

# Market survey of plant based-fragrances in Grenada

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## 1 Abstract

Grenada has an established essential oil industry. While nutmeg is the main oil produced in the island, cottage industries are now experimenting with mace, bay, grapefruit and lemongrass. Entrepreneurs are mainly focused on the medicinal qualities of nutmeg oil; and the broad cosmo-ceutical industry. Grenada has a thriving tourist industry that is an evident market niche for essential oils or products containing essential oils. Some of the local cottage industries are already filling the tourist demand by manufacturing candles, insecticides, incense, jam and preserves, soaps, etc. These cottage industries could benefit from having more local oils to choose from. The preferences and trends of consumers indicate that spices and tropical scents are favoured by locals and tourists alike. Other preferences include essential oils that help prevent and combat a range of diseases. In sum, Grenada has an industrial base that could support the production of goods that are or contain essential oils; and a strong trade connection with other Caribbean islands.

## 2 Introduction

In January 2003, William Hawthorne, researcher at the Plant Sciences Department, Oxford University, submitted the 'Scents for Conservation and rural livelihoods' proposal to the Forestry Research Programme. The project aims to investigate the essential oils potential from tropical forests in Ghana and Grenada by carrying out a 'scratch, chew sniff survey' – that may help find new local essential oils – combined with ecological, socio-economic and chemical surveys to help quantify the potential for producing such oils. (Hawthorne, 2002). The rationale is to find a new NTFP that can be produced in remote rural villages using appropriate technologies; this in turn will help the conservation of rainforest biodiversity.

FRP suggested that market survey should be carried out not as part of the project but rather as a tentative first step, before they would agree to fund 'Scents for conservation'. The main objective of this preliminary market survey was to define the existing and potential market for the established plant-based oil and new essential oils that are expected as an output of the 'Scents for Conservation' proposal. This clearer definition includes, in the current report:

- A description of the current market in Grenada for the target products;
- A quantification of the essential oil ingredients in target products, specifying origin and type (synthetic or natural);
- A description of the socio-economic characteristics of the consumers;
- The identification of opportunities and potential niche markets for new essential oils;

While the focus of the survey was on finding the local market for a set of target products, listed in 'Schedule 1', the local use of plant-based essential oils was also observed closely.

The report is divided into three sections. Initially, the characteristics of the product are defined; this is followed by an overview of the global trade of essential oils. The third

section illustrates the macroeconomic context of Grenada, and the domestic market for essential oils there including: history and size of the natural product's market, supply and demand of plant based fragrances, market chains, willingness to pay. The last section analyses the potential niche markets, challenges and opportunities for novel oils, including the potential scenarios if it were to be introduced into the domestic fragrance market.

### **3 Methodology**

The starting point was a literature review and a series of meetings with UK based academics, businessmen, consultants and professionals with an interest in NTFP, essential oils, and markets in our target countries; including a visit to Quest International, one of the top five global flavour and fragrance companies in the world. The list of interviewees can be found in Appendix 1. Quest's fragrance classes were used as the main criteria to subdivide the types of industries that use essential oils. Please refer to Table 2 for more details.

The second stage of the research focused on interviewing the main participants within the fragrance and flavour industry in the target countries, as well as local users of essential oils. In both cases, the use of the snowball technique proved useful: officials from the Ministries of Trade and Forestry provided the names of the most important firms who, in turn, gave us the names of their three main competitors and so on. It was not possible to find previous market research papers or even relevant industry directories.

In the case of Grenada, the research focused on the existing essential oil industry, namely the producers of nutmeg, mace & cosmo-ceutical oils, cottage industries, retailers and service providers. In order to find out the socio-economic status of consumers, visits were paid to upper end hotels, Spas, and retailers. This phase of the research was conducted through questionnaires, and one-to-one interviews when necessary.

#### **3.1 Limitations**

The limitations of the report are varied:

- Fragrance formulas used in some of the target products are secret so it was impossible to quantify the ingredients in the target products; for example '*Pantene pro v*' has a particular fragrance that differentiates it from other types of shampoo; the likelihood that a firm would disclose the components within this fragrance's formula is very low.
- A very important limitation is the inaccurate classification of essential oils within national trade statistics. Sometimes, formulas of fragrances are imported, and the essential oils that they contain are not quantified separately. Due to this inaccuracy, it is harder to evaluate the contribution of the industry to the national economy, etc.
- Due to time limitations the core of the research was focused on the fragrance industry, deeper research into the beverages, food and flavour industries is strongly recommended.

## 4 Characteristics of the plant-based essential oils

### 4.1 Definition

The scented chemicals, and therefore the fragrances, of most aromatic plants are due to a class of volatile oils known generally as essential oils. They can also be called aromatic (or volatile) oils, and can be extracted from the plants by a lengthy distillation of plant leaves, flowers, seeds, bark, roots, and fruits. Essential oils are obtained from wild or cultivated plants or are synthesised from other raw materials, for instance as by-products of other chemical industries. A volatile oil is the steam volatile component of any aromatic material. (interviewee 24). Essential oils are potent (e.g. strong-smelling) and therefore are generally diluted with other, often less aromatic oils before use. They are extracted commonly from over 3,000 plants, out of which 300 are heavily traded on the world market (Iqbal, 1993, interviewee 1).

Table 1: Application of essential oils

Industry	Application
Fragrances	Combined with other ingredients or sold on their own to make potpourri, cosmetics, Aromatherapy oils, fragrances, perfumes, toiletries, industrial cleaners..
Flavours	flavouring of raw, uncooked and cooked foods and beverages
Cosmo-ceutical	Cosmetic products with a functional action: e.g. dietary supplement
Complementary medicine	Oils that have an added medicinal value that helps alleviate pain.
Industrial use	Bactereocides*
Other uses	Insect repellents, medicinal, etc.

\* Such as tea tree oil, used in air conditioning to prevent legionella.

Perfumers use a combination of plant-based, synthetic or semi-synthetic oils in the preparation of their mostly secret formulas. The use of an essential oil depends largely on the other components the fragrance may be mixed with in order to create an end product. The potential use of an essential oil is narrowed down as products become more 'aggressive'. A table detailing perfumer's criteria follows:

Table 2: Quest's classification system: end use of the essential oils

Product	Approximate proportion of essential oils which can be used for this type of product
High class toiletries	100%
Personal care products (e.g. shampoos) & Highly functional & household products (e.g. a three in one shampoo or dishwashing liquid)	60%
Aggressive cleaning (bleaches/ bathroom cleaning products)	5%

#### 4.1.2 Industrial interest in any new essential oil

There are limitations to the long-term interest of a new essential oil by worldwide fragrance companies such as Quest, Firmenich, Lucy, IFF, etc.;

- The synthetics industry can replicate, pretty accurately, almost any new scent after maybe a few months' or years' research
- Other limitations include uncertainty in supply and price stability of plant-based fragrances. (Interviewees 1 & 2)

If a worldwide company were to agree on the use of a novel plant-based essential oil they would ask for a guaranteed supply at least three years. They would probably also demand one or more of the following characteristics:

- a) The new essential oil resembles another smell and but can be bought at a cheaper price (or perhaps the other oil is in short supply);
- b) Chemistry: The new fragrance has the same scent as another essential oil, but has a different chemical composition which may be suitable for different products;
- c) The new scent is truly unusual and interesting, and the company can predict broad appeal
- d) Or the new oil is from a greener source.

#### 4.1.3 Manufacture methods

Natural Essential oils are extracted in four different ways, depending on the quality of the oil that is present in the raw material and the stability of the aromatic components. The methods of extraction are:

- Hydro or water distillation;
- Water and steam distillation;
- Direct steam distillation;
- Solvent extraction;
- Direct extraction.

## **5 World market**

### **5.1 Essential oils trade classification under the harmonized commodity code system**

The harmonized commodity code system is an international six-digit commodity classification developed to facilitate the analysis of world trade. Import and export figures for essential oils can be found under Chapter 33: *Essential Oils and Resinoids; Perfumery, Cosmetics or Toilet Preparations*. Of the VI section of the code: *Products of the Chemical or Allied Industries*.

### **5.2 Global natural products market**

According to the Chemical and Engineering news, the industry forecast for the world market of flavour and fragrance sector is expected to top USD\$ 18.4 billions in 2004. It has been reported that a trend within this industry is the 'growth in natural care and cosmetics markets (which) is global with Asian, Latin American, European, Australian, US and other consumers seeking out therapeutic and natural products' (Kate & Laird, 1999, pp 264). Another prediction is that the demand for essential oils and natural extracts will keep growing and may surpass the demand for synthetic aroma chemicals over the next years. (Chemical and Engineering news, 2002).

## **6. International regulatory framework**

There are a series of international bodies that set standards to monitor the quality and trade of essential oils. A widely recognized body is the International Organization for Standards (ISO). Trade associations include the International Federation of Essential Oils and Aroma Traders (IFEAT), an international association that monitors the toxicity and safety of compounds in raw materials. The Flavour and Extract Manufacturers Association in the US is also a widely recognized body. (Iqbal, M., 1993)

### **6.1 Legislation for new essential oils**

Introducing a new essential oil into the international market would require compliance with a set of toxicity and health and safety tests within the EU and the US. New essential oils to be used in Europe would need to be registered in the European List of New Chemical Substances (ELINCS), (interwee22). In the US, it would have to comply with The Toxic Substances Control Act (TSCA) act of 1976, that 'authorizes the Environmental Protection Agency to secure information on all new and existing chemical substances and to control any of these substances determined to cause an unreasonable risk to public health or the environment' (EPA, 1990). The prices of safety tests for a new essential oil can vary from USD \$500,000 for use in the Flavour industry to \$1,000,000 for use within the Fragrance industry. (Interviewees: 2 & 22). See Appendix 4 for more information on EU Directives for new essential oils.



## **6.2 Convention on Biological Diversity**

The CBD was one of the key agreements adopted following Rio 1992. It has three main goals: 'the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits from the use of genetic resources' (CBD, 1992).

Article 15.1 addresses access to Genetic Resources, recognizing 'the sovereign rights of States over their natural resources, the authority to determine access to genetic resources rests with the national governments and is subject to national legislation' (CBD, 1992). National governments have drawn from the convention by drafting national Bills for the protection of plant varieties that are aimed at establishing clear property rights for the use of local flora & fauna. Research undertaken within the field of new essential oils would therefore necessarily have to comply with national regulations and policy processes. In the case of Grenada, the national regulatory framework for the use of genetic resources has not been drafted because the post of government draftsman has been vacant for the last year and a half due to lack of financial resources (interviewee 25).

## **7 Country profile: Grenada**

### **7.1 Context**

Grenada and its sister islands, Petit Martinique and Carricou, are the most southerly of the Windward Islands. It is located about 100 miles from the Venezuelan coast and occupies an area of 133 sq miles. Grenada is an independent constitutional monarchy with a British style parliament. The estimated population in 2003 is 89,258, with a growth rate of 1.5% and a life expectancy of 72 years. Grenada's capital city is St. George's; other major centres include Grenville, Sauteurs, Gouyabe and Grand Anse (a beach and hotel area near St. George's). The official language is English, the island's literacy rate is 98% and approximately 94% of the population have access to a clean water source.

The World Bank has classified Grenada as an upper Middle Income country –with an estimated GDP of US\$424 million in 2001 and an average per capita income of \$4,750. Their currency is the east caribbean dollar (ECD).

Grenada's agricultural sector contributed an estimated 8.2% of the GDP in 2001 followed by the industrial sector with a reported 23.2%. In that year, the services industry made the highest contribution with a reported 68.6%. The main industries are: food and beverages, textiles, light assembly operations, tourism and construction. Principal agricultural products are: bananas, cocoa, nutmeg, mace, citrus, avocados, root crops, sugarcane, etc. (WB, 2001).

Grenada's exports amounted to \$64 million in 2001, among the main commodities were: bananas, cocoa, nutmeg, fruit and vegetables, clothing and mace. Grenada is the second largest exporter of nutmeg, after Indonesia.

In the same year, the imports amounted to \$196 million; the principal imported goods were food, fuel and energy, manufactured goods, machinery and chemicals. The islands' major trading partners are the Caricom, UK, U.S., Netherlands and Japan.

## 8. Characteristics of the Market

Visits to Government Ministries led to the Grenada Cooperative Nutmeg Association, Noel ville and Arawak Islands, the main producers and retailers of essential oils respectively. Most of the information in this section was gathered through oral accounts as there are no directories or previous market surveys of plant based essential oils *per se*. (For analysis of the market opportunities of the components within nutmegs, please refer to Daniel, 1994, (a bit outdated))

### 8.1 Supply

Nutmegs are a significant aspect of Grenadine culture, economy and way of life. As mentioned before, it is the second biggest nutmeg producer worldwide, with a share of 23% the market. Indonesia is by far the leader, with a reported 73%. Traditionally, the main markets for grenadine nutmeg have been Holland, Germany, UK, Belgium, Canada, Poland, Spain and Argentina. It is thought that some of these countries, like Holland, re-export the nutmeg. Estimates show that one in three grenadines depend on the nutmeg trade. The price slowdown of raw nutmeg in the late 80's led to attempts to an expansion of the industry. This was the beginning of the essential oil industry, and the sales of a 'processed nutmegs' i.e. nutmegs that are broken into large pieces, cleaned and packaged for export (Daniel, 1994).

### 8.2 Nutmeg & Mace

The Grenada Cooperative Nutmeg Association (GCNA) is a network of 10,000 (7000 active) farmers established in 1947. This institution is by far the most important farmer organization in the island. It has 16 receiving stations and three processing stations where nuts are collected, graded and purchased from farmers (GCNA, 1999). GCNA's distillation plant was established in 1994 and is situated in Sateurs, North west of the island.

GCNA produces an average of 20 tonnes of nutmeg essential oil per year, and has the capacity of producing 10 tonnes of mace oil, a fragrance that is still at testing and promotion stage. The distillery is a 24-hour industry, which at full capacity could generate an output of approximately 40 tonnes of oil per year (interviewee 24). GCNA has an essential oils advisor who is helping produce their oils following high quality standards. The Government Produce Laboratory has a Gas Chromatograph<sup>ii</sup> which can be used to monitor components in the oils.

Approximately 98% of GCNA's nutmeg essential oil is exported, mostly to Europe, a market that demands low levels of *myristicin* (one of the main ingredients in the coca-cola, the beverage produced by the US company, who in turn requires high levels of this component). Although nutmegs are processed with the unconventional steam distillation, the stills can be reconditioned to distil other essential oils.

#### 8.2.1 Cosmo-ceuticals

A well-known product in Grenada is Mr. Bowen's 'Nutmeg oil'. Mr. Bowen has been producing essential oils since the 70's; most of his research has focused on improving a formula aimed at fighting: arthritis, colds, high cholesterol levels, and diabetes (a common Grenadine disease). Mr Bowen claims that Nutmeg helps maintain sugar levels at a stable level, it also functions as an antioxidant and anticoagulant. Last but not least,

Nutmeg can also be used as an aphrodisiac, as it helps improve blood flow. Mr Bowen sells approximately 4000 units per year; each unit contains 50 milligrams of undiluted essential oil. He is currently looking at expanding into the Canadian market<sup>iii</sup>.

Noel ville Limited is a growing company founded in the year 2000 whose main product is Nut Med. The company is managed by Dennis Noel, former junior minister of Agriculture and horticulturalist. Nut med is a medicinal essential oil, aimed at alleviating pain caused by arthritis, it had a turnover of USD \$462,962 during the period of 2000-2003. It is sold in both national and international markets: the Caribbean, North America and Europe (via mail order). Future plans include retailing it off-the-shelf in the above countries. Mr. Noel is also experimenting with Lemongrass, bay leaf and grapefruit oils (Appendix 6). Finally, Dr. Marcel, a chemist working for the government, mentioned that he is interested in finding a new essential oil, he will probably pursue the idea in the future.

### **8.3 Demand**

Arawak Islands Islands, founded in 1985, is a key natural products small cottage industry. The workshop has 11 employees and is based in St. Georges; where products such as: incense, insect repellent, candles, soaps, essential oils, jams, preserves and perfumes, etc. are manufactured and retailed. Earlier on, Arawack Islands catered for the local perfume demand, and developed innovative packaging and marketing. Nowadays, they have diversified produce and their workshop/retail outlet has become a classic tourist attraction (interviewees 26 & 33).

Approximately 90% of the essential oils they use in their produce are imported, the rest is bought from GCNA. Last year, they imported a volume of approximately 400 kgs, with a value of US\$8,940. Their primary fragrances include: almond, aloe, cedar wood, nutmeg, lemon, citronella, camomile, cinnamon, clove, penny royal, mint, vanilla, orange, eucalyptus, and bay. Their products are sold in Grenada, St. Lucia, Nevis, and St. Martin; the company is planning to expand into other international markets (See appendix 5 for detailed information).

Grenada's vibrant tourist industry attracted 271,394 visitors in 2002. Tourists are mainly from the USA, Canada, UK, Germany, Caricom, and other European countries or are Grenadines residing abroad; in total visitors spent up to US\$173,509,657 in 2002 (MOT, 2003). Grenada's main tourist attractions are its sandy beaches and top end resorts.

La Source is an all-inclusive resort that has branded itself as a 'health centre'; it has the highest demand of essential oils in the industry, and uses mainly three formulas:

- Relaxing: Mixture of lavender, tangerine and majoran;
- Energy: a mix of bergamot, rosemary and peppermint;
- Muscle relief: Rosemary, juniper berry, lavender and eucalyptus;
- Sensuality: Ylang ylang, vetiver, patchouli.

La Source spends approximately US\$6,000 a year on essential oils, which are 100% plant-based. The majority of their clientele is from the UK, France, Italy and Germany. They are aged between 20 and 50 years and are predominantly female. Hotels with smaller spas include: Spice Islands who spends approximately US\$900 per year on plant based fragrances, and The Rex hotel, who has an external masseur (interviewees 27 & 28).

Other essential oils users include, Francis-Francis, a small scale soaps producer, and free-lance masseur.

### 8.3.1 Quality control

In terms of quality standards, monitoring and evaluation, most companies use their own certification systems. GCNA reported that they are certified as organic producers. Mr. Noel mentioned that he is in the process of developing a product that complies with the US's FDA standards.

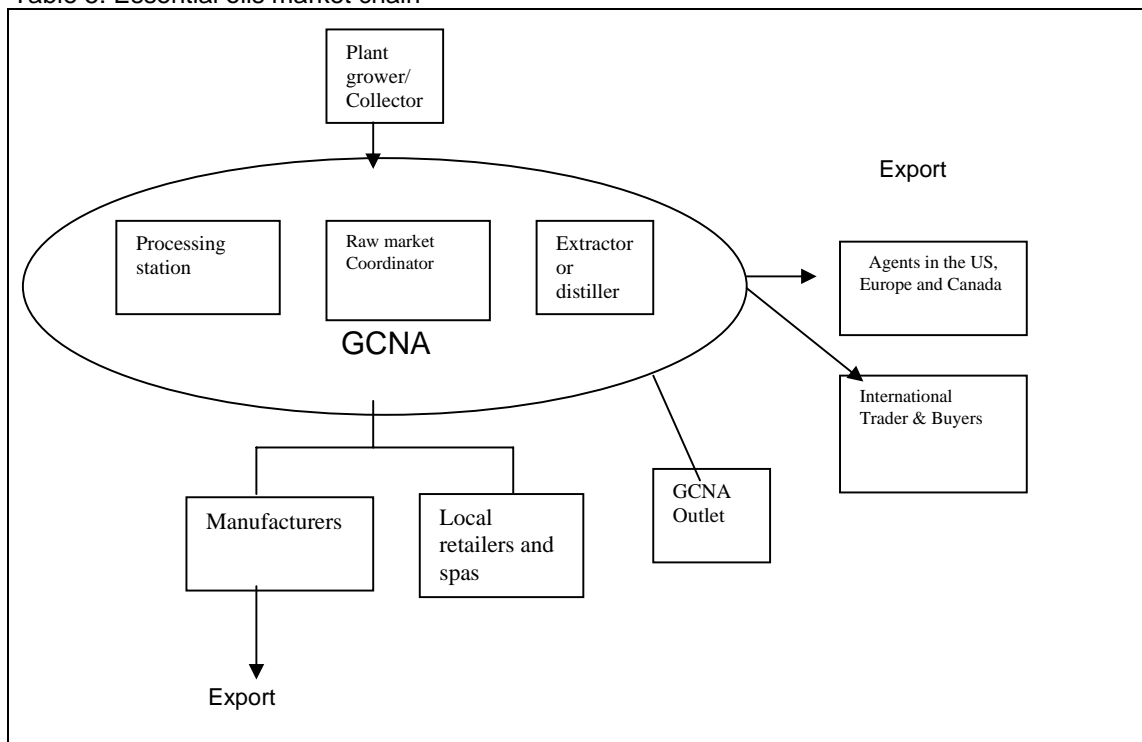
### 8.4 Market chain

The market chain of fragrances that are produced in Grenada is quite simple. GCNA is by far, the biggest producer of plant based fragrances in the islands; and can be used as an illustrative example.

Small and large groups of farmers take the collected nutmegs to the nearest processing stations, where the quality of the raw material is determined (there are first, second and third classes of nutmeg and mace). The processing stations also function as drying and storage areas for nutmeg and mace that will later on be packaged and sold, processed, or distilled.

Goods may be either exported through a local trader<sup>iv</sup> (who liases with an international representative) or distributed to local shops; GCNA also has a series of outlets and 'hospitality centres' where they sell directly to end-users -usually tourists who stop by as part of a tour (interviewee 24). Below is a table that illustrates GCNA's supply chain:

Table 5: Essential oils market chain



### **8.5 Prices**

Arawak Islands' perfume industry was originally focused on the cheap perfume domestic market, however, nowadays the major buyers of scented essential oils are tourists, who spend, on average, USD \$640 during their visit to Grenada (2002 data). The price of a bottle of cosmo-ceutical oil ranges from USD \$13 to US\$5 for Nut Med, and can be used as an indicator of willingness to pay for cosmo-ceutical essential oils. Please refer to Appendixes 5 and 6 for more details on prices of products.

### **8.6 Socio economic characteristics of consumers**

As mentioned earlier, most consumers of scented plant based essential oils are tourists. Their socio economic characteristics are described in section 8.2. Unfortunately, none of the companies that were visited had further papers on the socio-economic characteristics of their consumers. For official tourism figures please refer to Appendix 7.

### **8.7 Essential oils: origin and volume of trade**

A list of the main products sold in the domestic market follows, specifying the origin of the fragrances that are found in them

Table 6: Trade of essential

Company	PC	HF & H	Foodstuff	Other	Name	Origin of essential oils within the product
Arawak Islands Islands	X				Soaps,	Imported & GCNA
		X			Perfumes, essential oils for massage, potpourris etc.	
			X		Conserves, chutney, jam, etc.	
				X	Insect repellent, incense, candles	
GCNA			X	I	Jam, conserve, etc.	-----
				X	Essential oils	-----
Mr Bowen's Nutmeg Oil				X	Cosmo-ceutical oil	Grenada
Noel ville Ltd.				X	Cosmo-ceutical oil	Grenada

PC: Personal care, HF & H: Highly functional and household, AC: Aggressive cleaning

### 8.7.1 Official trade figures

Grenada's total trade of HCC 33: Essential Oils and Resinoids; Perfumery, Cosmetics or Toilet Preparations is detailed below; figures indicate that during the period of 2000-2001 there was a negative balance of trade, due to excess in imports as compared to exports. However, there is a constant recovery as shown in table 7:

Table 7: Grenada's HCC 33 Balance of trade

Year	Total exports	Total imports USD	Balance
2000	456,605	1,787,322	-1,330,717
2001	939,812	1,764,842	-847,510
2002	2,619,458	1,900,625	718,833

Source: Ministry of Trade: Statistics Department, 2003

The below tables show trade of the essential oils specified under the chapter 33 of the HCC for the period of 1999-2001. The lack of a detailed classification system make it really hard to quantify the products that fall under the 'other essential oils', 'mixtures' and 'preparations' categories, or that may be contained within a finished product. A comprehensive list can be found attached to this report (Appendix 2).

Table 8: Detailed HCC33: import of pure essential oils

Import HCC	Name	2000		2001		2002		Total USD
		Netmas (Kg)	Value USD	Netma (Kg)	Value USD	Netmas (Kg)	Value USD	
3301130000	Essential oils of lemon	65	1437					
3301240000	Essential oils of peppermint	63	687	8	264			
3301190000	Essential oils of citrus fruit	50	250	180	671	15	90	
3301120000	Essential oils of orange	86	269			1	3	
3301250000	Essential oils of mint	1,134	440					
3301140000	Essential oils of lime					21	114	
3301110000	Essential oils of bergamot	1	65	6	76	1	5	
3301230000	Essential oils of lavender or lavandin	54	774	50	255	31	673	
330121000	Essential oils of geranium	70	26	2	3	161	2596	
3301291000	Essential oils of bay	9	599	984	1155	15	897	
33012920	Essential oils of clove	3	145	6	22	39	14	
33012940	Essential oils of nutmeg	52	841	7	247	1	3	
33012950	Essential oils of patchouli	2	55			1	6	
33012200	Essential oils of jasmin	1	1			1	6	
3301293000	Essential oils of ginger					1	4	
<b>Total value USD</b>			<b>5,589</b>		<b>2,693</b>		<b>4,406</b>	<b>12,688</b>

Source: Ministry of Trade: Statistics Department, 2003

Table 8: Detailed HCC33: export of pure essential oils

Exports HCC	Name	2000		2001		2002		Total USD
		Net Kg	Value USD	Net Kg	Value USD	Net Kg	Value USD	
3301294000	Essential oils of nutmeg	10068	453427	21474	784005	71790	2616234	
3301250000	Essential oils of other mints			1050	38157			
3301291000	Other essential oils of citronella			1050	38680			
<b>Total value USD</b>			<b>453,427</b>		<b>860,842</b>		<b>2,616,234</b>	<b>3,930,503</b>

Source: Ministry of Trade: Statistics Department, 2003

The comparison of both tables shows that there is a robust nutmeg essential oil industry, but there is demand for a wide variety of oils that are currently imported, and thus could be substituted.

## 8.7.2 Trends

Most interviewees seemed to agree that the trends in essential oils are on spicy smells; they remarked that tourists were particularly interested in Grenadine scents, and would probably be disappointed if they knew that most oils are imported. There is also an interest in finding scents that remind people of the island 'we would be interested in a new essential oil that could capture the smell of the island'; Ms. Gattens, La Source's SPA manager remarked during the interview.

## 9 Analysis of opportunities

### 9.1 Niche markets

While Grenada has a well-established essential oils industry, there is lack of availability of local essential oils that could satisfy the demand of small cottage industries, Spas and masseurs. This could potentially be fulfilled by a new scent or by local production of well known scents.

There could be potential to develop a revolutionary scent; experiments are being carried out with mace, lemongrass, bay and grapefruit; there is an established supply and demand of oils that could potentially use and trade a new scent. Like Ghana, Grenada could benefit from a '*truly grenadine*' essential oil, to complement the existing personal care, high-class fragrance and foodstuff industries, which are sold in the national and regional markets. The Mexican government has a scheme, 'From Mexico to the world' that aims at branding and promoting non-traditional agricultural products (Schreckenber, 2003).

Also in this case, a third cause for some hope for the future is an exportable Grenadine fragrance produced by GCNA's rural network, that appeals to the growing fair trade and 'green' markets. Examples of such products are fair trade coffee, chocolate, FSC certified products, Australian tea tree oil, etc.

### 9.2 Scenarios

Table 9: Mid term scenarios if: *A New essential is discovered and introduced into the domestic market*

#### 9.2.1 GCNA-related scenario

Scenarios		
Best	Mid	Worse
<p>GCNA recommends the production of new scent to their rural network.</p> <p>The essential oil is distilled in rural areas.</p> <p>Local entrepreneurs analyse cosmocetical properties of the new essential oil.</p>	<p>The new essential oil is processed and distilled at GCNA's distillation plant. The quality is improved with time by their in the house essential oils specialist using existing technology.</p>	<p>Business as usual.</p>



A positive scenario for an essential oils entrepreneur interested in rural development would be developing a project in partnership with GCNA; a network that is already producing certified essential oil. The fact that GCNA has an essential oils specialist indicates that the network is committed to research and development (as is the case with mace oil). If a new oil were found, perhaps GCNA would be interested in participating in both R&D and commercialisation. If this were the case, it would be possible to access the fair-trade and green markets relatively easier. It is important to point out that GCNA already has international distributors and links with traders (interviewee 24).

### 9.2.2 Arawak Islands scenario

Scenarios		
Best	Mid	Worse
<p>Arawak Islands substitutes the imported essential oils with locally produced fragrances.</p> <p>They use their branding and marketing experience to promote a new grenadine product. The new product could be sold in their outlet, and in other Caribbean countries.</p>	<p>Arawak Islands substitutes the imported essential oils with locally produced fragrances.</p>	<p>Business as usual.</p>

Arawak Islands is currently looking into expanding their range of products; and would be interested in sourcing essential oils from Grenada (interviewee26). They are an established institution that has innovated in the natural products sector. Arawak Island's strengths are their hand made packaging and attractive branding. A partnership with Arawak Islands would be a reasonable move if there is an intention to develop a 'truly grenadine' product.

### 9.2.3 Cosmo-ceutical entrepreneurs

Scenarios		
Best	Mid	Worse
<p>Cosmo-ceutical entrepreneurs test some of the medicinal qualities of the new scent.</p>	<p>Cosmo-ceutical entrepreneurs adopt the new essential oil.</p>	<p>Business as usual.</p>

The cosmo-ceutical industry is particularly attractive to local people; an alliance with them would guarantee a share of the domestic market. On the other hand, entrepreneurs could test and develop additional medicinal qualities of new essential oils.

## 10 Conclusions and further research

This investigation aimed at describing the market for plant based essential oils from Grenada. Results show that the Grenada has a healthy essential oils industry that has benefited from nutmeg trade. Grenada has the machinery, equipment and know-how to develop a new fragrance. The balance of trade shows that the import of essential oils has declined in the last three years, while the exports of nutmeg oil has fluctuated. GCNA, an organized rural network, would be up to the task of providing raw materials, and even doing research and development of new essential oils.

The import of a wide range of pure essential oils is also an indicator that there is a manufacturing and services industry with a demand for a variety of essential oils. This demand could be substituted. Most interviewees expressed an interest on new scents.

Further research could focus on product development and markets for the food and flavours industries. It is also important to highlight that the last study for uses of essential oils in Grenada was carried out in 1994; and the last survey for uses of NTFPs was done in 1983 (Interviewee: 30). As both are outdated there is a need for further research on uses and production of grenadine NTFPs.

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**Web resources:**

US Environmental Protection Agency (EPA) <http://www.epa.gov/oar/caa/contents.html>

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<sup>i</sup> Harmonized Commodity Code System

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The Harmonized System is an international six-digit commodity classification developed under the auspices of the Customs Cooperation Council. Individual countries have extended it to ten digits for customs purposes, and to 8 digits for export purposes.

In the Harmonized System goods are classified by what they are, and not according to their stage of fabrication, their use, or origin. The Harmonized System nomenclature is logically structured by economic activity or component material (1995, Werner Antweiler)

<sup>ii</sup> Gas chromatography computers are used to trace the quality and quantity of components within essential oils.

<sup>iii</sup> Mr Bowen's email is [anibowen@caribsurf.com](mailto:anibowen@caribsurf.com) ☺

<sup>iv</sup> Certain fragrance companies have their own plantations, and supervise the quality of ingredients from begging to end (i.e. Biolandes).

## **Appendix 1: Schedule 1**

### **Proposed market survey of plant-based fragrances in Ghana and Grenada**

#### **Rationale**

A research proposal 'Scents for Conservation' was submitted to FRP in 2003. 'Scents for Conservation' would promote and monitor the production by rural poor of novel (i.e. never-before extracted, let alone studied) fragrances in essential oils from the rain forests of Ghana and Grenada. 'Scents for conservation' proposes to investigate the ecological, chemical and economic feasibility. If successful, the project would point the way to a major new sustainable rural livelihood initiatives for the two target countries, with implications and lessons for many other tropical countries, linked also to biodiversity conservation benefits.

FRP are concerned that however successful the project is at discovering, extracting and analysing new and interesting fragrances, it would all be a waste of time and money if there is no market for such oils. They have therefore requested a market survey.

The current document is a proposal that Anna Karp organises and conducts a market survey for FRP, consulting with stakeholders in UK, Ghana and Grenada and using published sources.

The general aim behind the proposed market study is therefore to define the existing and potential market niche for the types of usual/commercial essential oils and novel oils expected as an output of the 'Scents for Conservation' proposal.

#### **Aims**

We will be investigating the market, from a quantitative perspective, of various types of commercial cleaning, cosmetic, personal grooming and other aromatic products that incorporate synthetic and natural fragrance chemicals in Ghana and Grenada.

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Our **Target products** are as follows

Personal care

Soap and shampoos, cosmetics, body oils and lotions, perfumes, aromatic insect repellents.

Household and commercial cleaning

Detergents, scented candles, pesticides that use essential oils.

Foodstuffs

Packaged or home made drinks and food that contains aromatic oils, for humans or farm animals.

**Agricultural**

Pesticides or farm insect repellents that use essential oils.

**Industrial**

Any aromatic products used in factories.

**Other uses**

E.g. local medical preparations and unforeseen products.

***The aims of the market survey directed at these products are:***

- Describe the current market in Ghana and Grenada for our target products; Market chains and how much of each product is traded at the moment; number of manufacturers and re-processors and their distillation capacity; number of retailers, specifying the types of products that they retail; quality standards and monitoring that apply to this market; significance of the market to the national economies.
- Quantify the essential oil ingredients in the target products, specifying origin and type (synthetic or natural); Including fixatives, stabilisers, surfactants and any other ingredients used in the target products.
- Define the socio-economic characteristics of the consumers; Including: ethnicity, age, gender, residence status (tourist/local); urban/rural. This will be quantitative data from manufacturers and market research data, where available; and where no such data are available, by interviewing retailers about the preferences of their customers.
- Identify the opportunities and potential niche markets for new essential oils; Analyse the potential market for new fragrances including the specification of the products that would be substituted with the proposed innovative scents. This will be derived from interviews with manufacturers and retailers and others listed below.

**Methodology**

There will be three phases:

**Phase 1:** Desk-study and networking in the UK, including visits to major fragrance companies, especially those with an actual interest in our target countries including Lever brothers and Quest international; researchers at IIED, LSE, ODI; former staff at NRI (e.g. Clinton Green), Reading, Oxford (e.g. Gina Green)

**Phase 2:** Fieldwork: visits to Ghana and Grenada. This will involve interviews to establish current usage, costs and willingness to pay for new plant-based oils with:

- Manufacturers of our target products;
- University researchers (Ghana, Grenada);
- Interviews with any actual local producers of essential oils;
- Interviews some specific groups who understand consumers of our target products, e.g. marketing team of Lever Brothers and, in Grenada, cruise ship and on-shore staff, tourist shops, any local processors or re-processors (any value-adding operation) and Arawak islands company;
- Government and NGO staff working with trade issues, rural development, agriculture and natural resources.

For instance, specifically:

- Chambers of commerce (Ghana, Grenada);
- OCAP and similar agroforestry NGOs (Ghana);
- Forestry departments (Grenada, Ghana);

**Phase 3:** Analysis and reporting, including initial draft for feedback from FRP.

### Outputs

- Two reports, one for Ghana and one for Grenada, satisfying the aims including a market (worst, likeliest, best-case) scenario.

## Appendix 2

List of interviewees:

Reference number	Name	Institution	Type of interview	Place	Date
1	Robin Clery	Quest	Meeting	Kent	17.07.03
2	Clinton Green	Clinton Green Consultancy Services	Email	--	09.07.03
3	Andrew Jones	The Body Shop	Email	--	04.08.03
4	Michael Mason	London School of Economics	Meeting	London	18.07.03
5	Kate Schreckenber	ODI	Meeting		17.07.03
6	William Hawthorne	Oxford	Meeting	Oxford	Several meetings
7	Pierre du Plessis and Cyril Lombard	ASNAP-SANProTA	Meeting	London	12.07.03
8	Abu Juam	Ministry of Lands and forestry	Meeting	Accra	23-28.07.03
9	Mr Issah Nikabs	Ministry of Trade	Telephone	----	
10	Oteng Yeboa	CSIR		Accra	29.08.03
11	Yao Nsarkohh	Unilever Ghana	Meeting	Accra	24.08.03
12	Harrie Hendrix	Unilever Netherlands	Email & telephone	----	10.07.03
13	Angela O' Mahogany	Unilever UK	Email & telephone	-----	21.07.03
14	Peter Lovett	Technoserve	Meeting	Accra	29.07.03
15	Nick Railstone-Brown	Technoserve	Meeting	Accra	29.07.03
16	Emmanuel Addisi	Ministry of Trade, Statistics Department	Meeting	Accra	24.07.03

17	Ladi Nylander	Johnsons' wax	Meeting	Accra	28.07.03
18	Mr. Lechiman	Flavour and Fragrances	Email/telephone	-----	
19	Philip Abayoe	Ghana British chamber of commerce	Email/telephone	-----	
20	James Meyers	IIED	Email/telephone	-----	
21	Julianna Asante- Dartey	Technoserve	Meeting	-----	29.07.03
22	Sarah Johansson	European Commision	Email	----	01.09.03
23	Mr. Katsis	PZ Cussons	Meeting	Accra	28.07.03
24	Mr. Baker	GCNA	Meeting	St. George's	06.08.03
25	Mr. Martin Barriteau	Ministry of Forestry	Meeting	St. George's	Several meetings

26	Oliver Joseph	Ministry of Trade	Meeting	St. Georges	05.08.03
27	Alisa Clements	Arawak Islands	Meeting		08.08.03
28	Susan Gattens	La Source	Meeting		08.08.03
29	Manager	Rex Hotel	Meeting	Grand Anse	09.08.03
30	Dr. Marcel	Chemist	Meeting	St. Georges'	07.08.03
31	Rolax Frederick	Ministry of Forestry	Meeting	St. Georges	05.08.03
32	Alan Joseph	Ministry of Forestry	Meeing	St. Geroges'	05.08.03
33	Nicole Taylor	Arawak Islands	Meeting	St. Georges'	06.08.03