. The table grape industry has excellent linkages to procure all its needs and to sell its products abroad. The marine fishing industry is a self contained operation that is able to supply all its needs and has forward contracts with importers in Europe from whom it sources most inputs needed to process and package the catch. Linkages among other firms of different types are limited.

Another complicating factor in building business linkages is the fear that someone may steal your idea. This is quite prevalent and has some basis to it. The limited number of businesses in the cluster means that most people know who their competitor is. They know very little about what exactly the other firm may be doing. This leads to speculation and inappropriate strategizing to compete with the other firm. The small size of most businesses in the cluster makes it difficult to talk about the industry without yielding actual information about a specific business operation. As a result, mutually useful communication among same-type firms is limited. For example, other than the information provided through government publications and workshops, most firms do their own product and market research and are generally unable to develop and use generic information useful to all participants in the cluster.

In summary, in spite of the focus and importance given to this cluster by the government, many elements of the cluster foundations are weak. The cluster, to the extent that it can be said to exist as a cluster, is characterized by a few firms dependent on government with little focus on addressing firm-level competitiveness in markets, and with little capacity for firm-to-firm collaboration on generic issues.

6.0 Enhanced SME Competitiveness in Food Processing

The food processing cluster in Namibia is highly dualistic with a few large government supported or enclave firms in the fisheries, grapes, beef and ostrich processing and numerous very rustic processors of basic foods. There is one relatively large firm engaged in milling of cereals. The small size of the domestic market indicates that there is little scope for expansion of small and medium firms to serve this market, particularly since most of the processed products are imported from South Africa. The scale and costs advantages of South Africa's mature food processing industry would make it very difficult for new entrants in Namibia to compete effectively. The opportunities for expansion of the cluster will arise primarily in serving markets in Europe and elsewhere in the Northern Hemisphere with exotic and high value products, e.g. indigenous nuts and seeds and their derivatives, among others. These opportunities will tend to require technology, scale, and capital. As such, there do not appear to be major opportunities for expanding the role of SMEs in the food processing industry of Namibia. There may be limited opportunities to expand the processing of local products for local consumption, such as is happening in mahangu flour. Additionally, there are opportunities for increased trade with Angola, but these will primarily involve intermediation of imported products via Namibia.

The firms seeking to expand would do well to focus energies and resources on a few products. The selection of the products must be determined by their market potential. Initiatives can be taken to improve the quality of dialogue with government to focus on issues that affect the cluster as a whole, rather than individual firms. The government and an association could work together in identifying market opportunities abroad and in communicating the generic product requirements to the member firms. There are some specific opportunities within Namibia such as linking firms in the tourism cluster with those producing indigenous products from fruits, nuts and shrubs.

There is a need to provide business services for accurate analysis for firms to estimate the true cost of doing business. In many business plans reviewed by the authors in the preparation of this report, the profit potential was based on ideal circumstances and quickly disappeared if one of the assumptions did not materialize.

Appropriate government support for broad based services is needed, rather than the current high degree of involvement in what are primarily private entrepreneurial responsibilities. For too many firms in the cluster, the government is the fundamental reason for the existence of the venture. This situation will tend to crowd out truly competitive firms.

Firm owners need training in management techniques, especially the sensitive nature of timing in the food processing cluster. Most agro-processing activities are very time sensitive and will not tolerate delays that can lead to poor quality of inputs because they are not processed at the right time.

Many firms could be assisted with access to international market information, much of which is available on the internet. Many products have international market potential and most entrepreneurs do not have the skills to obtain the information, even when it is available on the web. For example, much of the international market and uses information in the product profiles for this report was sourced from the web. Development of these markets would require business-to-business links with the commercial firms in the destination markets.

The Small and Medium Enterprise Competitiveness Enhancement Program (SMECEP) could assist SMEs in the food processing cluster in the following ways:

- Assist biltong manufacturers to set-up and develop an association to promote the generic image of the product among destinations in the EU and USA and, through the association, assist producers in meeting the import requirements for biltong into those countries.
- Assist mahangu processors to develop processing, food safety and preservation techniques to meet the requirements for increased domestic marketing of mahangu processed items in addition to flour, such as cookies and cakes.
- Provide training opportunities on management techniques with special reference to the timing issues in the food processing value chain and techniques to estimate the true cost of doing business.
- Work with existing associations such as NCCI to build up their capacity to provide useful international market information to their food industry clients using the internet. Many SMEs are in the “produce first and market later” mode, and a first step to change that mode is to have greater and quicker access to useful market information that informs SMEs of the opportunities and risks associated with those opportunities.
- Assist processors of indigenous fruits and nuts to develop business ideas and plans that explore processing options and markets for their products that meet the high end international market requirements. One way this can be done is through linkages with potential buyers that communicate their desired specifications of the products they need to the potential processors in Namibia.

BIBLIOGRAPHY

1. Proceedings of the first regional Devil's Claw conference, 26-28 February 2002, Windhoek, Namibia, CRIAA SA-DC (Namibia)
2. Consultancy on the prospects of domestic import substitution in various agricultural commodities, June 2001, Development Consultants for Southern Africa (DECOSA)
3. Van Schalkwyk Paul Namibia Trade Directory 2002, Windhoek, Namibia
4. Managing Water points and grazing areas in Namibia, The Cuvelai, Ohangwena, Omusati, Oshana and Oshikoto Regions (1996), published by Desert Research Foundation of Namibia, Windhoek, Namibia
5. 2002, Official SADC Trade, Industry and Investment Review, Published by Southern African Marketing Co (Pty) Ltd in association SADC, Southern African Marketing Company (Pty) Ltd, Gaborone, Botswana
6. Financial Year 2002/2003, Ministry of Agriculture, Water and Rural Development, Technical Information Document on Programmers and Projects for Vote 20: MAWRD
7. Strategy and action plan for promoting indigenous fruits in Namibia, published by Indigenous Fruit Task Team, compiled by Pierre du Plessis CRIAA SA-DC, October 2001
8. Bank of Namibia, Annual Report 2001, Windhoek, Namibia
9. Bank of Namibia Volume 12, No.4 Quarterly Bulletin, December 2002, Windhoek, Namibia
10. Ministry of Fisheries and Marine Resources, White paper on the responsible Management of the Inland Fisheries of Namibia
11. Mahangu Post-Harvest Systems, Research Report prepared for Ministry of Agricultural, Water and Rural Development, Directorate of Planning and Namibian Agronomic Board by Michel Mallet and Pierre du Plessis, CRIAA SA-DC (Namibia), March 2001.
12. Promoting Mahangu and Sorghum in Namibia, Editing and layout: Pierre du Plessis; Printing: Namprint, prepared for Ministry of Agricultural, Water and Rural Development, Directorate of Agricultural Research and Training and Namibian Agronomic Board by CRIAA SA_DC, Windhoek, Namibia
13. International Institute for Applied Systems Analysis (IIASA). Namibia Country Brief: Population and Society. Feb 2001.