



*Mango in Sudan  
- Marketing and Export*



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*- Marknadsföring och export*

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*To the soul of my mother, to my father  
To my husband Moawia and children  
Ali, Ammar and Hamsa*

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Uppsala, Sweden, December 2007  
Sanna Eltoum

# Abstract/ Summary

Mango is one of the essential horticultural crops in Sudan. It has economic significance being cultivated almost around the year in different parts of the country. It has a regional and international demand due to its palatable and adored taste with great nutritive value. It has a great chance for new markets abroad.

The thesis deals with Sudanese mango production and the obstacles facing its marketing abroad. In this study I see that, for example, the portion of Sudanese mango exported to the Saudi market decreased despite its favourable price. The question is: Why?

The aim of this study is to illustrate the export of mango, the problems, and to analyze the result to indicate the obstacles. The analysis is based on a theoretical perspective which focuses on marketing strategies for marketing mix. The SWOT-analysis is used to find out the competitiveness of the Sudanese mango fruit in international markets, in terms of the strengths, weaknesses, opportunities and threats.

The method used for the study is qualitative. The sources are interviews and documentations, personal interviews with open questions have been an important part of the analysis.

The results showed that the strengths of Sudanese mango are due to many factors like: production around the year, lower price in Saudi market compared to other competitors, high quality of crop with great nutritive and healthy value. On the other hand, the basic weaknesses of mango are that it is a highly perishable commodity and lacks in the pre-, and post-harvesting technology, as well as in the marketing channels.

As a conclusion, the study shows that the problems of mango marketing occur during the whole process (production, marketing channels, price and foreign market). Besides, there is a poor existing strategy. But the situation will be more positive by doing improvement in all this process and developing the marketing strategy.

Key terms: Mango, marketing, marketing chain, 4 P's, SWOT-analysis.

# Sammanfattning

Mango är en av de viktigaste hortikulturella grödorna i Sudan. Den stora ekonomiska betydelsen beror bl a på att den kan odlas nästan året runt i olika delar av landet. Mango efterfrågas såväl regionalt som internationellt p g a sin goda smak och sitt höga nutritionsvärde, vilket borde betyda att det finns en potential för utländska marknader.

Denna rapport behandlar sudanesisk mangoproduktion och de hinder som finns för dess utländska marknadslansering. I studien framkom, bland annat, att den exporterade volymen av sudanesisk mango till den saudiarabiska marknaden minskat trots en konkurrenskraftig prisnivå. Frågan är varför det är så?

Målet med studien är att analysera mangoexporten, de problem som finns i denna, samt att komma fram till hur de nuvarande hindren kan överkommas. Analysen baseras på det teoretiska perspektivet som fokuserar på marknadsföringsstrategier för att härigenom nå olika sk ”marketing-mix”-lösningar. För att dra slutsatser angående konkurrenskraften hos sudanesisk mango används en SWOT-analys, d v s dess styrkor, svegheter, möjligheter och hot.

Metoden som används är kvalitativ, där intervjuer med öppna frågor och skriftliga källor använts.

Studiens resultat är bl a att sudanesisk mango har styrkor såsom året-runt-odling, lägre pris på sudanesisk mango på den saudiska marknaden jämfört med andra konkurrenter, en högkvalitativ produkt med mycket bra nutritions- och hälsovärde. Några svagheter, å andra sidan, är att mango är en färskvara, samt att pre- och postskörds-teknologi saknas, såväl som marknadsföringskanaler.

Slutsatsen blir att problemen för marknadsföringen av mango återfinns genom hela kedjan (d v s produktion, marknadsföringskanaler, pris och på de utländska marknaderna). Till dessa kommer att det inte finns någon genomtämkt strategi. Om kedjan utvecklas och en marknadsföringsstrategi utvecklas kommer situationen att förbättras.

Nyckelord: Mango, marknadsföring, marknadsföringskedja, 4 P's, SWOT-analys.

# Abbreviations

ABSC	Agro Business Sudan Company
AOAD	Arab Organization for Agricultural Development
CMFV	Central Market of Fruits and Vegetables
GNI	Gross National Income
HAS	Horticultural Administration Sector
HEC	Horticultural Exports Center
HFS	Horticultural Farming Society
MAF	Ministry of Agriculture and Forestry
SHEC	Sudanese Horticulture Exports Company
SWOT	Strengths, Weaknesses, Opportunities and Threats
UFVE	Union of Fruits and Vegetables Exporters
UFVP	Union of Fruits and Vegetables Producers

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# 1. Introduction

*In the first chapter of this study, a background-description of Sudan and the production of mango fruit are performed. In addition, a problem definition, the aim of the study based on the research questions, and delimitations are presented. Finally, an outline of the study is presented.*

## 1.1 Sudan - country background

Sudan is the largest country in Africa, occupying a territory of 2.5 million square kilometres. The geographical diversity of Sudan has had a direct impact upon economic, social, political, and cultural life with its multifarious ethnic and cultural composition. The culture of Sudan is regarded as the oldest in Sub-Saharan Africa. Sudan has had contacts with Middle East and Mediterranean civilizations since ancient times. The western parts have many contacts with West Africa, and the eastern parts have maintained close links with the countries of the Indian Ocean. The population in the north-eastern parts of the country has undergone an ethnic absorption of immigrant Arabs during times of Islamisation, and culturally becoming arabised. This process has been extended deep into the Central and Western parts, but with much less influence on the population in the Western parts. (Abusabib 2004, p 21)

Internal migration has taken place in different parts of Sudan from rural areas and small towns to big cities, particularly to the capital Khartoum (Abusabib 2004, p 56).

The total population is about 40 millions, with 70% in the northern parts. The urban settlers consist of about 37% of the population and 10% of the rural inhabitants are nomads. The annual growth rate of the population is 2.7%, and the average size of households is 5.8 persons. The population pyramid is characteristic for a low-income country with 44% of the population below 15 years and 2.3% over 65 years of age. The GNI (Gross National Income) per capita is US \$640. Staple foods are sorghum, millet, wheat and maize (CIA, The world fact book, 2005)

### 1.1.1 Economy of Sudan

#### *Agriculture*

Sudan is very rich in natural resources, a fact that has inevitably made the country base its economy on agricultural and animal production. Consequently, agriculture is considered the backbone of the economy in the country. However, agricultural production varies from year to year because of intermittent droughts that cause widespread famine. The society is conditioned by anthropological and climatic factors, as well as the nature of the land, but agriculture is the foundation of the social structure.

Although there is great potential in the field of agriculture, development and reaping maximum benefit from this sector needs more effort to move the wheel of production forward towards improvement and progress. Statistics and economic analyses show that the agricultural sector is pioneering in the country's economy. It contributed about 45.5% of the total national growth in 2002, and 80% of the population depends on it (The Columbia Electronic Encyclopaedia, 2001-05). Of Sudan's exports, 90% are agricultural products. The leading export crops are cotton, sesame, and peanuts. Other agricultural products include sorghum, millet, wheat, dates, sugarcane, fruits and vegetables. Sheep, cattle, goats, and camels are raised. A variety of forest products are produced, by far the most important being gum Arabic, with Sudan accounting for much of the total world production. The agricultural sector has many opportunities and enormous resources that make good bases for development and investment. Sudan is named as one of three countries, with Australia and Canada, to solve the problem of food insufficiency in the world (The Columbia Gazetteer of the World Online, 2005). Sudan is the only Arab country where the agricultural balance is positive, and actively contributing to food security in the Arab world. Its agricultural exports estimated as 106 thousand tons during 2002 (ibid).

### *Industry in Sudan*

The Sudanese industry is largely confined to agricultural processing and the manufacturing of basic consumer needs; the chief products include ginned cotton, processed food, beverages, textiles, cement, soap, and footwear. Petroleum is also refined, but the main source of energy is hydroelectric power. The country has a very limited transportation network. Foreign trade is largely conducted via Port Sudan. Chief among the annual imports, the value of which is usually higher than that of exports, are food, petroleum products, machinery, transportation equipment, medicines, chemicals, and manufactured goods. The principal exports are ginned cotton, sesame, gum Arabic, livestock, and meat. The leading trade partners are Saudi Arabia, European Union countries, China, and South Korea. (The Columbia Encyclopedia, 2001)

The leading products of the country's small mining industry are chromate, copper, salt, gold, manganese, gypsum, and mica. Petroleum deposits were developed in the 1970s, but the work was discontinued in the mid-1980s as the military conflict in the south intensified. In the late 1990s, the government sought foreign partners to help redevelop the oil sector, and a pipeline was built from South Sudan to Port Sudan, on the Red Sea. (ibid.)

#### 1.1.2 Sudanese mango

Common mango (*Mangifera indica* L.) is believed to have been cultivated for about 6,000 years; its native home is suggested to be Eastern Asia and it is now grown in both hemispheres. Mango is good for consumers who are interested in diet, health, fitness and natural food because the nutritional value of it is considered being high, it

contains energy-giving fructose which is low on the glycaemic index, and high on dietary fibre, minerals and vitamins including vitamin A and C and traces of B-complex. In addition, mango has a very specific tropical flavor and could be used at any stage of maturity, which explains why it is also called “the king of the fruits”. Hence, those properties make mango an excellent choice for both weight control and general health. (Mango resources, botany and taxonomy, 2007)

In Sudan, mango is an important horticultural crop. It has economic importance being produced almost all of the year in different parts of the country. It also has a regional and international demand in markets, being a beloved fruit with great nutritive value and palatable taste. There are new chances for whole markets abroad.

The mango cultivated area in Sudan was estimated to be about 2,814,000 ha in 2004. About 57 cultivars are reported to exist in Sudan. They are categorized into three groups: True Indian cultivars, Egyptian seedling cultivars of Indian origin such as Zibda, Alphons, Malgoba and Hindibesinara, and Sudanese seedling cultivars of Indian origin of high quality including Shendi, Taimoor, Nailm, Mabroka, Debsha and the famous sort Abu Samaka. The main area of mango production in Sudan extends along the main Nile banks in Northern and River Nile states. It is also grown on a small scale along the Blue Nile banks in central Sudan, and in some parts of South Kordofan and in Darfur states where the other cultivated species of mango is found. A large portion of mangoes in Sudan is also grown naturally in the southern parts of the country (see Figure 1). (UNEP, 2005, pp 16-17)

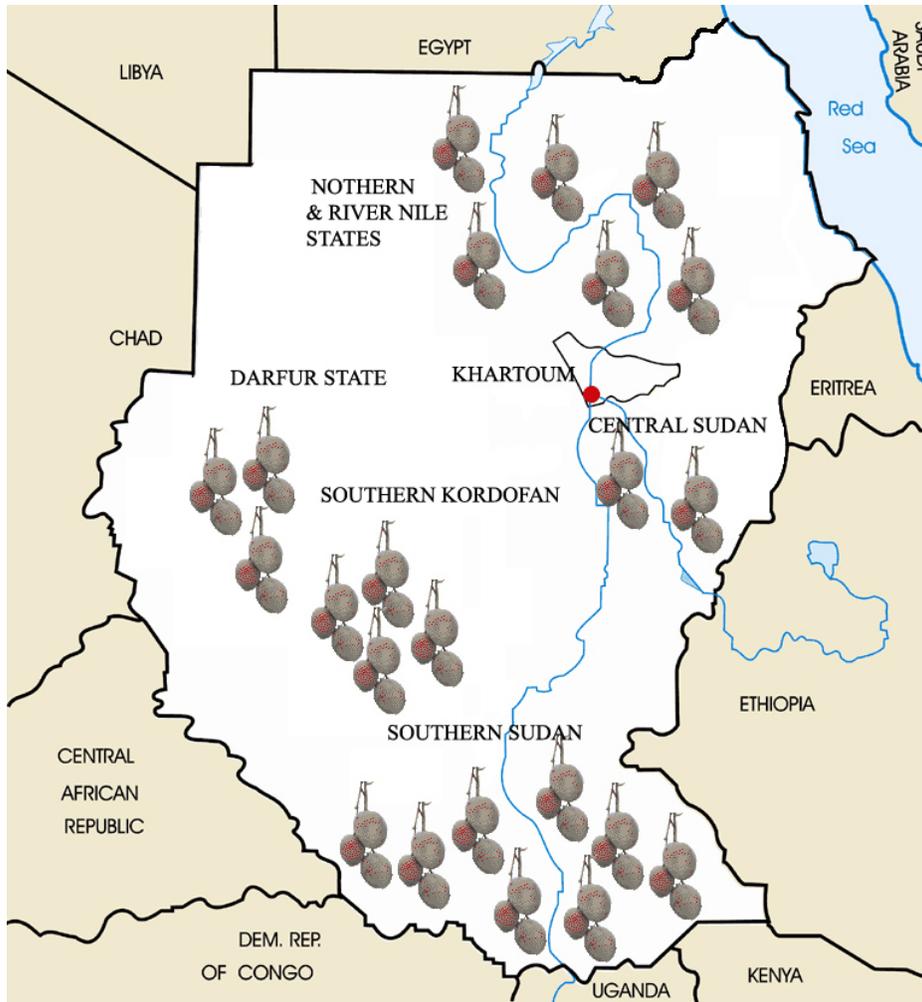


Figure 1: Map of Sudan and main mango production areas. Source: Drawn after data from UNEP, 2005, pp 16-17.

The Saudi market is the main market for the Sudanese mango; it absorbs more than 75% of the overall export followed by Syria, Lebanon, Jordan, Egypt, the Emirates and Qatar. Also very small proportions are exported to the European markets. (Arab Organization for Agricultural Development (AOAD) 2004, p 1).

### 1.1.3 Problem background

During the last seven years the quantity of exported Sudanese mango crop dropped dramatically from 6,597.4 tons in the year 2000 to 2,820.0 tons in 2004, and this was associated with a marked fall in the export value of this horticultural crop from 1,540,000 USD in 1996 to only 860,000 USD in 2004, see Figure 2 (AOAD, 2005, p 3).

Also, the portion of Sudanese mango exported to the Saudi market decreased despite its favorable price compared to other countries (Table 1). Source: (AOAD, 2004, p 3).

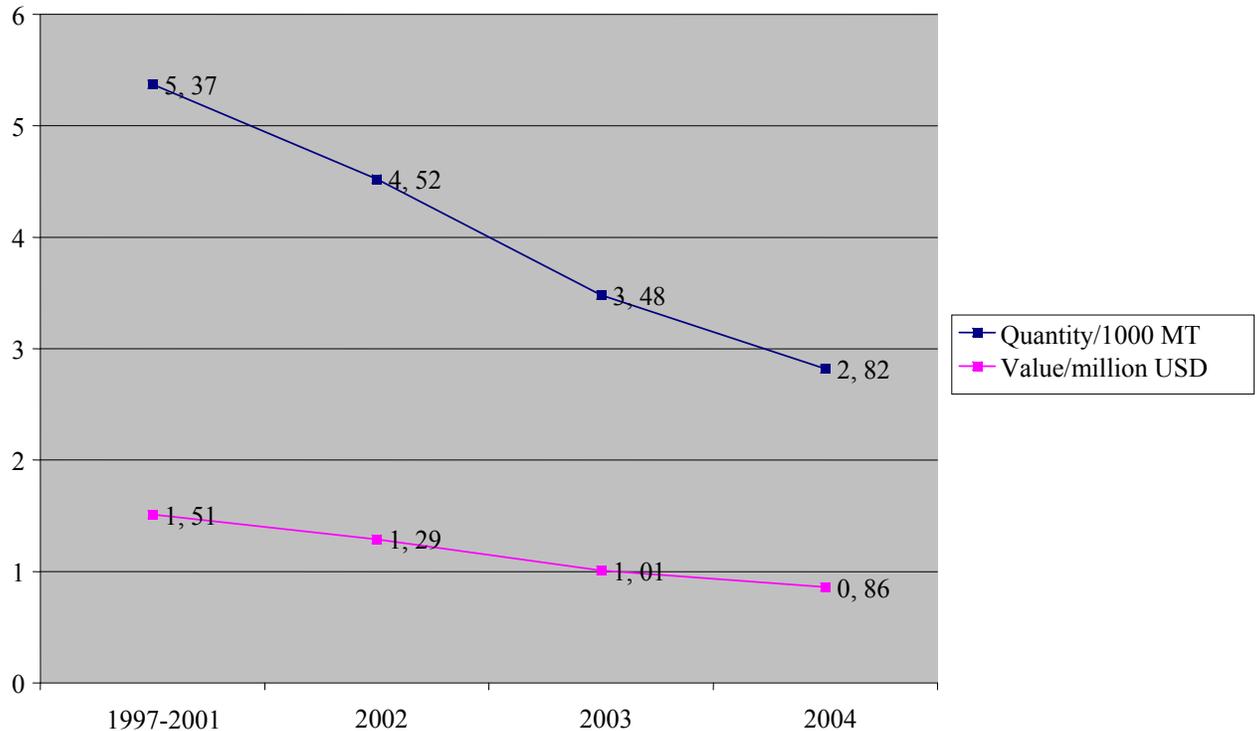
*Table 1: Market size (%) of exported Sudanese mango in the Saudi market and its price (USD) compared to other countries. Source: AOAD 2004, p 3.*

Country	Market size (%)	Price Ton (USD)
India	41.19	825
Pakistan	26.52	823
Sudan	11.16	460
Yemen	9.45	577
Brazil	3.62	725
Egypt	2.4	569
South Africa	2.29	700
Kenya	1.83	1039

Table 1 shows the countries that are exporting mango and their share in that market and its price into the Saudi Arabian market.

## 1.2 Problem

The main problem in this study is how Sudanese exporters should act in order to increase their export of mango, and why the mango export from Sudan has decreased.



*Figure 2: Quantity/1000 MT of export and export value (million USD) of the Sudanese mango in the period 1997-2004. Source: Drawn after data from the AOAD, 2005.*

Figure 2 illustrates the drop in the quantity of exported Sudanese mango from 5,370 tons (the average between years 1997-2001) to 2,820 tons in year 2004 (see Appendix 2), it also illustrates the fall in the export value of this crop from 1,510,000 USD (the average between years 1997-2001) to only 860,000 USD in year 2004. (After data from the AOAD, 2005).

## 1.3 Aim

The overall aim of this study is to analyze the marketing problems facing the export of mango fruit in Sudan in order to explain why the problems has occurred and what could be done to improve the main elements of marketing mix (i.e. product, price, place and promotion) that are used for successful export and to avoid the obstacles

facing the export of mango in this country. Also, it is important to mention some factors influencing the production of this fruit.

This thesis attempts to answer the following questions:

- What are the factors influencing the production of mango and how can these affect the export?
- How can the exporter develop their marketing strategy to obtain a high volume of foreign sales? Which strategies can they take to achieve this objective?

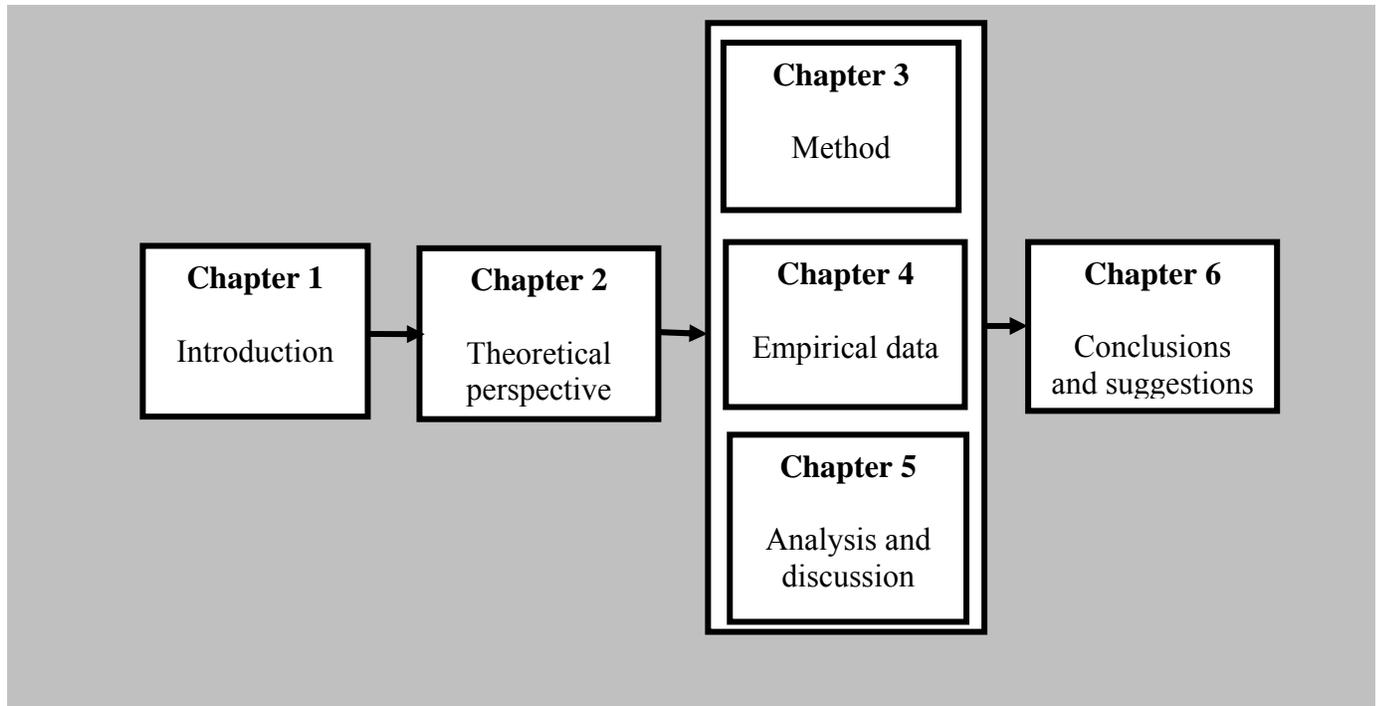
## 1. 4 Delimitations

This study focuses on the export of the mango fruit in Sudan during the period 1997-2004 through analyzing the main elements of the marketing mix (product, price, place and promotion), (Kotler et al 2002, p 97) the influence of the production, and how it can affect the export.

A thorough market investigation on the problem facing export of Sudanese mango is difficult, mainly in terms of covering other stakeholders like competitors and international costumers, due to the lack of available data. Hence, the market investigation is not covering all existing stakeholders. Also, this study does not look into financial issues. To limit the research problem I therefore focus on export to the Saudi Arabian market

## 1. 5 Outline

This study involves six chapters, chapter one provides the introduction of the study including background about Sudan and the mango fruit, problem, aim, delimitation, and this outline. Chapter two gives the theoretical approach about international marketing strategies. Chapter three describes the scientific method used in this study. Chapter four illustrates the results of the collected data, and in chapter five these results are analyzed and discussed. Finally, the conclusions are drawn and suggestions for action to be taken are presented in chapter six.



*Figure 3: Illustration of the outline.*

## 2 Theoretical perspective

*Some concepts of marketing will be presented in this chapter. The theoretical presentation explains how to enter foreign markets and how to compete in it (section 2.1), section 2.2 explores the usage of the companies' marketing strategies when adapting them to the international market, and finally, in section 2.3, the strategic planning-process with a SWOT- analysis and the development of growth strategies is presented.*

### 2.1 How to enter the foreign market

According to Kotler (2003, p 384), the best way for companies to compete in foreign markets is to continuously improve products at home and expand abroad, but doing like this is not enough because there are high risks facing these companies like foreign-exchange problems, unstable governments, tariffs and other trade barriers. So the companies must internationalize their operations by making a number of decisions like whether to go abroad, which market to enter and how to enter the market, deciding on the marketing program and the marketing organization (ibid, p 384).

#### 2.1.1 Main decisions in international marketing

To go abroad the company must:

- Understand the global environment like multiple governmental regulations, cultural differences, political stability, different monetary systems, economic factors that reflect the country's attractiveness as a market (industrial structure and its income distribution), and consumer behaviors and their way of thinking about the product (Kotler et al 2002, p 181).
- Consider potential risks and benefits when it takes the decision of whether to go abroad for example: costumers' needs and expectations, global and domestic competitors (ibid, p 166).
- Decide what volume of foreign sales it wants, how many countries it wants to market in, and which specific and attractive country's market the company wants to enter (ibid, p 167).
- Choose the best strategy to enter this specific market, i.e. export, joint venturing, and direct investments (ibid, p 169).
- Decide on the level of adaptation or standardization of its product, promotion, price, and distribution channels for each foreign market (ibid, p 172).
- Manage their international marketing activities like export department, international division, and global organization, to fit the international environment (ibid, p 180).

After deciding to go abroad the company must choose a suitable strategy to enter the foreign market.

## 2.1.2 Main strategies to enter the foreign market

Entering a foreign market for any company could be performed through three strategies – exporting, joint venturing or through direct investment. (Kotler et al 2002, p 169 – see Figure 4):

- **Exporting:** “A company enters the foreign market by sending and selling products through international marketing intermediaries (indirect exporting) or the company’s own department, branch, or sales representative or agents (direct exporting)” (ibid, p 170).
- **Joint venturing:** “A company enters foreign markets by joining with foreign companies to produce or market a product or services. There are four types of joint ventures: licensing, contract manufacturing, management contracting, and joint ownership” (ibid, p 170). Licensing is a way of agreement between the company and the licensee in the foreign market, offering the right to use a manufacturing process, trade secret or other item of value for a fee or royalty. Contract manufacturing means that the company writes a contract with manufacturers in the foreign market to produce the product. Under management contracting the company exports management services rather than products and the foreign company supplies the capital. Joint ownership includes a company joining forces with foreign investors to create a local business and they share joint ownership and control. (ibid, p 171)
- **Direct investment:** Entails “entering a foreign market by developing foreign-based assembly or manufacturing facilities” (ibid, p 172).

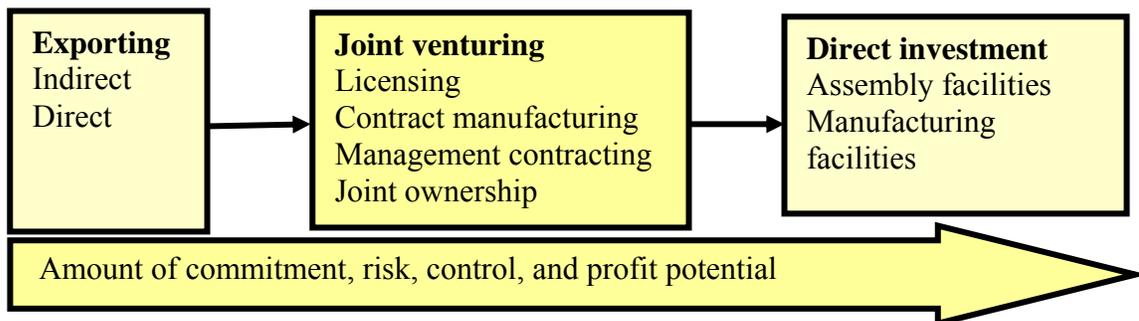


Figure 4: Market entry strategies. Source: Kotler et al 2002, p 169.

This figure illustrates that many companies start as exporters, and when they find there is a significant demand for their products they move to joint ventures and make a direct investment in foreign markets, or they use joint ventures or even direct investment to enter a new country’s market for the first time. But then they must determine the best mode of entry because each strategy involves more commitments and risks, but also more control and potential profits. For example: in the direct export case the investment and risk are greater than for indirect exporting but it has potential return, and in licensing the licensee gains a well-known product or brand name but

the firms find that it has created a competitor at the end of contract-period. (ibid, p181)

The table below shows the advantages and disadvantages of each strategy.

*Table 2: Advantage and disadvantage of market entry strategies. Source: After Kotler et al 2002, pp 170-172.*

Strategy	Advantage	Disadvantage
<b>Export</b>	<p><b>Indirect exporting:</b> Involves less investment, less risk.</p> <p><b>Direct exporting:</b> Has potential return; the sales branch gives the seller more presence and programmed control in the foreign market.</p>	<p><b>Indirect exporting:</b> The seller makes fewer mistakes than for direct exporting.</p> <p><b>Direct exporting:</b> The investment and risk are greater than for indirect exporting, less control and less profit potential.</p>
<b>Joint venturing</b>	<p><b>Licensing:</b> The licensee gains a well-known product or brand name.</p> <p><b>Contract manufacturing:</b> There is a chance to start faster than with no contract with an opportunity to form a partnership or buy out the local manufacturer later.</p> <p><b>Management contracting:</b> The firm yields income from the beginning with opportunity to purchase some share in the managed company.</p> <p><b>Joint-ownership:</b> It may be needed for economic or political reasons. And if the collaborators work hard they can secure a win-win outcome.</p>	<p>Implies less control over the process.</p> <p><b>Licensing:</b> The firms find that it has created a competitor at the end of contract-period.</p> <p><b>Contract manufacturing:</b> There is a loss of potential profits.</p> <p><b>Management contracting:</b> Prevents the company from setting up its own operations for a period of time.</p> <p><b>Joint-ownership:</b> The partners may disagree over investment, marketing or other policies.</p>
<b>Direct investment</b>	<p>The firm has lower cost in the form of cheaper labor or raw materials, full control over the investment, improves its image in the host country by creating jobs and develops a deeper relationship with the government, customers, local suppliers and distributors, allowing it to adapt its products better to the local market.</p>	<p>Great risks like: Constrained or devalued currencies, declining markets or government takeovers.</p>

Table 2 shows the routes of entering foreign markets, along with the option that each one offers. The companies must decide how to enter each chosen market – whether through exporting, joint venturing or direct investment. This decision depends on the advantage and disadvantages in each route in terms of risk, but also more control and potential profits. For example: if the company choose the dirct exporting the investment and risk will be greater than for indirect exporting but it my have potential return, and if it choose licensing it gains a well-known product or brand name but it find that it has created a competitor at the end of contract-period.

To enter the foreign market; the companies must decide on a suitable strategy of entering this market, as described above. It must also, however decide on how to reformulate this strategy through creating a viable marketing mix to achieve their competitive advantage.

## 2.2 Marketing strategies for marketing mix

The marketing mix is the complex of marketing tools a firm uses to achieve marketing objectives in the targeted market. The main variable of a marketing mix is by many scolars called the 4 P’s (product, price, promotion, and place). Each marketing tool must deliver a customer benefit and the companies should view the 4 P’s as the customer 4 C’s (customers’ needs and wants, cost to the customer, convenience and communication). There are more external marketing stimuli (other P’s) including significant forces and events in the buyer’s environment like: People (cultural, social), politics and economics, philosophy and technologicly, and perception (Kotler et al 2002, pp 98,191).

Table 3: 4 P’s as the customer 4 C’s and additional external P’s. Source: After Kotler et al 2002, pp 98,191.

4 P’s	4 C’s	Other P’s
Product	Customers’ needs and wants	People (cultural, social)
Price	Cost to the customer	Politics & economic
Place	Convenience	Philosophy & technological
Promotion	Communication	Perception

Table 3 shows the four P’s which represent the companys’ view of the marketing tools available for influencing buyers. Each of the four C’s represents the consumers’ viewpoint, while each of the four P’s must deliver customer benefit. The other P’s are more external than the traditional four P’s in increasing the awareness of the C’s because it need a longer time.

Companies can achieve their competitive advantage through the way they design their marketing mix to fit consumer desires, and the cultural, social, political, technological, environmental and legal limitation they face in each country. So, managers need to reformulate their marketing strategy to fit local conditions in the foreign market by deciding on the level of adaptation or standardization of their marketing mix. There are two general types of marketing mixes (Kotler 2003, p 403): The standardized marketing mix, and adapted marketing mix.

### 2.2.1 Standardized marketing mix

The strategy of a standardized marketing mix is defined by Kotler et al as: “An international marketing strategy for using the same product, promotion, distribution channels, and other elements of the marketing mix in all company’s international markets” (Kotler et al 2002, p 172). This strategy promises the lowest costs of the product and the marketers believe that people around the world want lifestyles and the same products of good quality and lower prices (ibid, p 173). As so many companies have created world brands, they realized that long-run marketing thinking should not be replaced by short-run financial thinking, although they might save money on that, but on the other hand they can’t offer what consumers in each country want (ibid, p 174).

When the standardized marketing mix strategy does not satisfy consumers’ needs and wants in each country, the companies can mix the marketing mixes. At one extreme, it can use one standardised marketing mix world wide. At other extreme it can use an adapted marketing mix strategy hoping for a large share and return.

### 2.2.2 Adapted marketing mix

The strategy of an adapted marketing mix is defined by Kotler et al as “An international marketing strategy for adjusting the marketing-mix elements to each international target market, bearing more costs but hoping for a larger market share and return” (Kotler et al 2002, p 172). This strategy would be useful when it is difficult to change local wants. Accordingly, the products and marketing programs are changed to fit consumers’ desires in each country. This strategy cost more than a standardized marketing mix but it hoping for a large share and return (ibid, p 174).

When a company decides on its global marketing plan, the managers must decide on the level of adaptation or standardization of their marketing mix (ibid, p 182).

### 2.2.3 Identifying marketing mix for adaptation or standardization

Companies use many strategies when they decide on the level of adaptation or standardization of their marketing mix; the decision about which aspects of the marketing mix to standardize and which to adapt depends on the target market conditions. The consumers in different countries have different cultural backgrounds, needs and wants, spending power, product preferences and shopping patterns, for examples: McDonald’s uses the same basic oprating formula in its restaurants around the world but adapts its menu to local tastes, and although Philips dishwashers and clothes washers share the same interiors worldwide, their outer styling and features are designed to meet the preferences of consumers in different countries (Kotler et al 2002, pp173, 174).

The four P’s of the marketing mix which will be used for identifying if the company will go for adaptation or standardization are: product, promotion, price, and place and distribution channels.

## *Product*

The first element is the product; a product can be seen as anything that is offered to a market (including both goods and services) that might satisfy the wants or needs of consumers (Kotler et al 2002, p 7). There are three strategies for adapting a product to international markets (see Figure 5):

- Straight product extension: Marketing a product without any change. It is an attractive strategy because it implies no further product development costs, manufacturing changes or new promotion. But it can be costly in the long run if the product fails to fit consumer's desires (ibid, p 174).
- Product adaptation: Changing the product to meet local needs in the foreign market. This strategy is more costly in terms of developing the product and promotion but it can be profitable in the long run (ibid, p 175).
- Product invention: Creating a new product or reintroducing earlier product forms. This strategy can be costly but the profit can also be sufficiently valuable to justify the investment (ibid, p 176).

## *Promotion*

The second element is promotion. Promotion implies how companies communicate with their customers to give them messages about the features of the product or contents of the offered service and attract them to buy this product or service. (Kotler et al 2002, p 98)

Companies can use many strategies for adapting promotion, advertising and media to international markets, (see Figure 5):

- Straight extension: Use the same advertising and promotion as in the home market (ibid, p 176).
- Communication adaptation: The company uses the same product with full adaptation in advertising messages to local markets (ibid, p 177).
- Product adaptation: Involves a change in the product to satisfy foreign consumers (ibid, p 175).
- Dual adaptation: The company uses it when both the product and promotion have to be adapted to meet the desires, needs and expectations of target consumers in diverse countries' markets (ibid, p 174).
- Product invention consists of creating a new product or developing earlier product types. In this strategy the company can make small changes in the advertising campaign material, or change the language, colors and the names of the packaging (ibid, p 176).

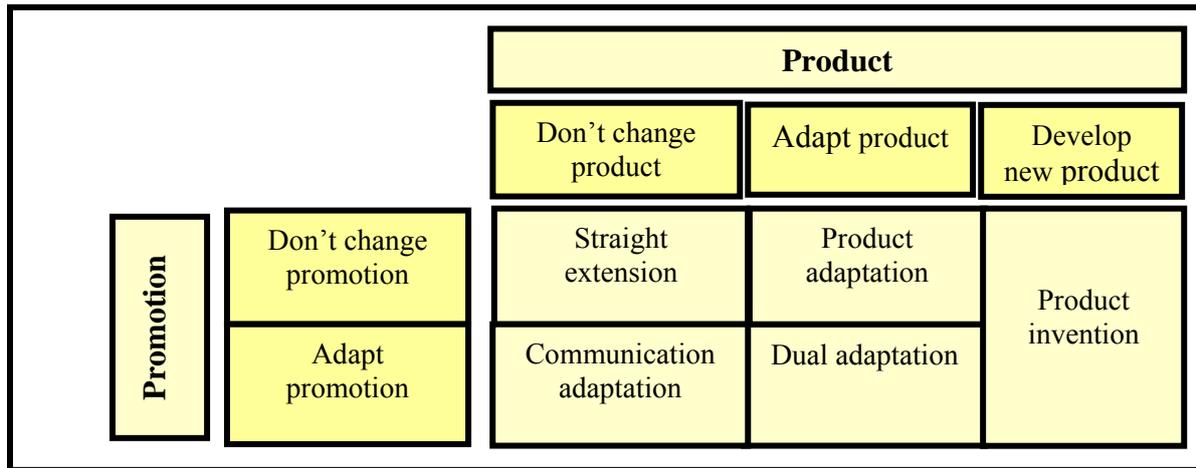


Figure 5: Five strategies of product and promotion. Ssource: Kotler et al 2003, p 395.

### Price

The third element of the marketing mix is price, “Price is the sum of the values that consumers exchange for the benefits of having or using the product or service” (Kotler et al 2002, p 98).

When companies are selling abroad, they face a price escalation problem; because when they are setting their international prices they must add other costs to the internal factory price like: Transportation costs, higher shipping and insurance costs, tariffs and taxes, importer margin and wholesaler margins, exchange-rate fluctuations and higher channel and physical distribution costs. The company must adjust its price and adapt it to the products potential to meet different conditions and expectations in different markets by (Kotler 2003, p 399):

- Setting a uniform price everywhere: This strategy implies different return-rates in different countries and the price will be too high in poor countries.
- Setting a market-based price in each country: this strategy disregard differences in the actual cost between countries.
- Set a cost-based price in each country: This strategy leads the company to price the product from out of the market in countries where its costs are high.

The forth element of the marketing mix is place and distribution channels.

### Place and distribution channels

Place includes activities that make the product or service available to target customers and it refers to the location and distribution channels including warehouse, middlemen and transportations (Kotler et al 2002, p 776). However “International companies must take a whole-channel view of the problem of distributing products to final consumers. There are three main links between the seller and the final buyer. The first link, the seller headquarters organization, supervises the channels and is part of the channel itself. The second link, channels between nations, moves the products to the borders of the foreign nations. The third link, channels within nations, moves the products from their foreign entry point to the final

consumers.” (ibid, p 179 – see also Figure 6). So, the whole distribution network is important to emphasise, focusing on how to manage distribution channels to deliver goods and services that customers want at the right time, right place and right price through intermediaries (ibid, p 737). The intermediaries are those individuals or firms who give up some control over how and to whom the products are sold and make goods available to target market through their contacts, experience, specialization and scale of operation. Intermediaries can be classified as merchant middlemen (retailers and wholesalers) and agent middlemen (brokers and commission men) (ibid, p 776).

Distribution channels perform many key functions like: Information gathering (concerning the actors and forces in the environment of marketing), communication and promotion, contact work, matching offers to buyers’ needs, negotiation, transportation, storing goods, financing, and assuming the risk of carrying out the channel work (ibid, p 741).

These functions add value and costs to products, for example: Transportation and storage, and concerned with making products available at the right time and at the proper place to reduce the risk of loss especially in case of perishable products like fruits and vegetables (ibid, p 741).

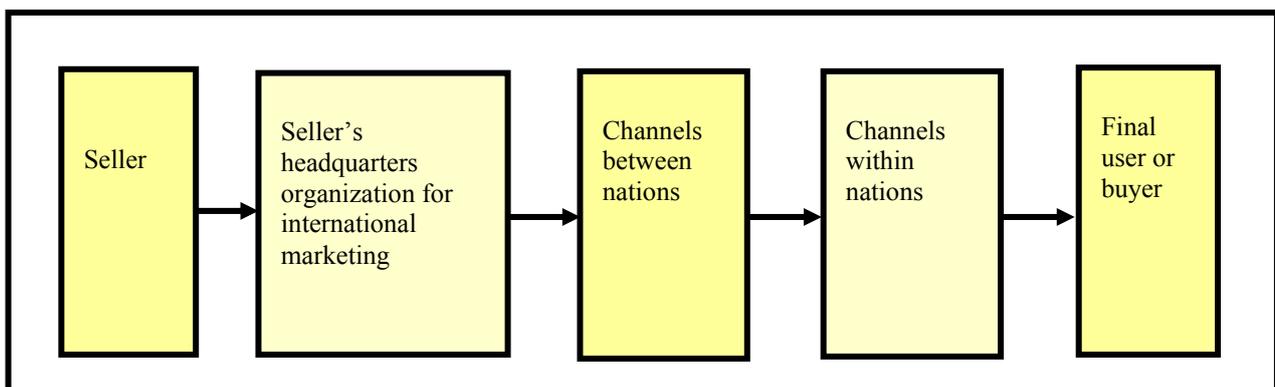


Figure 6: Whole-channel concept for international marketing. Source: Kotler et al 2002, p 179.

Before entering foreign markets the companies must develop formal plans, these plans must involve adapting the 4 P's to meet changing markets.

## 2.3 Strategic plan for the marketing

Kotler et al define the strategic plan as “The plan that describes how a firm will adapt to take advantage of opportunities in its constantly changing environment, thereby maintaining a strategic fit between the firm’s goals and capabilities and its changing market opportunities” (Kotler et al 2002, p 76).

A strategic plan involves a number of elements which set the stage for the marketing plan. The mission is the first stage, where the company states its purpose, and then the mission needs to be turned into strategic objectives to guide the management. The third stage is the strategic audit, where the company gathers information about the internal and external environment. After gathering this information, a SWOT-analysis draws the critical strengths,

weaknesses, opportunities and threats from the strategic audit. Then the company analyzes the current business portfolio to decide which businesses should receive more, less or no investment, and develop growth strategies for adding new products or businesses to the portfolio. (Kotler et al 2002, pp 77- 85)

Hence companies use SWOT-analysis to find out the competitiveness of their marketing mix in terms of the strengths, weaknesses, opportunities and threats.

### 2.3.1 SWOT-analysis

The SWOT-analysis is used to analyze the internal and external environment of the firm to find out the competitiveness, in terms of the strengths, weaknesses, opportunities and threats (Kolter et al 2002, p 81).

- Opportunities and threats: The managers need to identify the main threats and opportunities to make important developments that can have an impact on the firm (Kolter et al 2002, p 83)
- Strengths and weaknesses: The strengths are potential opportunities for growth and the weaknesses suggest a need for more focus and development of the issue in question. These are measured relative to competition, as Kolter et al said (2002, p 84) “it is nice to be good at something, but it can be a weakness if the competition is stronger”.

When companies analyze the internal and external environment and find out the competitiveness of their marketing mix, they must also identify growth strategies to improve their profitability.

### 2.3.2 Developing growth strategies

Companies must decide on how to achieve growth and profits objectives. Kolter et al (2002, p 89) show the product/market expansion grid which is a useful tool for identifying growth opportunities.

Figure 7 illustrates the product/market expansion grid which shows four avenues for market growth:

- Market development: To enter new markets with existing products gives the companies a chance to develop lower-price brands worldwide through products (ibid, p 91).
- Market penetration: To enter existing markets with existing products helps the companies to increase their sales and their marketing share, besides costing less to produce the product and to raise their marketing share. (ibid, p 90).
- Product development: To develop new products in existing markets gives the companies strengths to sustain growth and maintain profitability over longer time (ibid, p 497).
- Diversification: To develop new products in new markets helps companies to use new and high technology and to refresh the declining sales. (ibid, p 91).

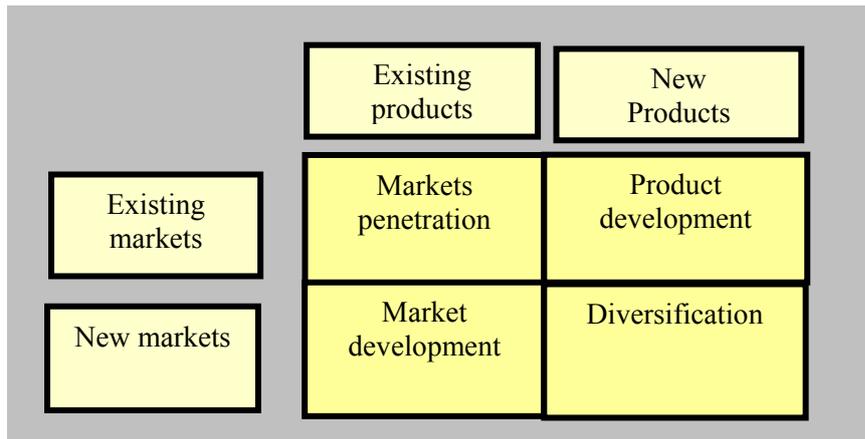


Figure 7: Product/market expansion grid. Source: Kotler et al 2002, p 89.

To sum up, chapter 2 involves theories more relevant to the foreign markets, how to enter these and how to compete there. Besides that, chapter 2 involves a description of marketing strategies theories which are used as a base for evaluation of the marketing mix (particularly the 4 P's) like:

- The strategy of standardized marketing mix or one adapted to fit local conditions in the foreign market.
- The strategic plan which concern the fit between the firm's goals and capabilities and its changing market opportunities. Within this strategy the company can use SWOT analysis to find out the competitiveness.

The last part of the chapter involved the development of growth strategies, which identifies growth opportunities. The next chapter will illustrate the scientific method which has been used in this study.

## 3 Method

*This chapter will give a summary of the scientific method used in this study, including research approach, primary and secondary data, the method of collecting data and analyzing it.*

### 3.1 Research approach

This study is a descriptive analytical study covering the years 1997-2004 and focusing the factors influencing the production and export of mango fruit in Sudan. The method which has been used is qualitative: Interviews with open questions were used to make it easier for the interviewees to express their opinions concerning the study issue.

### 3.2 Data collection

Primary data was collected during a two month's period starting in July 2006 during a trip to Khartoum, Sudan. The sources that include relevant information for this study are interviews and documentations.

#### 3.2.1 Interviews

Interviews were made with members of both the Union of Fruits and Vegetable Exporters (UFVE) and the Union of Fruits and Vegetables Producers (UFVP), who were involved in mango marketing and export, 11 of them gave their consent and two declined to participate in the study. Two additional persons relevant to the production and export of mango fruit were interviewed to get deeper information about the topic: particularly Prof. Gaffer Hussein, the consultant for Horticultural Exports Center (HEC) and Dr. Abdelgadir Ali, the consultant and director of Agro Business Sudan Company (ltd) (ABSC). The same questionnaire (see Appendix 1) was used for all the interviews: There were, however, a lot of follow-up questions since the questions were somewhat unrestricted. All interviews were documented in writing and were held at Khartoum and at the Central Market of Fruits and Vegetables (CMFV) which is called Alsouk Almarkazi south of Khartoum.

#### 3.2.2 Documentations

The secondary data was collected from relevant literature like books concerning marketing, journals and internet websites where there is information and statistics about the country and mango crop.

### 3.3 Data Analysis

The collected data in this study was needed for understanding the problem which is presented in chapter 1, and to find explanations on why this problem has occurred. The problem is initially analyzed by using a SWOT-analysis (strengths, weaknesses, opportunities and threats analysis which introduced in section 2.3.1) to give a first impression about the situation. Further analysis is performed, based on the theoretical framework presented in chapter 2. Finally, conclusions are drawn and a discussion concerns possible measures that could be taken in order to increase the mango export.

This chapter presented the scientific method used in this study; the next chapter will present the results.

## 4 Empirical data

*In this chapter the results of the qualitative findings from gathered data, interviews and written sources will be presented to explain the situation existing in the marketing of mango fruit in Sudan. Firstly, in order to give the reader an insight into the problems, a brief introduction about the production of mango will be performed (section 4.1 & 4.2), then some particulars related to fruits and vegetable marketing will be highlighted (section 4.3), and finally a detailed information about Sudanese export of mango fruit will be given (section 4.4).*

### 4.1 Production of mango fruit

According to the Horticultural Administration Sector (HAS) the cultivated area where mango is grown in Sudan is estimated to be about 67,000 acres and the production is about 603,000 tons in 2004. Table 3 below illustrates the increase of the cultivated area and the production of mango from year 2000 to 2004.

*Table 4: Mango cultivated area and the production 2000-2004. Source: Ministry of Agriculture and Forestry (MAF) at: <http://www.ttea.gov.sd>*

Year	Cultivated area (Acres)	Production (Ton)
2000	61,200	550,800
2001	61,500	553,500
2002	62,150	559,350
2003	65,420	602,330
2004	67,000	603,000

A large portion of mangos in Sudan is produced in southern Kordofan state mainly at Abu Jebeiha district (see Figures 1 and 8). About 50% of total production in Sudan comes from this particular district. Early matured mangos fall down from trees and there are no skilled laborers to pick them so they deteriorate in quality and get rot. An estimated loss of 10% of the fruit is discarded and thrown away. Some kinds of mango (like Abo samaka) is distinguished by its delayed maturity at the time that mango is rare in the international markets beside it has a good quality and tolerates tough roads and transportation, when other kinds have early production (Ali, 2006)

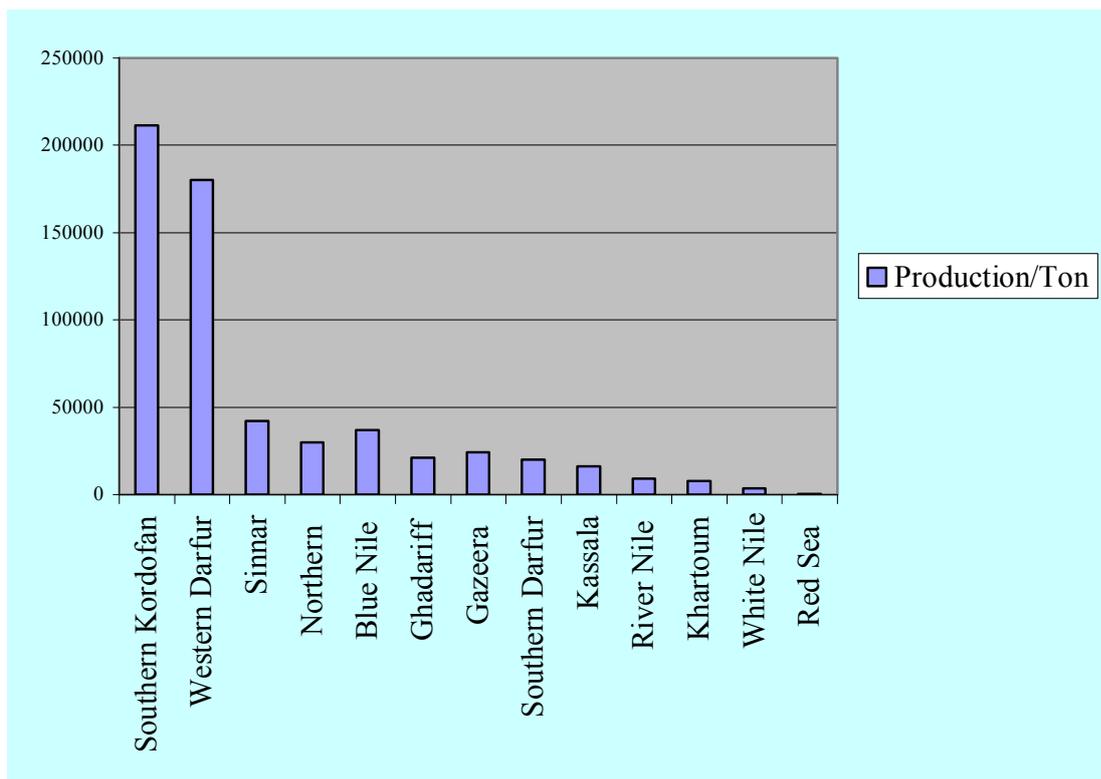


Figure 8: The overall mango production (in tons) in different states of Sudan. Source: Elgizoly 2005, p12 – translated from Arabic.

## 4.2 Problems facing the production of mango

There are many problems facing the farming sector. Some are before cultivation (pre-harvesting problems) and others are after cultivation (harvesting problems) (Members from UFVP, 2006).

Examples of pre-harvesting problems are:

- Unavailability of refined seeds.
- Lack of fertilizers.
- High rates of seed infectivity and high cost of pesticides.
- Lack of interest from the government side to improve the performance of the farmers' sector.

Post-harvesting problems resulted mostly in:

- Mechanical injury of fruit caused by manpower during harvest.
- Sun scorch resulting in change of physical and chemical characteristic of fruit.
- Deficiency in good processing of fruits as in concern of grading, sorting, packing, good pre-cooling of product and pre-export to local and foreign markets.
- High cost of transportation and unpaved highways to marketing centers in addition to local inter state fees and taxes.
- Lack of material support and technical know-how.

The mango production is influenced by pre-harvesting and post-harvesting problems such as the ones described and these above problems affect the marketing of fruits and vegetables, which will be further described below (UFVP, 2006).

## 4.3 Fruits and vegetables marketing

Fresh fruits and vegetables are marketed quite differently from other products because their marketing is influenced by different factors including perishability, large price and quantity variations, seasonality, bulkiness of product, geographic specialization of production alternative product forms (fresh, canned, frozen and dried), time markets (winter, spring, summer and fall), and place markets (cities and foreign markets) (Kohls & Uhl 1998, p 490).

### 4.3.1 Factors influencing Fruits and vegetables marketing

Fruits and vegetables are highly perishable and their quality deteriorates from the moment of harvest throughout the marketing process, so they need to be marketed quickly to maintain the farm fresh value. The perishability also affects price negotiations because these products cannot be held for long periods while sellers wait for a better price. Beside the perishability and the biological nature of the production process there are many factors that affect the price and supply stability, like unusual production, harvesting weather, a major crop disease, long production periods and high fixed costs of orchard crops (Kohls & Uhl 1998, pp 490-491). So the question here is how to avoid all this perishability to improve marketing efficiency. Kohls & Uhl (1998, p 498) state that: “There are two potentially significant areas for improving marketing efficiency in the fresh fruit and vegetable industry: transportation and loss prevention”. Fresh fruits and vegetables are transported by air, water, trucks and railroads, so companies must decide which one is suitable to deliver their products to the consumer in time and good quality. “Quantity, quality and economic losses occur at all stages of produce marketing: in harvesting, handling, and preparation for eating. Fruit and vegetable losses result from improper temperature and humidity control, packaging and handling, slow delivery, and waiting periods, trimming of product, and poor coordination of market supplies and demand. There are experiments in improving produce shelf life and keeping quality through modified atmosphere packaging and radiation” (ibid, p 498).

Most fruits and vegetables have seasonal production that also influences their marketing, as supply of these products can not be available all year round. To reduce the seasonality of fruits and vegetables the producers can shift to an area of favorable climate or use greenhouse production, and also the retail wholesalers can use warehousing facilities to provide a large assortment of fruits and vegetables all year-round (ibid, p 491- 492).

### 4.3.2 Fruits and vegetables marketing channels

Fresh fruit and vegetable markets have long marketing channels which cause many problems, for example: high price and risk of loss especially in perishable products. There are three types of markets: shipping point markets, wholesale markets, and retail markets (see Figure 9) and this system depends on vertical integration, decentralization, new handling and transportation methods, and the growth of the away-from-home and direct farmer-consumer markets. (Kohl& Uhl 1998 p 495)

Figure 9 illustrates marketing channels of fruits and vegetables, the products are marketed from farms to consumers through (ibid p.496):

- Roadside and farmers markets, directly to consumers.
- Shipping point firms that prepare the products for market by performing different functions like sorting, grading, cleaning, packaging, and storing, and then allocate these bulks of products to fruits and vegetable markets (the export market, wholesale terminal markets, and retail- wholesale distribution centers). After that, these fruits and vegetables are delivered to consumers through retail food stores (supermarkets, fruit, and vegetable markets) or through food service firms (restaurants, institutions) - see Figure 9.

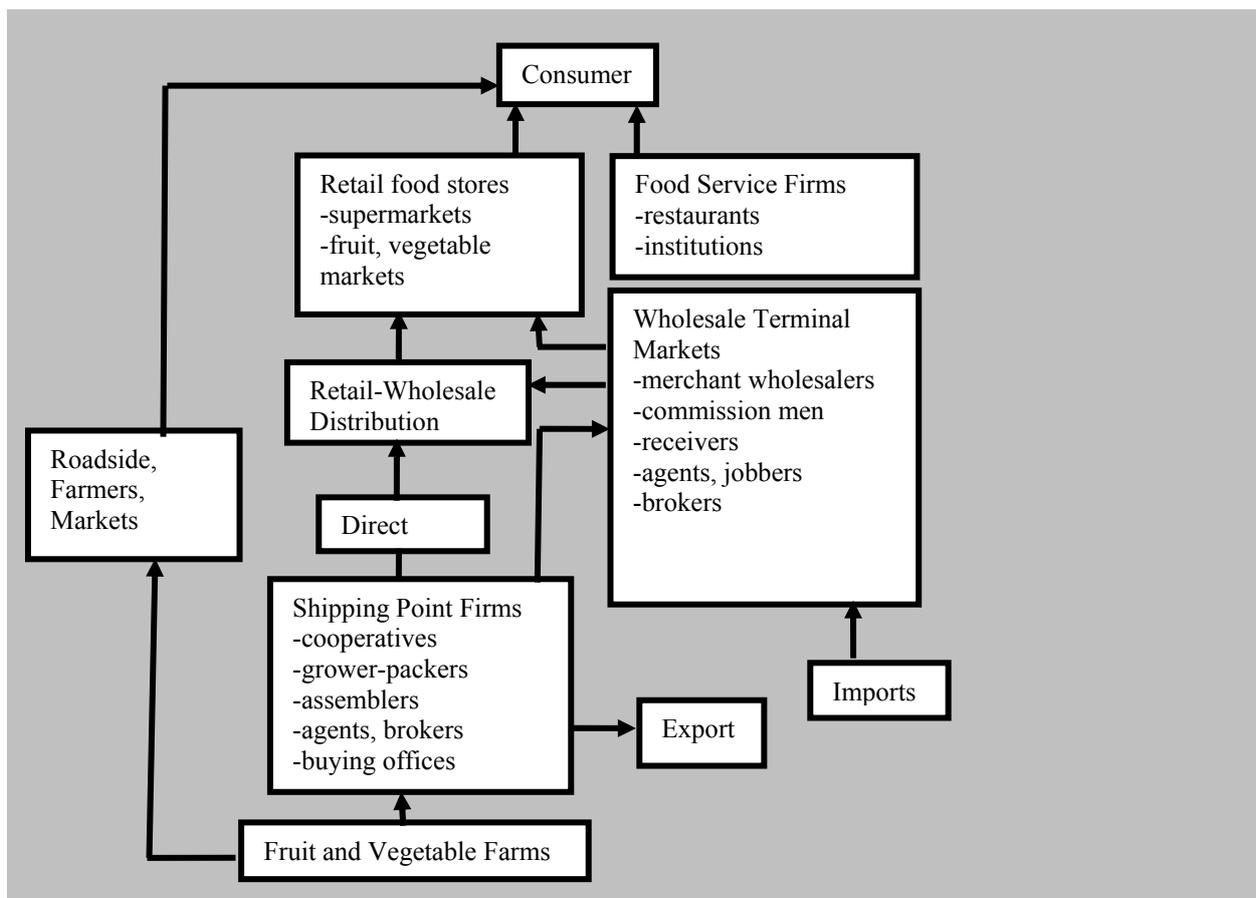


Figure 9: Fresh fruit and vegetable marketing channels. Source: Kohl & Uhl 1998, p. 496.

The above section presents the factors influencing the marketing of fresh fruits and vegetables like perishability, seasonality, and long channels. All of these factors affect the export of mango, which will be further scrutinized in section 4.4.

#### 4.4 Foreign markets for mango fruit

As mentioned before, the Saudi market is the main market for the Sudanese mango; it absorbs more than 75% of the overall export followed by Syria, Lebanon, Jordan, Egypt, Emirates and Qatar. Geographically the Saudi market is the nearest and the biggest market in the Gulf

countries that import competitive products with high quality, and it is specialized by free trade. (Mohamed, 2006)

The following sections will focus on export in Sudan and the problems facing the exporters, followed by the discussion about the four P's in order to be able to analyze it in the next chapter.

#### 4.4.1 Export

Contracts are on individual bases between the Sudanese exporters and the Saudi importer. Some of the importers pay a certain amount in advance, and send the cartons for the packing and then pay the nylon so as to cover some of the exporters' expenses but sometimes the exporters cover their own costs. When the importers receive the product they sell it by auction and at the end of the contract they do the balance sheet, which usually results in an exporter loss. The exporters receive the return of their product through the bank in cash money or by a letter of credit. (Hussein 2006)

Beside the individual exporters there is a cooperative company called SHEC (Sudanese Horticulture Exports Company). This company deals with exporting activities on behalf of several exporters by managing and controlling all the activities from production to delivery. Moreover, this company recently has introduced a better cooling system for transportations, which made it easier for the exporter to use the Red Sea as a cheap mean for their product to be transported. (Hussein, 2006)

During recent years the Sudanese mango has faced a serious challenge from the Yemeni's mango in the Saudi market. The Yemenis succeeded in producing high quality Sudanese mango and export it to Saudi. (Hussein, 2006)

The main problems facing the exporters of mango fruits are summarized in the following points (UFVE, 2006):

- Bank financing for export due to high rates of interest for short term loan. The export season is short and the bank and financing organizations need strong guarantees for paying back the loan. The risk of delayed payments of the loan has obliged the financiers to put strong conditions and a high rate of interest.
- High cost of production in addition to fees, taxes and high cost of transportation.
- Lack of refrigeration facilities during transport and storage.
- Banks' administrative processes are very complicated, particularly, the handling of export forms.
- Absence of special farms which produce mango for export.
- Absence of big companies or firms dealing with mango export.
- Competition from other countries.

All these problems lead to that Sudanese mango exporters are facing a big problem of competition although the quality of mango (variety wise) is the best but price-wise are the lowest. Some of the exporters have financial capacities which make them able to introduce and present their products in an acceptable way to the consumer. Accordingly, they can stand foreign competition better than others.

The following sections will discuss the four P's concerning the export of mango in order to be able to analyze it in the next chapter.

#### 4.4.2 Product

The production of mango fruit in Sudan began at the end of 18th century during Lord Kitchener's government, so the common mango was called Kitchener, and this kind of mango has a specific flavor, namely a sweet taste, and it has a short ripening period. There are other kinds of mango such as Zibda, Alphonso, Malgoba, Hindibesinara, Shendi, Taimoor, Nailm, Mabroka, Debsha and the famous sort called Abu Samaka. The Abu Samaka is distinguished by its ripening in July and September i.e. a period when mango is rarely on the markets, leading to a possibility to get a good price at the markets. This mango also has good quality traits, for example it sustains well when transported in bad conditions. (Mohamed, 2006)

However, recently a new kind of mango appeared from South Africa that has a short plant and rectum growth so it has a huge per-acre production. In addition, it has a good quality and is easy to harvest. (Mohamed, 2006)

After the harvest procedure is over, the mango crop is sorted, graded and packed according to the kind, quality and market. If it is for the local market it is packed in cartons containing the same sort of mango, but if it is for international market it is packed in special boxes for export containing the same kind of mango with high quality according to the international standard and labeling with the name of the country, name of the company or exporter, the kind of mango, and the weight. (Ali 2006)

#### 4.4.3 Promotion

Advertising of mango in the local market seldom occurs. The advertisement is done by road side sellers. Recently, however, an annual mango festival is held by the HFS (Horticultural Farming Society) where advertisements for kinds of mango that have been cultivated and produced in Sudan are included: seeds, fruits, small plants, and juice. International market advertising of mango is non-existing, since most exporters are individual or small companies with weak financial support so they can not pay for advertising. In addition, there is a lack of companies which are specialized in advertisement. (Mohamed, 2006)

#### 4.4.4 Price

The price of mango is affected by several factors like the middlemen activities, government taxes, cooling, cost of transportation from the farm to the market of fruits and vegetables, crossing fee and another fee for the import to Khartoum city. The limited air transportation gives a monopoly-role to some of the rich exporters, in turn leading to an increase of the transport lever. Beside that, the huge quantities of exported mango during limited periods result in a flood to the market and lead to the fall of the international price. Although the Sudanese price of mango in Saudi is lower than the other competitors (see Table 1), so the profitability is not satisfactory. (Mohamed, 2006)

#### 4.4.5 Place

Middlemen and brokers play a great role in the mango trade. Most of their role is very passive on the mango market because it leads to increase the price by increasing the farmers' prices for their own benefit and handles the crop to exporters in one way or another which may not end up in good prices for producers or have a fair competition. (Ali, 2006)

Examples of middlemen and broker functions: They take all the production from the farm to the market by trucks in bad containers, deliver it to the central market of fruits and vegetables, grade and sort the best crops for export markets and others for local markets, pack it into the cartons or export boxes and then hand it to the exporters whom store it until the time of transportation to the Saudi market. Each group of exporters rents a small charger plan for the transport. (Ali, 2006)

Hence the export is the main strategy that the Sudanese use to marketing their mango product to foreign markets, there are many problems facing the exporters of mango fruit. The next chapter will discuss why they are using this strategy, and analyze these problems including the four P's of the marketing mix.

## 5 Analysis and discussion

*This chapter analyses the empirical data and addresses the questions posed in chapter one, with regard to the theoretical perspective presented in chapter 2. The SWOT-analysis is used to find out the competitiveness of the Sudanese mango fruit in international markets, in terms of the strengths, weaknesses, opportunities and threats. The research questions are focusing on the factors influencing the production of mango and how these affect the export, and export strategy and how the exporters can develop it to obtain a high rate of foreign sales.*

### 5.1 Strengths and Opportunities

To find out the competitiveness of the mango fruit in Sudan, the following sections (5.1.1-5.1.5) analyze the export and elements of the marketing mix in terms of the strengths and opportunities (see Table 5).

#### 5.1.1 Export

According to Kotler et al “Indirect exporting involves less investment” (2002, pp 169-170) this strategy has benefited Sudanese exporters who have a weak financial situation, and the SHEC Company. This cooperative company has significant force because it does the arrangements and controls production and does export activities on behalf of several exporters from cultivation to exporting. According to this strategy the exporters have the opportunity to develop the performance of the export, and the quality of the product. By using the sea line the exporters decrease the cost of transportation and they would be able to expand in to other foreign markets.

#### 5.1.2 Product

Kohls and Uhl said : “Fresh fruits and vegetables marketing is influenced by different factors including perishability, high price and quantity variations, seasonality, alternative product forms and markets, bulkiness of product, and geographic specialization of production” (1998, p 490). Kohls and Uhl words are in agreement with the characteristics of the Sudanese mango which has the advantages to be produced all the year-around in different parts of the country, and the cultivated area and production has been increased gradually. Some kinds of mango (like Abo samaka) is distinguished by its delayed maturity at the time that mango is rare in the international markets beside it has a good quality and tolerates tough roads and transportation, when other kinds have early production and are more sensitive. The above mentioned properties give all opportunity for mango to be an important economic horticultural crop and good for export. Due to the facts that mango is cultivated all the year-around in large quantities this leads to the production of mango juice and fruit salad from the surplus of the production during the entire year. The introduction of improved South Africa mango seed is expected to increase the Sudanese mango production with high quality suitable for export.

### 5.1.3 Promotion

The strengths of mango consist of its importance for consumers who have an interest in diet, health, fitness and natural food because it has great nutritive value, dietary fibre, minerals and vitamins. Consequently, these properties give the mango a regional and international demand in markets. The annual mango festival that is held by the HFS is a good chance for advertising in local markets but it should also open new chances for markets abroad if it is held in other countries. In addition, new technologies of communication in Sudan like newspapers, pamphlets, satellite broadcasts and the internet constitutes good opportunities to advertise Sudanese mango abroad.

### 5.1.4 Price

Sudanese price of mango in the Saudi market is a competitive price because it is lower than the other actors, as mentioned in chapter one (Table 1). Hence, if the other components of the marketing mix will be adapted and developed then the price-component will be even more competitive in order to increase the value sales.

### 5.1.5 Place

The advantage is that the Saudi market is the nearest market for exporting Sudanese mango, and there is an opportunity to market this product by the ships through the Red Sea and this will reduce the transportation costs.

After analyzing the marketing strategy and the four elements of marketing (product, price, promotion, and place) there are many strengths and opportunities, which probably would make Sudanese mango in Saudi Arabia a competitive product. There are, however, many weaknesses and threats, which are further analyzed in section 5.2.

## 5.2 Weaknesses and Threats

The export of Sudanese mango faces many weaknesses and threats which will be discussed below (see Table 5).

### 5.2.1 Export

The lack of information about the mango market, and the dependency on personal contacts without referring to the real market demand, leads the exporter to send their mango more or less on chance, resulting in a flooding of the market which leads in turn to the fall of the international price. Moreover, direct sale (auction) is a primitive way to perform sales and has never been developed through the years.

This direct sale induces great threats, in particular the increased competition from other countries and the decrease of the volume sale.

### 5.2.2 Product

The main weakness of the mango fruit is its high degree of perishableness and that agree with Kohls and Uhl's view "fruits and vegetables are highly perishable commodities. Their quality begins to deteriorate from the moment of harvest and continues throughout the marketing process" (1998, p 490).

The weaknesses in the pre-harvesting are, for example: lack of fertilizers, high rates of seed infectivity and high cost of pesticides, and non-trained farmers where lead to deterioration in characteristics of mango. In addition, the problems of harvesting and post-harvesting are non trained crop collection, lack in post-harvesting technology like: sorting, grading, packing, cooling, and transport services, and absence of farms which specialized in producing mango for export leads to bad quality product.

### 5.2.3 Promotion

There is no communication between the foreign consumers and the exporters, and the customers know the information about the Sudanese mango from the label only at the moment of them buying the product.

### 5.2.4 Price

Sudanese mango faces a high production cost, high cost of transportation, fees, and taxes which cause a high price. But it is still cheaper on the Saudi market compared to other markets. So this lower price leads to marginal profit.

Although the price for Sudanese mango is lower on the Saudi market than mango from other countries, the Sudanese export to Saudi has decreased, due to problems with deteriorating quality when the product reaches the Saudis market.

### 5.2.5 Place

There are many weaknesses in the marketing channel of mango fruit like: lack of presence of cooled transportation, undeveloped warehouses, lack of information about international markets, and the long distances within the country. Besides, the weakness of fixed financing leads to discontinuous improvement in the cooled transportation and warehouses.

Table 5: SWOT analysis of exporting Sudanese mango.

	Strengths	Opportunities	Weaknesses	Threats
<b>Export</b>	<p>1-Benefited exporters who have weak finance</p> <p>2- Cooperative company does export activities on behalf of several exporters</p> <p>3- Using sea line</p>	<p>1-Develop the performance of the export, and the quality of the product</p> <p>2-By using the sea line the exporters decrease the cost of transportation and they would be able to expand in to other foreign markets.</p>	<p>1-Lack of information about the mango market</p> <p>2-Dependency on personal contacts without referring to the real market demand</p> <p>3- Send the mango more or less on chance</p> <p>4- Undeveloped direct sale (auction)</p>	<p>1-Flooding the market by mango leads to the fall of the international price</p> <p>2-Increased competition from other countries and decrease the volume of sale.</p>
<b>Product</b>	<p>1-Produced all the year-around in different parts of the country</p> <p>2- Cultivated area and production has been increased gradually.</p> <p>3-Some kinds of mango distinguished by its delayed maturity, good quality and tolerates tough roads and transportation,</p> <p>3-Other kinds have early production</p> <p>4- Has great nutritive value, dietary fibre, minerals and vitamins.</p>	<p>1-Be an important economic horticultural crop and good for export.</p> <p>2-Produce mango juice and fruit salad from the surplus of production in entire year</p> <p>3-The introduction of improved South Africa mango seed is expected to increase the Sudanese mango production with high quality suitable for export.</p> <p>4- Importance for consumers who have an interest in diet, health, fitness and natural food</p>	<p>1-Mango fruit is highly perishable product</p> <p>2- Weaknesses in the pre-harvesting</p> <p>3- Non trained crop collection</p> <p>4- Lack in post-harvesting technology</p> <p>6- Absence of farms which specialized in producing mango for export</p>	<p>1-Deterioration in characteristics of mango</p> <p>2- Bad quality product</p>
<b>Promotion</b>	<p>1-New technologies of communication in Sudan.</p> <p>2-The annual mango festival that is held by the HFS</p>	<p>1-Regional and international demand in markets.</p> <p>2- The annual mango festival will open new chances for markets abroad if it is held in other countries</p>	<p>1-Lack of communication between the foreign consumers and the exporters</p> <p>2- The costumers know the information about the Sudanese mango from the label only at the moment of the buying the product.</p> <p>3-There is no advertising about Sudanese mango abroad</p>	<p>1- Not competitive product</p> <p>2- Decrease the volume of sale</p>
<b>Price</b>	<p>Sudanese price of mango in Saudi market is a competitive price because it is lower than the other actors</p>	<p>The price-component will be more competitive if the other components of the marketing mix adapted and developed.</p>	<p>High production cost, high cost of transportation, fees, and taxes caused high price</p>	<p>Marginal profit</p>
<b>Place</b>	<p>Saudi market is the nearest market for exporting Sudanese mango</p>	<p>Exporting mango to Saudi by the ships through the Red Sea will reduce the cost of transportations.</p>	<p>1-Lack of presence of cooled transportation, undeveloped warehouses, lack of information, weakness of fixed financing, the long distances within the country.</p>	<p>Bad quality product</p>

This chapter discussed and analyzed the mango product, price, promotion, place and export strategy which used in Sudan now. Some strengths, weaknesses, opportunities, and threats were found in Sudanese mango fruit and its export.

In the next chapter more discussion and analyses about marketing mix and export will be illustrated to find out the current situation of mango fruit and answering the research questions. Some suggestions would be put forward to seek improvements and how the situation after improvements will look like.

## 6 Conclusions and suggestions

The last chapter of this study is intended to illustrate the conclusions to be drawn by answering the research questions stated in the problem discussion: What are the factors influencing the production of mango and how can these affect the export? How can the exporters develop their marketing strategy to obtain a high volume of foreign sales? Which strategies can they take to achieve this objective?

### 6.1 Current situation

During the stages of analyzing the empirical data, I found problems associated with all steps in the marketing chain (production, marketing channels, price, and foreign market), see Figure 10. In addition, there is the bad current strategy at the foreign market expressed in the primitive way of sale (auction).

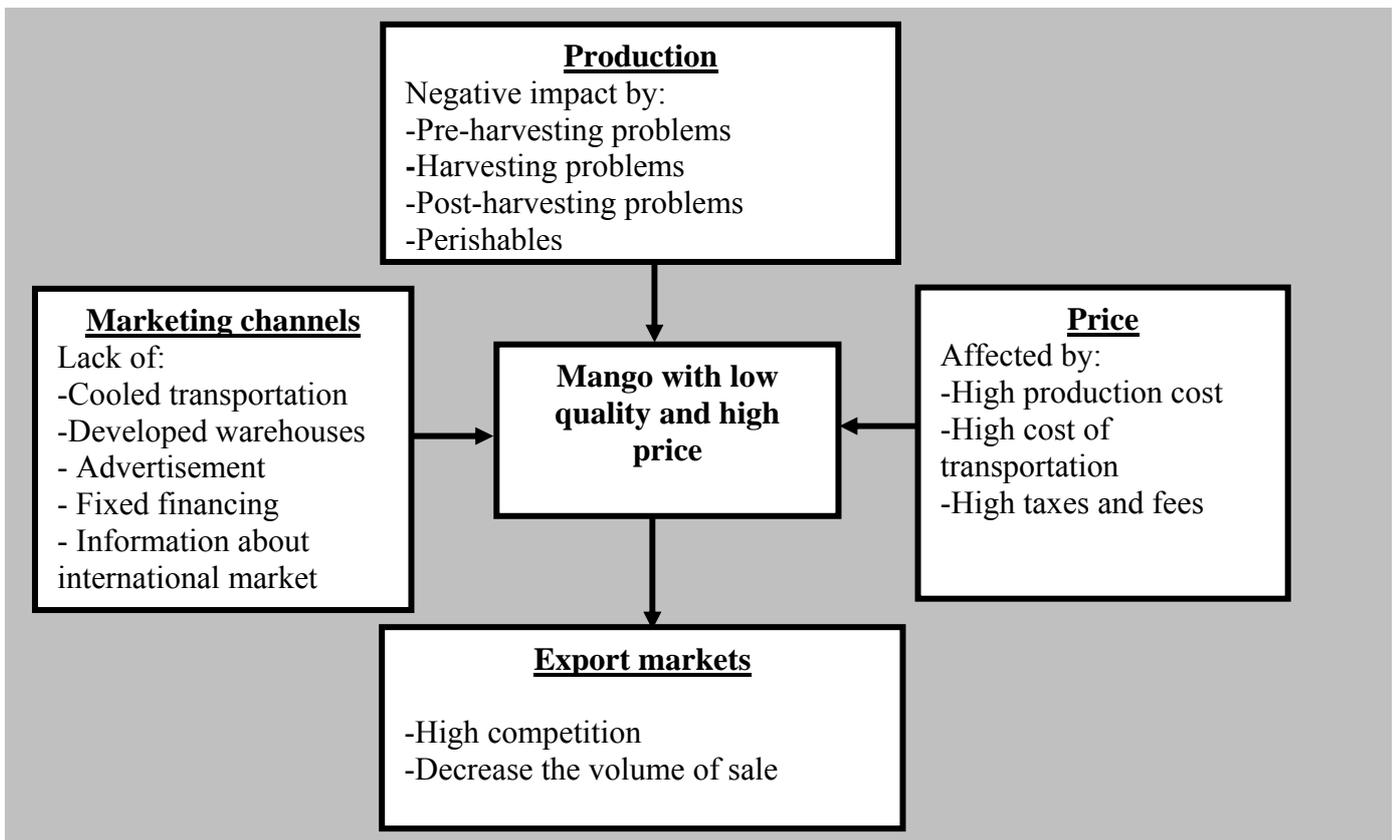


Figure 10: The current situation of Sudanese mango in the Saudi-Arabian market.

Figure 10 illustrates the current situation on international markets of Sudanese mango. The analysis of this figure leads to answer the following research questions:

- *What are the factors influencing the production of mango and how can these affect the export?*

The analysis leads to the conclusion that the problem factors influencing the production of mango are expressed in pre-harvesting problem, harvesting and post-harvesting problem like: Lack of developed seeds and fertilizers, high rates of seed infectivity and high cost of pesticides, lack on performance of the farmer's sector, untrained crop collection, and lack in the technology of: sorting, grading, packing, cooling, and transport services. All of these factors lead to a poor quality product which makes it difficult to compete in international markets.

- *How can the exporters develop their marketing strategy to obtain a high volume of foreign market sales? Which strategies can they take to achieve this objective?*

To develop the marketing strategy the exporters need to reformulate their marketing strategy by deciding on the level of adaptation of their marketing mix. They can get control over price and production from the beginning by choosing high quality of seeds and fertilizers, choose trained crop collectors, and develop all kind of post-harvesting activities. Then they can manage the marketing channels by developing the warehouses and cooled transportation, making good advertisements in the foreign markets and having available information about these markets.

After analyzing the current situation and answering the research questions there are many suggestions for improvement.

## 6.2 Suggestions for improvements

In order to improve the export of Sudanese mango efforts from the farmers, exporters and government at the same time are needed. There are many suggestions that will help to improve the performance of export and obtain high volume of foreign market sales, which are presented in sections 6.2.1 – 6.2.4 below.

### 6.2.1 Special farms which produce mango for export

To establish special farms to produce high quality mango, the owners must calculate the risks involved before and after cultivation by:

- Using improved seeds like the seeds from South Africa.
- Using good fertilizers.
- Control seed infection by using suitable pesticides.
- Need to have trained farmers and crop collection that have a significant perception about cultivation and harvesting.

## 6.2.2 Special companies for export mango

The establishment of big companies or firms to deal only with mango export and carries on all the activities from production to delivery. These companies must:

- Manage and control all the activities.
- Introduce better cooling system for transportations.
- Use developed warehouses.
- Use new technology in post-harvesting activities.

## 6.2.3 Other relevant production

Due to the facts that mango is cultivated all the year-around in large quantities this leads to establishing factories to produce relevant production like mango juice or fruit salad from the surplus of production.

## 6.2.4 Government support

The government has significant positive influence on the improvement-process:

- Helps the export sector with financing and reduces the cost of fees and the commission of the export returns.
- Helps the farming sector by organizing education programs in harvesting, and training courses on how to improve the crop collection.
- Integrates market information and the trade system to provide information about markets and prices.
- Imposes the all exporter-actors to follow the ISO rules.

In the next section there is a brief conclusion about the situation after improvements

### 6.3 Situation after improvements

After developing the marketing strategy the exporters will export high quality mango with low price so it can compete in international markets and the volume of sale will increase and they will have better profits - see Figure 11.

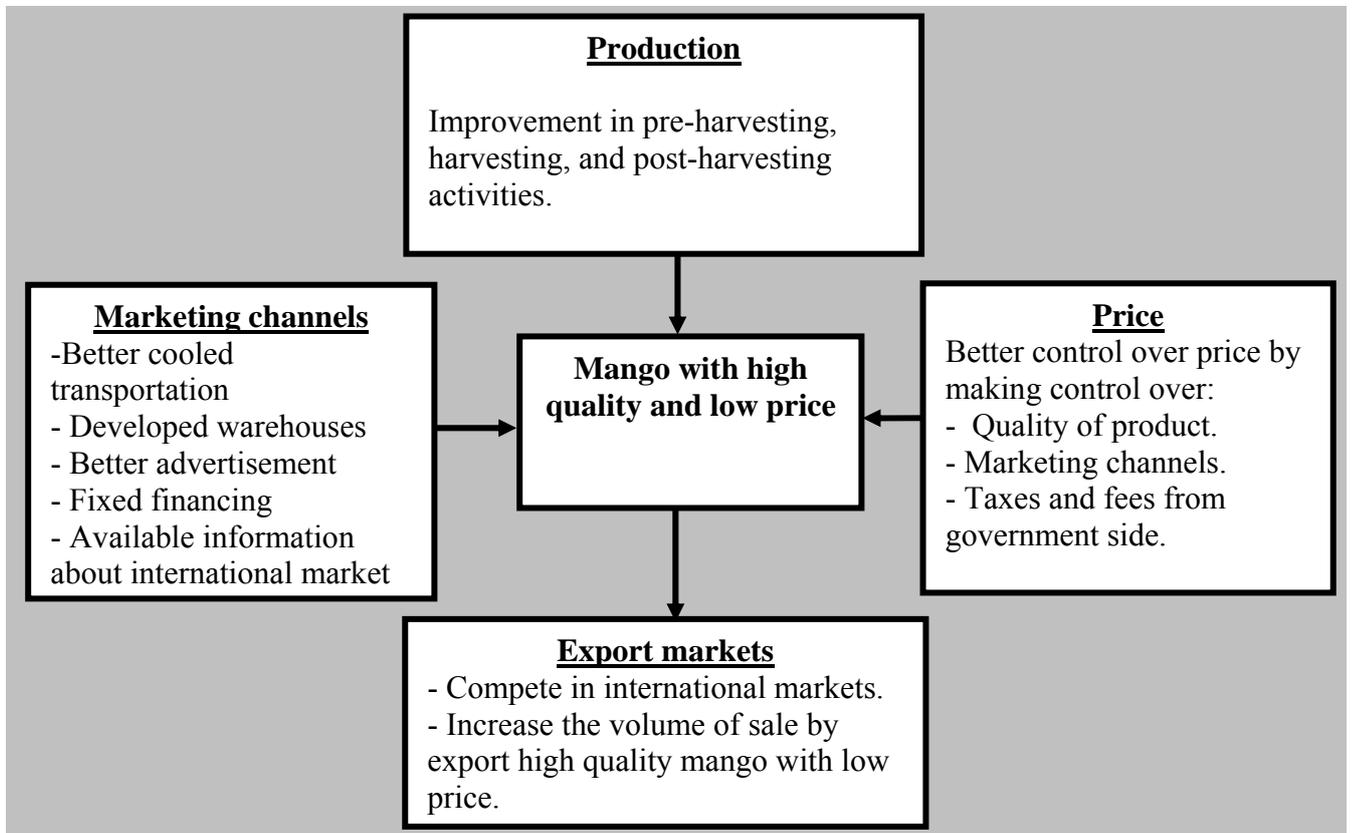


Figure 11: Possibility after improvements.

This study focuses only on analyzing the four P's and the strategy used in Sudan. Future researches could gain insights through: analyzing other stakeholders like competitors and international costumers, analyzing financial issues, and investigates the potential differences between countries.

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Personal interviews (questionnaire) July 2006

# Appendices

## 1 Questionnaire

Name of the company ..... Date of Establishment.....

Export.....Ton per year

Local market.....Ton per year

### 1. Does the production cover:-

1-1.International market Yes No

1-2.Domestic market Yes No

### 2. Problems facing the exporters:-

2-1 Weak of financial continuation

2-2 High production cost

2-3 Low production

2-4 Low qualities

2-5 Weak market trade

2-6.High competition

2-7.Others.....

.....

### 3. Problems facing the farmers sector before cultivations (pre-harvesting problems):-

3-1. A small number of cultivated land

3-2. Lack of refined Availability seeds

3-3. Lake of fertilizer

3-4. High rates of seed infectivity and high cost of pesticides

3-5.The hindrance of season-production due to:-

A small amount of rain Plant epidemic Shortest of working power

3-6.Others.....

.....

### 4. Problems facing the farmers sector after cultivations (post-harvesting problems):-

#### 4-1. Transportation:-

4-1-1. Poor (Transportation procedure (process))

4-1-2. Perfection (Accuracy, exactitude, technology)

4-1-3. Transportation cost:

High

Low

Acceptable

4-1-4. High cost of fuel

4-1-5. High cost of duties    Taxation     Passing/crossing fees

4-1-6. Others.....  
.....

**4-2. Technology of:-**

4-2-1. Harvesting

Correct

Incorrect

4-2-2. Sorting

Correct

Incorrect

4-2-3. Packing

In accordance

not in accordance

4-2-4. Others.....  
.....

**4-3. Mango sale promotion:-**

4-3-1. Domestic

Excellent

good

weak

none

4-3-2. International market

Excellent

good

weak

none

4-3-2. Others.....  
.....

## 2 Export of mango 1997-2004 (quantity and value)

*Quantity/1000 MT of export and export value (million USD) of the Sudanese mango in the period 1997-2004 (After data from the: (AOAD, 2005. Arab agricultural statistics database at: [http://www.aoad.org/database\\_en.htm](http://www.aoad.org/database_en.htm))*

Year	Exports QTon	Exports V1000\$
1997	5560	1930
1998	5320	1630
1999	5320	1630
2000	5100	1100
2001	8410	2530
2002	4520	1290
2003	3480	1010
2004	2820	860

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