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Ghanaian Mangoes – Initial Value Chain Analysis

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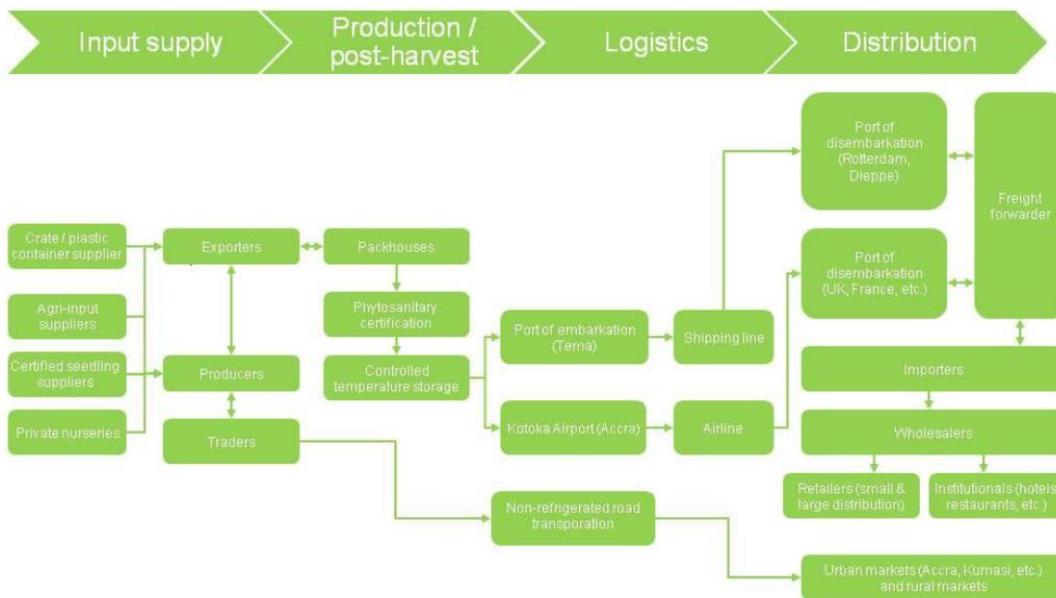
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Contacts are marked in red

Why Mango?

Mango in Ghana has some unique comparative advantages over cocoa, palm oil and citrus production. Statistics show that citrus has a break-even point of 7 years, cocoa 8 and palm oil 10, while mango has a break-even point of 5 years. Acknowledging that surfaces and production figures involved can greatly vary, in terms of export earnings, currently yield per acre for cocoa stood more than 1,000 Ghana Cedis; citrus, 1,500 to 2,500 Ghana Cedis but mango ranges between 2,500 and 4,000 Cedis.¹

The fresh mango value chain is a complex linkage of various production and operational role players. Key stakeholders are producer organizations, exporters and traders.²



Source: Consultant

Fresh Mango Supply Chain in Ghana³

¹ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

² http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

³ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

1. Is there an export promotion for Ghana? (internal/external)?

Export Development and Investment Fund

Established in 2000, EDIF provides financial resources for the development and promotion of Ghanaian exports². In 2009, EDIF embarked on a “National Mango Plantation Development Project” aiming at developing 20,000 acres of mango plantation by 2013 in the Savannah and transitional zones of the country i.e Brong Ahafo, Northern, Upper East, Upper West Ashanti and Volta Regions. In line with this vision, in 2009, the board of directors supported eight farmer-based organisations / associations in the Northern and Upper West regions to cultivate 1,440 acres of mangoes. In 2010 25 farmer-based organisations were supported to cultivate 5,000 acres in 25 districts of the five selected regions. In the first two years of the project (2009 – 2010), the project was implemented using the nucleus out-grower scheme. However, following the lack of interest in the project by some of the out-growers, EDIF decided to support exporters and commercial farmers with the required know-how in farming and land management to undertake the project. The decision to shift to commercial farmers and exporters was also informed by observations made by the team made up of board members, EDIF staff and farmers sponsored by the Fund to visit mango plantations in Brazil at the invitation of Minor Wier & Willis (MWW), EDIF marketing partners for the mangoes. With this new focus, the management of EDIF in January 2011 invited farmers for an interactive meeting through which close to 40, most of them already in mango farming, were selected for the project. The EDIF Mango Project has the following objectives:

- _To turn the three Northern Regions, the transitional zones and part of the Volta Region into mango hubs
- _To contribute to the diversification of the country’s non-traditional export products;
- _To increase the country’s foreign exchange earnings
- _To alleviate poverty through inter-cropping with short gestation crops like sunflower and soy bean to generate income to support immediate needs
- _To generate employment focusing on the youth
- _To combat desertification in the three northern regions

National Horticultural Task Force

A broad-based private-sector-led group with representations from produce and marketing organisations, public sector institutions and the donor community. Since its inception in 2003, the NHTF has been instrumental in initiating discussions on a “National Quality Assurance Scheme” for horticultural products, including mangoes. This activity had led to the initiation of the Ghana GAP program to address issues on quality, safety and traceability. The task force is equally a forum for dialogue, sharing of challenges such as the fruit fly menace in the southern belt, and the taking of joint actions to address these challenges. In addition, the NHTF acts as a lobbying force for the sector and identifies needs for capacity building.

The Federation of Association of Ghanaian Exporters

Founded in 1992 FAGE’s mandate is to support the growth of the private sector in non-traditional exports through four areas: advocacy, market and trade information, training and integrated export development programmes. FAGE’s portfolio of products and services aims principally at increasing the competitiveness of exports in the international market place. No clear information was provided on the type of interventions FAGE has been conducting on mangoes, however the organisation has been collaborating with the GIZ on implementing the Market Oriented Agricultural Programme (MOAP), where issues related to the horticultural competitiveness have been addressed.

Horticulturist’s Association of Ghana

This association promotes the production and export of horticultural products; provides training and guidance to members on current trends in EU Food Safety Regulations; provides effective representation at both domestic and

international levels on a range of issues on horticulture. It has a mission to enhance development within the horticultural industry in Ghana and offers support in product export by providing air freight, agrochemicals and other services for members. Despite their apparent key role in Ghana's horticulture sector, no specific intervention has been capitalized related to mangoes; however, their role in the country shall be emphasized in upcoming interventions in the sector. ⁴

Ghana Customs Authorities

The Ghanaian Customs authorities can be contacted directly to receive the latest information about customs regulations and export-import procedures.

Contact information:

Address: 6th Floor, Heritage Tower, 6th Avenue, West Ridge

Postal address: PMB, TUC Post Office, Accra, Ghana

Telephone: +2330302686106 / +2330302684363

Website: <http://www.gra.gov.gh>⁵

Ghana Export Promotion Authority

The Ghana Export Promotion Authority (GEPA) is the National Export Trade Support Institution of the Ministry of Trade and Industry (MOTI) responsible for the facilitation, development and promotion of Ghanaian exports.

GEPA was established by Act 396 in 1969 as an agency of the Ministry of Trade and Industry with the mandate to develop and promote Ghanaian exports. The focus has primarily been to diversify Ghana's export base from the traditional Gold and other unprocessed minerals, Cocoa Beans, Timber Logs and Lumber. ⁶

Contacts: Angela and Juliet on (+233)020-5079090 or (+233)0244716282

Email: gepa@gepaghana.org⁷

PROMOTING GHANA'S MANGOES

Ghana's mangoes are promoted through the following means:

1. Participation in major international trade fairs such as Fruit Logistica in Germany, SIAL in France, Anuga in Germany and AGF TOTAL in The Netherlands. The Ghana Export Promotion Council normally coordinates Ghanaian exporters to these fairs where fresh mangoes from the various varieties (Keitt, Kent, Palmer, Haden etc) are displayed together with their brochures at Ghana's stand.
2. Development of Product Profiles and Brochures. Profiles and brochures are available on request and also on GEPC website.

For **more contacts** for useful trade fairs and exhibitions for mango: See "Market Brief for Mangoes"⁸, page 9-11

⁴ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

⁵ <http://gepaghana.org/wp-content/uploads/2016/05/Market-Brief-for-Mangoes.pdf>

⁶ <http://gepaghana.org/>

⁷ <http://gepaghana.org/wp-content/uploads/2016/05/Market-Brief-for-Mangoes.pdf>

⁸ <http://gepaghana.org/wp-content/uploads/2016/05/Market-Brief-for-Mangoes.pdf>

Participation in major international trade fairs such as Fruit Logistica in Germany, SIAL in France, Anuga in Germany is strongly encouraged and supported by GEPA and other national institutional and private partners such as FAGE and SPEG. An example of support provided by GEPA is the Export School, its flagship program tutoring on export market fundamentals and requirements for specific market destinations. Another important feature of GEPA's market promotion activity is the payment of freight charges of exporters' exhibits, and the procurement of exhibit stands. At the moment, no activity is completely dedicated to mango promotion.

2. Which important export managers are in the Netherlands & Germany?

Ghana's mangoes are promoted through participation in major international trade fairs like the AGF TOTAAL in The Netherlands.

AGF TOTAAL

Visiting address:

Ahoy' Rotterdam nv Ahoy'-weg 10 3084 BA Rotterdam, the Netherlands

Postal address:

P.O. Box 5106 3008 AC Rotterdam, the Netherlands

Telephone: +31 10 293 33 00

Fax: +31 10 293 33 99

Website: www.ahoy.nl⁹

Most significantly, Eurostat data show that Dutch imports from Ghana have completely stopped in 2011, which used to average 350 tons before that year.¹⁰

Fruit Ban of EU for Ghana due to low quality/health standards

⁹ <http://gepaghana.org/wp-content/uploads/2016/05/Market-Brief-for-Mangoes.pdf>

¹⁰ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

EU: Restrictions on fruit and veg imports from Ghana

In September, the European Union further restricted the import of fruit and vegetables from Ghana. The volume of the country's fruit and vegetable exports has already declined significantly in recent years.

The latest restrictions imposed were introduced because of health concerns after bacterial contamination and pesticide residues were found in the goods. Incorrect procedures used in the cultivation, harvesting, handling and storage have led to the shipments failing the quality tests, reports Business in Ghana, pointing out that in the 1990's the country was shipping 30 to 40 tonnes of vegetables to Europe, while in October this year it only reached 4-5 tonnes.

The country's most exported vegetables are chilli peppers, okra (*Hibiscus esculentus*), bitter melon (*Momordica charantia*) and aubergines. Great Britain traditionally receives the largest volume of chillies, with 1.5-3 thousand tonnes per year. Vegetable exports to the European Union before 2008 were worth 7 million dollars per year, but last year they only reached half of that.

Source: agroinform.com

Publication date: 11/26/2015

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Ghana faces EU vegetable ban

Found falling foul of EU quality standards, Ghanaian vegetable growers are set to miss out on a key export market

The European Union has announced a temporary ban on vegetable imports from Ghana after some were found to fall below EU quality standards, according to a report from GhanaWeb.

Ghanaian farmers have faced bans from the EU in the past, most recently in May for citrus due to the presence of angular leaf spot disease. Prior to that, mangoes were forbidden entry due to an infestation of fruit flies.

Ghana's deputy minister of finance and economic planning, Fifi Kwetey, said that the government was putting measures in place to address the issue.

"As a country, we will from time to time have some of these concerns," he said. "I don't think it is the first time we have had those concerns. We are clearly going to take them on board in order to ensure that if we are going to have sustainable exports, we cannot afford to compromise on quality."

He added that the government would ensure farmers were given the support and equipment necessary to guarantee that these minimum standards were met.

Ghana is the largest exporter of yams to the EU, with other vegetable exports including chillies, okra, aubergines and marrow.

One of the main challenges facing Ghanaian vegetable exports is in repackaging the produce, a process that is done in open air at Kotoka airport and can lead to a reduction in quality and shelf-life.



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Publication date 31st July 2014

→ Bans due to health concerns after failed quality tests, resulting in import restrictions on Ghanaian fruit & vegetable exports

“Fresh Mangoes in Germany”

Consumer demand for mangoes in Germany is on the rise, after a slight dip in consumption in 2010. In the competitive German and EU markets, mangoes are commercially the second largest tropical fruit. Mango producers from Developing Countries (DC) have most potential by differentiating their products. Examples include high quality, reaching new market segments (ready-to-eat mangoes) and marketing stories.

Some growing DC suppliers to Germany of mangoes, in volume from 2008 – 2012, were Peru (+49 %), South Africa (+142 %), Ghana (+11 %), India (+7 %), Thailand (+3 %) and Pakistan (almost +1 %). Please note that these countries accounted for only 6 % of total German imports (volume).

The common variety Tommy Atkins is slowly making way for new varieties (most commonly Kent and Keitt) and growing imports from new supplying countries (e. g. Thailand and Pakistan). As the market for particularly Tommy Atkins is reaching maturity, other varieties have increased opportunities to enter the market as diversified products. Opportunities exist for organic mangoes in Germany, with the varieties Keitt and Kent being more commonly sold with organic certifications.

Industry sources indicated that, currently, sufficient supplies of organic mangoes are available on the German market to meet demand. However, as Germany is the largest and still a growing EU market for organic food, demand for organic mangoes may grow in the future. Sales of organic food has tripled from 2006 – 2012 and 27 % of sales were realised by the fruits and vegetables sectors. German consumption of organic products is rising at a steady, although

¹¹ <http://www.freshplaza.com/article/149790/EU-Restrictions-on-fruit-and-veg-imports-from-Ghana>

¹² <http://www.fruitnet.com/eurofruit/article/162286/ghana-faces-eu-vegetable-ban>

lower, pace. Consumers link organic fruit, such as mangoes, to health and a better taste. According to the ITC, mangoes are among the fastest growing tropical fruits.¹³

3. Which sustainability/product standards are relevant for mangoes?

The various EU members states follow the legislation set by Brussels in terms of mango marketing. Each European country is committed to the **Codex Alimentarius**, more specifically to the Mango Standards that define a set of provisions in terms of quality, sizing, tolerances, presentation, marking or labeling, contaminants and hygiene. Ghanaian mango suppliers are obliged to meet those minimum requirements, Class I products being destined for direct consumption while Class II mangoes are used for processing.

At the same time, **Global GAP**, a private standard set by major European retail chains, is nowadays a minimum for mango exporters when supplying large retail chains in Europe. Certification of producers/exporters (Option 1) or grouping of small producers (Option 2) have made significant inroads in Ghana, however the main challenge lies within the sustainability of such important investments committed by private operators.

The fruits should be devoid of chemical traits and should be firm with bright colours. Mangoes as part of the edible fruits family undergo strict sanitary inspection prior to shipment to maintain credibility in the European Market. PPRSD, Food and Drugs Board as well as the Ghana Standards Authority ensure that mango exports meet the required quality standards before they are exported. To avoid environmental degradation, the Soil Research Institute and MoFA as well as GEPA collaborate with farmers to adhere to best environmental practices. There are equally strict regulations regarding type of chemical application on the farm. The EPA, with the mandate to protect both flora and fauna in the ecosystem, ensures that farmers adhere to best environmental practices.

4. Which companies produce mangoes to mango juice?

Sunripe & Blue Skies, see Table in next section

5. Who receives the exports of Ghana?

Distribution Channels

Ghana's mangoes get to UK main markets and consumers by air through:

a. Importer/ Distributors

The mangoes are airlifted directly to the shops or wholesale of importer or distributors.

b. Through Retailers

Exporting companies export directly to some retail shops for sale to consumers.

The large majority of mangoes consumed in Europe are imported, mostly from developing countries. The only European country to produce mangoes on a commercial scale is Spain.

HPW AG

Development and marketing of fresh fruit and vegetable convenience products in Switzerland and Germany. The 11 employees in Buchs/Aarau (Switzerland) procure and market Asian and African fresh products with added value in

¹³http://www.importpromotiondesk.de/fileadmin/user_upload/Publikationen/factsheet/obst_gemuese/mangoes-in-germany.pdf

Switzerland and in Europe. Our services at a glance: Fresh-cut fruit and vegetables, fresh pineapples, specialist vegetables from Asia and Africa, tropical dried fruit, Fairtrade products.

Board of Management: Hanspeter Werder, Daniel Senn and Ralph Ganter

Pulverhausweg 12,
CH-5033 Buchs
Switzerland^[1]_[SEP]
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In 2010, Switzerland imported close to 9,500 tons of fresh mangoes, shipments growing by 14% annually and being catered by importers located in Netherlands, Germany and France. The European re-exporters and operators represent more than 50% of all products being imported in the country, however it can be assumed that between 60 and 70% of the transited mangoes are coming from Brazil and Peru. Ghana’s direct shipments to Switzerland amounted to 96 tons in 2010, and reached almost 200 tons for the first eleven months of 2011. Côte d’Ivoire and Senegal are the two other suppliers of the Swiss market. HPW AG, a Swiss company marketing Fair Trade and organic mangoes that has a partnership with Bomarts Farms, is responsible for most of the sales.¹⁴

Producer & Buyer

The majority of mangoes in Europe are bought in supermarkets, and the very large quantities necessary to offer low prices to European consumers put tremendous pressure on mango suppliers worldwide. This downward pressure set by retailers is especially strong on the relatively modest suppliers in Ghana.

Mango Producer	Mango juice producer	Mango Buyers: Supermarkets	Mango Juice Buyers: Supermarkets
Yilo Krobo Mango Farmers Association		Germany: See below, Table 1	Mostly: Carrefour Tesco Albert Heijn
Papaya and Mango Producers and Exporters Association of Ghana	Sunripe	Switzerland: See below, Table 5	
Blue Skies Limited-fresh cut	Blue Skies Ghana Limited	Spain: See below, Table 3	
Integrated Tamale Fruit Company (ITFC)		U.K.: See below, Table 2	

¹⁴ <http://gepaghana.org/wp-content/uploads/2016/05/Market-Brief-for-Mangoes.pdf>

Volta Mango Growers Association (VOMAGA)		Netherlands: See below, Table 2	
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Exhibit 6: Major Food Retailers in Germany, their Sales Outlets and Private Labels		
Company	Main outlets	Own label
Aldi	Aldi	No
Dohle Group	Dohle, Marktfrisch	No
Edeka	Edeka, AVA Neukauf, E-Center, Marktkauf	Bio-Wertkost
Globus	Globus	Terra Pura
Lidl & Schwarz	Kaufland	No
Metro	Real, Extra, Metro, Kaufhof	Grünes Land
Rewe	Minimal, Toom, Rewe	Füllhorn, Gut & Gerne*
Schlecker	Schlecker	No
Spar	Spar	No
Tegut	HaWeGe, Okay, Top Markt	Alnatura*
Tengelmann	Tengelmann, Kaiser, Grosso	Naturkind

* Labels with an asterisk are manufacturer labels.

Table 1¹⁵

Top 10 retailers in the Netherlands

Turnover in the Netherlands for 2015 in Million €

Rank	Retailer	Turnover	Nr of stores
1	Ahold	12,700	2,134
2	Jumbo	5,320	580
3	Lidl	3,080e	400
4	Silgro	2,670	179
5	Plus	2,230	255
6	Aldi	2,200e	496
7	Blokker	2,050	1,846
8	Detailresult	>2,000	189
9	Intergamma	1,650e	302
10	Mediamarkt	1,554	49

e = estimate

All turnover figures are based on the latest financial records as published by the retailers in annual reports and/ or press releases.

Table 2

Top 10 retailers in Spain

Turnover in Spain for 2014 in Million €

Rank	Retailer	Turnover	Nr of stores
1	Mercadona	20,161	1,521
2	El Corte Inglés	14,592	196
3	Carrefour	7,751	582
4	Eroski	6,100	2000e
5	DIA	4,496	3,135
6	Auchan-Alcampo	3,915	182
7	Inditex	3,442	1,869
8	Metro Group	3,355	109
9	Lidl	2,530	530
10	Groupe Adeo	1,800e	108

e = estimate

Table 3

¹⁵ http://pdf.usaid.gov/pdf_docs/Pnada008.pdf

Top 10 retailers in the UK

Turnover in the UK for 2014 in
Million €

Rank	Retailer	Turnover	Nr of stores
1	Tesco	54,053	3,378
2	Sainsbury	29,674	1,107
3	Asda	29,040	576
4	Morrison	21,531	500
5	The Co-operative	11,661	2,861
6	John lewis (incl. waitrose)	11,199	379
7	Marks & Spencer	11,164	798
8	Boots	7,669	2,500
9	Home Retail	7,083	1,051
10	Kingfisher	5,186	687

All turnover figures are based on the latest financial records as published by the retailers in annual reports and/ or press releases.

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Table 4

Supermarket ↕	Image	Founded/Came to Switzerland ↕	Owned by ↕	Information
Aldi		2005	 Aldi	
Coop		1893	 Coop	Second largest
Denner		1881	 Federation of Migros Cooperatives (since 2007)	Third largest
Lidl		2009	 Lidl	
Migros		1925	 Federation of Migros Cooperatives	Largest
Spar		1989	 Spar	

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Table 5

For organic mangoes, specialized importers exist in Germany. Examples are **BioTropic** and **Lehmann Natur**.

Specialized importers in other Western European countries, such as **Pronatura** in France or **Eosta** in the Netherlands, export organic mangoes to Germany as well.

Additionally, organic mangoes are more commonly sold at specialized organic shops as well as some German supermarkets such as **REWE** and **Edeka**, instead of discounter supermarkets.

If you export organically certified mangoes, focus your sales on relevant specialized importers. Additionally, if you want to find out more on the market potential for organic mangoes in Germany, contact organic importers. For an overview of organic importers, please refer to www.Bio-markt.info or www.Organic-bio.com.

Among the largest importers of organic mangoes are:

¹⁶ <https://www.cbi.eu/market-information/fresh-fruit-vegetables/mangoes/europe/>

¹⁷ <https://www.wikipedia.de/>

Eosta (Netherlands)
ProNatura (France)
Biotropic (Germany)
Organic Farm Foods (United Kingdom)

Europe's – and the world's – first fair-trade pineapples and mangoes were imported by **AgroFair** and went on sale in Co-op stores in the United Kingdom in 2002.

Despite various initiatives encouraging the commercial production of mangoes in Ghana and their compliance with market requirements in Europe, mango shipments have significantly gone down since 2008. On the other side, fresh cut mangoes seem to have a brighter future, as illustrated by the performance of some Ghanaian players like **Bomarts and Blue Skies** on the Swiss and UK market.¹⁸

6. Mango Juice Facts

Mango juice processing is not a strong feature of the fruit processing establishments in Ghana. Pineapple, the leading horticultural product in terms of both production and exports has been at the forefront in terms of juice production. Generally, most of the important operators produce juice varieties with the view to diversifying their fruit operations. A well-structured juice processing sector can act as a catalyser for the development of the mango value chain. This assertion is based on the fact that a greater part of mangoes (about 80%) produced does not get exported. There are a number of actors along the chain of mango juice processing, including juice processors, mango suppliers (producers/farmers/traders), input suppliers (packaging makers, logistical service providers) and other public and private support structures (Association of Ghana Industries, Food and Drugs Board, Ghana Standards Board, Environmental protection Agency).

The two major juice processing companies under consideration are Sunripe and Blue Skies Ghana Limited.¹⁹

Sunripe & QI

Currently, Sunripe is one of the largest fruit processing entities in Ghana, processing freshly harvested local fruits into juice, pulp, puree, smoothies and pineapple cylinders for the local market. With aseptic technology, the company is able to preserve fruit product without preservatives or additives which are shelf stable for up to 2 years.

Farm inspection: To ensure compliance with international standards, Sunripe inspects the farms and checks on fruit quality and properties (agricultural practices, sizes, etc.); which determine quantities ordered and prices to be paid.

Quality assurance laboratory: Sunripe is equipped with a laboratory that analyses the products before and after processing. Sunripe is certified by local and international bodies (Ghana Standards Board, Ghana Food & Drugs Board and ECOCERT) on its food safety standards.

Bottling line: Sunripe's bottling line cleans, fills and caps the fruit juice in sizes ranging from 330ml to 1.5 litres. The filled bottles continue along automated sections (sterilization, temperature control, sleeve application, thermal sleeve shrinking & coding) to bulk packaging and then packaged.

¹⁸ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

¹⁹ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

Warehouse & storage: Sunripe has storage facilities including cold ones for both finished and unfinished product. The finished product is placed under quarantine for 5 days during which stage the quality assurance team monitors and analyses the product, making sure the product meets the specified standards and is fit for consumption.

Aseptic bag in drum: In order to have an year-round supply of fruits (especially the seasonal ones e.g. mango, orange and water melon), the company stores the juice in 200lt aseptic bags in drums when they are in season and they can be kept without refrigeration for up to 2 years.

In-house packaging development: As part of efforts to ensure the production of a hygienic product, the company has PET blowing machines in-house. The bottles are blown directly onto the production line thus minimizing cost and contamination.²⁰

Blue Skies

A subsidiary of Blue Skies Holdings Limited based in the United Kingdom, Blue Skies started its operations in Ghana in 1998 by setting up factory in the southern part of Ghana that focused on preparing, packing and exporting pineapples to the UK. In the course of its operations, the company incorporated mangoes into its portfolio. Apart from the Ghana factory that employs 1,500 people – making it the biggest of its operations, Blue Skies runs processing factories in Egypt, South Africa and Brazil.

The company's presence in Ghana has provided a market place for growers of pineapple, papaya and coconut. It has pioneered the growth of mango farming in the Eastern Region of Ghana and is responsible for 25% of Ghana's pineapple exports. It currently supplies 100% of its fruit products to some of the biggest supermarket chains in Europe and South Africa. According to the company's estimates, 120 tons of mangoes are processed weekly. This figure comprises the quantity for export as well as the volume processed as juice for the local market.

The company supplies various types of juice products: fresh pineapple juice, pineapple ginger juice, mango, passion fruit and pineapple blend juice. According to company officials, local demand for juices is on the ascendancy and therefore exports have not been considered. Mango for processing is purchased from the local market after inspection by the company's agronomist. Mango is also purchased from the international market. Mango is often obtained from Dodowa, Somanya and parts of the Volta region. Blue Skies however imports mangoes from various countries including Brazil, Burkina Faso, South Africa and Senegal in leaner times.²¹

Mango Juice demand

Despite the fact that local and international markets for mango juice are growing (see table 11), the lack of economies of scale and other market access requirements have confined the operators to the national market. It has also been established by both Blue Skies and Sunripe that the local mango juice market is growing. According to the chief agronomist at Blue Skies, demand for their products, outstrips supply due to the fact that their production line is currently operating at full capacity.²²

²⁰ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

²¹ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

²² http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

Table 11: World demand for other fruit juice including (mango, guava, tamarind etc, in tons)

Destinations	2006	2007	2008	2009	2010
World	1,437,885	1,680,698	1,365,518	1,325,988	1,346,869
United States of America	413,534	459,130	184,015	321,340	340,850
Saudi Arabia	75,300	80,607	50,553	58,342	75,667
Germany	89,467	93,180	76,085	65,842	69,065
Netherlands	43,895	47,071	74,805	87,925	63,788
United Kingdom	84,397	47,768	47,444	44,539	43,587
France	41,760	40,370	42,160	40,301	42,114
Japan	60,195	69,937	64,731	50,505	41,972
Costa Rica	7,050	11,749	11,399	7,739	31,249
Canada	22,745	41,240	28,253	24,515	25,617
Austria	22,352	24,180	34,631	41,326	24,745

Source: ITC Trade Map

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Which big juice producers have interest in a juice production in Ghana?

To answer this question, it might be interesting to contact intermediate companies:

The Delegation of German Industry and Commerce in Ghana (AHK Ghana)

AHK Ghana offers substantial information and assistance to enter the Ghanaian market. They provide up-to-date information on economic and commercial issues, and offer various services to facilitate market entry with the intention of enhancing bilateral trade for new and existing businesses. Based upon specific needs and the business sectors of interest, AHK Ghana compiles a list of suitable business partners in the country.²⁴

Contact: +233-(0)-302 631681/2/3
[de.international\(at\)ghana.ahk.de](mailto:de.international(at)ghana.ahk.de)

7. Fresh-cut Mango Facts

Compared to other West African origins, the presence of fresh-cut mangoes from Ghana on international markets is relatively modest, amounting to less than 3% of EU imports in terms of volumes supplied from ECOWAS countries. However, fresh-cut mangoes from Ghana have made important inroads in the last 10 years, adding value to the product and directly impacting the national economy in terms of income generation and employment creation. Over the last years, investments made by private enterprises such as Blue Skies, Bomarts and the Integrated Tamale Fruit Company (ITFC) and capacity building of farmers supported by USAID/ TIPCEE (now replaced by ADVANCE), and MoFA's district extension, have led to an export grade production base, including Global GAP certification of the smallholder farmer base, who are an important part of the supply chain.

²³ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

²⁴ <http://ghana.ahk.de/services/market-entry/>

Despite various initiatives encouraging the commercial production of mangoes in Ghana and their compliance with market requirements in Europe, mango shipments have significantly gone down since 2008. On the other side, fresh-cut mangoes seem to have a brighter future, as illustrated by the performance of some Ghanaian players like Bomarts and Blue Skies on the Swiss and UK market. Exporting whole mangoes in 4kg or 6kg crates and shipping pre-cut fruits are two distinct things, each product having its own benefits and challenges in terms of production capacity, technology and financial requirements.

Blue Skies Limited-fresh cut:

All fresh-cut mangoes are air-freighted. In the absence of appropriate cold store facilities at the airport, the company uses two refrigerated shipping containers on the apron. Most of its exports are sold through UK retailers (about 45%) and is certified to meet both the general Global GAP standards as well as the individual labels of the different retailers, such as Waitrose or Leaf. The company is also LEAF (Linking Environment and Farming), BSCI (Business Social Compliance Initiative), Organic, Fair Trade as well as Field to Fork certified. Other market destinations for its fresh-cut exports include the Netherlands, Switzerland, Italy and France. The company is also making efforts to penetrate the United States market.

8. Dried Mango Facts

The dried mango segment of the mango value chain in Ghana is not yet popular in terms of both consumption and exportation. Most Ghanaians are used to fresh mangoes and mango juice rather than dried mangoes. The target market has traditionally been the international market with two notable enterprises in this sector being Ebenut and Integrated Tamale Food Processing Company (ITFC), which are major players in the dried mango industry. As the awareness for dried mangoes is created locally, it can be expected that demand will eventually grow and attract more operators in the sector. For now, the sector is still underdeveloped and interventions have mostly come from donors and NGOs such as the USAID's West African Trade Hub (WATH).

In addition to fresh-cut and juicing operations, there is some interest in producing dried fruit, but this is a small market opportunity. HPW is investigating opportunities in Switzerland and Southern Europe.²⁵

Integrated Tamale Food Processing Company (ITFC)

ITFC's major lines are fresh cut, and dried mangoes. The company operates two ovens to meet demand for dried fruits from both local and international markets; albeit the demand locally is very insignificant. Its main market destinations are the Netherlands and Italy. The general manager also indicated that mangoes for drying are obtained from various locations including Kintampo, Wenchi, Burkina Faso, and Somanya etc. Like the processed companies for juice, the growers of the mangoes must be Global GAP certified. As of September 2011, the company had exported about 11 forty feet containers of dried mangoes mostly to Switzerland.

Ebenut Limited

The fruits and vegetables are bought directly from certified Fair trade farmers. The dried end-products are sold locally and internationally.

²⁵ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

According to the CEO of Ebenut, Mrs. Paulina Appea-Kubi, the company exports the dried mangoes, originating from Dodowa, Akosombo (Akonadi), to Switzerland and Germany, and usually exports about 10 tons per season; thus 20 tons per year. In the local market, the company's clients are Koala supermarkets, Shoprite and Maxmart.

Another challenge is related to securing markets for the dried mangoes. The strategy adopted here is that they mostly operate when orders are received. Exports are thus tailored towards specific orders, e.g., an order for oven dried Kent mango of a specific quantity. Ebenut is also a major participant in many trade fairs that GEPA organizes; all with the view to diversifying their market destinations. Another problematic area has to do with payment. To avert the problem of payment challenges, letters of credit are employed.²⁶

Value chain of Dried Mangoes

In the case of ITFC, mangoes are supplied directly from its own orchards and the fruits that do not meet standards in terms of sizes and shapes are transferred to the drying section of their operations. Along the dried mango value chain, the main obstacles are usually encountered at the input, processing and the commercialization segments, according to the CEO of Ebenut. During discussions, it was revealed that sometimes when they place order for fresh mangoes, they are often delivered below specifications. To avert this phenomenon, like juice processors, they undertake pre-harvest inspection, after signing contract with the producers. The harvested fruits are then transported to the processing plant, peeled, sliced and then dried in the oven.

The major challenge dryers are facing has to do with the cost of operating the ovens. Cost of energy has been identified as the major cost centre when it comes to oven operations. For instance, Ebenut spends about Ghc 2,000 weekly for electricity tariff.²⁷

Demand of Dried Mango

The companies interviewed intimated that their dried mangoes are destined for the EU market, which is the biggest trading partner for Ghanaian horticultural products. The market for dried mangoes in Europe is relatively low compared to fresh fruits. Consumption in Europe stands at about 3,000 tons according to (Strategic Policy Document of the mango value chain in the ECOWAS). This figure represents about 1% of the total demand for dried fruits in Europe.²⁸

Supply of Dried Mango

In terms of longevity/preservation, drying of fruits including mangoes are considered as one of the most effective techniques to prolong the product shelf life. Consequently, dried mangoes can be available throughout the year, although there are two mango production seasons, which invariably are in tandem with Ghana's double maxima rainfall pattern. The supply is only challenged by the lack of mangoes during leaner times, transportation and logistics problematic, operational difficulties including the cost of operating ovens, among a host of other issues. It is estimated that Ghana has the capacity to produce and export more than 100 tons of dried mangoes yearly.²⁹

²⁶ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

²⁷ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

²⁸ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

²⁹ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

In the UK, dried mangoes can be found in super/hypermarkets (**Tesco, Asda, Sainsburys**) and in a variety of small grocery retailers and online sellers. Dried mango slices are mainly sold in retail packs under the importers or wholesalers' brands. Greengrocers, ethical stores or delicatessen stores usually sell them loose. Mango sweets are available in multiples, as are organic packed mangoes, although most of them are sold at organic stores that are still expanding.

Germany: Dried mangoes are mainly sold at organic shops and increasingly at the organic/health food corners in super/hypermarkets. In future, a further shift of retail sales from super/hypermarkets to discounters will take place. There is a growing sale of dried mangoes **online via e.g. Bremer-Gewurzhandel, www.amazon.de** or via on-line Fair trade shops or health shops. Internet sales are expected to increase as companies are offering the possibility to consumers to create their own muesli online.

In Italy and Spain most dried mangoes are mainly available in organic shops. Some larger supermarkets such as Conad in Italy or **Hypercor in Spain** sell dried mangoes along with dried fruit in the corners near to fresh fruit.

In the Netherlands and Belgium most imported dried mangoes are used in food processing or are packed. Some important packers for dried fruit are Tradin, van Druenen, Doens and Rhumveld, Horizon Natuurvoeding or the Good Food Foundation. Dried mangoes are mostly available in organic shops or reform/health shops and can be found in supermarkets sold in consumer packs or loose in small plastic boxes (150 gram) near to the fresh fruit corner.³⁰

9. Certifications within Ghana & International Fruit Certifications (Mango Juice)

Processors buy mangoes from reliable and reputable farmers or farmer groups, especially those that are Global GAP certified. The pre-inspection of the mango orchards by agronomists of the various juice processing entities is meant to ensure that the mangoes to be harvested are disease / pest-free and they are of good quality. After the product has been harvested, it is conveyed to the factory for sorting and subsequent processing. The major problem encountered by juice processors at the input level has to do with inadequate supply of mangoes as well as quality and reliability of supply of fresh mangoes. Another problem at this stage is the high cost of transporting the fruits to the manufacturing company and the cost of the fruits itself, especially during the lean season. The most important bottleneck in the processed mango value chain is the cost of energy and more specifically, be it the use of generators (fuel price) and issues related to power fluctuation. Other costs encompass the cost and availability of preforms and other packaging materials.

Sunripe has initiated steps to obtain the ECOWAS Trade Liberalisation Scheme (ETLS) certification with the view to penetrating the West African market allowing it to export its products without the payment of import duties or equivalent taxes. For the meantime, the company is seeking strategic alliances with entities in Nigeria, and then get National Agency for Food and Drug Administration and Control (NAFDAC), certification for its juice before venturing into the Nigerian market.

In order to supply the local market, juice producing enterprises must obtain certifications from both the Food and Drugs Board as well as from the Ghana Standards Board. These certifying bodies pay regular visits to monitor the operations of the entities. In the EU market for instance, the entity will need to ensure that mangoes are obtained from Global GAP certified source, and then meet the requisite sanitary and phytosanitary requirements of the market.

³⁰ <https://gepaghana.org/assets/EU-market-for-dried-mangoes.pdf>

It is equally required that there must be traceability data to enable proper verification on the finished product. For an entity to be competitive in the sub-regional market however, it makes business sense for it to apply and obtain ETLs, albeit it is not mandatory. This scheme substantially reduces the cost of exporting to the sub-regional market, as import duties or equivalent taxes are waived. Additional NAFDAC certification is however required for mango juice to access the Nigerian market, which holds the biggest opportunities for juice processors.³¹

Although ITFC has started producing mango puree for both local and international markets, it is yet to get approval and certification from the Food and Drugs Board before it can start exporting, according to the operations manager.

Growing interest in sustainable fruit

In Europe, trends are developing towards more sustainable approaches to production and processing of fresh fruit. Environmental and social issues are becoming increasingly important. Social and environmental certification schemes include actions aimed at sharply reducing and registering the use of pesticides, ensuring employee safety and/or even including price guarantees for producers. Certification schemes that are in line with the Global Social Compliance Programme (GSCP) are more likely to be accepted by European supermarkets.

Increasing importance on: ETI, BSCI, SEDEX, GRASP, Fair for Life and Fair Trade.³²

10. What does the competition do better?

Mango market size and market share/ mango demand

Global mango demand: World imports of mangoes stood at 1.37 million tonnes in 2010, increasing by more than 50% between 2006 and 2010. The USA has been the most important mango importer worldwide, followed by China (including Hong Kong) and the Netherlands. It is important to note that close to 90% of Dutch imports are re-exported to Northern European destinations (Germany being the most notable market). The table below shows the trend in the global demand for mangoes.³³

³¹ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

³² http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

³³ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

World mango imports (in tons)

Partners	Period					Growth	
	2006	2007	2008	2009	2010	Annual	Total
USA	298,088	303,568	172,843	295,653	332,108	3%	11%
Hong Kong	42,422	66,217	62,417	126,350	124,205	31%	193%
Netherlands	92,817	92,760	109,555	65,491	120,310	7%	30%
China	23,763	42,293	61,969	124,997	115,136	48%	385%
United Arab Emirate	n/d	66,255	56,150	69,389	75,330	-	-
Saudi Arabia	48,330	45,660	35,643	38,583	58,250	5%	21%
Germany	38,709	46,761	51,866	40,660	48,451	6%	25%
United Kingdom	54,676	57,307	55,730	48,111	47,578	-3%	-13%
Canada	42,192	46,736	42,459	41,544	46,648	3%	11%
Malaysia	23,521	23,433	29,767	40,676	42,015	16%	79%
Others	233,402	250,605	296,415	304,631	360,823	12%	55%
Total	897,920	1,041,595	974,814	1,196,085	1,370,854	11%	53%

Source: ITC TradeMap, processed by Consultant

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More than 75% of mango shipments to the USA are provided by Mexico, its southern neighbour, and exports from African countries are non-existent due to obvious logistical challenges related to distances but also phytosanitary issues (hot water treatment is required to repel fruit flies). Even if the Chinese market for imported mangoes has been growing quite rapidly (especially in Hong Kong), Ghana and other West African mango exporters should be aware that accessing such remote market can prove very difficult, besides the fact that most of Asian demand is supplied by the Philippines, Mexico and an increased Peruvian presence.

Although the figures provided by the ITC differ from those obtained from Eurostat, the Netherlands is the main gateway in terms of accessing the EU market, with the port of Rotterdam playing a crucial role in unloading mango shipments and re-exporting them to destinations such as Germany and France. As regards to mango demand in the United Arab Emirates, South Asian suppliers (Pakistan and India) are the traditional mango caterers for Dubai and the Persian Gulf region due to their proximity and historical links. Air links between major West African cities and Dubai offer a niche market for ECOWAS mango suppliers; however it should be well understood that only top quality competitive mangoes could eventually fetch some market shares.³⁵

Global mango supply situation

Mexico and India were the leading exporters of fresh mangoes on a global scale, the first origin being located just next to the United States while the South Asian supplier exports 50 to 60% of its products to the Persian Gulf countries. The numbers provided by ITC and extracted from the UN Comtrade database should only be used as a general indication. Compared to world figures, ECOWAS mango exports represented less than 3% of global supplies in 2010. According to 2010 figures, Ghana ranked 91 in terms of mango shipments. However, as mentioned earlier, the figures taken from ITC Comtrade should be taken as a general indication, and more precise figures can be obtained from Eurostat or Ghanaian customs export statistics. More representative statistics on actual exports from Ghana can be found the sections below.

³⁴ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

³⁵ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

World mango suppliers (in tons)

Ranking	Partners	Period					Growth	
		2006	2007	2008	2009	2010	Annual	Total
1	Mexico	232,376	235,995	226,083	232,643	275,366	4%	19%
2	India	253,151	239,751	281,669	267,617	182,974	-8%	-28%
3	Thailand	29,777	61,026	61,608	144,079	144,566	48%	385%
4	Brazil	115,724	116,271	133,944	110,355	124,380	2%	7%
5	Hong Kong	19,988	41,589	42,853	104,441	99,386	49%	397%
6	Peru	82,685	82,675	82,696	69,191	96,942	4%	17%
17	Mali	8,554	6,586	8,056	n/d	13,908	13%	63%
18	Côte d'Ivoire	15,374	16,877	12,949	13,763	12,975	-4%	-16%
26	Burkina Faso	n/d	8,101	6,458	5,355	6,915	-	-
34	Senegal	7,051	8,865	7,164	6,650	4,165	-12%	-41%
91	Ghana	156	711	779	332	8	-52%	-95%
	Others	375,744	440,710	441,405	490,058	488,356	7%	30%
	Total	1,140,580	1,259,157	1,305,664	1,444,484	1,449,941	6%	27%

Source: ITC TradeMap, processed by Consultant 36

EU-27 mango demand

Between 2001 and 2011, Europe imports have grown from 136,000 to more than 225,000 tons, representing a 65% leap that denotes a continuous growing popularity of the product.

Globally, EU mangoes imports continue to be dominated by Brazil and Peru, accounting together close to 70% of total shipments. Peru has significantly increased its presence over the last few years, and 2011 represented a record-high for the origin – although it is predicted that 2012 will see less arrivals from this origin due to production issues. In terms of supplier importance, Ghanaian mangoes were ranked 25th in 2011 in terms of volumes, far behind Cote d'Ivoire (5th position) and Senegal (9th).³⁷

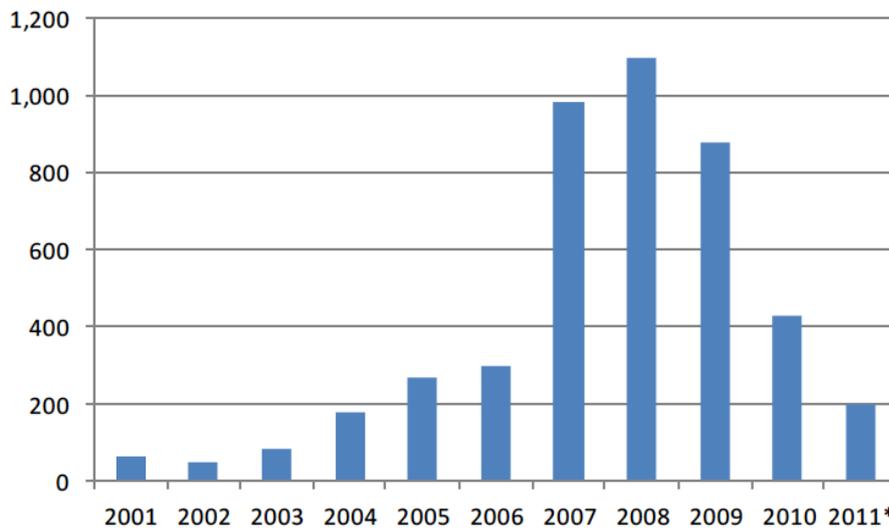
Traded mango volumes of EU from Ghana for the last 5 years (2012)

As illustrated in the graphic below, EU-27 imports (excluding Switzerland) of Ghanaian mangoes are on a steep decline: after passing the 1,000 ton mark in 2008, shipments have fallen to 200 tons for the first eleven month of 2011. Climatic and production factors in Ghana seem to be behind the drop in shipments. However other factors such as aging orchards and fruit fly issues seem to be hindering the origin's competitiveness against other world suppliers.

³⁶ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

³⁷ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

EU-27 imports from Ghana since 2001 (in tonnes)



*: Jan. to Nov. figures

Source: Eurostat, processed by Consultant

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Another important hypothesis is the possible disorganization of producer organizations, since the TIPCEE project ended in 2009. It can be assumed that year, shipments of uncut mangoes have come to slowly disappear, and be replaced by pre-cut and mango juice products supplied by Blue Skies. In terms of quantities, European imports of Ghanaian mangoes have fallen by more than 80% between 2007 and 2011, from 983 to less than 200 tons (see figure below). Most significantly, Eurostat data show that Dutch imports from Ghana have completely stopped in 2011, which used to average 350 tons before that year. The UK remained Ghana's most significant partners, although quantities are insignificant when compared to other world and regional suppliers.

EU-27 mango imports from Ghana (in tons)

Reporter	2007	2008	2009	2010	2011*	Annual	Total
UK	145	387	169	107	82	-13%	-44%
Germany	26	25	44	29	45	15%	73%
Italy	9	61	3	16	31	38%	260%
Luxembourg	61	48	45	17	23	-22%	-62%
Belgium	324	119	161	6	13	-55%	-96%
France	68	117	20	5	2	-59%	-97%
Netherlands	348	339	437	247	0	-	-100%
Others	3	0	1	0	0	-	-100%
Total	983	1097	880	428	196	-33%	-80%

*: Jan. to Nov. figures

Source: Eurostat, processed by Consultant

(Fruit Ban of EU for Ghana due to low quality/health standards as of 2008)

³⁸ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

11. Packaging & Presentation

Provision Concerning Quality

a. Minimum Requirements. Mangoes must be;

- intact, firm and fresh in appearance
- sound, produce affected by rot or deterioration such as to make it unfit for human consumption is excluded
- clean, practically free from any visible foreign matter
- free from black stains or trails which extend under the skin
- free from pests and practically from damage caused by pests
- free from damage caused by low temperature
- free to any abnormal external moisture
- free of any foreign smell and taste.

Size is determined by the weight of the fruit. Mangoes are sized according to the following weights.

Size Group	Weight in Grammes	Size Difference in grammes
A	200-350	75
B	351-550	100
C	551-800	125

The minimum weight of mangoes must not be less than 200g.

Packaging and Presentation

a. Uniformity

The contents of each package must be uniform and contain only mangoes of the same origin, variety, quality and size. The visible part of the contents of the package must be representative of the entire content.

b. Packaging

Mangoes must be packed in such a way as to protect the product properly. The materials used inside the package must be new, clean and of a quality such as to avoid causing any external or internal damage to the produce. The use of materials and particularly paper or stamps bearing trade specifications, is allowed provided that the printing or labeling has been done with non-toxic ink or glue. Packaging must be free from all foreign matter.

c. Marking

Each package must bear the following particulars, in letters grouped on the same side, legibly and indelibly marked, and visible from the outside.

d. Identification

Packer and / or Name and address or officially dispatcher issued or accepted code mark

e. Nature of the produce

“Mangoes”, if the contents are not visible from the outside

Name of local places name

f. Origin of the product

Country of origin and, optionally, district where growth or national regional or local place name

g. Commercial specification

Class

Size expressed in minimum and maximum weight
Number of fruits³⁹

Mango Juice Packaging

The two major mango juice producers have their plants that manufacture PET bottles for the packaging of the juice. The preforms are imported from Belgium, Dubai and other countries, and then transformed into plastic PET bottles for packaging. However, corrugated carton boxes that contain the plastic bottles are normally manufactured in Ghana by PackRite, PolyKraft among others. Although Ghana has some companies manufacturing and blowing preforms per specification, Sunripe for instance imports performs from Belgium and then blows them according to sizes in Ghana. The preforms imported from Belgium cost about 90 Euros per a thousand count. According to the CEO of Sunripe, the local ones have quality issues compared to the imported ones.

Packaging innovations

Aseptic bag in drum: In order to have an all year-round supply of fruits (especially the seasonal ones e.g. Mango, orange and water melon), the company stores the juice in 200lt aseptic bags in drums when they are in season and they can be kept without refrigeration for up to 2 years.

In-house packaging development: As part of efforts to ensure the production of a hygienic product, the company has PET blowing machines in-house. The bottles are blown directly onto the production line thus minimizing cost and contamination.⁴⁰

³⁹ <http://gepaghana.org/wp-content/uploads/2016/05/Market-Brief-for-Mangoes.pdf>

⁴⁰ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

12. Further interesting topics

1.5. SWOT analysis of the fresh mango value chain in Ghana

Strengths	Weaknesses
<ul style="list-style-type: none"> Seasonal advantages for mango cultivation especially in the upper middle belt and the northern regions of Ghana DIF to cultivate about 8,000 hectares of mango in the northern part of the country will eventually increase mango availability Past and present involvement of external partners such as the USAID/TIPCEE project (now ADVANCE), GIZ, ADRA, among other technical and financial partners have improved significantly the quality of mango production, harvesting, processing Existence of a National Fruit Fly Committee that will address the <i>bactrocera invadens</i> invasion issue The shipping route from Ghana to Europe is shorter than it is from South America to Europe translating into lower cost of exports Important investments have been made in the development of mango plantings Cold stores and pack houses have been built over the years to support the pineapple export industry, benefiting the mango value chain Measures against anthracnose and stone weevil are showing signs of success (to be verified) 	<ul style="list-style-type: none"> Farmer organizations seem to have been disorganized since the closure of TIPCEE with regards to mango production / post-harvest technical assistance Actors have partial knowledge of production potential, available varieties, post-harvest practices Actors have partial knowledge of market access requirements, demand trends and international competition Poor post-harvest practices in the area of fruit handling, transportation, among others lower the quality of fruits produced as well as contributing to post harvest losses Difficulty of operators to maintain GLOBALGAP certification due to the associated costs Challenges in supplying excess production to mango processors Mango exporters have difficulties obtaining resources to finance export seasons due to the absence of collaterals and others reasons Pesticide treatments and application methods are not made adequately – still a long way for effective integrated plant protection approach Exporting to ECOWAS countries despite the ETLs due to as some custom officers ignore the protocol setting up the ETLs. The harvest and export season is short in Southern Ghana because of the high presence of the Keitt Variety (close to 90%) variety (close to 90%)
Opportunities	Threats
<ul style="list-style-type: none"> EU mango imports are still growing, however supplies are dominated by Brazil and Peru – and West Africa as a whole exports on average 30,000 tons per year. Opportunities for organic mangoes should benefit operators like ITFC near Tamale Mango and fruit processors in Ghana (Sunripe, Ebenut and Blueskies) are always on the lookout of mangoes for processing purposes Urban consumers in West Africa are becoming richer and more conscious of healthy living : Accra represent an immediate opportunity compared to foreign markets. Despite the Middle East being a new opportunity due to an important mango market (UAE and Saudi Arabia represent together about 130 000 – 150 000 MT), most of the product is supplied by Pakistan and India, leaving little room for Ghana due mainly to geographical distance. However, the direct flight between Accra and Dubai can possibly offer a niche market for superior air freighted mangoes. 	<ul style="list-style-type: none"> Farmer organizations seem to be struggling in supplying quality and quantity to market intermediaries which is penalizing the country's capacity to cater foreign markets Various diseases (anthracnose, powdery mildew, alternaria, stem-end rot) and pests (fruit fly, mealybug, termites, mango bugs, etc.) are major concerns and have a direct economic impact on the various operators, despite some success in controlling diseases Power: distribution network is clearly improving but on-farm power supplies are still reported to be difficult and expensive.

⁴¹ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

2.7 SWOT analysis for the mango juice value chain

Strengths	Weaknesses
<ul style="list-style-type: none"> Compared to other ECOWAS countries, Ghana has an interesting number of processors that use mangoes in their operations PET bottles are manufactured by some of the companies Managerial competence Relatively important warehousing capacities Easy access to markets and production bases 	<ul style="list-style-type: none"> Processing capacities not fully utilized Irregular supply of mangoes Reliability and cost of energy High maintenance costs associated with companies with excess capacities Accessing other parts of the local market is a challenge due to poor road infrastructure and high transportation costs Financial resource mobilization challenges including high cost of finance Expensive preforms are imported from outside the sub-region
Opportunities	Threats
<ul style="list-style-type: none"> Increasing demand in local and sub-regional markets Duty free access to the sub-regional market if ETLs is obtained New and improved mango orchards coming up to somewhat palliate the supply base challenges Growing incomes and middle class in Ghana. 	<ul style="list-style-type: none"> Strict requirements and certification costs from the EU is likely to exclude unprepared operators. Stiff competition from countries like the Netherlands, USA, Germany and Thailand that are leaders and have competitive advantage because of economies of scale has eroded Ghana's position in the global market.

3.6 SWOT analysis of dried mango chain

Strength	Weakness
<ul style="list-style-type: none"> Growing demand both international and local but there is room for expansion Availability of certified fresh mangoes Credibility of the few actors in the industry Market diversification efforts by TPOs Interventions in the mango sector by credible and strong establishments such as EDIF 	<ul style="list-style-type: none"> High operational costs High cost of capital Landed property needed as collateral to be able to secure loans for expansion in the business. Identification of leads and follow-ups with potential buyers Difficulties to meet market requirements Misunderstanding of end-market tastes and likes.
Opportunities	Threats
<ul style="list-style-type: none"> Increasing demand in the global market and in the local market as well Opportunities to export to the sub-region. 	<ul style="list-style-type: none"> Stiff competition from other countries such as Thailand and India could pull down prices. Again given the level of development of Brazil in mangoes, they are likely to pose as serious threats anytime they make entry in the dry mango segment of the chain. Competing substitutes such as dried pineapple, banana etc.

⁴² http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

Mango Juice Environmental Protection Agency of Ghana

Since processed mango leaves in its trail residues and discardable sections, the EPA regularly undertakes visitations to enterprises in the mango processing enclave as well as other business concerns in other sectors to check on the effect of their operations on the environment. Corrective measures are taken if discoveries in the area of chemical residues detrimental to the soil are observed. The EPA is the leading public body for protecting and improving the environment in Ghana. It ensures that the right chemical is applied on the soil so as to prevent environmental degradation. Farm input sellers therefore need certification from EPA before they can start operation.⁴³

MAIN CONSTRAINTS AFFECTING THE MANGO SECTOR IN GHANA

Market access issues

- ☒ _Meeting SPS requirements in the destination markets
- ☒ _Inability of operators to identify tastes and preferences of consumers
- ☒ _Management capacities (access to info, understanding and identifying opportunities)
- ☒ _Ability to supply Ghanaian and regional markets (transportation, demand assessment)
- ☒ _Meeting export orders (specifications, quantity, time)

Logistics and infrastructures

- ☒ _Road conditions between production zones, pack houses, markets
- ☒ _Cold chain facilities (storage availability, refrigerated trucks)
- ☒ _Freight cost due to low volumes

Production

- ☒ _Cost of inputs (fertilizers, irrigation material, packaging)
- ☒ _Harvesting practices
- ☒ _Land tenure (acquisition, extension)
- ☒ _Pest and disease management
- ☒ _Financing (collaterals, business plan, etc.)
- ☒ _Packaging quality and availability

Processed mango products

- ☒ _Mango supplies availability and quality
- ☒ _Cost of imported packaging
- ☒ _Access to regional markets (ETLS)
- ☒ _NAFDAC requirements in Nigeria
- ☒ _Energy supply cost and consistency
- ☒ _Availability of market intelligence
- ☒ _Knowledge of good processing practices
- ☒ _Understanding of processors needs by mango suppliers
- ☒ _Inadapted distribution network (best distribution practices ex. FANMILK Ghana)⁴⁴

⁴³ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

⁴⁴ http://www.intracen.org/uploadedFiles/intracenorg/Content/About_ITC/Where_are_we_working/Multi-country_programmes/Pact_II/National%20mango%20study%20-%20Ghana.pdf

Technoserve Ghana: <http://www.technoserve.org/our-work/where-we-work/country/ghana>
Supposedly works on supporting the mango industry regarding quality and yield