A PROFILE OF THE SOUTH AFRICAN ESSENTIAL OILS MARKET VALUE CHAIN

2013

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1. DESCRIPTION OF THE ESSENTIAL OILS' INDUSTRY

An essential oil is a liquid that is generally distilled (most frequently by steam or water) from the leaves, stems, flowers, bark, roots, seeds, fruits or other organs of a plant. Using the different technologies available essential oils are sourced from over 3,000 plants of which approximately 300 are of commercial importance. Most flowers contain very little volatile oil and their chemical components are too delicate and easily denatured by the high heat used in steam distillation.

A solvent such as hexane or supercritical carbon dioxide is used to extract the oils. Extracts from hexane and other hydrophobic solvents are called concretes, which is a mixture of essential oil, waxes, resins, and other lipophilic (oil soluble) plant material. The majority of essential oils are usually obtained from agricultural plants but a number of oils are collected from wild sources including trees.

The strengths of essential oils

- They are antibacterial, antiviral, antifungal, and antimicrobial.
- Essential oils by-pass the digestive system so they are beneficial for people with poor digestion/assimilation.
- They require no refrigeration and require very little storage space.
- They have the longest shelf life of any plant known to man.
- Essential oils are highly oxygenating.
- They are very cost-effective because they are one of the few substances that the more you use them, the less you need them.
- They are suitable for babies since they cannot swallow tablets and capsules thus essential oils provide a solution as they only come in liquid form.

Weakness of the Essential Oils industry (Production Constraints)

- Production of essential oils requires highly focused farm practices and field maintenance for high quality yield.
- Requires more technical support, including the production inputs and most effective plant material for new plantings
- There is a high entry barrier which includes fencing, cuttings, distillation plants and land preparation.

1.1 Production and Production Areas

The major producers of essential oils across the world are Brazil, China, USA, Egypt, India, Mexico, Guatemala, Morocco and Indonesia. All of them with the exception of USA are developing countries with low cost, peasant type economies. It is estimated that about 65% of world production emanates from developing countries. The major consumers are the USA (40%), Western Europe (30%) and Japan (7%). While the EU as a whole dominate world trade, exports and imports, no individual country from this bloc features in the list of major producers.

Most of the major producing countries have large populations with huge internal appetite for essential oils. The table below shows the projected hectares under essential oil crops given by provinces in South Africa by 2012.

Table 1 below shows the estimated hectares of essential oil crops of different species which will be planted by different provinces by 2014.

Table 1: The projected ha under essential oil crops by 2011 as given by Provinces.

Province	Species	TOTAL ha
Mpumalanga	Vetiver, Citronella, Lippia, Eucalyptus, Artemisia, Rosemary, Geranium, Lemon grass	942
Free State	Tagete, Artemisia, Lavendin	71
Northern Cape	Marjoram, Rosemary, Lavendin	44
North West	Geranium, Rosemary, Lavendin, Chamomile	39
Eastern Cape	Geranium, Rosemary, Lavender	220
Western Cape	Eriocephalus, Lavender, Lavandin, Buchu, Rosemary	78
Limpopo & Machado	Lippia, Geranium, Rosemary, Lavendin, Tea tree	92
Gauteng	Lavendin, Rosemary, Artemisia	83
KZN	Lavendin, Rosemary Eucalyptus, Geranium, Tea tree, Lemon tea tree, Spear Mint, Lemon grass, Artemisia, Melissa, Thyme	425
TOTAL		**1994**
These estimates exclude wild harvesting and community projects in progress		

Source: South African Essential Oil Producer Association (SAEOPA)

The table shows that in the Mpumalanga province it is projected that 942 ha will be planted to essential oil crops by 2014, followed by KwaZulu Natal with 425 ha and Eastern Cape with 220 ha.

The estimated total hectares to be devoted to essential oil crops by all the provinces by 2014 are about 1994 ha. However of all the total species estimated, Geranium, Lavendin and Rosemary are the most projected species to be planted in all provinces by 2014. The table further shows that in all Provinces, Mpumalanga and KwaZulu Natal Provinces are projected to be the major producers of most kinds of essential oil species than the other provinces by 2014.

Table 2: Estimated Production Statistics for certain selected Essential Oils 2012.

OIL TYPES	ESTIMATED VALUE OF PRIMARY PRODUCTION (2012)
Major Oil (Citrus) and Eucalyptus)	R7 444 526.00
Minor Oils (e.g. Chamomiles, Jasmine, Lavenders, Tea Trees, Mints)	R2 237 169.75
Minor Oils-FRIDGE Study - Specified	
Geranium (Pelargonium Graveolens Roseum)	R541 666.67
Buchu (Betulina, Crenulata)	500 000.00
Chamomile – Roman (Anthemis nobilis)	R24 305.56
Rosemary (Rosmarinus Officinalis)	R15 000.00
Lemon Grass (Cymbopogon Citratus)	R7 777.78
Lemon balm (Melissa officinalis)	-
Lippia (Lippia javanica)	-
Rose Damascene (Rosa Damascene)	-

Source: Institute of Natural Resources

Table 2 indicates different types of essential oils and the estimated values of primary production in 2012 marketing season.

Table 3: The most utilized essential oils and major producers during 2012

Product	Country
Orange	Australia, Brazil, Dominican Republic, Israel, Italy and USA
Corn mint	Brazil, China, India, Japan, North Korea, Paraguay, Taiwan and Thailand
Eucalyptus (cineole-type)	Australia, Austria, Brazil, China, India, Paraguay, Portugal, South Africa and Spain
Citronella	China, India and Vietnam
Peppermint	Australia, China, Italy, Japan and USA
Lemon	Argentina, Australia, Brazil, Greece, Spain, Italy, USA and Peru
Clove leaf	Brazil, Indonesia, Madagascar, Sri Lanka and Tanzania
Cedar wood	USA and China
Litsea cubeba	China
Sassafras	Brazil and USA
Lime	Brazil, China, Cuba, Ghana, Haiti, Ivory Coast, Jamaica, Mexico and Peru
Spearmint	Argentina, Australia, Brazil, Bulgaria, China, Egypt, France, Hungary, Japan, Korea, Morocco, New Zealand, Paraguay, Romania, Russia, Taiwan, UK, USA and Yugoslavia

Source: South African Essential Oil Producer Association (SAEOPA)

Table 3 indicates the most utilized essential oil products and its major producers in south Africa during 2012/13 marketing season.

1.1.1 Overview of the essential oils market and its composition

Production data for essential oils are hard to find, as it is very difficult to do an exhaustive compilation covering the broad spectrum of all of essential oils produced. The essential oil industry is dynamic with tastes and preferences of consumers changing by the day. The top 10 crops in terms of production account for about 80% of the total world market for essential oils. One of the most important things to do for farmers who want to be involved in essential oils production is selecting the right seed or plant material for sowing. It is recommended that this be obtained from a reputable supplier. Farmers should also be knowledgeable on weed control and management as this will affect the quality of the end product. If weeds are harvested and distilled with the crop, the oil from weeds can contaminate the desired oil, which would compromise quality. These would lead to a total rejection of the crop's oil which will have a negative impact on the farm income.

1.1.2 Identification of Products

Given the appropriate equipment, essential oils can be fractionated and components sold individually. Alternatively, at home industry level, essential oils can be used in scented candles, soaps, and hand creams. Some authors are of the view that massaging oils into the human skin as in aromatherapy is of little therapeutic value, although it may induce a sense of sensual well being. However, in spite of the lack of a scientific basis for aromatherapy, it remains a viable component of the market for the South African essential oils industry.

There are numerous ways to create value added products through the use of essential oils.

Based on information gathered from a brief overview of the essential oil sub sector map and value chain, it has been decided that the following value added products will be investigated further, completing each investigation with a sub sector map for that product. The products are; Soaps, Scented candles, Bath salts, Aromatherapy creams and lotions and Potpourri.

It has been determined that each of these identified products are relatively simple to make, thus making use of the home based production units, and have a viable market within South Africa, and particularly, the Eastern Cape. Each of these products will be discussed in detail.

2. HARVESTING OF ESSENTIAL OILS

2.1 Harvesting

It must be noted that the essential oils can be harvested as either plants or seeds. For the plants the proximity of the steam distillation plant is important. If the period between harvesting and distillation is too long the oil from the plant can evaporate or decline in quality. The quality of the oil is volatile. It changes as the crop grows; this means that a farmer should ensure that the crop is harvested at the right time.

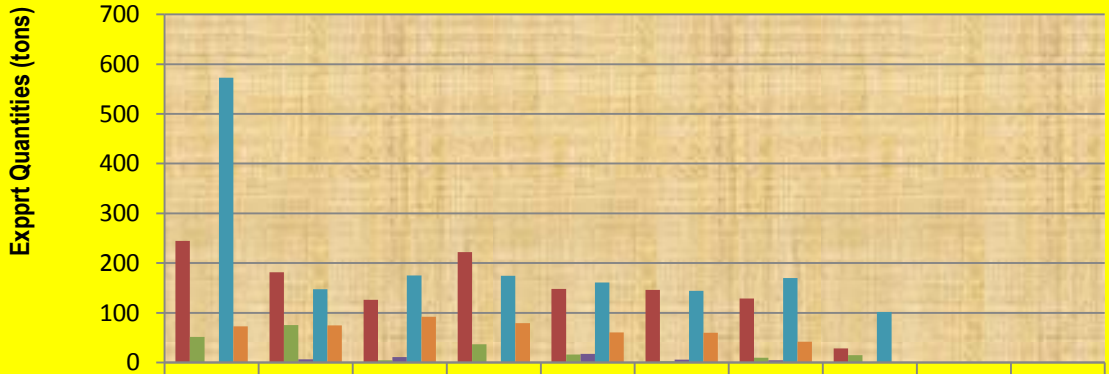
2.2 Essential Oils Marketing Activities

The marketing structure of essential oils is not different from most products. The traditional structure begins with the producer who sells to the flavor and fragrance industries. Fragrance houses may or may not embark on value adding to the product, they then sell it to the end users. At times system has been supplemented by traders, agents and brokers who use their knowledge to market niches and buy directly from producers and sell directly to the flavor houses or end users. Although it is very difficult to enter into the essential oils industry from either side, as producers or end users, there is always an opportunity for small players. The reason for the difficulty in gaining entry is that once end users have developed a product using specific oil they do not want to change that oil or the supplier as they may fear a compromise in quality. Small scale farmers may enter the market and target small industries such as Aromatherapy and Massage for their product market.

3. EXPORTS VOLUMES

Figure 1 below indicates export volumes of essential oils (terpeneless or not), from South Africa to various regions between 2003 and 2012.

Figure 1: Export volumes of essential oils (terpeneless or not) to various regions



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Africa	245	182	127	222	148	146	129	29	1	0
Americas	52	75	5	37	16	3	10	15	0	0
Asia	1	7	11	1	18	6	5	1	0	0
Europe	572	147	175	174	161	144	170	102	0	0
Oceania	73	75	92	80	61	60	42	0	0	0

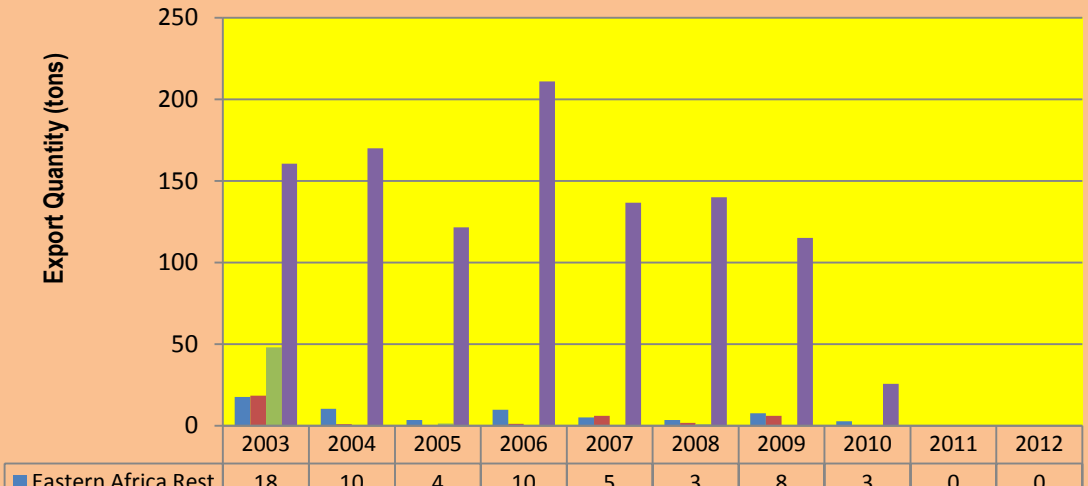
Source: Quantec EasyData

The figure further indicates that the major export markets for essential oils (terpeneless or not) from South Africa to the world was Europe, followed by Africa. Americas, Oceania and Asia had very low levels of exports of essential oils (terpeneless or not) during the same period under review. The figure also indicates that exports of essential oils (terpeneless or not) from South Africa to Europe started to increase in 2003 and at the same time attained a peak at approximately 572 tons. The figure further indicates that exports of essential oils (terpeneless or not) from South Africa to Africa

also started to increase in 2003 and at the same period attained a peak at approximately 245 tons. Figure 1 further indicates that the demand for essential oils (terpeneless or not) from South Africa to Americas, Asia and Oceania was less as compared to what South Africa exported to Europe and Africa during the period under review. The figure also indicates that exports of essential oils (terpeneless or not) from South Africa to Europe and Africa declined during the second half of the ten year period to lower levels of about 1 ton per annum. The figure also indicates that there was a 100% decline in exports of essential oils (terpeneless or not) from South Africa to Europe and Africa in 2012 as compared to 2003.

Figure 2 depicts export volumes of essential oils (terpeneless or not) from South Africa to Africa between 2003 and 2012.

Figure 2: Export volumes of essential oils (terpeneless or not) to Africa



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Eastern Africa Rest	18	10	4	10	5	3	8	3	0	0
Middle Africa Rest	18	1	0	1	6	2	6	0	0	0
Western Africa	48	0	1	0	0	1	0	0	0	0
SADC	161	170	121	211	137	140	115	26	0	0

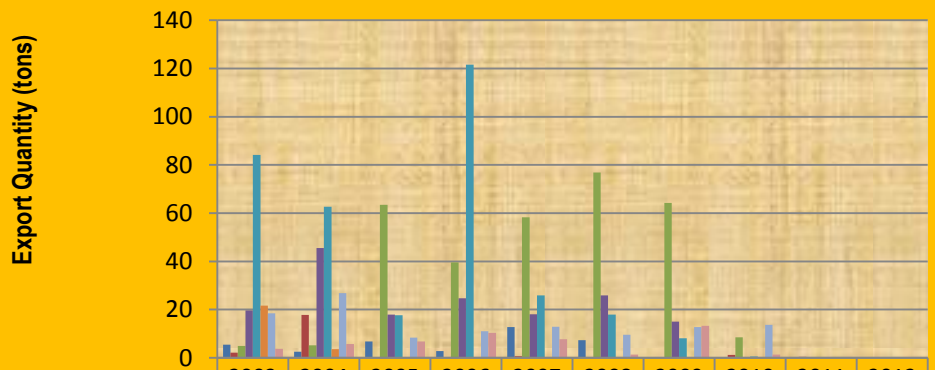
Source: Quantec EasyData

The graph further depicts that the major market for essential oils (terpeneless or not) from South Africa to Africa was SADC, followed by low volumes of essential oils (terpeneless or not) to Western Africa. The figure also depicts that exports of essential oils (terpeneless or not) from South Africa to SADC were from a high base during the first half of the ten year period attaining a peak in 2006 at approximately 211 tons. The figure further depicts that exports volumes of essential oils (terpeneless or not) from South Africa to Western Africa attained its peak in 2003 at approximately 48 tons. Eastern Africa Rest and Middle Africa Rest had very low levels of exports of essential oils (terpeneless or not) from South Africa of not more than 18 tons per annum during the period under review. The figure also depicts that the demand for essential oils (terpeneless or not) from South Africa to Western Africa, Middle Africa Rest, Eastern Africa and Northern Africa was less as compared to what South Africa exported to SADC over the same period under examination. The figure further depicts that between 2011 and 2012 of the period under scrutiny, there were no

export volumes of essential oils (terpeneless or not) from South Africa to SADC. In 2012, there was a 100% decline in export volumes of essential oils (terpeneless or not) from South Africa to SADC as compared to 2003.

Figure 3 below illustrates export volumes of essential oils (terpeneless or not) from South Africa to SADC member states between 2003 and 2012.

Figure 3: Export volumes of essential oils (terpeneless or not) to SADC



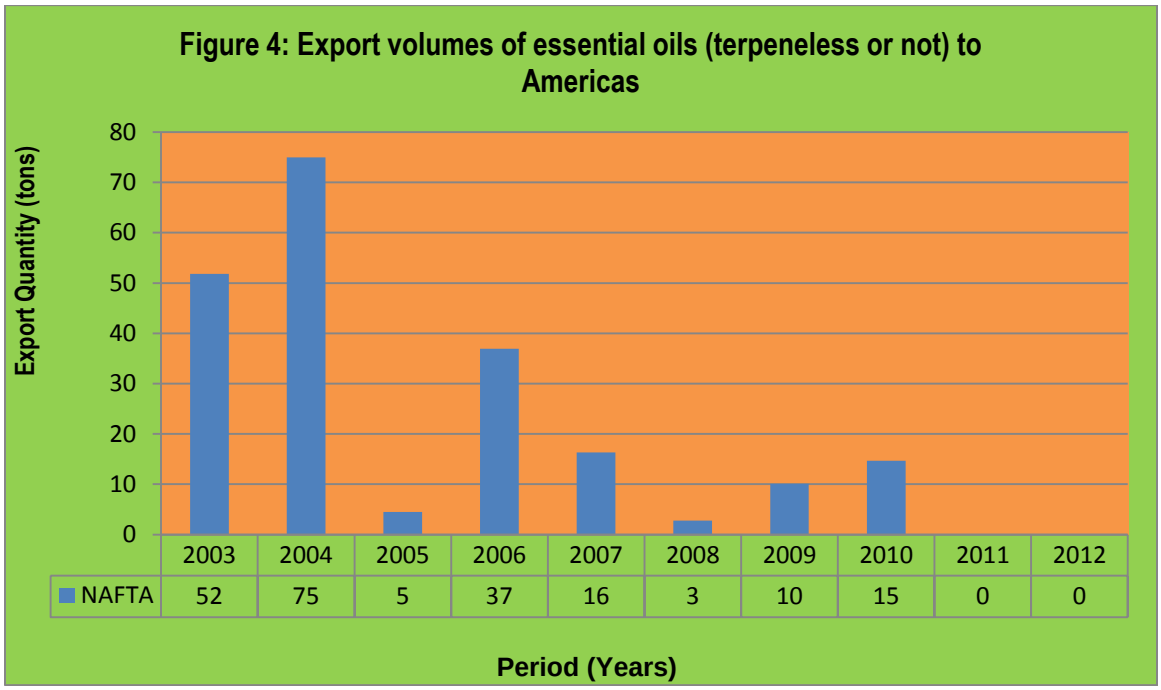
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Angola	5	3	7	3	13	7	0	0	0	0
Democratic Republic of the Congo	2	18	0	0	1	0	0	1	0	0
Mauritius	5	5	63	40	58	77	64	9	0	0
Malawi	20	46	18	25	18	26	15	0	0	0
Mozambique	84	63	18	122	26	18	8	1	0	0
United Republic of Tanzania	22	4	0	0	0	0	0	0	0	0
Zambia	19	27	8	11	13	10	13	14	0	0
Zimbabwe	4	6	7	10	8	1	13	1	0	0

Period (Years)

Source: Quantec EasyData

The graph further illustrates that the major attractive market for essential oils (terpeneless or not) from South Africa to SADC was Mozambique, followed by Mauritius and Malawi over the past decade. The graph further illustrates that exports of essential oils (terpeneless or not) from South Africa to Mozambique started to increase in 2003 and at the same time attained a peak at approximately 84 tons. The figure also illustrates that the demand for essential oils (terpeneless or not) from South Africa to Mozambique declined between 2004 and 2005 until another peak was attained in 2006 at approximately 122 tons. The figure further illustrates that Mauritius attained a peak in 2008 at approximately 77 tons during the period under review. The figure also illustrates that Malawi attained a peak in 2004 at approximately 48 tons during the period under review. South Africa only exported very low volumes of essentials oils (terpeneless or not) to Democratic Republic of Congo and United Republic of Tanzania. In 2012, there was a 100% decline in export volumes of essential oils (terpeneless or not) from South Africa to Mozambique as compared to 2011.

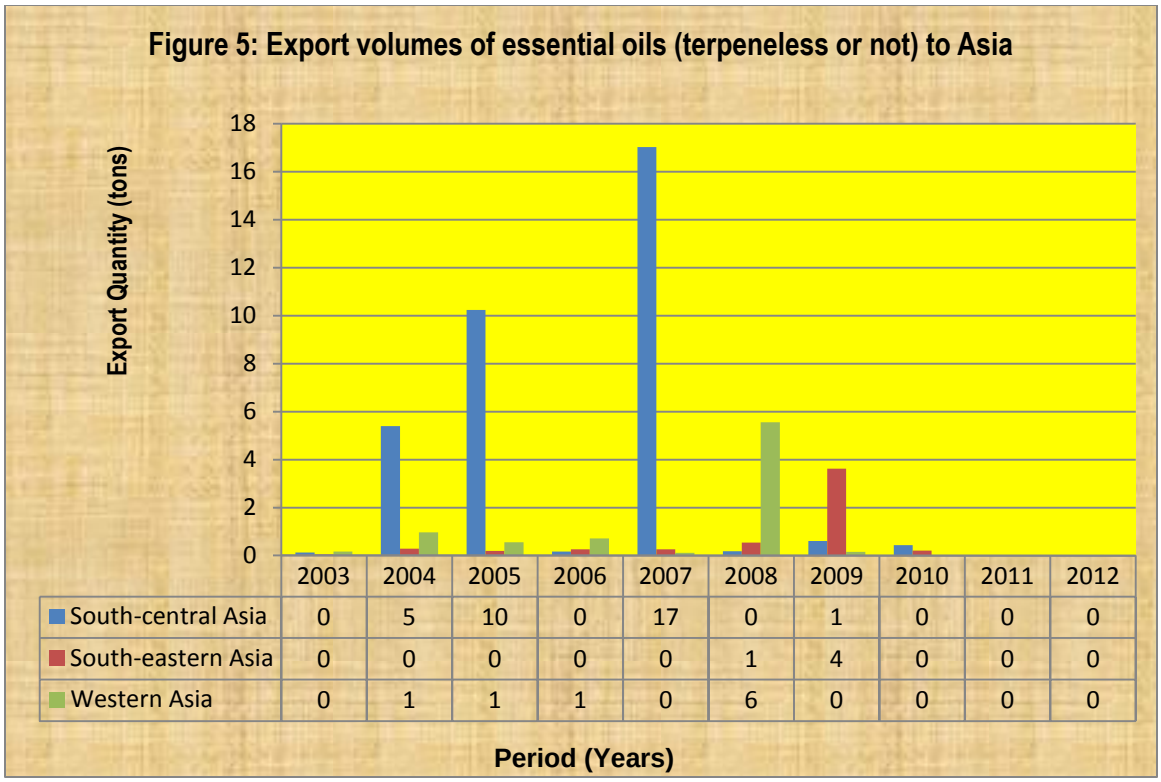
Figure 4 below depicts export volumes of essential oils (terpeneless or not) from South Africa to Americas between 2003 and 2012.



Source: Quantec EasyData

The graph further depicts that the most attractive market for essential oils (terpeneless or not) exports from South Africa to Americas was NAFTA. The graph also depicts that essential oils (terpeneless or not) exports from South Africa to Americas started to increase in 2003 until a peak was attained in 2004 at approximately 75 tons over the ten year period. Essential oils (terpeneless or not) exports from South Africa to NAFTA were from a very low base during the second half of the ten year period reaching not more than 15 tons during the period under scrutiny. The graph also depicts that between 2011 and 2012 of the period under scrutiny, there were no essential oils (terpeneless or not) exports from South Africa to NAFTA. The figure further depicts that there was 100% decline in export volumes of essential oils (terpeneless or not) from South Africa to NAFTA in 2012 as compared to 2011.

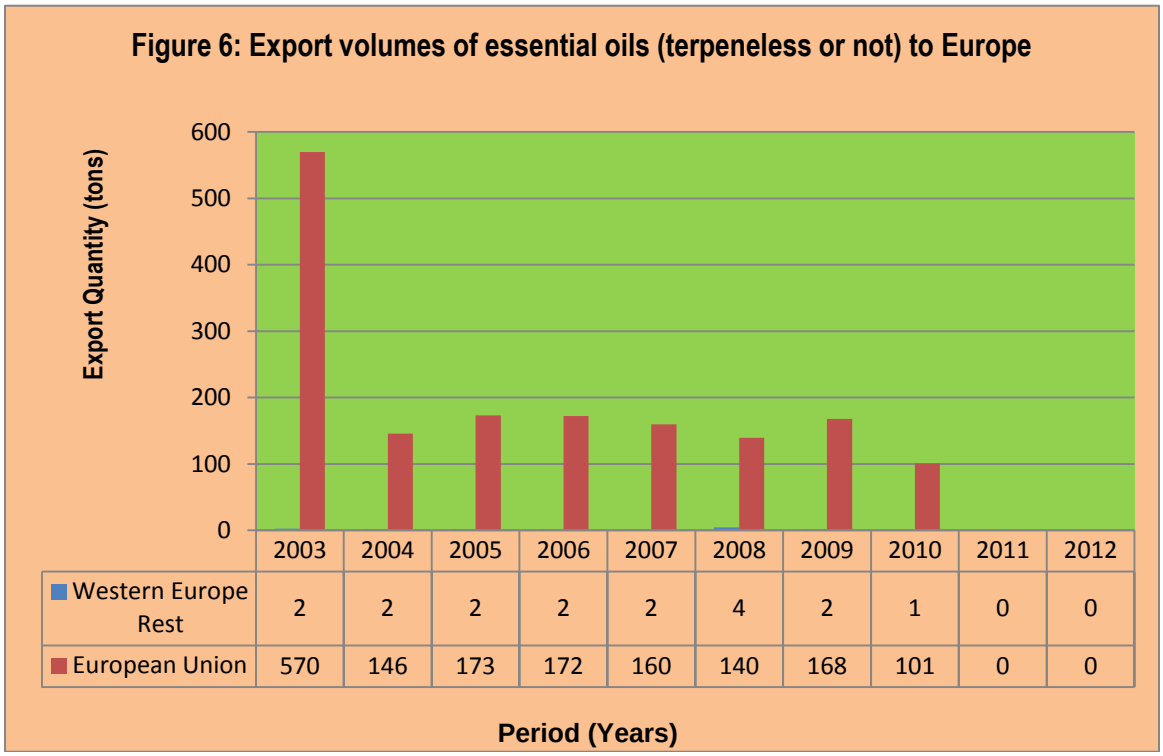
Figure 5 below indicates export volumes of essential oils (terpeneless or not) from South Africa to Asia between 2003 and 2012.



Source: Quantec EasyData

The graph further indicates that the major export destination for essential oils (terpeneless or not) from South Africa to Asia was South-central Asia, followed very intermittent exports to Western and South-eastern Asia. The graph also indicates that exports of essential oils (terpeneless or not) from South Africa to Western Asia and South-eastern Asia were below 7 tons per annum over the past decade. The graph further indicates that export volumes of essential oils (terpeneless or not) from South Africa to South-central Asia started to increase in 2004 and 2005, and then a decline occurred in 2006 to lower levels until a peak was attained in 2007 at approximately 17 tons. The graph further indicates that export volumes of essential oils (terpeneless or not) from South Africa to South-central Asia were from a low base during the second half of the ten year period not more than 1 ton per annum. In 2012, there was a 100% decline in export volumes of essential oils (terpeneless or not) from South Africa to South-central Asia as compared to 2004.

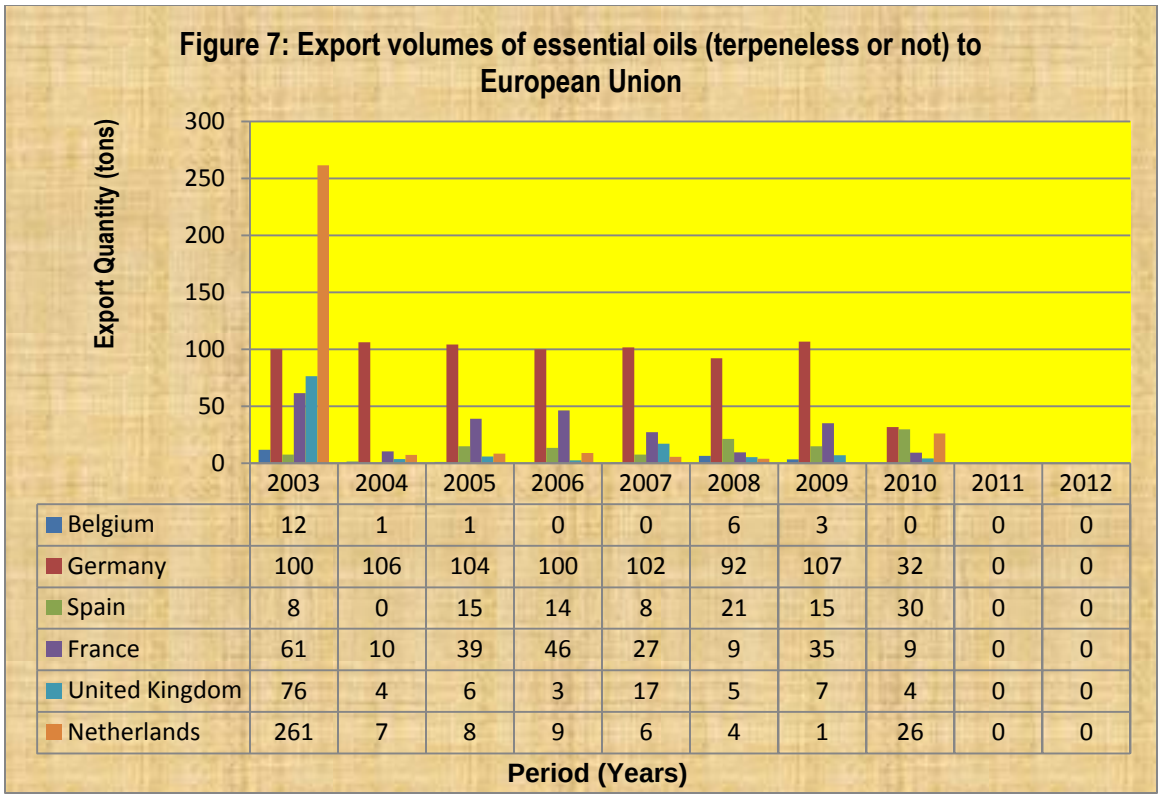
Figure 6 below depicts export volumes of essential oils (terpeneless or not) from South Africa to Europe between 2003 and 2012.



Source: Quantec EasyData

The figure further depicts that the major export destination for essential oils (terpeneless or not) from South Africa to Europe went to the European Union. The figure also depicts that exports of essential oils (terpeneless or not) from South Africa to Western Europe Rest were very much intermittent, with no exports of essential oils (terpeneless or not) in 2011 and 2012. The figure also depicts that export volumes of essential oils (terpeneless or not) from South Africa to European Union were from a high base during the first half of the ten year period (2003-2007) attaining a peak in 2003 at approximately 570 tons. The graph further depicts that export volumes of essential oils (terpeneless or not) from South Africa to the European Union were very low and not more than 180 tons per annum between 2004 and 2012 export season. The figure also depicts that in 2012, there was a 100% decline in export volumes of essential oils (terpeneless or not) from South Africa to the European Union as compared to 2003.

Figure 7 illustrates export volumes of essential oils (terpeneless or not) from South Africa to the European Union between 2003 and 2012.

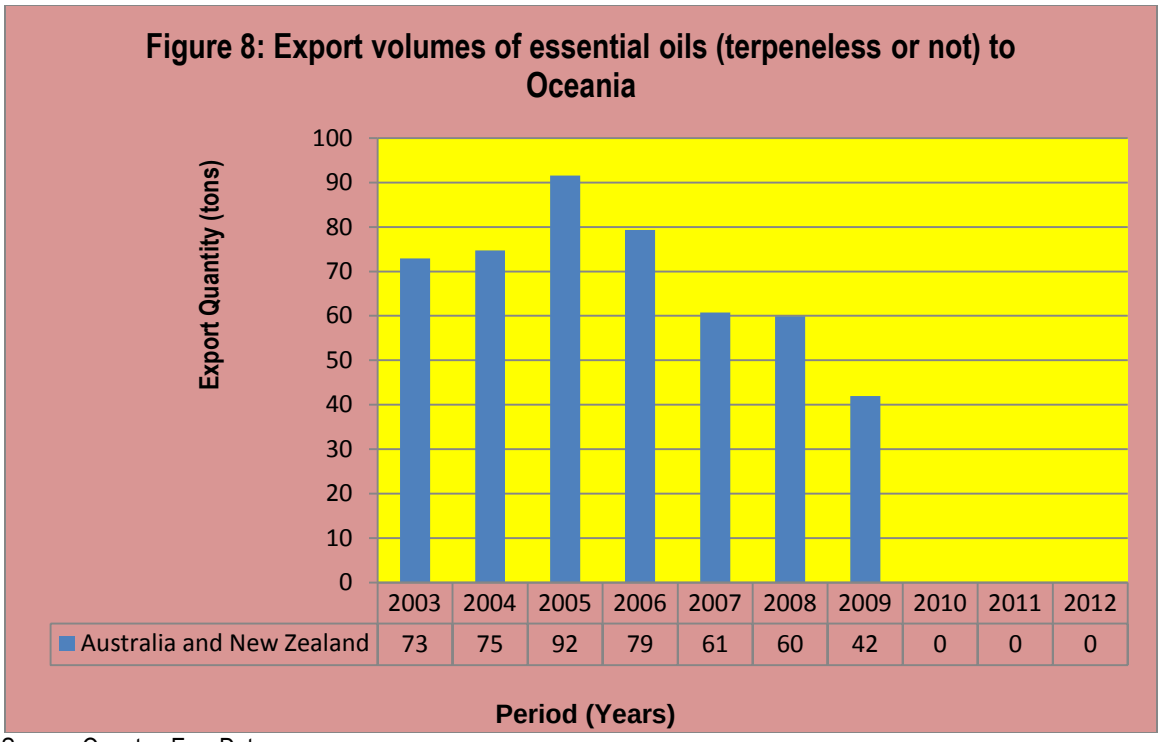


	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Belgium	12	1	1	0	0	6	3	0	0	0
Germany	100	106	104	100	102	92	107	32	0	0
Spain	8	0	15	14	8	21	15	30	0	0
France	61	10	39	46	27	9	35	9	0	0
United Kingdom	76	4	6	3	17	5	7	4	0	0
Netherlands	261	7	8	9	6	4	1	26	0	0

Source: Quantec EasyData

The graph further illustrates that the major export destination for essential oils (terpeneless or not) from South Africa to the European Union was Germany, followed by Netherlands and France. Belgium, Spain and United Kingdom imported very low or intermittent levels of essential oils (terpeneless or not) exports from South Africa during the period under scrutiny of not more than 80 tons per annum. The graph further illustrates that exports volumes of essential oils (terpeneless or not) from South Africa to Germany attained a peak in 2007 at approximately 107 tons, Netherlands attained its peak in 2003 at approximately 261 tons. In 2012, there was a 100% decline in export volumes of essential oils (terpeneless or not) from South Africa to Germany as compared to 2003.

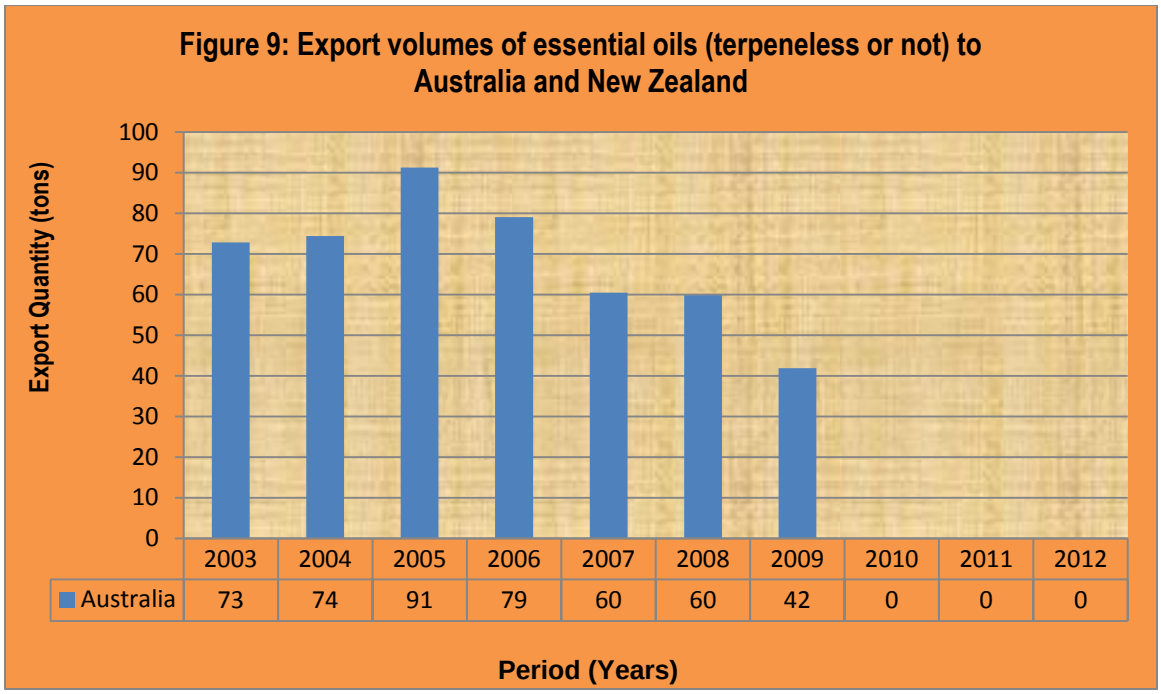
Figure 8 below indicates export volumes of essential oils (terpeneless or not) from South Africa to Oceania between 2003 and 2012.



Source: Quantec EasyData

The figure further indicates that exports of essential oils (nes) from South Africa to Oceania went to Australia and New Zealand during the period under scrutiny. The figure also indicates that exports of essential oils (nes) from South Africa to Australia and New Zealand started to increase substantially in 2003 and 2004, until a peak was attained in 2005 at approximately 92 tons. The figure further indicates that exports essential oils (nes) from South Africa to Australia and New Zealand were from a high base during the first half of the ten year period (2003-2007) attaining a peak in 2005. Between 2008 and 2012, exports of essential oils (nes) from South Africa to Australia and New Zealand were from a low base during the second half of the ten year period (2008-2012) of not more than 60 tons per annum during the same period under examination. The figure also indicates that there was a 100% decline in export volumes of essential oils (terpeneless or not) from South Africa to Australia and New Zealand as compared to 2003.

Figure 9 below shows export volumes of essential oils (terpeneless or not) from South Africa to Australia and New Zealand between 2003 and 2012.

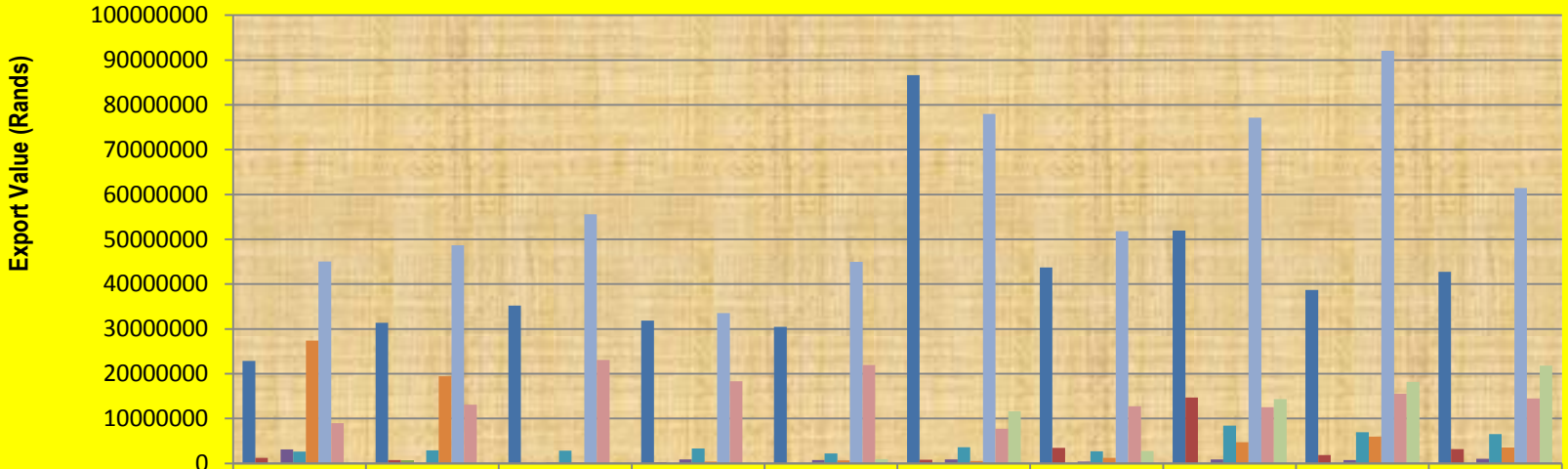


Source: Quantec EasyData

The figure further shows that exports of essential oils (nes) from South Africa to Australia and New Zealand went to Australia during the period under scrutiny. The figure also shows that exports of essential oils (nes) from South Africa to Australia started to increase substantially in 2003 and 2004, until a peak was attained in 2005 at approximately 91 tons. The figure further shows that exports essential oils (nes) from South Africa to Australia were from a high base during the first half of the ten year period (2003-2007) attaining a peak in 2005. Between 2008 and 2012, exports of essential oils (nes) from South Africa to Australia were from a low base during the second half of the ten year period (2008-2012) of not more than 60 tons per annum during the same period under examination. The figure also shows that there was a 100% decline in export volumes of essential oils (terpeneless or not) from South Africa to Australia in 2012 as compared to 2003.

Figure10 below depicts values of essential oils (terpeneless or not) exports by provinces of South Africa to the world between 2003 and 2012.

Figure 10: Value of essential oils (terpeneless or not) exports by Provinces



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Western Cape	22835505	31351141	35205174	31850268	30463550	86649915	43694065	51931975	38691218	42736777
Eastern Cape	1240492	705759	93631	270370	58640	809804	3460755	14697501	1887045	3199764
Northern Cape	0	767000	0	0	0	0	0	0	0	0
Free State	3125309	105600	158176	866239	718369	883750	406389	863422	770525	1034038
Kwazulu-Natal	2598462	2873645	2839933	3319554	2196653	3575479	2671764	8440980	6943465	6510278
North West	27409218	19468378	284474	381144	670130	530514	1241232	4715701	6003158	3513390
Gauteng	45052560	48645115	55600869	33521461	44987547	77952736	51843648	77143683	92077269	61475253
Mpumalanga	8989225	13091352	23100581	18332970	21916411	7710896	12773685	12507926	15535084	14500707
Limpopo	200174	0	191396	0	938131	11632111	2735518	14373985	18171436	21813498

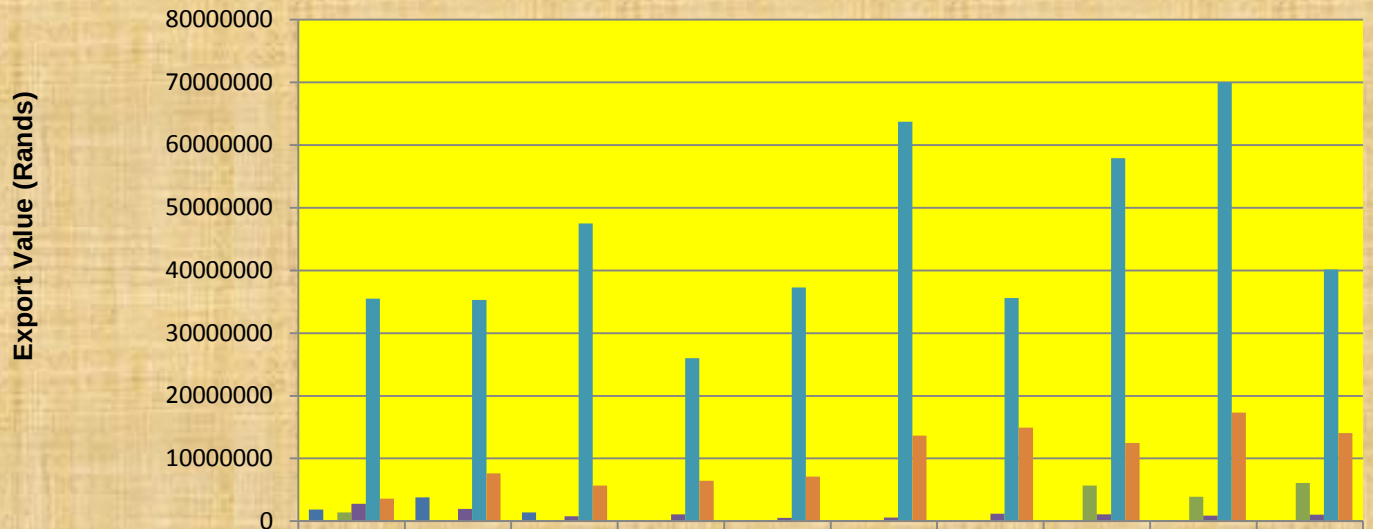
Period (Years)

Source: Quantec EasyData

The figure further depicts that the major supplying market for essential oils (terpeneless or not) from South Africa to the world was Gauteng Province, followed by Western Cape and North West Provinces during the period under scrutiny. The figure also depicts that exports of essential oils (terpeneless or not) by Gauteng province to the world were from a low base during the first half of the ten year period (2003-2007) attaining higher levels of about R55.6 million in 2005. Exports of essential oils (terpeneless or not) by Gauteng province to the world were from a high base during the second half of the ten year period (2008-2012) attaining higher levels and a peak in 2008 and 2010 of about R77.1 and 77.9 million respectively. Exports of essential oils (terpeneless or not) from the world Western Cape Province to the world attained a peak in 2008 at approximately R86.6 million, while North West Province attained a peak in 2003 at approximately R27.4 million. Eastern Cape, Free State, KwaZulu Natal, Northern Cape, Mpumalanga and Limpopo provinces had very low export volumes of essential oils (terpeneless or not) to the world during the period under examination of not more than R25 million per annum. The figure further depicts that in 2012, there was a 33.2% decline in exports value of essential oils (terpeneless or not) from Gauteng Province to the world as compared to 2011, while there was a 10.6% increase in exports value of essential oils (terpeneless or not) from the Western Cape Province to the world as compared to 2011.

Figure 11 below indicates export values of essential oils (terpeneless or not) from Gauteng Province to the world between 2003 and 2012.

Figure 11: Value of essential oils (terpeneless or not) exports by Gauteng Province



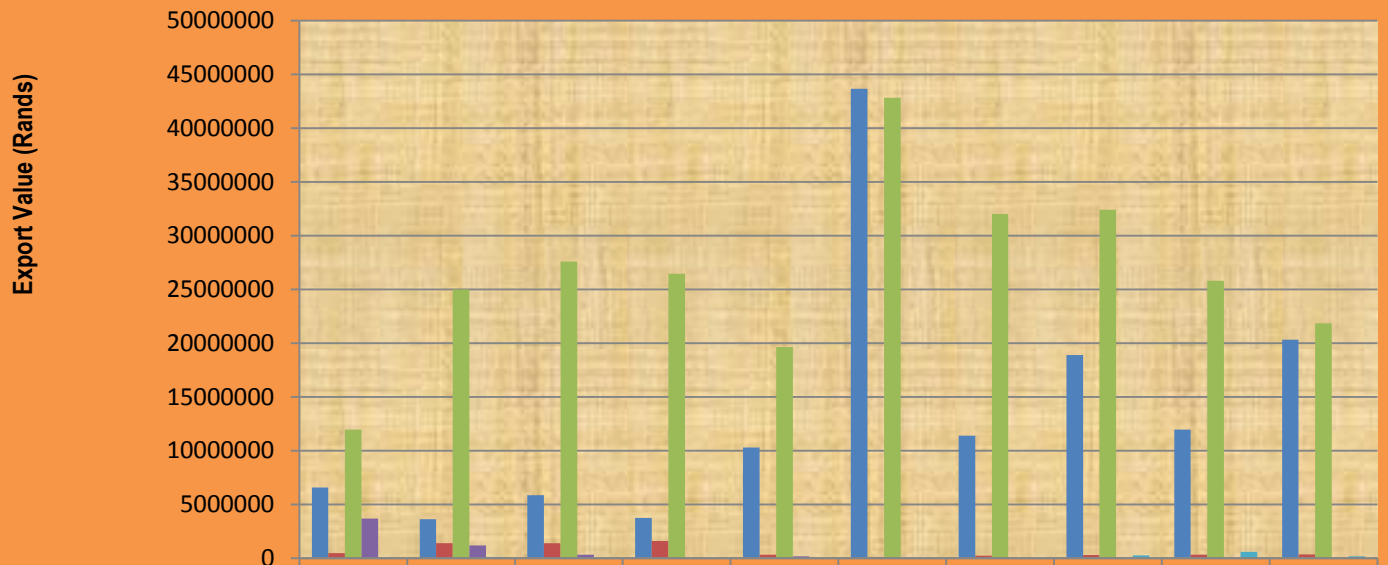
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Sedibeng District municipality	1838281	3779107	1418241	28	47095	32498	74685	0	42	113302
Metsweding District Municipality	0	0	0	0	0	6920	15013	0	0	0
West Rand District Municipality	1374131	26596	171750	325	9899	1782	48769	5684684	3912156	6097863
Ekurhuleni Metropolitan Municipality	2785073	1949858	795912	1077365	549080	560857	1206909	1091547	871517	1062702
City of Johannesburg Metropolitan Municipality	35476807	35279114	47505040	26008026	37276874	63708447	35575664	57887212	69970174	40155294
City of Tshwane Metropolitan Municipality	3578267	7610441	5709926	6435717	7104599	13642231	14922607	12480239	17323381	14046093

Source: Quantec EasyData

The figure further indicates that the major supplying market for essential oils (terpeneless or not) from Gauteng Province to the world was the City of Johannesburg Metro Municipality, followed by the City of Tshwane Metro Municipality and West Rand District Municipality during the period under scrutiny. The figure also indicates that exports of essential oils (terpeneless or not) by the City of Johannesburg Metro Municipality to the world were from a low base during the first half of the ten year period (2003-2007) attaining higher levels of about R47.5 million in 2005. Exports of essential oils (terpeneless or not) by the City of Johannesburg Metro Municipality to the world were from a high base during the second half of the ten year period (2008-2012) attaining higher levels and a peak in 2008 and 2010 of about R63.7 and 69.9 million respectively. Exports of essential oils (terpeneless or not) from the City of Tshwane Metro Municipality to the world attained a peak in 2011 at approximately R17.3 million during the period under review. Sedibeng, Metsweding District Municipalities and Ekurhuleni Metro Municipality had very low export volumes of essential oils (terpeneless or not) to the world during the period under examination of not more than R7.0 million per annum. The figure further depicts that in 2012, there was a 33.2% decline in exports value of essential oils (terpeneless or not) from Gauteng Province to the world as compared to 2011, while there was a 10.6% increase in exports value of essential oils (terpeneless or not) from the Western Cape Province to the world as compared to 2011.

Figure 12 shows export values of essential oils (terpeneless or not) from Western Cape Province to the world between 2003 and 2012.

Figure 12: Value of essential oils (terpeneless or not) exports by Western Cape Province



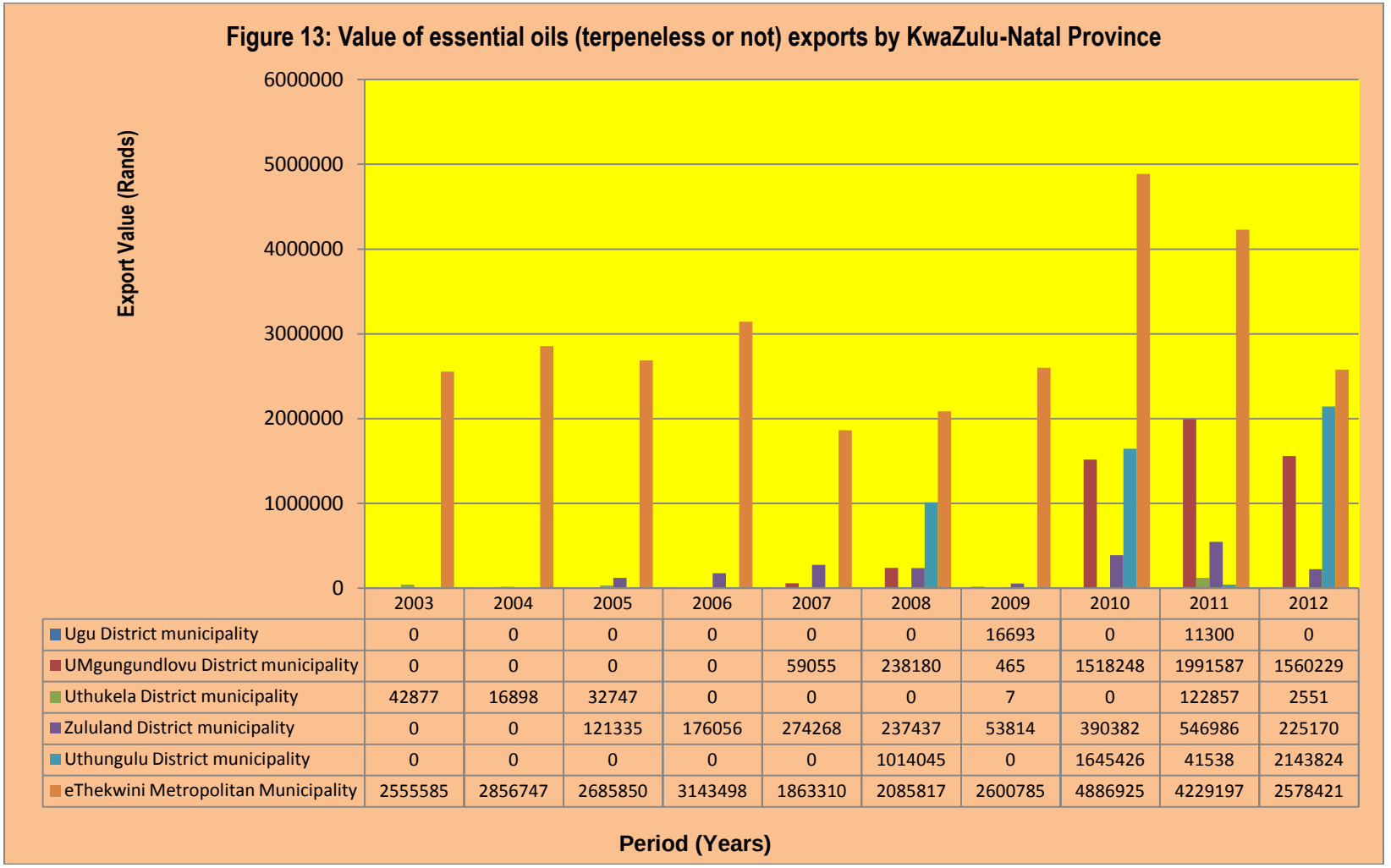
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
City of Cape Town Metropolitan Municipality	6595314	3637864	5869710	3760123	10297037	43671863	11406503	18901292	11980089	20329122
West Coast District municipality	493130	1395731	1398112	1616454	328777	139447	234721	318255	323010	367222
Cape Winelands District Municipality	11957541	24995974	27601880	26457908	19661729	42829619	32023173	32424431	25798109	21850824
Overberg District municipality	3691613	1200600	332588	351	176007	0	873	19085	68	19
Eden District municipality	97907	120973	2883	15432	0	8986	28795	268913	589943	189591

Source: Quantec EasyData

The figure further shows that the major exporter of essential oils (terpeneless or not) from Western Cape Province to the world was Cape Winelands District Municipality, followed by the City of Cape Town Metropolitan Municipality during the period under observation. The figure also shows that exports of essential oils (terpeneless or not) from the Cape Winelands District Municipality to the world started to increase substantially in 2004 until 2006 at about R27.6 million. The figure further shows that exports of essential oils (terpeneless or not) from the Cape Winelands District Municipality to the world experienced a slight decline in 2007 to lower levels of about R19.6 million. The figure also shows that exports of essential oils (terpeneless or not) from the Cape Winelands District Municipality to the world attained a peak in 2008 at approximately R42.8 million, and at the same time a peak in exports of essential oils (terpeneless or not) from the City of Cape Town Metropolitan Municipality to the world was also at approximately R43.6 million. The figure further shows that between 2009 and 2012 of the period under examination, exports of essential oils (terpeneless or not) from Cape Winelands District Municipality to the world declined consistently to lower levels of about R21.8 million in 2012. In 2012, there was 15.1% decline in exports value of essential oils (terpeneless or not) from Cape Winelands District to the world as compared to 2011, while there was 70.5% increase in exports value of essential oils (terpeneless or not) from the city of Cape Town metro to the world in 2012 as compared to 2011.

Figure 13 depicts export values of essential oils (terpeneless or not) from KwaZulu-Natal Province to the world between 2003 and 2012.

Figure 13: Value of essential oils (terpeneless or not) exports by KwaZulu-Natal Province



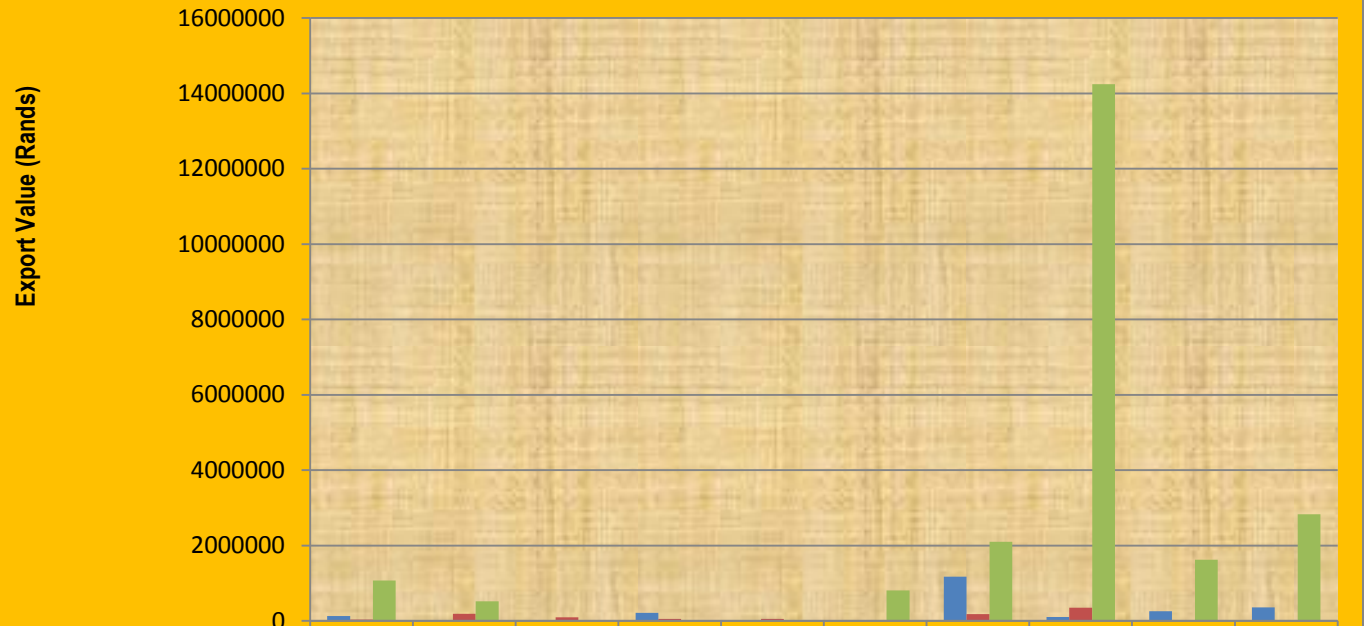
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Ugu District municipality	0	0	0	0	0	0	16693	0	11300	0
UMgungundlovu District municipality	0	0	0	0	59055	238180	465	1518248	1991587	1560229
Uthukela District municipality	42877	16898	32747	0	0	0	7	0	122857	2551
Zululand District municipality	0	0	121335	176056	274268	237437	53814	390382	546986	225170
Uthungulu District municipality	0	0	0	0	0	1014045	0	1645426	41538	2143824
eThekwini Metropolitan Municipality	2555585	2856747	2685850	3143498	1863310	2085817	2600785	4886925	4229197	2578421

Source: Quantec EasyData

The figure further depicts that the major exporter of essential oils (terpeneless or not) from KwaZulu-Natal province to the world was eThekwini Metropolitan Municipality, followed by Uthungulu and UMgungundlovu District Municipalities. The figure further depicts that exports of essential oils (terpeneless or not) from eThekwini Metropolitan Municipality to the world started to increase in 2003, until a substantial decline occurred in 2007 at about R1.8 million. Exports of essential oils (terpeneless or not) from eThekwini Metropolitan Municipality to the world attained a peak in 2010 at approximately R4.8 million. Exports of essential oils (terpeneless or not) from Uthungulu District Municipality to the world attained a peak in 2012 at approximately R2.1 million, while exports of essential oils (terpeneless or not) from UMgungundlovu District Municipality to the world attained a peak in 2011 at approximately R1.9 million. The figure also depicts that that exports of essential oils (terpeneless or not) from Ugu and Zululand District Municipalities were very low during the period under scrutiny and not more than R600 000 per annum. There was a 40.4% decline in exports value of essential oils (terpeneless or not) from eThekwini Metropolitan Municipality to the world in 2012 as compared to 2011.

Figure 14 indicates export values of essential oils (terpeneless or not) from Eastern Cape Province to the world between 2003 and 2012.

Figure 14: Value of essential oils (terpeneless or not) exports by Eastern Cape Province



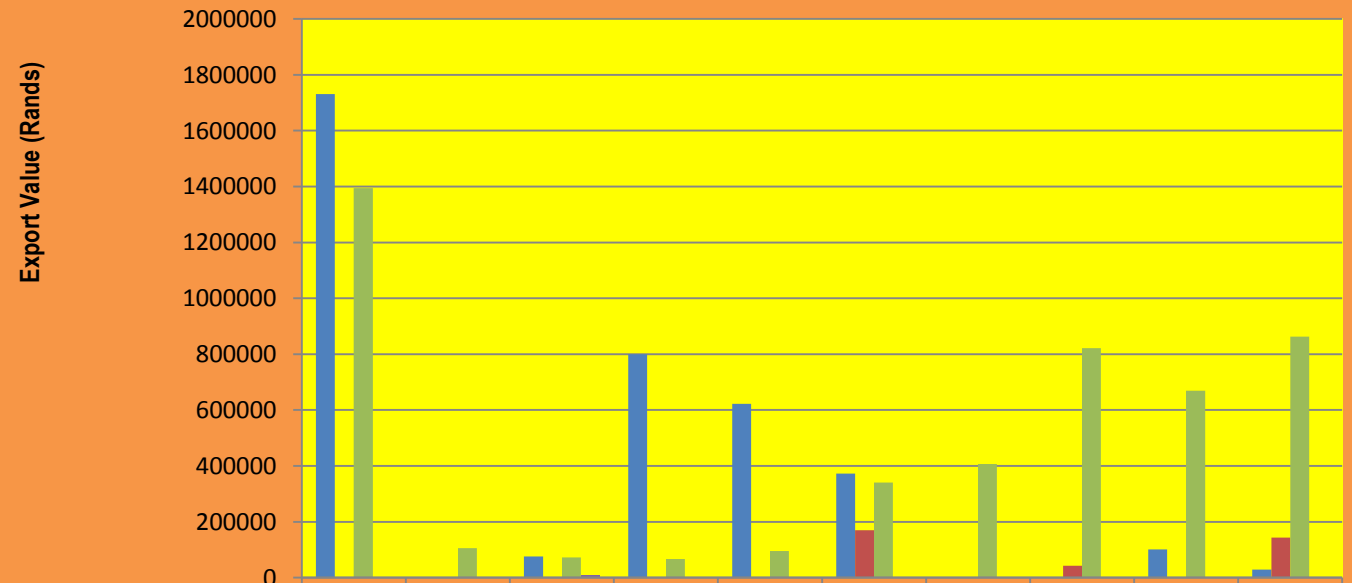
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Cacadu District municipality	127361	0	0	212614	0	0	1173703	103458	257147	360202
Amatole District municipality	38599	187359	93631	57647	56590	0	183273	351493	6568	6611
Nelson Mandela Metropolitan Municipality	1074532	518400	0	109	2050	809804	2103778	14242549	1623281	2832951

Source: Quantec EasyData

The figure further indicates that the major exporter of essential oils (terpeneless or not) from the Eastern Cape Province to the world was Nelson Mandela Metropolitan Municipality, with very intermittent exports from other district municipalities. The figure further indicates that exports of essential oils (terpeneless or not) from the Nelson Mandela Metropolitan Municipality to the world started to increase substantially in 2010 and at the same time attained a peak at approximately R14.2 million. The figure also indicates that there was 75% increase in exports value of essential oils (terpeneless or not) from Nelson Mandela Metropolitan Municipality to the world in 2012 as compared to 2011.

Figure 15 below illustrates export values of essential oils (terpeneless or not) from Free State Province to the world between 2003 and 2012.

Figure 15: Value of essential oils (terpeneless or not) exports by Free State Province



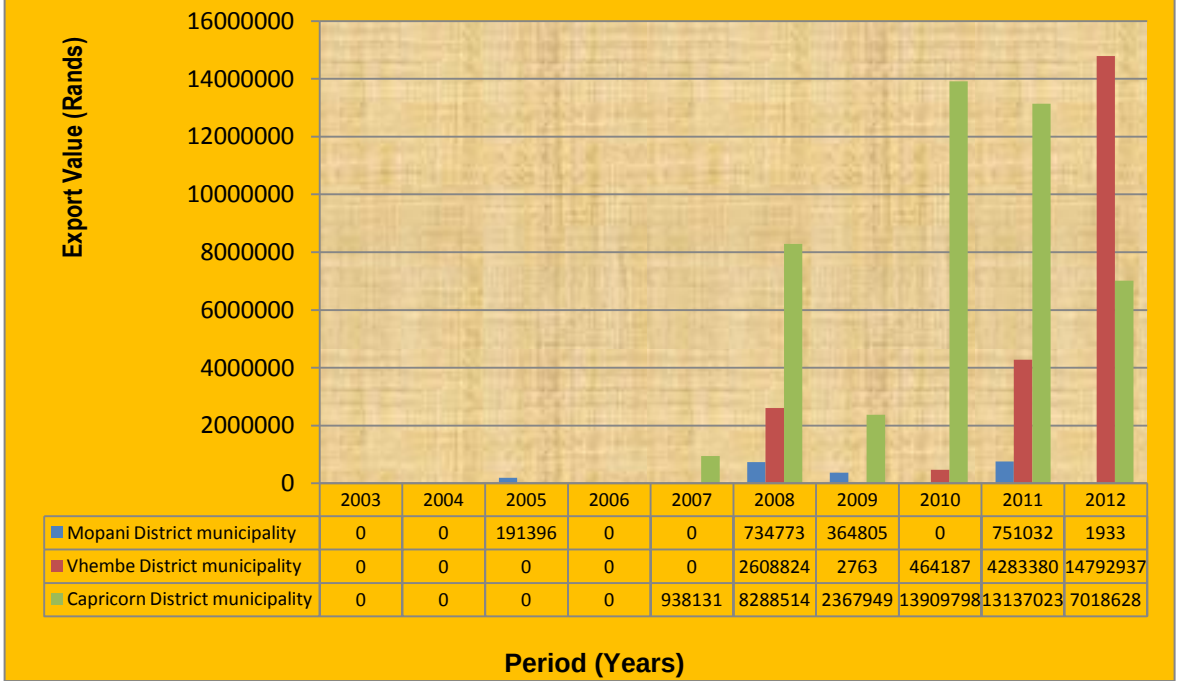
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Motheo District municipality	1731057	0	75480	799675	622563	373061	0	0	101324	28593
Lejweleputswa District municipality	0	0	0	0	0	170228	0	42237	0	143040
Thabo Mofutsanyane District municipality	1394252	105600	72824	66563	95806	340461	406389	821185	669201	862404
Northern Free State District municipality	0	0	9872	0	0	0	0	0	0	0

Source: Quantec EasyData

The graph further illustrates that Thabo Mofutsanyane District Municipality was the major exporter of essential oils (terpeneless or not) from Free State Province to the world, followed by Motheo District Municipality during the period under review. The graph also illustrates that export values of essential oils (terpeneless or not) from Thabo Mofutsanyane District to the world attained a peak in 2003 at approximately R1.3 million, while export values of essential oils (terpeneless or not) from Motheo District Municipality to the world attained a peak also in 2003 at approximately R1.7 million. The graph further illustrates that there was a 28.8% increase in export value of essential oils (terpeneless or not) from Thabo Mofutsanyane District to the world in 2012 as compared to 2011, while there was 71.7% decline in exports value of essential oils (terpeneless or not) from Motheo District to the world in 2012 as compared to 2011.

Figure 16 below shows export values of essential oils (terpeneless or not) from Limpopo Province to the world between 2003 and 2012.

Figure 16: Value of essential oils (terpeneless or not) exports by Limpopo Province



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Mopani District municipality	0	0	191396	0	0	734773	364805	0	751032	1933
Vhembe District municipality	0	0	0	0	0	2608824	2763	464187	4283380	14792937
Capricorn District municipality	0	0	0	0	938131	8288514	2367949	13909798	13137023	7018628

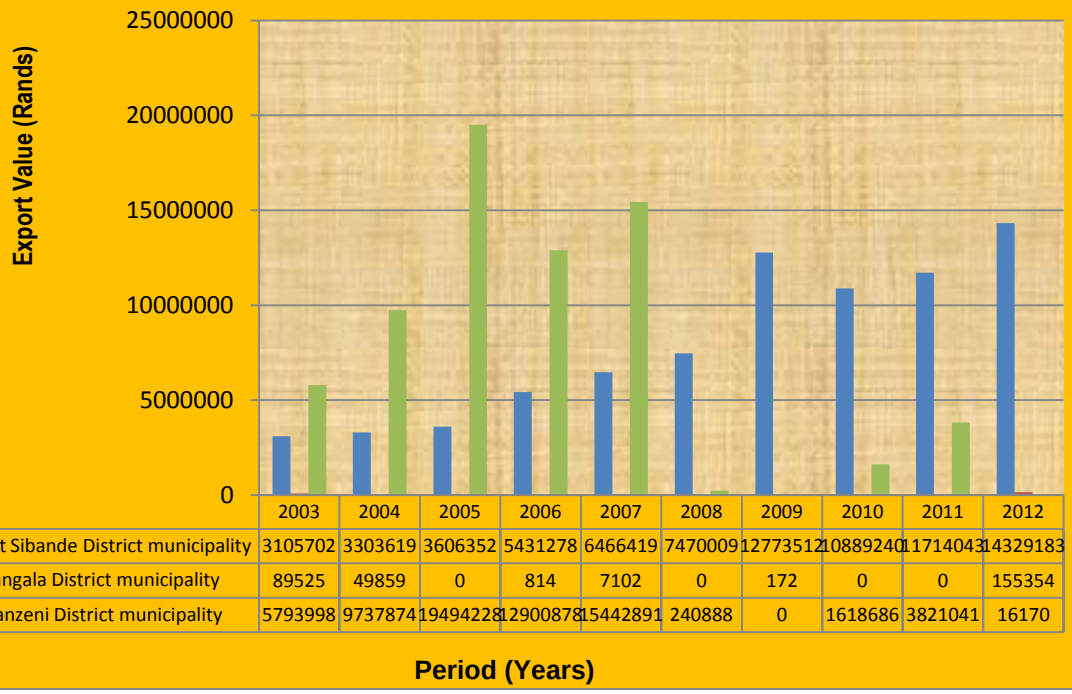
Source: Quantec EasyData

The figure further shows that Capricorn District Municipality was the main exporter of essential oils (terpeneless or not) from Limpopo Province to the world during the period under scrutiny, followed by Vhembe District Municipality. The figure also shows that Mopani District Municipality had very low or intermittent export values to the world of not more than R752 000 per annum. The figure further shows that there were no exports of essential oils (terpeneless or not) from Mopani District between 2003 and 2004 and again 2006 and 2007. The figure further shows that there were no exports of essential oils (terpeneless or not) from Vhembe District to the world between 2003 and 2007 of the period under scrutiny, while there were no exports of essential oils (terpeneless or not) from Capricorn district to the world between 2003 and 2006. Exports value of essential oils

(terpeneless or not) from Capricorn District Municipality to the world attained a peak in 2010 at approximately R13.9 million. In 2012, there was 46.5% decline in exports value of essential oils (terpeneless or not) from Capricorn District Municipality to the world as compared to 2011.

Figure 17 shows export values of essential oils (terpeneless or not) from Mpumalanga Province to the world between 2003 and 2012.

Figure 17: Value of essential oils (terpeneless or not) exports by Mpumalanga Province

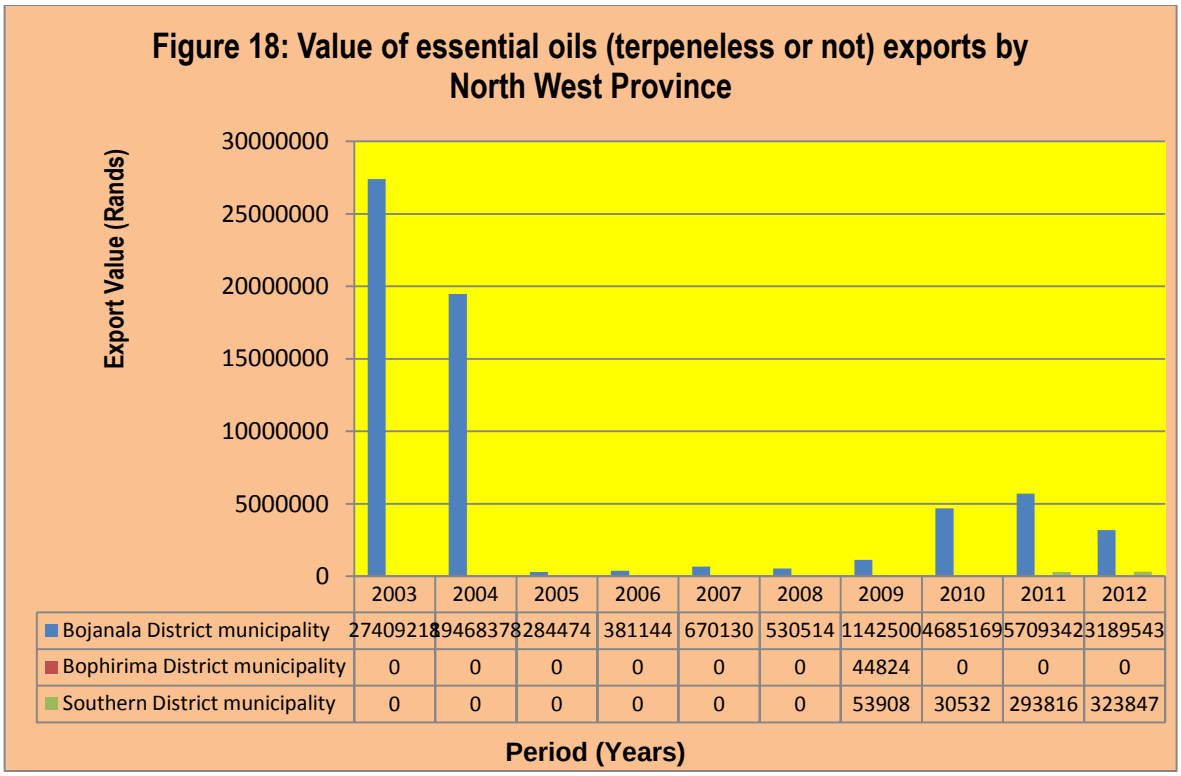


	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Gert Sibande District municipality	3105702	3303619	3606352	5431278	6466419	7470009	12773512	10889240	11714043	14329183
Nkangala District municipality	89525	49859	0	814	7102	0	172	0	0	155354
Ehlanzeni District municipality	5793998	9737874	19494228	12900878	15442891	240888	0	1618686	3821041	16170

Source: Quantec EasyData

The figure further shows that exports of essential oils (terpeneless or not) from Mpumalanga Province to the world were mainly from Gert Sibande District Municipality, followed by Ehlanzeni District Municipality and very intermittent exports from Nkangala District Municipality during the period under examination. The figure also shows that exports of essential oils (terpeneless or not) from Gert Sibande District Municipality to the world started to increase in 2003, until a peak was attained in 2009 and 2012 at approximately R12.7 and R14.3 million respectively. The figure also shows that exports of essential oils (terpeneless or not) from Ehlanzeni District Municipality to the world attained a peak in 2005 and 2007 at approximately R19.4 and R15.4 million respectively. The figure further shows that there was a 137.5% increase in exports value of essential oils (terpeneless or not) from Gert Sibande District Municipality to the world in 2012 as compared to 2011, while there was 99.5% decline in exports value of essential oils (terpeneless or not) from Ehlanzeni District Municipality to the world in 2012 as compared to 2011.

Figure 18 below illustrates export values of essential oils (terpeneless or not) from North West Province to the world between 2003 and 2012.



Source: Quantec EasyData

The figure further illustrates that exports of essential oils (terpeneless or not) from North West Province to the world were originated mainly from Bojanala District, with less competition from the other counter parts. The figure also illustrates that between 2003 and 2008 of the period under scrutiny, there were no exports of essential oils (terpeneless or not) from both Bophirima and Southern District Municipalities. The figure further illustrates that exports of essential oils (terpeneless or not) from Bojanala District to the world started to increase in 2003 and at the same time attained a peak at approximately R27.4 million. Between 2004 and 2012, the value of exports of essential oils (terpeneless or not) from Bojanala district municipality to the world declined dramatically due to low production levels that occurred in 2005 and 2006 at approximately R284 000 and R381 000 respectively. The figure also illustrates that there was 45.6% decline in exports value of essential oils (terpeneless or not) from Bojanala District Municipality to the world in 2012 as compared to 2011.

4. SHARE ANALYSIS

3.1 Share Analysis

Table 4 below indicates that Gauteng Province commanded the greatest share of essential oils (terpeneless or not) exports to the world between 2003 and 2012, followed by Western Cape Province. This trend indicates that the greatest percentages of essential oils (terpeneless or not) exports were recorded as originating from both Gauteng and Western Cape provinces with small values recorded for other provinces.

Table 4: Share of provincial essential oils (terpeneless or not) exports to the total South African essential oils exports (%)

Year / Province	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Western Cape	20.5	26.8	30.0	36.0	29.9	45.7	36.8	28.1	21.5	27.6
Eastern Cape	1.11	0.60	0.08	0.31	0.06	0.43	2.91	7.96	1.05	2.07
Northern Cape	0.00	0.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Free State	2.80	0.09	0.13	0.98	0.70	0.47	0.34	0.47	0.43	0.67
KwaZulu-Natal	2.33	2.46	2.42	3.75	2.15	1.88	2.25	4.57	3.86	4.21
North West	24.6	16.6	0.24	0.43	0.66	0.28	1.04	2.55	3.33	2.27
Gauteng	40.4	41.6	47.3	37.9	44.1	41.1	43.6	41.8	51.1	39.7
Mpumalanga	8.07	11.2	19.7	20.7	21.5	4.06	10.7	6.77	8.63	9.37
Limpopo	0.18	0.00	0.16	0.00	0.92	6.13	2.30	7.78	10.1	14.1

Source: Calculated from Quantec

In the Western Cape Province, essential oils (terpeneless or not) exports occur mainly through the Cape Winelands District (see table 5 below), followed by the City of Cape Town Metro and menial exports recorded from other district over the past decade.

Table 5: Share of the district essential oils (terpeneless or not) exports to the total Western Cape Province essential oils (terpeneless or not) exports (%)

Year / Districts	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
City of Cape Town	28.9	11.6	16.7	11.8	33.8	50.4	26.1	36.4	31.0	47.6
West Coast District	2.16	4.45	3.97	5.08	1.08	0.16	0.54	0.61	0.83	0.86
Cape Winelands	52.4	79.7	78.4	83.1	64.5	49.4	73.3	62.4	66.7	51.1
Overberg	16.2	3.83	0.94	0.00	0.58	0.00	0.00	0.04	0.00	4.45
Eden District	0.43	0.39	0.01	0.05	0.00	0.01	0.07	0.52	1.52	0.44

Source: Calculated from Quantec

Table 6 illustrates that in the Eastern Cape Province essential oils (terpeneless or not) exports occurred mainly through the Nelson Mandela Metro, followed by low essential oils exports from Amathole District during the period under scrutiny.

Table 6: Share of district essential oils (terpeneless or not) exports to the total Eastern Cape Province essential oils (terpeneless or not) exports (%)

Year / Districts	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Cacadu District	10.3	0.00	0.00	78.6	0.00	0.00	33.9	0.70	13.6	11.3

Year / Districts	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Amatole District	3.11	26.5	100	21.3	96.5	0.00	5.30	2.39	0.35	0.21
Nelson Mandela	86.6	73.5	0.00	0.04	3.50	100	60.8	96.9	86.0	88.5

Source: Calculated from Quantec

Table 7 depicts that in Limpopo province, exports of essential oils (terpeneless or not) originated mainly from the Capricorn District throughout the period under review.

Table 7: Share of district essential oils (terpeneless or not) exports to the total Limpopo Province essential oils (terpeneless or not) exports (%)

Year / Districts	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Mopani District	0.00	0.00	100	0.00	0.00	6.32	13.3	0.00	4.13	0.01
Vhembe District	0.00	0.00	0.00	0.00	0.00	22.4	0.10	3.23	23.6	67.8
Capricorn District	0.00	0.00	0.00	0.00	100	71.3	86.6	96.8	72.3	32.2

Source: Calculated from Quantec

In the KwaZulu-Natal province, essential oils (terpeneless or not) exports originated mainly from eThekwini Metro Municipality with menial exports from other districts over the past ten years (see Table 8 below).

Table 8: Share of district essential oils (terpeneless or not) exports to the total KwaZulu-Natal essential oils (terpeneless or not) exports (%)

Year / Districts	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Ugu District	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.00	016	0.00
UMgungundlovu	0.00	0.00	0.00	0.00	2.69	6.66	0.02	18.0	28.7	24.0
Uthukela	1.65	0.59	1.15	0.00	0.00	0.00	0.00	0.00	1.77	0.04
Zululand	0.00	0.00	4.27	5.30	12.5	6.64	2.01	4.62	7.88	3.46
UThungulu	0.00	0.00	0.00	0.00	0.00	28.4	0.00	19.5	0.60	32.9
eThekwini Metro	98.3	99.4	94.6	94.7	84.8	58.3	97.3	57.9	60.9	39.6

Source: Calculated from Quantec

Table 9 depicts that in North West province exports of essential oils (terpeneless or not) originated mainly from the Bojanala District throughout the period under review.

Table 9: Share of district essential oils (terpeneless or not) exports to the total North West Province essential oils (terpeneless or not) exports (%)

Year / Districts	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Bojanala District	100	100	100	100	100	100	92.0	99.4	95.1	90.8
Bophirima District	0.00	0.00	0.00	0.00	0.00	0.00	3.61	0.00	0.00	0.00
Southern District	0.00	0.00	0.00	0.00	0.00	0.00	4.34	0.65	4.89	9.22

Source: Calculated from Quantec

Table 10 below depicts that in Gauteng province, exports of essential oils (terpeneless or not) originated mainly from the City of Johannesburg Metro throughout the period under review.

Table 10: Share of district essential oils (terpeneless or not) exports to the total Gauteng Province essential oils (terpeneless or not) exports (%)

Year / Districts	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Sedibeng	4.08	7.77	2.55	8.35	0.10	0.04	0.14	0.00	4.56	0.18
Metsweding	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.00	0.00	0.00
West Rand	3.05	0.05	0.31	0.00	0.02	0.00	0.09	7.37	4.25	9.92
Ekurhuleni Metro	6.18	4.01	1.43	3.21	1.22	0.72	2.33	1.41	0.95	1.73
City of Johannesburg	78.7	72.5	85.4	77.6	82.9	81.7	68.6	75.0	76.0	65.3
City of Tshwane	7.94	15.6	10.3	19.2	15.8	17.5	28.8	16.2	18.8	22.8

Source: Calculated from Quantec

Table 11 below indicates that in Mpumalanga province, Gert Sibande District Municipality commanded the greatest share of essential oils (terpeneless or not) exports over the past decade.

Table 11: Share of district essential oils (terpeneless or not) exports to the total Mpumalanga Province essential oils (terpeneless or not) exports (%)

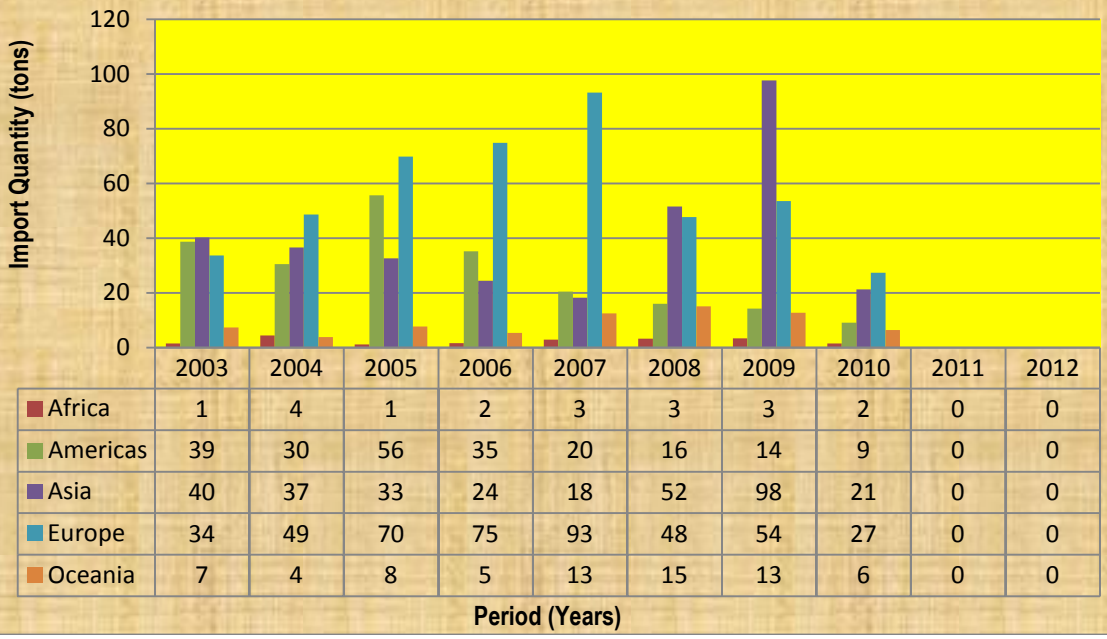
Year / Districts	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Gert Sibande	34.5	25.2	15.6	29.6	29.5	96.9	99.99	87.1	75.4	98.8
Nkangala	1.00	0.38	0.00	0.00	0.03	0.00	0.00	0.00	0.00	1.07
Ehlanzeni District	64.5	74.4	84.4	70.4	70.5	3.12	0.00	12.9	24.6	0.11

Source: Calculated from Quantec

5. IMPORTS VOLUMES

Figure 19 shows import volumes of essential oils (terpeneless or not) from various regions of the world to South Africa between 2003 and 2012.

Figure 19: Import volumes of essential oils (terpeneless or not) from various regions into south Africa

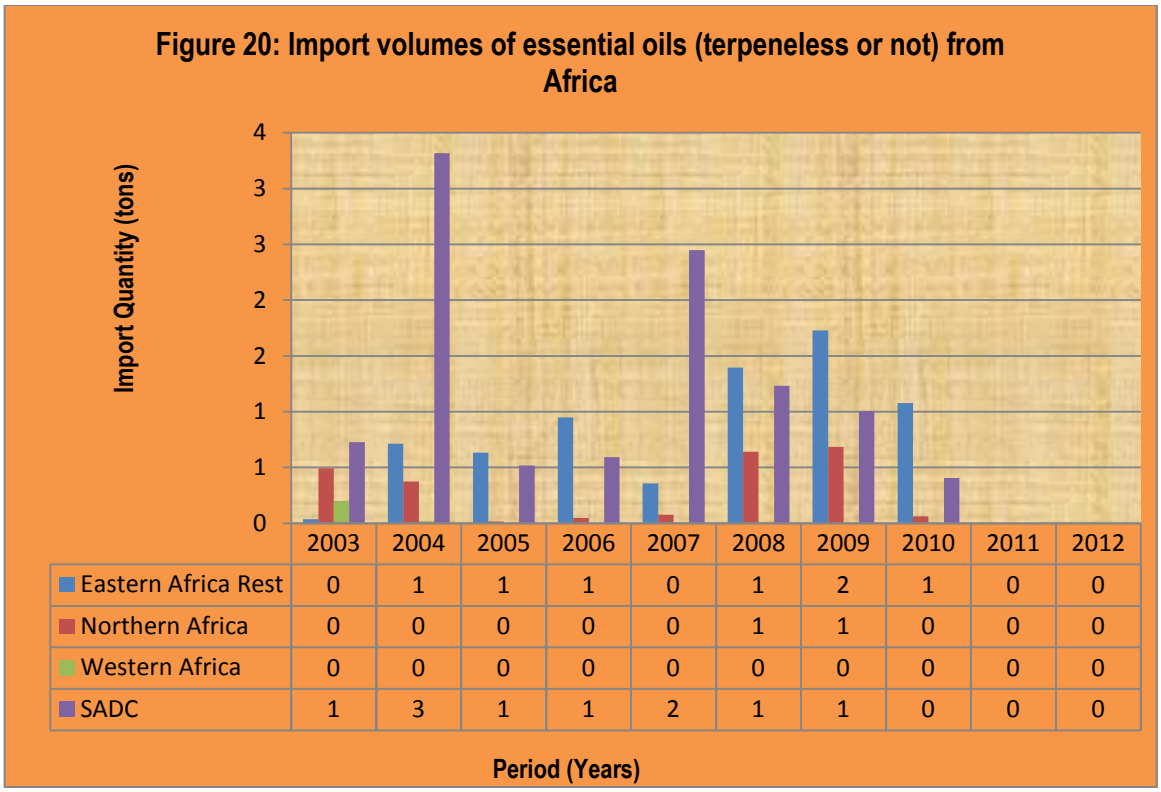


	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Africa	1	4	1	2	3	3	3	2	0	0
Americas	39	30	56	35	20	16	14	9	0	0
Asia	40	37	33	24	18	52	98	21	0	0
Europe	34	49	70	75	93	48	54	27	0	0
Oceania	7	4	8	5	13	15	13	6	0	0

Source: Quantec EasyData

The graph further shows that the major import market for essential oils (terpeneless or not) from various regions was Europe, followed by Asia and Americas. The figure further shows that imports of essential oils (terpeneless or not) from Asia into South Africa started to increase substantially in 2003, with a consistent increase and a peak in 2007 at approximately 93 tons. The figure also shows that exports of essential oils (terpeneless or not) Asia into South Africa attained a peak in 2009 at approximately 98 tons, while imports of essential oils (terpeneless or not) from Americas into South Africa attained a peak in 2005 at approximately 56 tons. Africa and Oceania had very low levels of imports of essential oils (terpeneless or not) to South Africa over the same period under review of not more than 15 tons per annum. In 2012, there was a 100% decline in imports of essential oils (terpeneless or not) from Europe into South Africa as compared to 2003, while there was a 100% decline in imports of essential oils (terpeneless or not) from Asia into South Africa as compared to 2003.

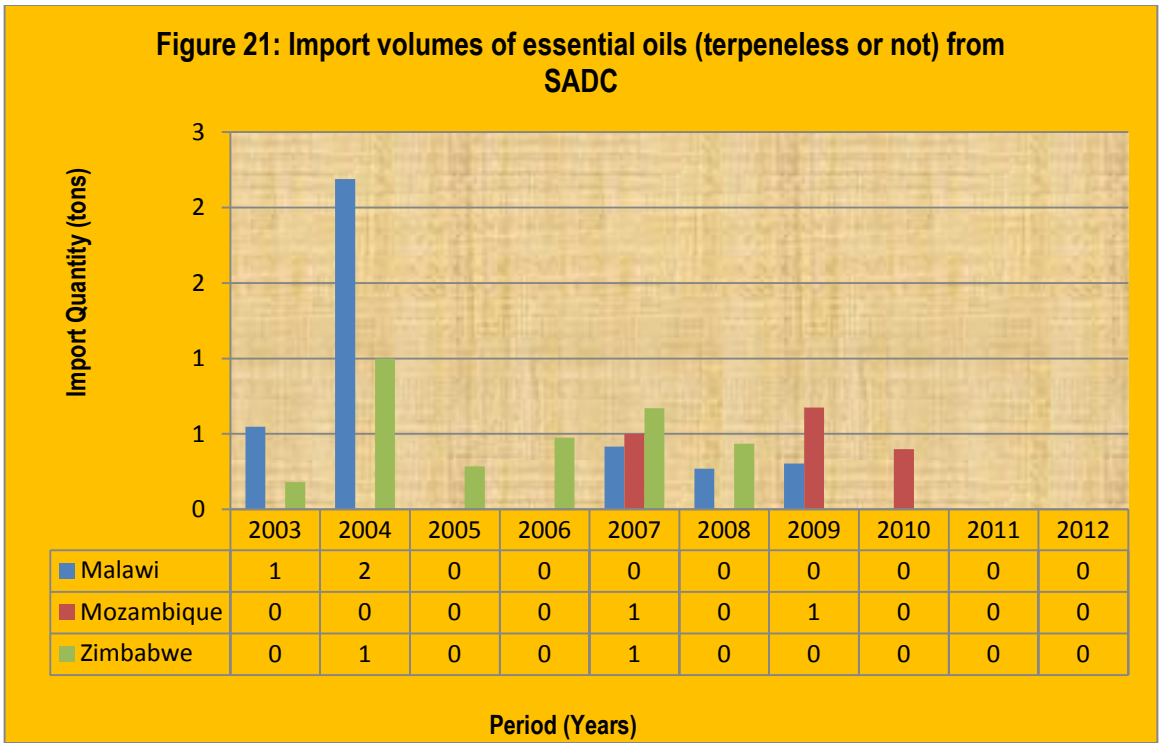
Figure 20 below indicates import volumes of essential oils (terpeneless or not) from Africa into South Africa between 2003 and 2012.



Source: Quantec EasyData

The figure further indicates that the major import market for essential oils (terpeneless or not) from Africa into South Africa was the SADC region, followed by Eastern Africa and very minimal imports of essential oils (terpeneless or not) from Western and Northern Africa during the past decade. The figure also indicates that imports of essential oils (terpeneless or not) from SADC region into South Africa started to increase in 2003, until a peak was attained in 2004 and 2007 at approximately 3 and 2 tons respectively. The figure further indicates that the demand for essential oils (terpeneless or not) from SADC into South Africa was far less as compared to what Eastern Africa exported to South Africa between 2008 and 2012 of the period under review. The figure also indicates that there was a 100% decline in imports of essential oils (terpeneless or not) from SADC region into South Africa in 2012 as compared to 2003.

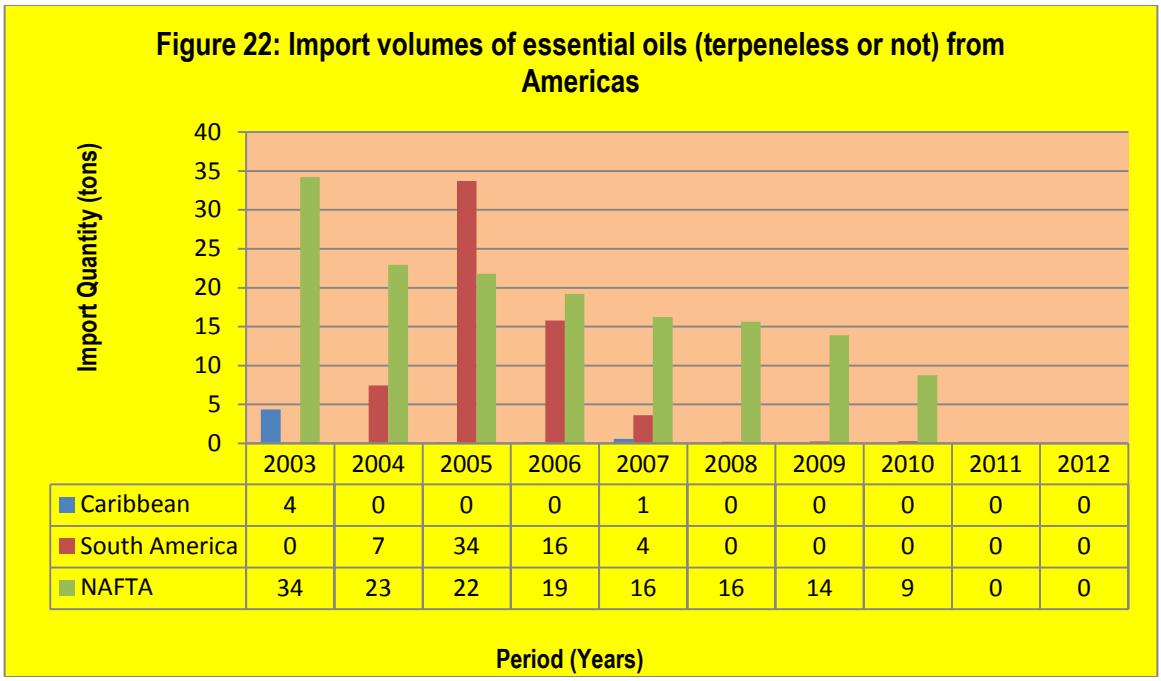
Figure 21 below depicts import volumes of essential oils (terpeneless or not) from the SADC region into South Africa between 2003 and 2012.



Source: Quantec EasyData

The graph further depicts that the only import market of essential oils ((terpeneless or not) from the SADC region into South Africa was Malawi, followed by Zimbabwe and Mozambique. The graph also depicts that there were no imports of essential oils (terpeneless or not) from Malawi into South Africa between 2005 and 2012. Imports of essential oils (terpeneless or not) from Malawi into South Africa started to increase in 2003, until a peak was attained in 2004 at approximately 2 tons. The graph further depicts that imports of essential oils (terpeneless or not) from Zimbabwe into South Africa started to increase in 2003, until a peak was attained in 2004 at approximately 1 ton. The figure also depicts that there was a 100% decline in imports of essential oils (terpeneless or not) from Malawi into South Africa in 2012 as compared to 2003.

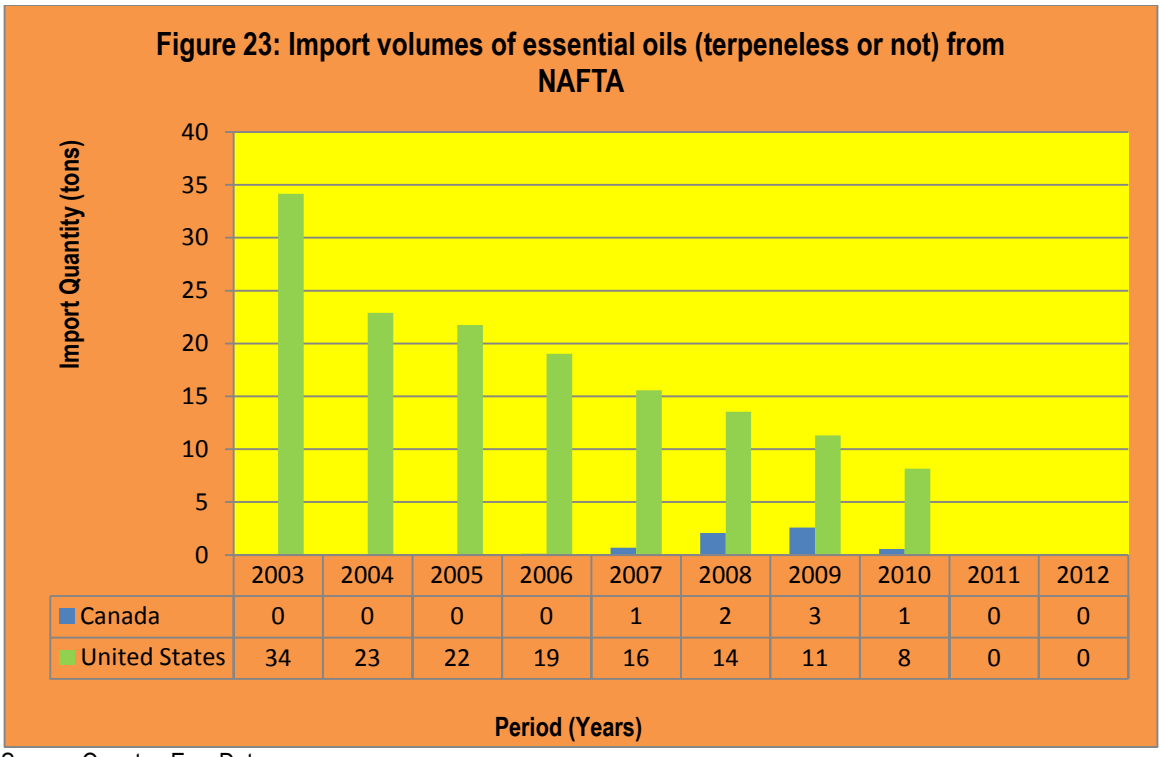
Figure 22 below illustrates import volumes of essential oils (terpeneless or not) from Americas into South Africa between 2003 and 2012.



Source: Quantec EasyData

The figure further illustrates that over the past ten years, the major import markets for essential oils (terpeneless or not) from Americas into South Africa was NAFTA, followed by South America and very menial exports from the Caribbean during the period under review. The figure also illustrates that imports of essential oils (terpeneless or not) from NAFTA into South Africa started to increase in 2003 and at the same time attained a peak at approximately 34 tons, while imports of essential oils (terpeneless or not) from South America into South Africa attained a peak in 2005 at approximately 34 tons. The figure also illustrates that from 2004 to 2012, there was a consistent decline in imports volumes of essential oils (terpeneless or not) from NAFTA into South Africa due to the high tariffs agreements that let to less imports entering the Borders of South Africa during the same period under review. The figure further illustrates that there was a 100% decline in imports of essential oils (terpeneless or not) from NAFTA into South Africa in 2012 as compared to 2003, while there was no growth in imports of essential oils (terpeneless or not) from South America into South Africa in 2012 as compared to 2003.

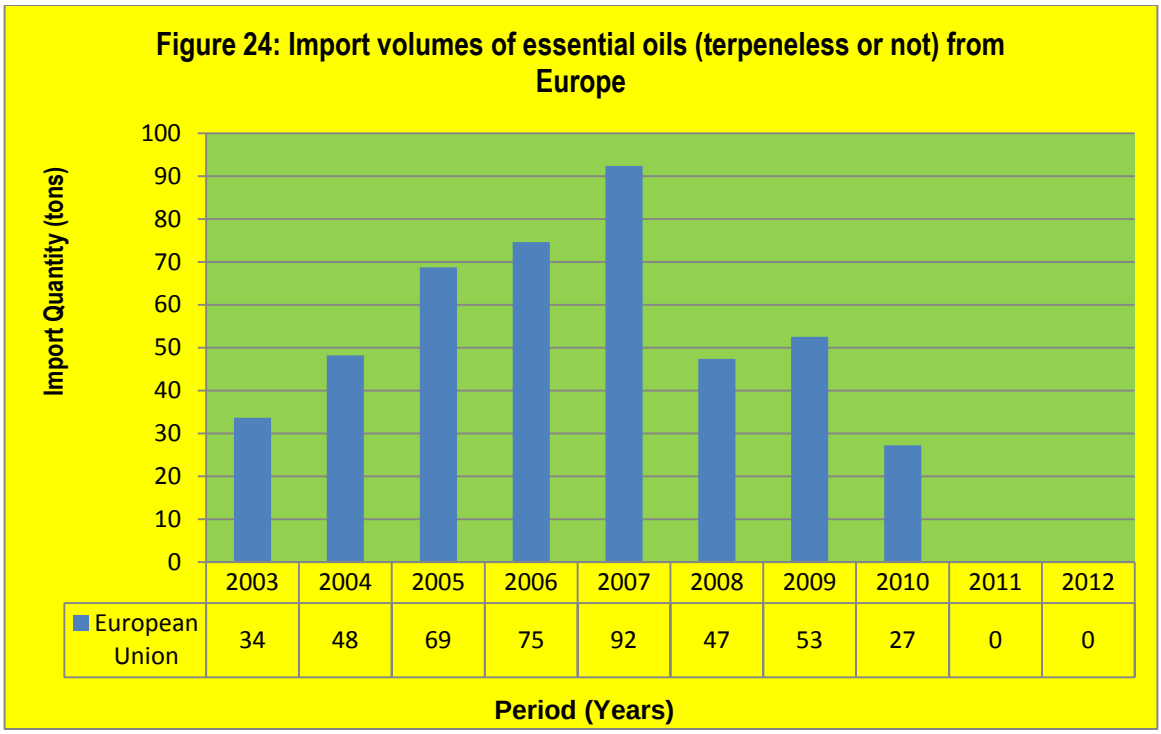
Figure 23 below shows import volumes of essential oils (terpeneless or not) from NAFTA into South Africa between 2003 and 2012.



Source: Quantec EasyData

The graph further shows that the major import market for essential oils (terpeneless or not) from NAFTA into South Africa was United States over the past ten years. The graph also shows that imports of essential oils (terpeneless or not) from United States into South Africa started to increase in 2003 and at the same time attained a peak at approximately 34 tons. The graph further shows that imports of essential oils (terpeneless or not) declined consistently from 2004 to 2012 until lowest levels of approximately 8 tons were experienced in 2010. The reason for that was due to stringent tariff agreements between United States and South Africa. Canada had very low or intermittent volumes of essential oils (terpeneless or not) imports into South Africa during the period under scrutiny of not more than 3 tons per annum. The figure also shows that there was a 100% decline in imports of essential oils (terpeneless or not) from the United States into South Africa in 2012 as compared to 2003.

Figure 24 depicts import volumes of essential oils (terpeneless or not) from Europe into South Africa between 2003 and 2012.

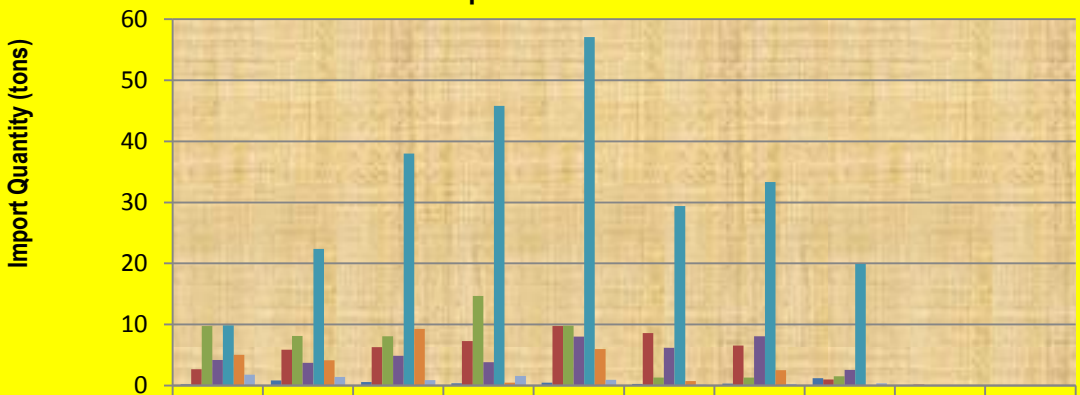


Source: Quantec EasyData

The figure further depicts that European Union commanded the greatest share in terms of imports volumes of essential oils (terpeneless or not) from Europe into South Africa with no competition from its counter parts during the period under scrutiny. The figure also depicts that imports of essential oils (terpeneless or not) from the European Union into South Africa started to increase in 2003 with a consistent increase from 2004 to 2006 until a peak was attained in 2007 at approximately 92 tons. Between 2008 and 2012, there was consistent decline in imports of essential oils (terpeneless or not) from the European Union into South Africa due to increasing demand for Asian essential oils products. The figure also depicts that there was a 100% decline in imports of essential oils (terpeneless or not) from the European Union into South Africa in 2012 as compared to 2003.

Figure 25 below illustrates import volumes of essential oils (terpeneless or not) from the European Union into South Africa between 2003 and 2012.

Figure 25: Import volumes of essential oils (terpeneless or not) from European Union



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Austria	0	1	1	0	0	0	0	1	0	0
Germany	3	6	6	7	10	9	7	1	0	0
Spain	10	8	8	15	10	1	1	2	0	0
France	4	4	5	4	8	6	8	3	0	0
United Kingdom	10	22	38	46	57	29	33	20	0	0
Italy	5	4	9	0	6	1	2	0	0	0
Netherlands	2	1	1	2	1	0	0	0	0	0

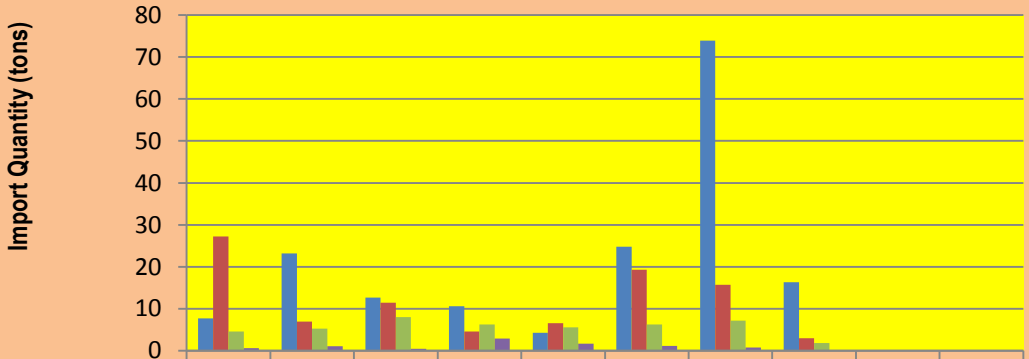
Period (Years)

Source: Quantec EasyData

The figure further illustrates that United Kingdom commanded the greatest share in terms of imports of essential oils (terpeneless or not) from the European Union into South Africa with less competition from the other EU counter parts. The graph also illustrates that imports of essential oils (terpeneless or not) from United Kingdom into South Africa started to increase in 2003, with a consistent increase and a peak in 2007 at approximately 57 tons. Imports of essential oils (terpeneless or not) from the other European Union member countries into South Africa were very low and not more than 15 tons per annum during the period under review. The graph also illustrates that there was a 100% decline in imports of essential oils (terpeneless or not) from the United Kingdom into South Africa in 2012 as compared to 2003.

Figure 26 below indicates import volumes of essential oils (terpeneless or not) from Asia into South Africa between 2003 and 2012.

Figure 26: Import volumes of essential oils (terpeneless or not) from Asia



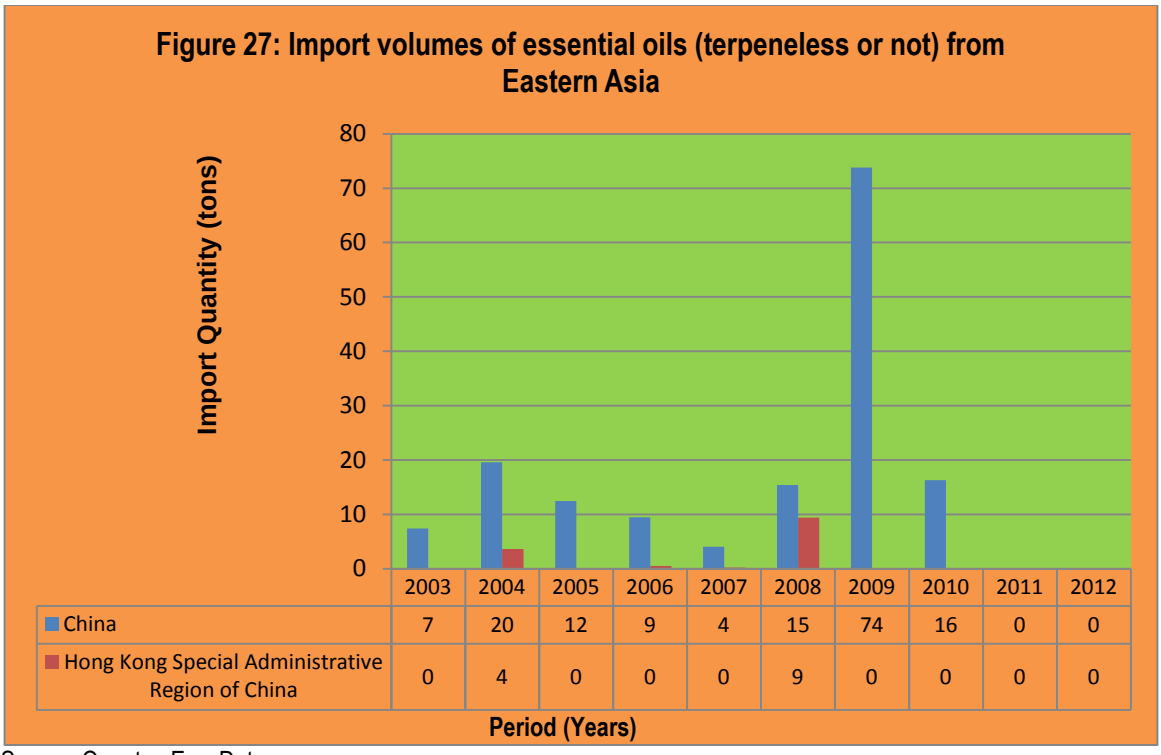
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Eastern Asia	8	23	13	11	4	25	74	16	0	0
South-central Asia	27	7	11	5	7	19	16	3	0	0
South-eastern Asia	5	5	8	6	6	6	7	2	0	0
Western Asia	1	1	0	3	2	1	1	0	0	0

Period (Years)

Source: Quantec EasyData

The graph further indicates that the major import market for essential oils (terpeneless or not) from Asia into South Africa was Eastern Asia, followed by South-central Asia over the past decade. The graph also indicates that imports of essential oils (terpeneless or not) from Eastern Asia into South Africa started to increase substantially in 2008 until a peak was attained in 2009 at about 74 tons. The graph further indicates that imports of essential oils (terpeneless or not) from South-central Asia into South Africa attained a peak in 2003 at approximately 27 tons. The graph also illustrates that imports of essential oils (terpeneless or not) from Western and South-eastern Asia into South Africa were very low and not more than 8 tons per annum during the period under scrutiny. In 2012, there was a 100% decline in imports of essential oils (terpeneless or not) from Eastern Asia into South Africa as compared to 2003.

Figure 27 below shows import volumes of essential oils (terpeneless or not) from Eastern Asia into South Africa between 2003 and 2012.

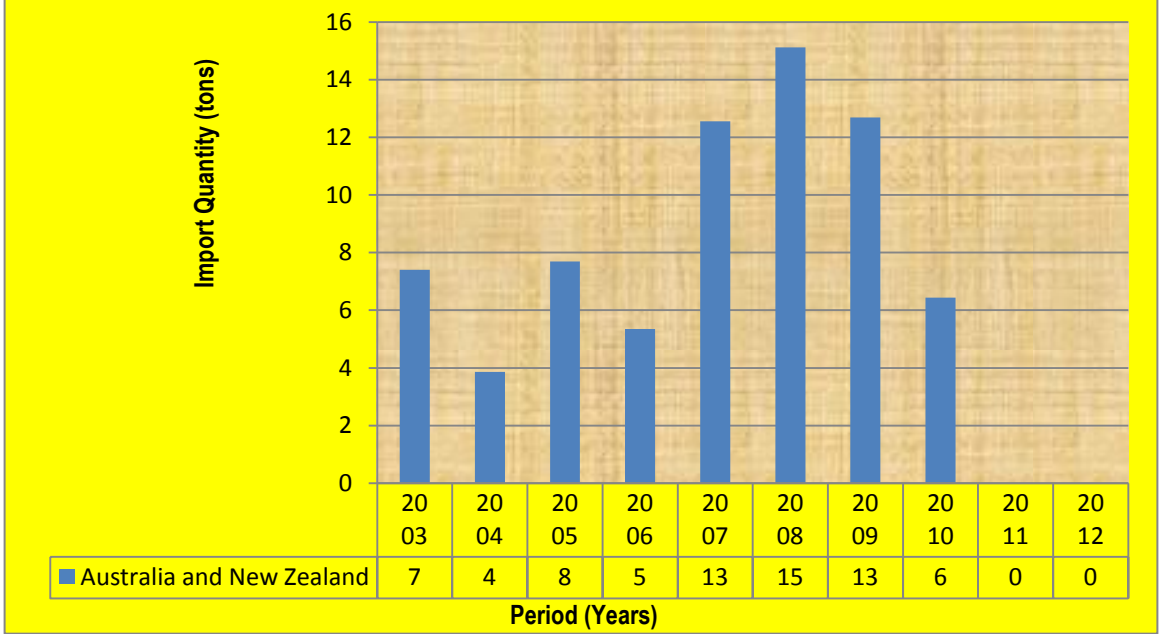


Source: Quantec EasyData

The graph further shows that the major import market for essential oils (terpeneless or not) from Eastern Asia into South Africa was China, followed by very intermittent volumes of essential oils from Hong Kong Region of China over the past decade. The graph also shows that imports of essential oils (terpeneless or not) from China into South Africa started to increase substantially in 2004, with a slight decline between 2005 and 2007 to lower levels of about 4 tons. In 2008, imports volumes of essential oils (terpeneless or not) from China into South Africa experienced a slight increase of about 15 tons until a peak was attained in 2009 at about 74 tons. The graph further shows that imports of essential oils (terpeneless or not) from Hong Kong Region of China into South Africa attained a peak in 2008 at approximately 9 tons. In 2012, there was a 100% decline in imports of essential oils (terpeneless or not) from China into South Africa as compared to 2003.

Figure 28 below depicts import volumes of essential oils (terpeneless or not) from Oceania into South Africa between 2003 and 2012.

Figure 27: Imports of essential oils (terpeneless or not) from Oceania



Source: Quantec EasyData

The graph further depicts that the major import market for essential oils (terpeneless or not) from Oceania into South Africa was Australia and New Zealand over the past ten years. The graph also depicts that imports of essential oils (terpeneless or not) from Australia and New Zealand into South Africa started to increase substantially in 2003, and then a decline occurred in 2004 and 2006. In 2007, there was a substantial increase in imports of essential oils (terpeneless or not) until a peak was attained in 2008 at approximately 15 tons. The graph further depicts that imports of essential oils (terpeneless or not) from Australia and New Zealand into South Africa experienced a consistent decline between 2009 and 2012 to lower levels of about 6 tons per annum. The figure also depicts that there was a 100% decline in imports of essential oils (terpeneless or not) from Australia and New Zealand into South Africa in 2012 as compared to 2003.

5. USES OF ESSENTIAL OILS

- Most essential oils are used for cooking, potpourri, crafting, cosmetics, massage, aromatherapy and other uses.
- Other essential oils are used to repel insects and other arthropods that are pests of humans, livestock, and pets (mosquitoes, fleas, ticks, etc).
- There are four broad sectors in which the oils are also used, including the flavor, pharmaceutical, personal care and industrial.

It is important to note that essential oils are not the same as perfume or fragrance oils. Where essential oils are derived from true plants, perfume oils are artificially created fragrances or contain artificial substances and do not offer the therapeutic benefits that essential oils offer. With so many plant species from which essential oil products are sourced it is even more problematic to

accurately classify which plant belongs to which plant family or species. However, among the plants notable for their essential oils are members of the following plant families: carrot, ginger, heath, laurel, mint, myrtle, olive, orchid, pulse, rose and rue.

Table 12: Common uses of selected essential oils

Essential oils	Common uses
Citrus	Industrial solvent, fragrance for cleaning products, flavoring
Spearmint	Toothpaste, mouthwash, confectionery flavoring
Peppermint	Toothpaste, mouthwash, chewing gum, food flavoring, cosmetics, and tobacco
Lavender/ Lavendin	Fragrances and toiletries
Eucalyptus	Cough/cold remedies, solvents, cleaning agents, flavoring
Tea tree	Toiletries, insect repellents, germicides, cosmetics
Boronia	Food flavoring, fragrance
Blackcurrant bud	Food and beverage flavoring

Source: South African Essential Oils Producers Association (SAEOPA)

Table 4 above shows the list of common uses for selected essential oils in different industries. There are a number of uses for essential oils in general with some of those uses mentioned above. The table indicates that most of the essential oils are used interchangeably in all segments, with most of them being used mainly in the food flavoring.

Table 13: Overview of end-user sectors markets

Sectors	Segments	Essential oils
Cosmetic industry	Personal care Soap and detergent Dental care	• Lemon • Peppermint • Orange • Patchouli • Rosewood • Mint • Spice • Eucalyptus and derivatives

Food industry	Soft drink Confectionery Tobacco Candy Processed and canned food products Chewing gum	• Citrus • Spice oleoresins • Vanilla • Flavor and floral oils • Oleoresins • Peppermint
Pharmaceutical industry	Homeopathy Health-care products Aromatherapy	• Orange • Citrus • Patchouli • Lavender • Geranium

Source: South African Essential Oils Producers Association (SAEOPA)

Table 5 shows the overview of the end user sectors markets for different kind of essential oils. It is indicated that most essential oils are mainly used in three sector markets such as the cosmetic industry, food industry and the pharmaceutical industry. The essential oils of orange and patchouli are used in both the cosmetic industry and also in the pharmaceutical industry, followed by the use of essential oils of orange in the food and pharmaceutical industry. These indicate that the essential oils can in a given time period perform different kind of functions or uses in different industries.

6. Q**UALITY & MAINTANANCE OF ESSENTIAL OILS**

Over and above the barriers to entry alluded to above there is also the issue of quality. Entering lucrative industries such as the rose and boronia can be difficult as they have exceptionally rigid quality standards which require sophisticated equipment to attain/extract from the plants. Above the general quality requirements, storage of the product is also highly important as it can compromise quality. Storage materials should be solid and should be glass bottles; aluminum bottles and drums (used mostly for expensive essential oils), lacquered and lined steel drums, and plastic drums in high density polyethylene, which are less expensive than lined steel drums.

Before they are stored for shipment oils should be dried by filtration or the use of anhydrous calcium sulphate. Head space should be filled with nitrogen gas although carbon dioxide is cheaper and easier to source in developing countries. The danger with using carbon dioxide though, is that it might react with residual moisture to form carbonic acid, which may react with essential oil ingredients.

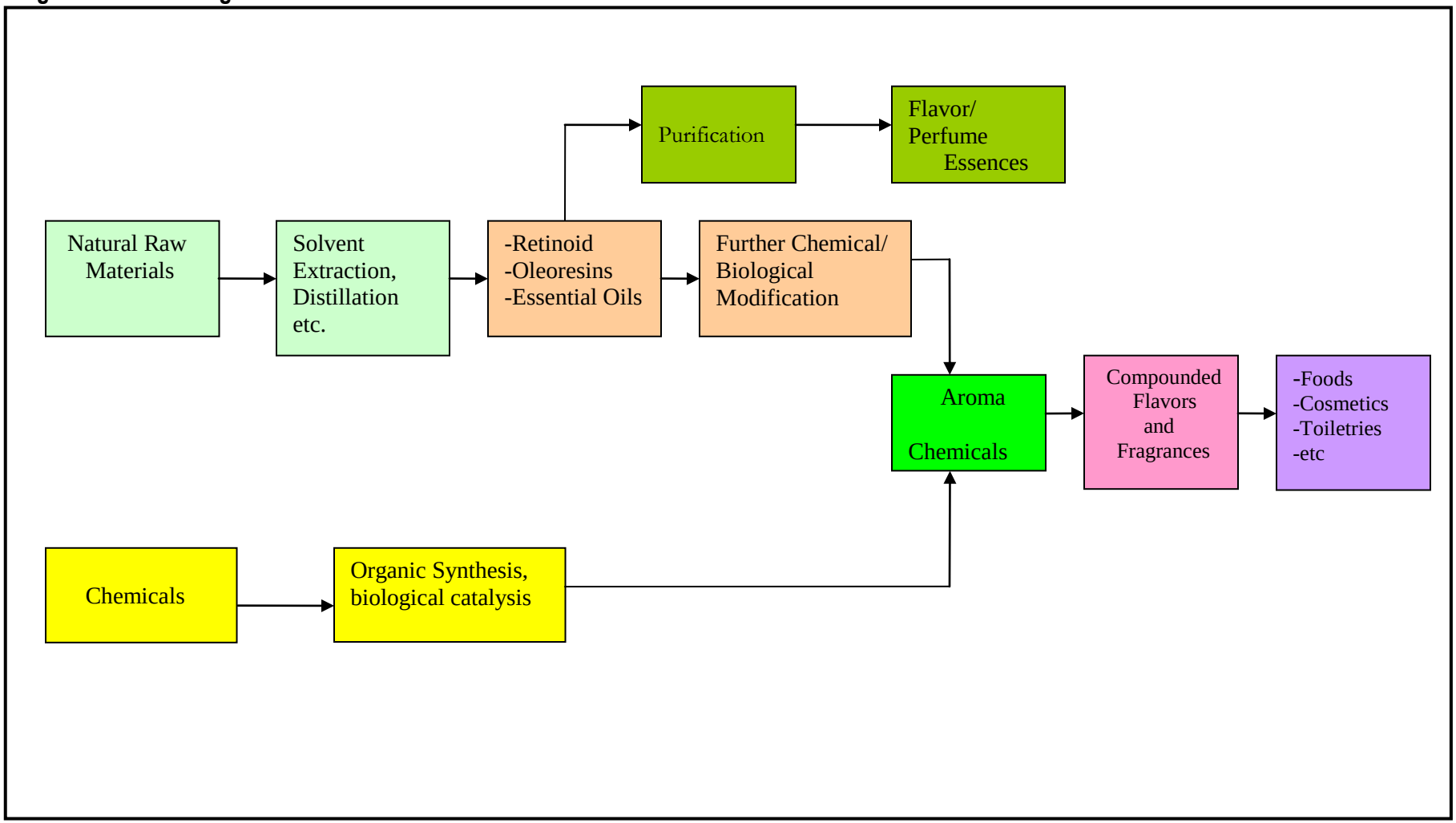
7. ESSENTIAL OIL VALUE CHAIN ANALYSIS

Essential oils in the value chain are generally used 'as is' when dealing with the flavor and fragrance industry, especially with the minor or smaller oils, such as rose geranium. Only some oils are further processed and made into synthetic chemicals.

It is also important to know the different role players that are a part of this value chain. One of the main organizations is the South African Essential Oils Producers Association (SAEOPA). SAEOPA was formed in 2000 as an alternative to the council for Scientific and Industrial Research, as a source of information about current and potential producers. It is a voluntary association and has an objective to support its members, who primarily comprise producers of essential oils. The organization (SAEOPA) supports its members throughout the value chain, beginning with the sharing of information on agricultural issues and ending with marketing matters.

The other role players in the essential oils value chain can be identified as; Growers, Distillers, Researchers, Government, Marketers and also the Consumers or Buyers. The value chain for essential oils is illustrated on the figure below.

Diagram 1: Processing of essential Oils



Source: SAEOPA (South African Essential Oil Producer Association)

The value chain of Essential Oils basically follows this pattern identified on Diagram 2 below.

Diagram 2: Value chain pattern of the Essential oils

The value chain at farm gate and wholesale levels vary greatly across products such that it is impossible to develop stylized value chains. Diagram 2 represents the general essential oils' value chain summarized in seven stages, which can be described as follows;

- The crop selection stage provides knowledge about the local soil, climate, correct genotype and potential markets.
- Crop cultivation stage which gives the sourcing of plant material (seeds or seedling), planting, crop management (pests and irrigation) and harvesting;
- Input Supply stage which provides information about the correct measure and application of different inputs according to the crop requirements.
- Primary processing stage shows the application of drying, distillation, quantities (economic yields), qualities (chemical and sensory qualities) and certification.
- Further beneficiation involves rectification, fractionating and formulations; and
- Sales and marketing inform about the market knowledge, reputation and market access.

While it is difficult to quantify costs from farm gate to wholesale levels, it is estimated that harvesting costs make up between 10 to 35% of farm gate costs, with an average of 22%. Pest, weed and disease management costs are about 11 to 37%, with a mean of 22%. Nutrition, which includes irrigation and fertilizers are about 10% of grower costs. At wholesale level there is even greater variability as it depends on the extent of refinement and processing of the oil. Extraction costs are estimated to range between 60 to 75% of processor costs.

Diagram 3: Essential Oil Value Chain Tree

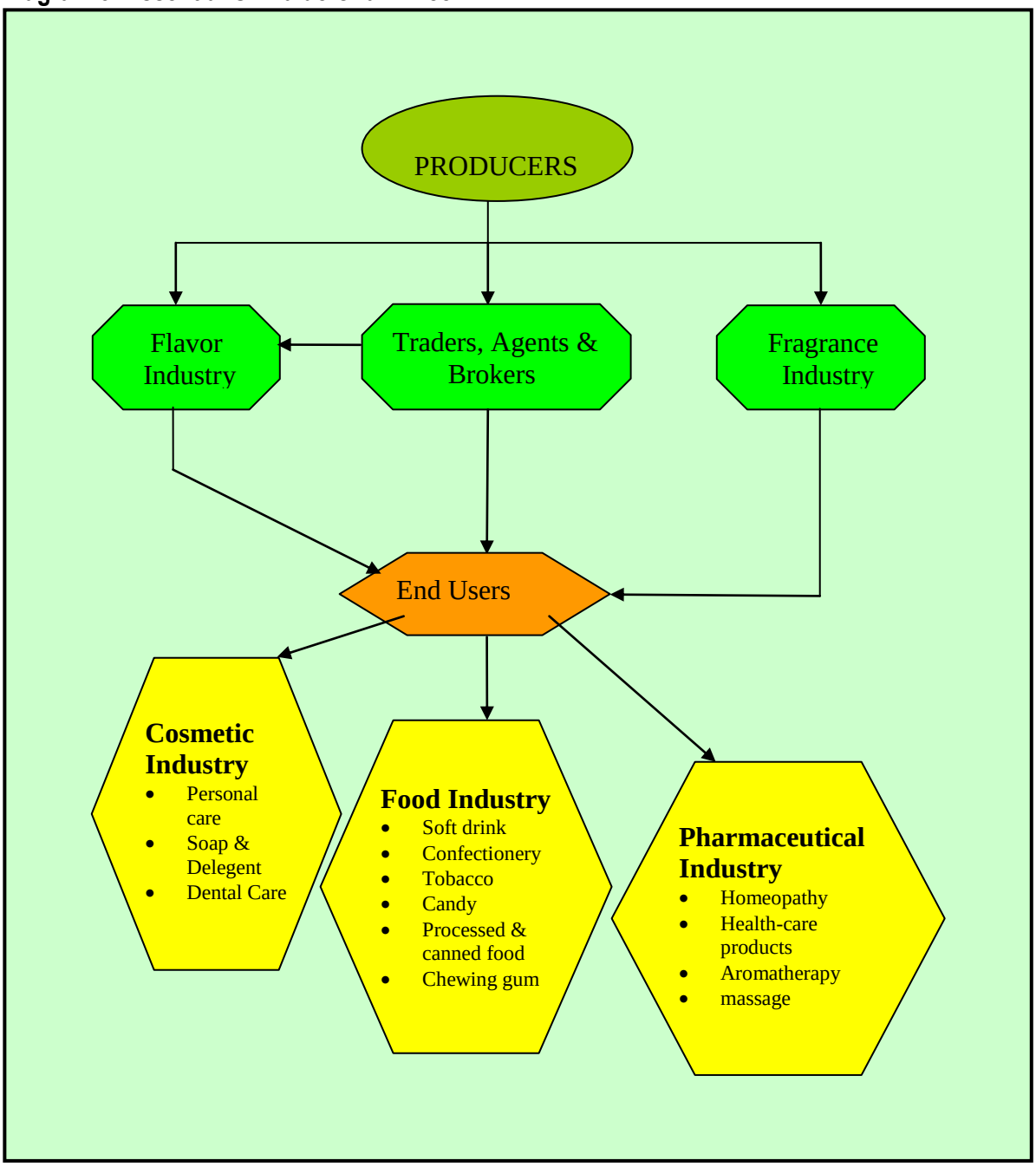
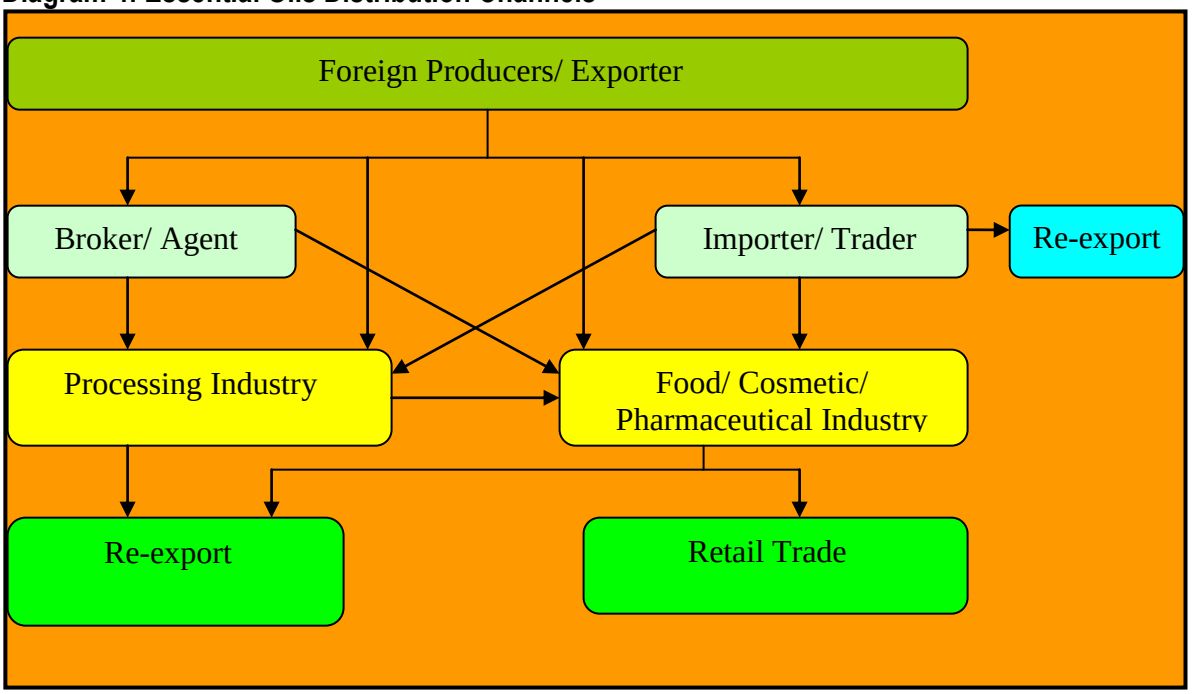


Diagram 3 above represents the various industries that are fully playing a part in the use of essential oils. Farmers can produce Essential oils and sell directly to the fragrance industry, flavor industry and to the traders who can also supply the flavor industry. The fragrance industry and traders may also buy the product directly from the producer and supply the end users, and after which the products reached the end users, is then supplied to the three different industries specifically, the cosmetic, food, and the pharmaceutical industry.

8. ESSENTIAL OILS DISTRIBUTION CHANNELS

International trade for the bulk essential oils (like citrus) takes place on a large scale. Shipments may be diverted to neighboring countries, and there is a substantial re-export business. Most of the leading traders in the European Union supply several countries. The re-exports are important, as they can reduce the effect of supply irregularities and domestic imbalances in supply and demand caused by the vagaries of climate, crop disease, inadvertent overstocking or unexpected peaks in demand. Some producers will bargain directly with major end-users. Other producers will sell through independent traders (importers) or sales agents. Figure below shows the various distribution channels for essential oils.

Diagram 4: Essential Oils Distribution Channels



There are four major types of business partners for exporters of essential oils such as; Agents, Importers or Traders, The processing industry (processing importer), and the end product manufacturers. The trade structure illustrated in figure 4 changes constantly, the distribution channels and the specific functions mentioned are not as clear-cut as they might seem. However, sixty to eighty percent (60-80%) of the essential oil trade goes directly from producers or exporters to processing importers such as the multinational flavor houses. An advantage of processing importers is that they can create a total flavor composition and give excellent service. This can facilitate co-operation with end-product manufactures in the food or cosmetic industries. Many end-product manufacturers do not usually purchase essential oils directly from producers. The essential oil market is somewhat fragmented between the following end-user market sectors; Aromatherapy, Natural personal care and pharmaceutical, Flavor and Fragrance, Cosmetics and Beverages.

8.1 Value Adding in South Africa

The production process and people involved vary depending on the type and end use of the product. Common stages of production include growing and harvesting the crop, extraction, further processing and the oil, increasing its suitability for end use. Value adding in the form of products such as creams, bath salts, candles, potpourri, and gifts has proved more profitable for producers in South Africa. The booming tourism industry has contributed to the success and survival of producers in difficult times.

9. MARKET ACCESS

Table 14 below shows tariffs that are applied by various countries to the exports of essential oils (nes) originating from South Africa (2012).

COUNTRY (IMPORTERS)	PRODUCT DESCRIPTION	TRADE REGIME DESCRIPTION	APPLIED TARIFFS 2012	ESTIMATED TOTAL *AD VALOREM* EQUIVALENT TARIFF 2011
Zimbabwe	Ess oils, whether or not terpeneless, incl concretes.	MFN duties (Applied)	5.00%	5.00%
Malawi	Ess oils, whether or not terpeneless, incl concretes.	MFN duties (Applied)	0.00%	0.00%
Mozambique	Ess oils, whether or not terpeneless, incl concretes(excl. those of citrus fruit & mint)	MFN duties (Applied)	2.5%	2.5%
	Ess oils, whether or not terpeneless, incl concretes(excl. those of citrus fruit & mint)	Preferential tariff for South Africa	0.00%	0.00%
Canada	Terpenic oils of clove, niaouli & ylang-ylang, incl concretes & absolutes.	MFN duties (Applied)	0.00%	0.00%
United Kingdom	Terpeneless oils of clove, niaouli & ylang-ylang, incl concretes & absolutes.	MFN duties (Applied)	4.4%	4.4%
		Preferential tariff for South Africa	0.00%	0.00%
Spain	Ess oils (terpeneless or not), including concretes & absolutes, resinoids, extracted oleoresins, concentrates of ess oils in fats.	MFN duties (Applied)	4.4%	4.4%
		Preferential tariff for South Africa	0.00%	0.00%
Germany	Terpeneless oils of clove, niaouli & ylang-ylang, incl concretes & absolutes.	MFN duties (Applied)	4.4%	4.4%
		Preferential tariff for South Africa	0.00%	0.00%

Source: ITC Market Access Map

Table 14 above indicates the level of tariffs applied by various countries to essential oils, nes originated from South Africa during 2012. The table further indicates that countries such as Zimbabwe, United Kingdom, Spain and Germany applied tariffs that ranged between 4.40% and 5.00% to essential oils, nes originating from South Africa during 2012.

Table 15 below indicates tariffs that are applied by various countries to the exports of essential oils of peppermints from South Africa (2012).

COUNTRY (IMPORTERS)	PRODUCT DESCRIPTION	TRADE REGIME DESCRIPTION	APPLIED TARIFFS 2012	ESTIMATED TOTAL AD VALOREM EQUIVALENT TARIFF 2011
Thailand	Terpenic oils of peppermint "Mentha piperita", incl. concretes & absolutes.	MFN duties (Applied)	0.00%	0.00%
Japan	Oleos essenciais (desterpenados ou nao), incl. os chamados (concretos) ou.	MFN duties (Applied)	3.20%	3.20%
	Oleos essenciais (desterpenados ou nao), incl. os chamados (concretos) ou.	General tariff for GSP countries	0.00%	0.00%
China	Oils of peppermint Mentha piperita, whether or not terpeneless, incl concretes & absolutes	MFN duties (Applied)	20.00%	20.00%
Chinese Taipei	Terpeneless oils of peppermint "Mentha piperite", incl. concretes & absolutes	General tariff	0.00%	0.00%
Republic of Korea	Oils of peppermint Mentha piperita, whether or not terpeneless, incl concretes & absolutes	General tariff	0.00%	0.00%
United States of America	Essential oils (terpeneless or not), incl. concretes & absolutes, resinoids, extracted oleoresinoids.	MFN duties (Applied)	4..20%	4.20%
	Essential oils (terpeneless or not), incl. concretes & absolutes, resinoids, extracted oleoresinoids.	General tariff for GSP countries	0.00%	0.00%

France	Oils of peppermint Mentha piperita, whether or not terpeneless, incl concretes & absolutes	MFN duties (Applied)	0.00%	0.00%

Source: ITC Market Access Map

Table 15 above shows the level of tariffs applied by various countries to essential oil of peppermint originated from South Africa during 2012. Non SADC countries such as China, Japan and United States of America charged South Africa a tariff of between 3.20% and 20.00% when the country exports essential oils of peppermint during 2012. There was no tariff barrier for South African essential oils of peppermint exports from South Africa to Germany and Belgium because of the common trade agreement between South Africa and the European Union, which makes it for all EUCountries to maintain a preferential tariff of 0.00% for South African products.

Table 16 below illustrates tariffs that are applied by various countries to the exports of essential oils of oranges from South Africa (2012).

COUNTRY (IMPORTERS)	PRODUCT DESCRIPTION	TRADE REGIME DESCRIPTION	APPLIED TARIFFS 2011	ESTIMATED TOTAL AD VALOREM EQUIVALENT TARIFF 2011
China	Oils of sweet & bitter orange, whether or not terpeneless, incl. concretes & absolutes (excl. orange flower oil)	MFN duties (Applied)	20.00%	20.00%
Japan	Oils of sweet & bitter orange, whether or not terpeneless, incl. concretes & absolutes (excl. orange flower oil)	MFN duties (Applied)	0.00%	0.00%
India	Ess oils (terpeneless or not), including concretes & absolutes, resinoids, extracted oleoresins, concentrates of ess oils in fats.	MFN duties (Applied)	20.00%	20.00%

Chinese Taipei	Oils of sweet & bitter orange, whether or not terpeneless, incl. concretes & absolutes (excl. orange flower oil)	MFN duties (Applied)	0.00%	0.00%
Korea republic	Oils of sweet & bitter orange, whether or not terpeneless, incl. concretes & absolutes (excl. orange flower oil)	General tariff	0.00%	0.00%
United States of America	Terpenic oils of sweet & bitter orange, incl. concretes & absolutes (excl. orange-flower oil)	MFN duties (Applied)	2.70%	2.70%
	Terpenic oils of sweet & bitter orange, incl. concretes & absolutes (excl. orange-flower oil)	General tariff for GSP countries	0.00%	0.00%
France	Terpenic oils of sweet & bitter orange, incl. concretes & absolutes (excl. orange-flower oil)	MFN duties (Applied)	7.00%	7.00%
	Terpenic oils of sweet & bitter orange, incl. concretes & absolutes (excl. orange-flower oil)	General tariff for GSP countries	0.00%	0.00%
	Terpenic oils of sweet & bitter orange, incl. concretes & absolutes (excl. orange-flower oil)	General tariff for South Africa	0.00%	0.00%

Source: ITC Market Access Map

Table 16 above illustrates tariffs that are applied by various countries to the exports of essential oils of oranges from South Africa during the 2012. The table further illustrates that countries such as France, Korea and Japan had free trade agreements under EU. Asian countries China and India) applied a tariff of 20.00% respectively to essential oils of oranges originating from South Africa during the period under examination.

Table 17 below depicts tariffs that are applied by various countries to the exports of essential oils of lemon from South Africa (2012)

COUNTRY (IMPORTERS)	PRODUCT DESCRIPTION	TRADE REGIME DESCRIPTION	APPLIED TARIFFS 2011	ESTIMATED TOTAL *AD VALOREM* EQUIVALENT TARIFF 2011
Italy	Ess oils of lemon, whether or not terpeneless, incl concretes.	MFN duties (Applied)	7.00%	7.00%
		Preferential tariff for GSP countries	0.00%	0.00%
		Preferential tariff for South Africa	0.00%	0.00%
France	Ess oils, whether or not terpeneless, incl concretes.	MFN duties (Applied)	7.00%	7.00%
		Preferential tariff for GSP countries	0.00%	0.00%
		Preferential tariff for South Africa	0.00%	0.00%
Austria	Lemon oil	MFN duties (Applied)	7.00%	7.00%
		Preferential tariff for GSP countries	0.00%	0.00%
		Preferential tariff for South Africa	0.00%	0.00%
Malawi	Ess oils (terpeneless or not), including concretes & absolutes, resinoids, extracted oleoresins, concentrates of ess oils in fats.	MFN duties (Applied)	0.00%	0.00%
Mozambique	Terpeneless oils of lemon, incl. concretes & absolutes.	MFN duties (Applied)	2.50%	2.50%
	Terpeneless oils of lemon, incl.	Preferential tariff for South	0.00%	0.00%

	concretes & absolutes	Africa		
Zimbabwe	Oils of lemon whether or not terpeneless, incl. concretes and absolutes.	MFN duties (Applied)	5.00%	5.00%
Australia	Oils of lemon whether or not terpeneless, incl. concretes and absolutes.	MFN duties (Applied)	0.00%	0.00%

Source: ITC Market Access Map

Table 17 above depicts tariffs that are applied by various countries to the exports of essential oils of lemon originating from South Africa during 2012. The table again further shows that South Africa and EU had a free trade agreement which led to 0.00% tariffs applied by Italy and France. Zimbabwe applied a tariff of 5.00% to essential oils of lemon originating from South Africa in 2012. It is also important to note that South Africa apply 0.00% import tariffs to different products of essential oils originating from various world countries during 2012.

10. MARKET INTELLIGENCE

Table 18: List of importing markets for essential oils (nes) exported by South Africa in 2012

Importers	Trade Indicators							Tariff (estimated) faced by South Africa (%)
	Exported value 2012 (USD thousand)	Share in South Africa's exports (%)	Exported quantity 2012 (tons)	Unit value (USD/unit)	Exported growth in value between 2008-2012 (%, p.a.)	Exported growth in quantity between 2008-2012 (%, p.a.)	Exported growth in value between 2011-2012 (%, p.a.)	
World	6071	100	837	7253	44	51	62	
United States of America	2098	34.6	137	15314	27	44	412	0
Zimbabwe	1362	22.4	402	3388	198	138	218	5

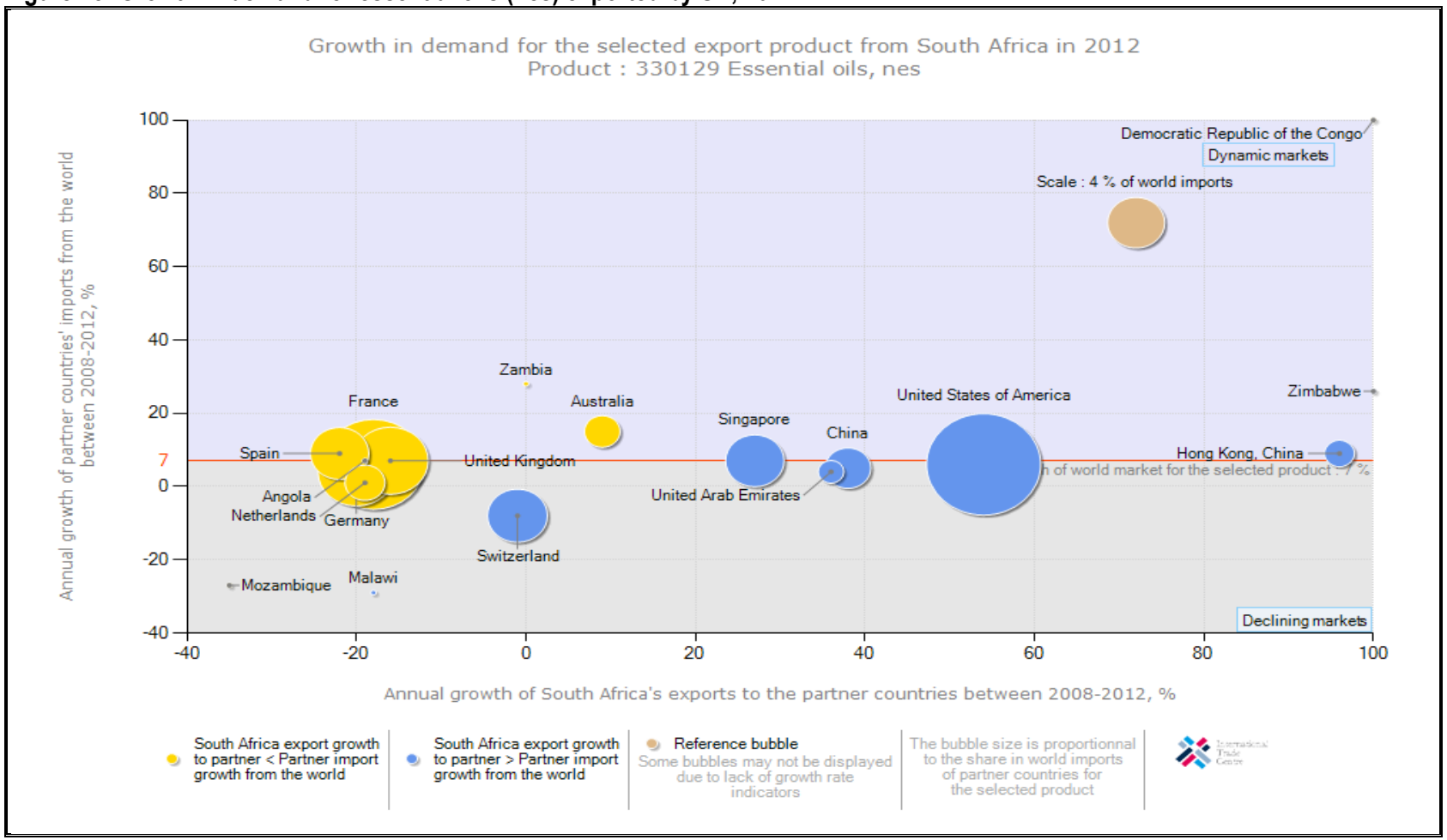
Importers	Trade Indicators							Tariff (estimated) faced by South Africa (%)
	Exported value 2012 (USD thousand)	Share in South Africa's exports (%)	Exported quantity 2012 (tons)	Unit value (USD/unit)	Exported growth in value between 2008-2012 (%, p.a.)	Exported growth in quantity between 2008-2012 (%, p.a.)	Exported growth in value between 2011-2012 (%, p.a.)	
Germany	695	11.4	78	8910	85	150	-1	0
United Kingdom	418	6.9	42	9952	43	58	-43	0
Netherlands	369	6.1	64	5766	32	-1	-48	0
Israel	361	5.9	69	5232	149		1404	10
Singapore	270	4.4	5	54000	66	50	4400	0
Canada	113	1.9	15	7533	58	97	-20	0
France	100	1.6	1	100000	19	-14	-22	0
Zambia	55	0.9	4	13750	-3	-16	2650	0
Japan	46	0.8	6	7667	16	57	-6	0
Mozambique	45	0.7	5	9000	72		2150	0
China	36	0.6%	1	36000	20	0	24	20
Australia	22	0.4	0		-12		120	0
Malawi	18	0.3	3	6000	32	32	-10	0

Source: ITC Trade Map

- Table 18 indicates the list of importing markets for essential oils, nes exported by South Africa to the world in 2012. The table further indicates that South Africa exported a total of 837 tons of essential oils, nes to the world, with greater volumes being exported to Zimbabwe, followed by United States of America and Germany. The table also indicates that South Africa's exports of essential oils, nes to the world increased by 677 tons in 2012, the later also indicates that South Africa is a net exporter of essential oils, nes over the same period. The table further indicates that United States of America as the leading import market commanded the greatest share of essential oils, nes

exports from South Africa at approximately 34.6% share, while Zimbabwe commanded 22.4% share of essential oils, nes exports from South Africa during 2012. Germany commanded 11.4% share of essential oils, nes exports from South Africa during 2012. Exports of essential oils, nes from South Africa to United States of America experienced an increase of about 27% and 44% in value and quantity respectively between 2008 and 2012. During the period under review, United States of America has increased its export value of essential oils, nes imports from South Africa by 412 tons between 2011 and 2012. The table also indicated that South Africa's exports of essential oils, nes to United States of America in value between 2011 and 2012 were higher than the world average exports. The table further indicates that Zimbabwe was one of the most competitive import markets for essential oils, nes during 2012 although their share in South Africa's exports was lower than that of USA at 22.4%. Exports of essential oils, nes from South Africa to Zimbabwe experienced an increase of about 198% and 138% in value and quantity respectively between 2008 and 2012. During the same period under review, Zimbabwe has increased its exported growth in value of essential oils, nes imports from South Africa by 218 tons between 2011 and 2012.

Figure 28: Growth in demand for essential oils (nes) exported by SA, 2012

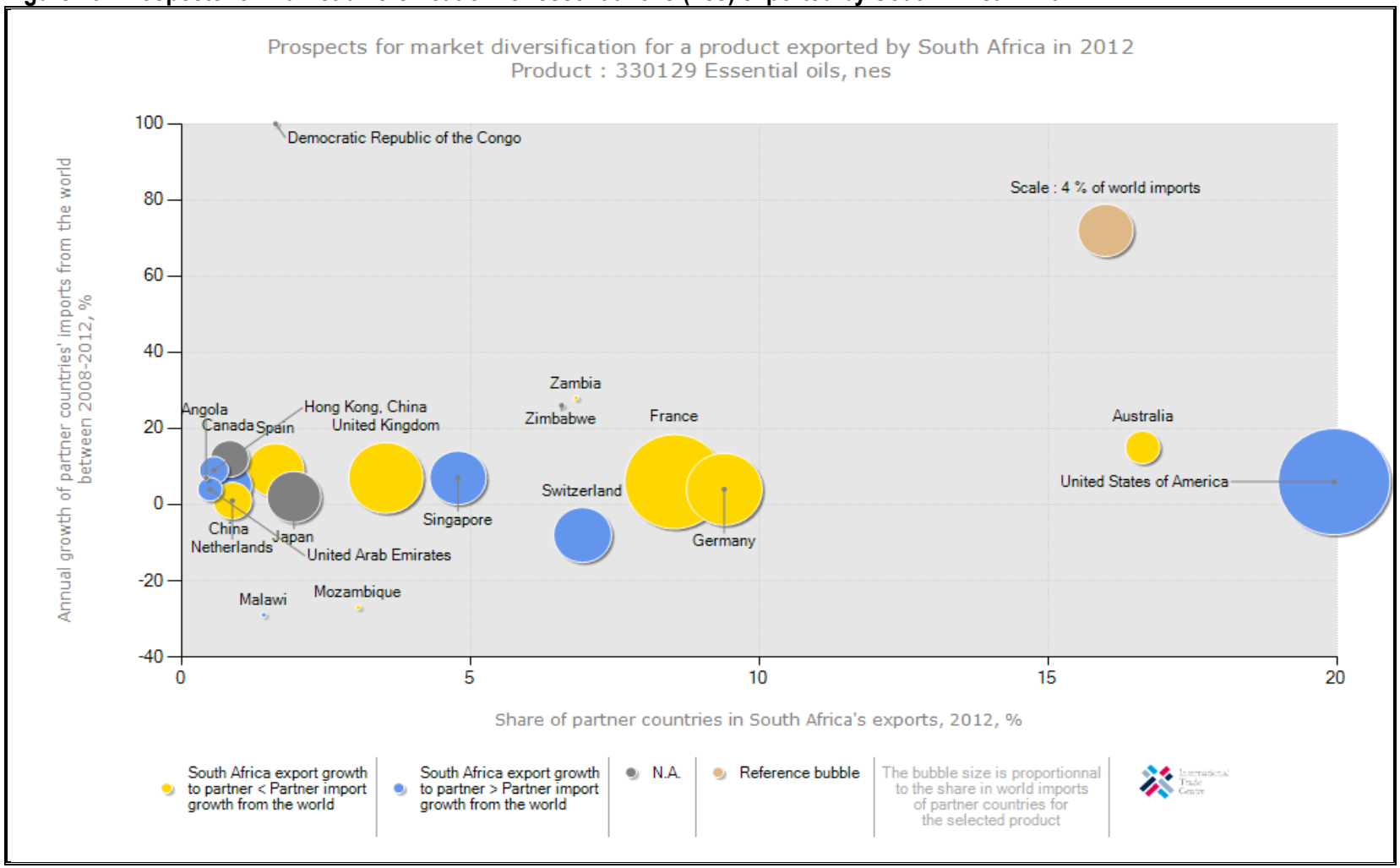


Source: ITC Trade Map

Figure 28 shows that United States of America and Germany were the biggest import markets for essential oils (nes) exported by South Africa to the world in 2012. The figure further shows that Zimbabwe was the most competitive in terms of growth in demand for essential oils (nes) exports from South Africa with an increase of 100% annual growth of South Africa's exports of essential oils between 2008 and 2012. Hong Kong, China was the second most competitive in terms of growth in demand for essential oils (nes) exports from South Africa with an increase of 98% annual growth of South Africa's exports of essential oils between 2008 and 2012. The figure also shows that the annual growth of South Africa's exports to China during the period 2012 experienced an increase about 40% but in a declining market. The figure further shows that the annual growth of Zimbabwe's imports of essential oils, nes from the world between 2008 and 2012 also experienced an increase of about 22% in a dynamic market.

However, countries such as United States of America, China and United Arab Emirates increased their share of essential oils (nes) imports to the total South Africa's exports growth but decreased their annual growth of imports from the world between 2008 and 2012.

Figure 29: Prospects for market diversification for essential oils (nes) exported by South Africa in 2012



Source: ITC Trade Map

Figure 29 depicts prospects for market diversification of essential oils (nes) exported by South Africa to the world in 2012. The bubble graph further depicts that United States of America, France and Germany were the main markets for essential oils (nes) exported by South Africa between 2008 and 2012. The bubble graph also depicts that United States of America commanded the greatest share in South Africa's exports in 2012 at approximately 20%.

If South Africa were to look for alternative options in terms of export markets for essential oils (nes) small but attractive markets exist in Hong Kong, China, United Arab Emirates, Singapore and Canada. The same small markets (countries) of essential oils (nes) mentioned above were importing less essential oils (nes) from South Africa and also less essential oils (nes) from the world between 2008 and 2012.

Table 19: List of supplying markets for essential oils (nes) imported by South Africa in 2012

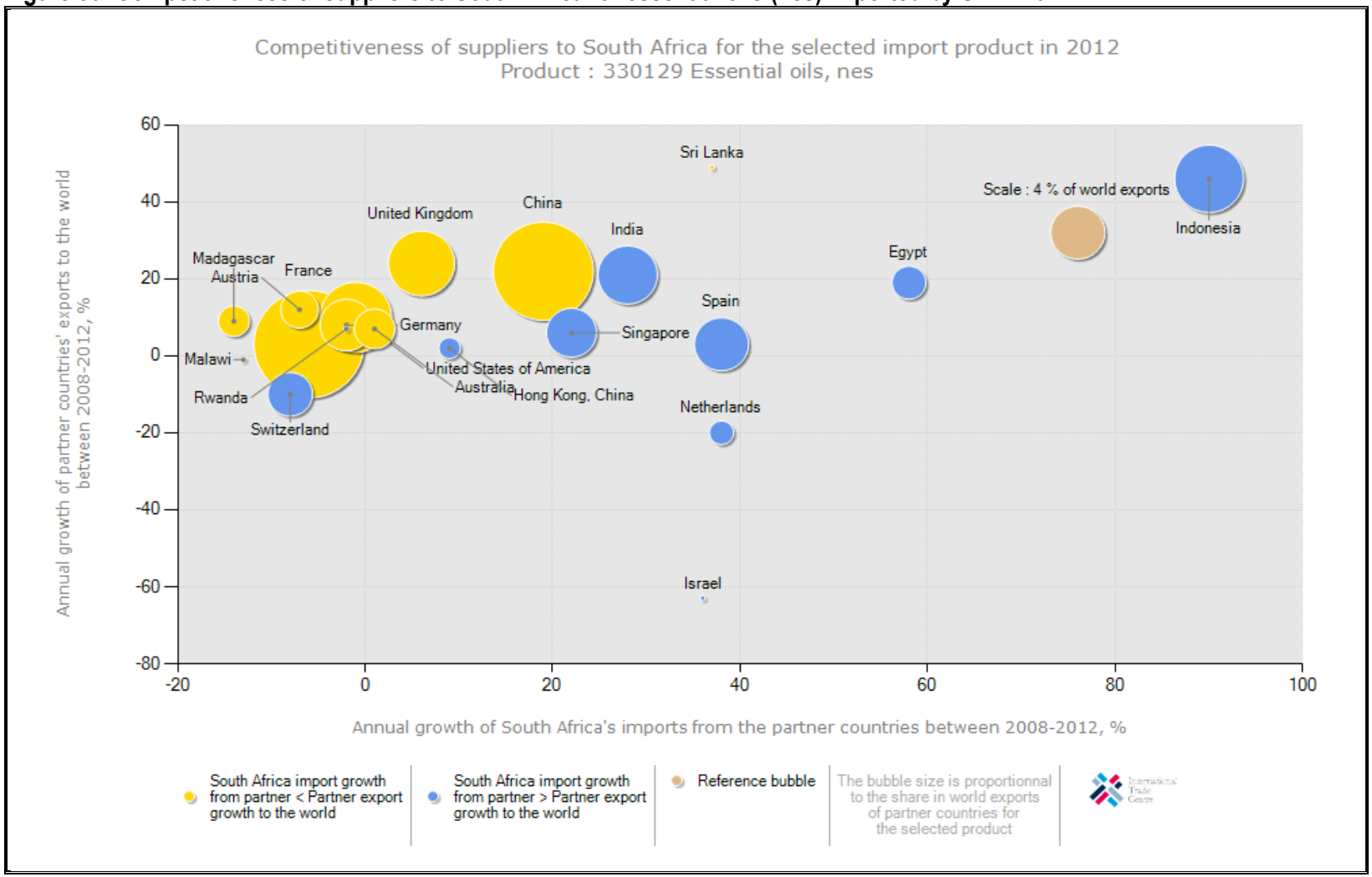
Exporters	Trade Indicators							Tariff (estimated) applied by South Africa (%)
	Imported value 2012 (USD thousand)	Share in South Africa's imports (%)	Imported quantity 2012 (tons)	Unit value (USD/unit)	Imported growth in value between 2008-2012 (%, p.a.)	Imported growth in quantity between 2008-2012 (%, p.a.)	Imported growth in value between 2011-2012 (%, p.a.)	
World	951	100	45	21133	20	22	13	
United States of America	206	21.7	6	34333	41	12	11	0
United Kingdom	189	19.9	7	27000	-1	-5	14	0
Italy	175	18.4	5	35000	68	58	18	0
Germany	107	11.3	1	107000	65	0	15	0
Mexico	94	9.9	4	23500	30	41	141	0
Brazil	67	7	14	4786				0
India	25	2.6	1	25000	30		257	0
Zimbabwe	22	2.3	4	5500		56	38	0

Source: ITC Trade Map

Table 19 illustrates the list of supplying markets for essential oils (nes) imported by South Africa from the world in 2012. The table further illustrates that South Africa imported a total of 45 tons of essential oils (nes) from the world during 2012, and that means a decrease of about 429 tons. The table also illustrates that South Africa was a net exporter of essential oils to the world during 2012. The table further illustrates that United States of America was the biggest importing market of essential oils (nes) into South Africa in terms of value at approximately US$ 206, followed by United Kingdom at approximately US$ 189 and Italy at approximately US$ 175. The table also illustrates that United States of America exported less quantities of essential oils (nes) to South Africa of about 6 tons in volume terms as compared to Brazil and United Kingdom which exported 14 and 7 tons respectively during 2012. South Africa's imports from United States of America increased by 41% and 12% in value and in volume terms respectively as compared to imports from the United Kingdom that decreased by 1% and 5% in value and quantity respectively during 2012.

During 2012, Brazil, United Kingdom and United States of America were the major suppliers of essential oils (nes) imported by South Africa, with United States of America commanding the greatest share at 21.7% of South Africa's essential oils (nes) imports, followed by United Kingdom with 19.9% share and Italy with 18.4% share.

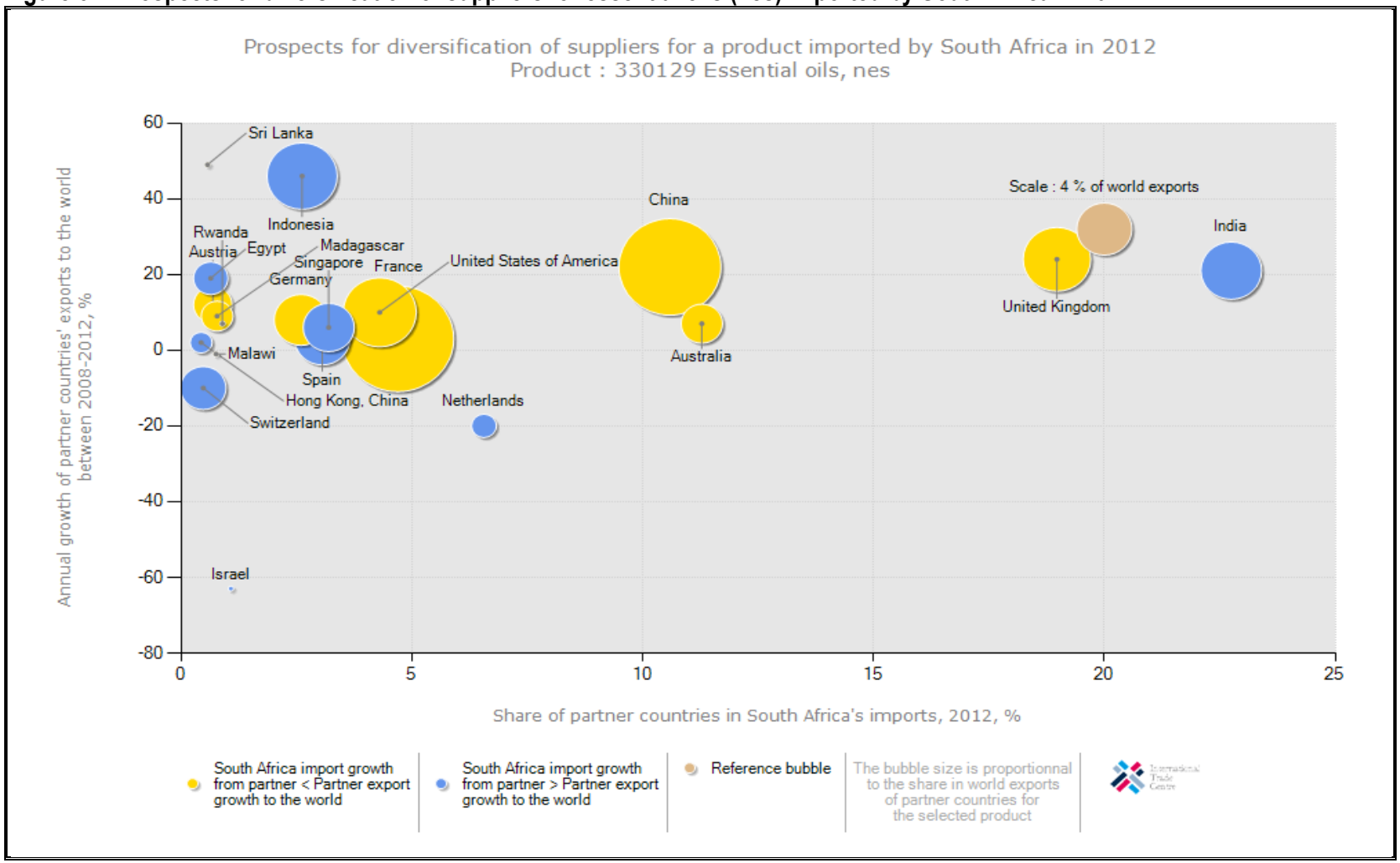
Figure 30: Competitiveness of suppliers to South Africa for essential oils (nes) imported by SA in 2012



Source: ITC Trade Map

Figure 30 depicts competitiveness of suppliers to South Africa for essential oils (nes) imports from the world in 2012. The figure further depicts that United Kingdom, Germany and China were the biggest suppliers of essential oils (nes) imported by South Africa during 2012. The figure also depicts that Indonesia, followed by Egypt, Spain and Netherlands (even though a small market) was the most competitive supplier of essential oils (nes) to South Africa with an imported growth in value of approximately 90% per annum between 2008 and 2012, followed by Egypt at 59% per annum, Spain and Netherlands at 39% per annum respectively.

Figure 31: Prospects for diversification of suppliers for essential oils (nes) imported by South Africa in 2012



Source: ITC Trade Map

Figure 31 shows prospects for diversification of suppliers for essential oils (nes) imported by South Africa from the world in 2012. The figure further shows that France, United States of America, China and United Kingdom were the biggest suppliers of essential oils (nes) to South Africa during the period under scrutiny. The graph also shows that if South Africa had to diversify its suppliers of essential oils (nes), small and attractive markets exist in India at 23% share in South Africa's imports, followed by Indonesia, Egypt, Hong Kong, China, Switzerland and Netherlands.

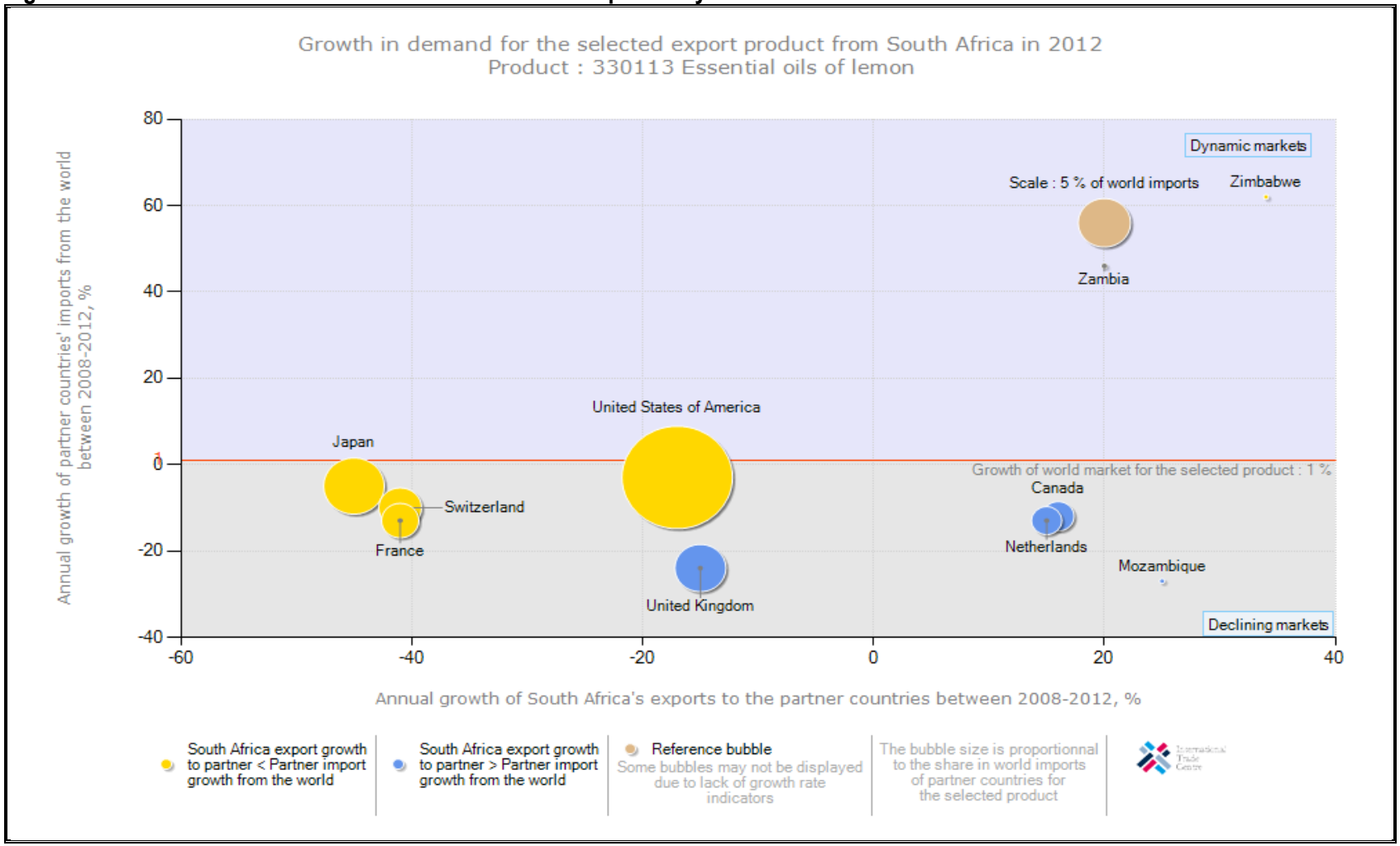
Table 20: List of importing markets for essential oils of lemon exported by SA in 2012

Importers	Trade Indicators							Tariff (estimated) faced by South Africa (%)
	Exported value 2012 (USD thousand)	Share in South Africa's exports (%)	Exported quantity 2012 (tons)	Unit value (USD/unit)	Exported growth in value between 2008-2012 (%, p.a.)	Exported growth in quantity between 2008-2012 (%, p.a.)	Exported growth in value between 2011-2012 (%, p.a.)	
World	2914	100	256	11383	-16	-8	-66	
United States of America	1223	42	73	16753	-17	-17	-81	0
Netherlands	1107	38	115	9626	15	38	-22	0
United Kingdom	363	12.5	32	11344	-15	-7	23	0
Japan	69	2.4	3	23000	-45	-33	146	0
Israel	47	1.6	5	9400			-53	10
Germany	41	1.4	5	8200				0
France	11	0.4	0		-41		-74	0
Zimbabwe	11	0.4	1	11000	34	0	-45	5

Source: ITC Trade Map

Table 20 depicts the list of importing markets for essential oils of lemon exported by South Africa to the world in 2012. The table further depicts that the biggest importing markets for essential oils of lemon was United States of America, followed by Netherlands and United Kingdom over the period under scrutiny. The table also depicts that South Africa exported 256 tons of essential oils of lemon to the world in 2012 as compared to 374 tons exported in 2011. The table further depicts that United States of America imported 73 tons of essential oils of lemon, while Netherlands imported 115 tons of essential oils of lemon during the same period. South Africa's exports of essential oils of lemon to the United States of America decreased by 17% in value and the quantity respectively between 2008 and 2012. South Africa's exports of essential oils of lemon to Netherlands increased in value by 15% and in quantity by 38% as compared to the decline of 16 % and 8% of the world average between 2008 and 2012. The table also depicts that United States of America also had a highest share in South Africa's exports of essential oils of lemon of about 42% as compared to Netherlands with 38% share and United Kingdom with 12.5% share.

Figure 32: Growth in demand for essential oils of lemon exported by SA in 2012

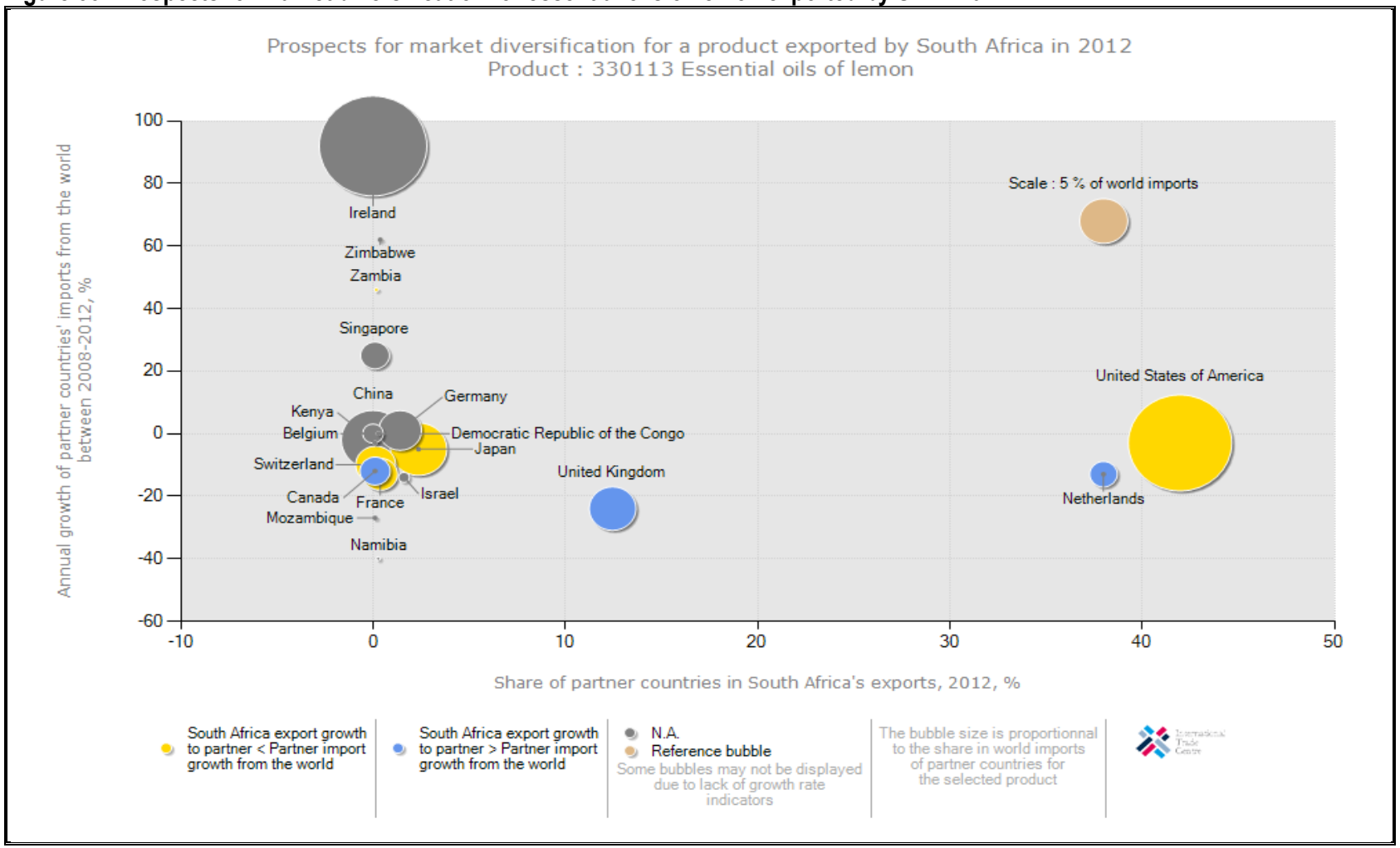


Source: ITC Trade Map

Figure 32 shows growth in demand for essential oils of lemon exported by South Africa to the world in 2012. The figure further shows that United States of America was the biggest import market for essential oils of lemon exported from South Africa in 2012. The figure also shows that South Africa's exports of essential oils of lemon to Zimbabwe grew at about 30%, as compared to our exports of essential oils of lemon to Mozambique which grew at about 25% between 2008 and 2012.

The figure further shows that Mozambique was the most attractive but in a declining market for exports of essential oils of lemon from South Africa with an annual growth of 25%, while Zimbabwe was in a dynamic market (in world terms) with an annual growth of approximately 30% during the period under scrutiny.

Figure 33: Prospects for market diversification for essential oils of lemon exported by SA in 2012



Source: ITC Trade Map

Figure 33 shows prospects for market diversification for essential oils of lemon exported by South Africa to the world in 2012. The figure further shows that United States of America was the biggest export market of essential oils of lemon from South Africa to the world during the same period under review. The graph also shows that if South Africa had to diversify its markets of essential oils of lemon, potential export markets exist in Canada, Netherlands and United Kingdom.

The bubble graph further shows that United States of America's share in South Africa's exports of essential oils of lemon increased to approximately 42% share, Netherlands at 38% share and United Kingdom at 12.5% share.

Table 21: List of supplying markets for essential oils of lemon imported by SA in 2012

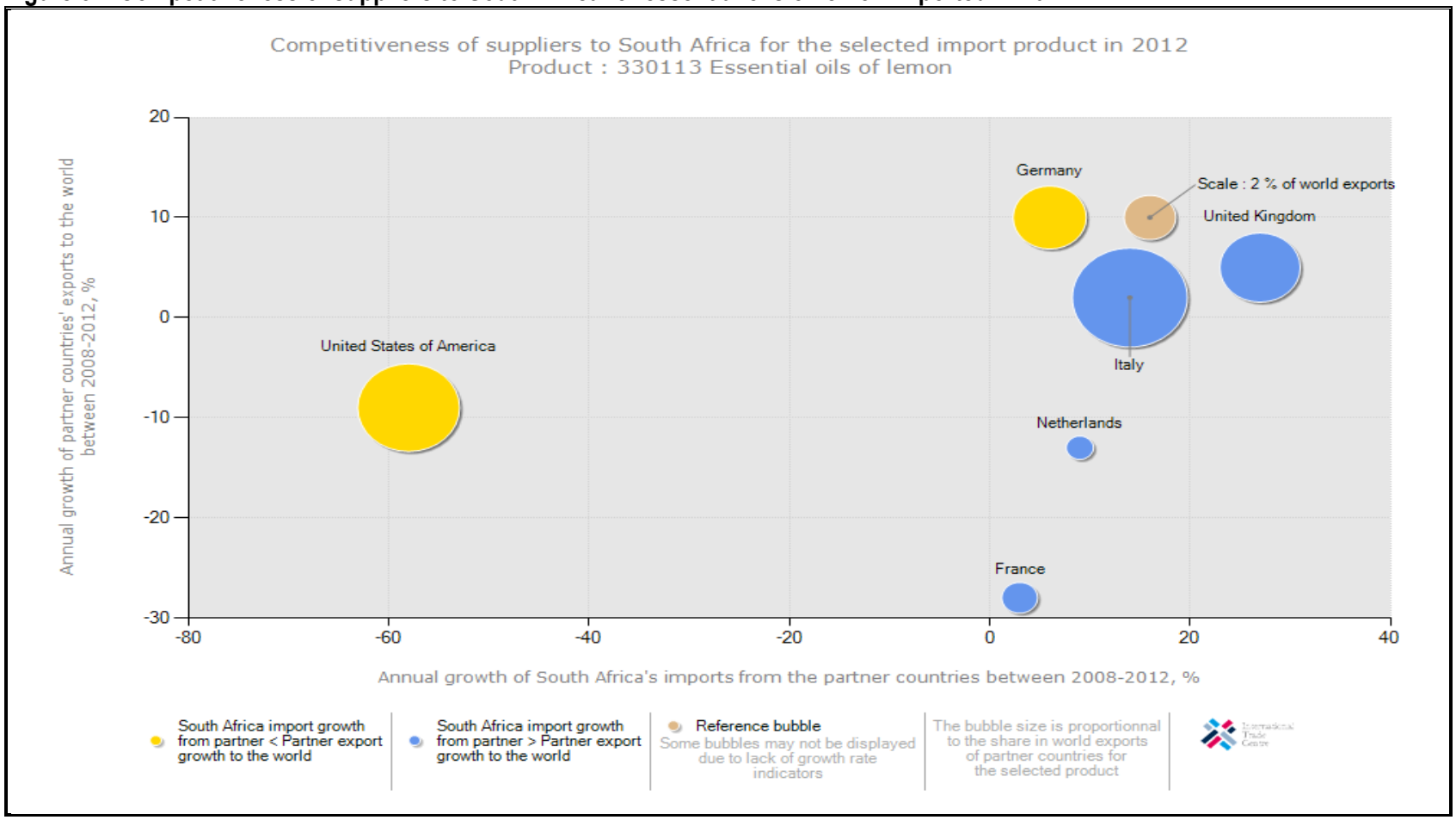
Exporters	Trade Indicators							Tariff (estimated) applied by South Africa (%)
	Imported value 2012 (USD thousand)	Share in South Africa's imports (%)	Imported quantity 2012 (tons)	Unit value (USD/unit)	Imported growth in value between 2008-2012 (%, p.a.)	Imported growth in quantity between 2008-2012 (%, p.a.)	Imported growth in value between 2011-2012 (%, p.a.)	
World	350	100	12	29167	-18	-39	9	
Israel	83	23.7	1	83000	8	0	-10	0
Germany	52	14.9	1	52000	6	0	-44	0
Zimbabwe	48	13.7	3	16000	35	-35	100	0
France	45	12.9	3	15000	3	32	650	0
United States of America	25	7.1	1	25000	-58	-55	79	0
Japan	24	6.9	1	24000				0
Netherlands	22	6.3	0		9		-33	0
United Kingdom	21	6	1	21000	27	0	-38	0
Italy	20	5.7	1	20000	14	0	25	

Source: ITC Trade Map

Table 21 depicts the list of supplying markets for essential oils of lemon imported by South Africa from the world in 2012. The table further depicts that South Africa imported a total of 12 tons of essential oils of lemon from the world during the period under review. This is due to the fact that South Africa was a net exporter of essential oils of lemon (256 tons) during the same period under scrutiny. In world terms, Israel, followed by Germany and Zimbabwe commanded the greatest export market share for essential oils of lemon to South Africa during 2012. In 2012, South Africa's imports of essential oils of lemon from Israel increased in value by 8% and there was no growth in quantity at 0.00%, while Germany's imports of essential oils of lemon also increased in value by 6% with no growth in quantity at 0.00%. Most importantly, South Africa's imports from Zimbabwe also increased in value by 35% and declined in quantity by 35% respectively between 2008 and 2012.

The table further depicts that Israel had 23.7% share in South Africa's imports of essential oils of lemon, while Germany had 14.9% share in South Africa's imports of essential oils and Zimbabwe had 13.7% in South Africa's imports of essential oils of lemon during 2012.

Figure 34: Competitiveness of suppliers to South Africa for essential oils of lemon imported in 2012

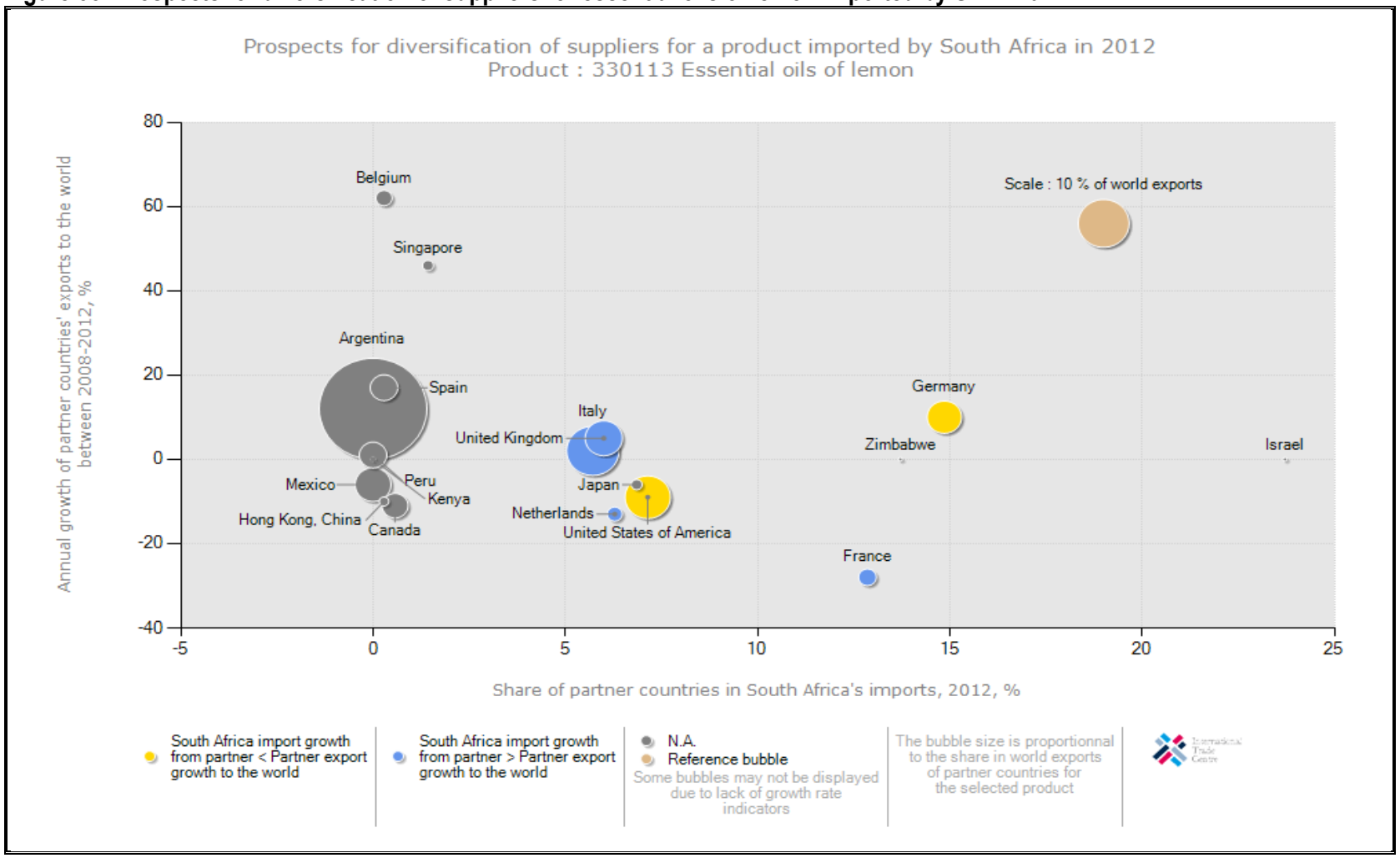


Source: ITC Trade Map

Figure 34 illustrates competitiveness of suppliers to South Africa for essential oils of lemon imported from the world in 2012. The figure further illustrates that United States of America and Germany were the biggest suppliers of essential oils of lemon during 2012. The figure also illustrates that United Kingdom and Italy were the most competitive suppliers of essential oils of lemon with South Africa's annual growth of imports from these countries being 15% and 30% respectively between 2008 and 2012.

The figure also illustrates that Netherlands and France were also competitive during the period under scrutiny at 10% and 5% respectively. Zimbabwe's competitors of essential oils (United Kingdom and Italy) managed to import only 1 ton of essential oils each during the period under review, Zimbabwe managed to import 3 tons over the same period.

Figure 35: Prospects for diversification of suppliers for essential oils of lemon imported by SA in 2012



Source: ITC Trade Map

Figure 35 indicates prospects for diversification of suppliers for essential oils of lemon imported by South Africa from the world in 2012. The figure further indicates that United States of America, followed by Germany commanded the greatest market share of essential oils of lemon imported by South Africa during the period under review. The figure also indicates that if South Africa wants to diversify its markets of essential oils of lemon during this period, potential suppliers of essential oils of lemon are available in Israel, France, Netherlands, United Kingdom and Italy with a market share of between 5% and 25% respectively.

Table 22: List of importing markets for essential oils of oranges exported by SA in 2012

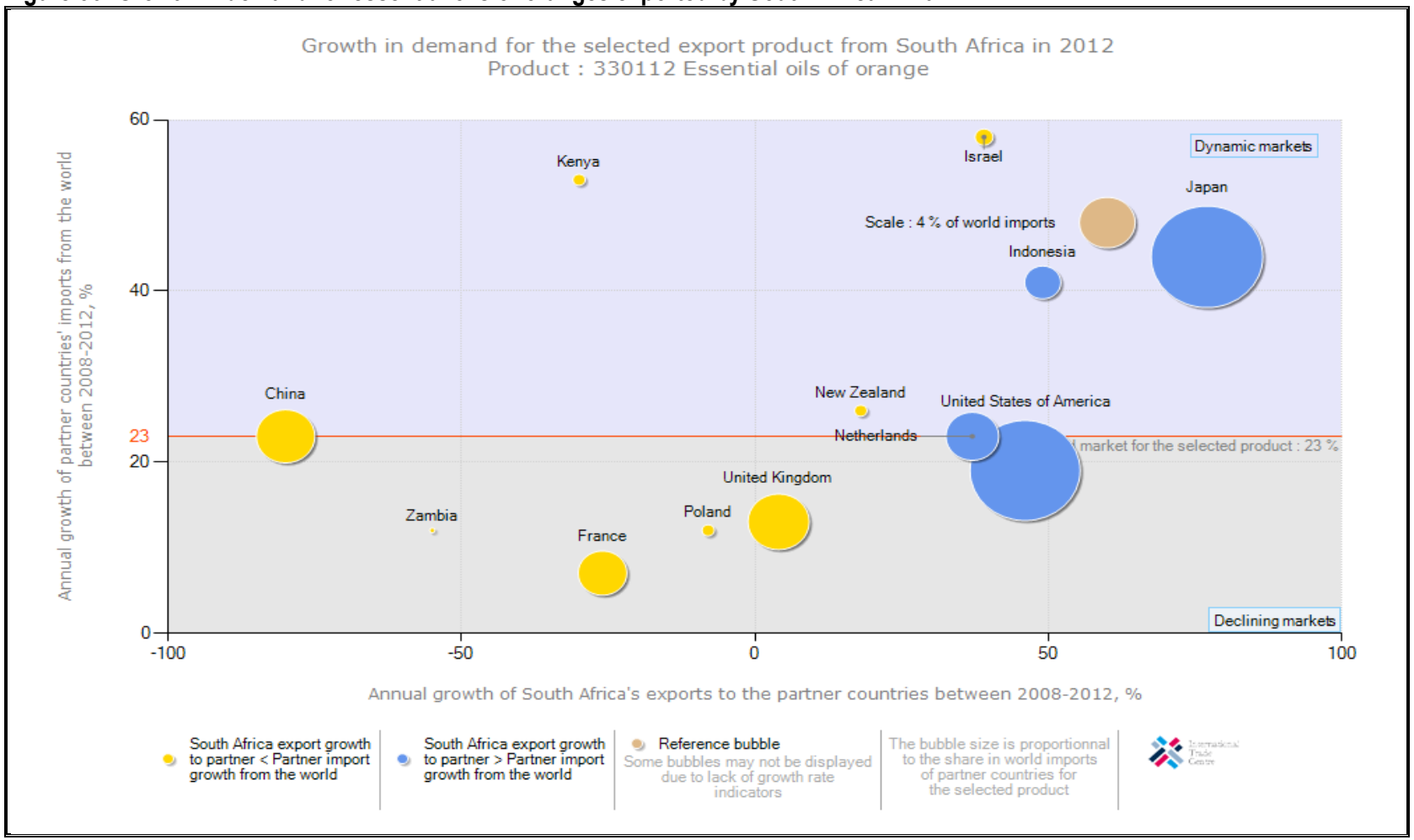
Importers	Trade Indicators							Tariff (estimated) faced by South Africa (%)
	Exported value 2012 (USD thousand)	Share in South Africa's exports (%)	Exported quantity 2012 (tons)	Unit value (USD/unit)	Exported growth in value between 2008-2012 (%, p.a.)	Exported growth in quantity between 2008-2012 (%, p.a.)	Exported growth in value between 2011-2012 (%, p.a.)	
World	1139	100	269	4234	14	0	-59	
Netherlands	254	22.3	69	3681	37	18	-64	0
Japan	248	21.8	54	4593	77	34	58	0
United States of America	204	17.9	32	6375	46	14	-77	0
United Kingdom	195	17.1	56	3482	4	22	-68	0
Israel	83	7.3	33	2515	39	13	-3	10
Poland	24	2.1	4	6000	-8	0		0
Indonesia	22	1.9	1	22000	49		0	5
Angola	21	1.8	10	2100				5
India	17	1.5	3	5667			-43	20

Source: ITC Trade Map

Table 22 illustrates the list of importing markets for essential oils of oranges exported by South Africa to the world in 2012. The table further illustrates that South Africa exported a total of 269 tons of essential oils of oranges to the world during the period under review, and that means there was a decline of about 194 tons. In world terms, Netherlands, followed by Japan, United States of America and United Kingdom commanded the greatest import market share for essential oils of oranges from South Africa during the same period under examination. In 2012, South Africa's exports of essential oils of oranges to Netherlands increased both in value and quantity at approximately 37% and 18% respectively. South Africa's exports of essential oils of oranges to Japan also increased in value and quantity by 77% and 34% respectively between 2008 and 2012, while South Africa's exports to United States of America also increased in value and quantity by 46% and 14% between 2008 and 2012.

It is also clear in the table that the Netherlands imported more of essential oils of oranges from the world than from South Africa during the same period under review, as the exported growth in value and quantity from the world between 2008 and 2012 was less than what Japan imported from the rest of the world over the same period under review.

Figure 36: Growth in demand for essential oils of oranges exported by South Africa in 2012

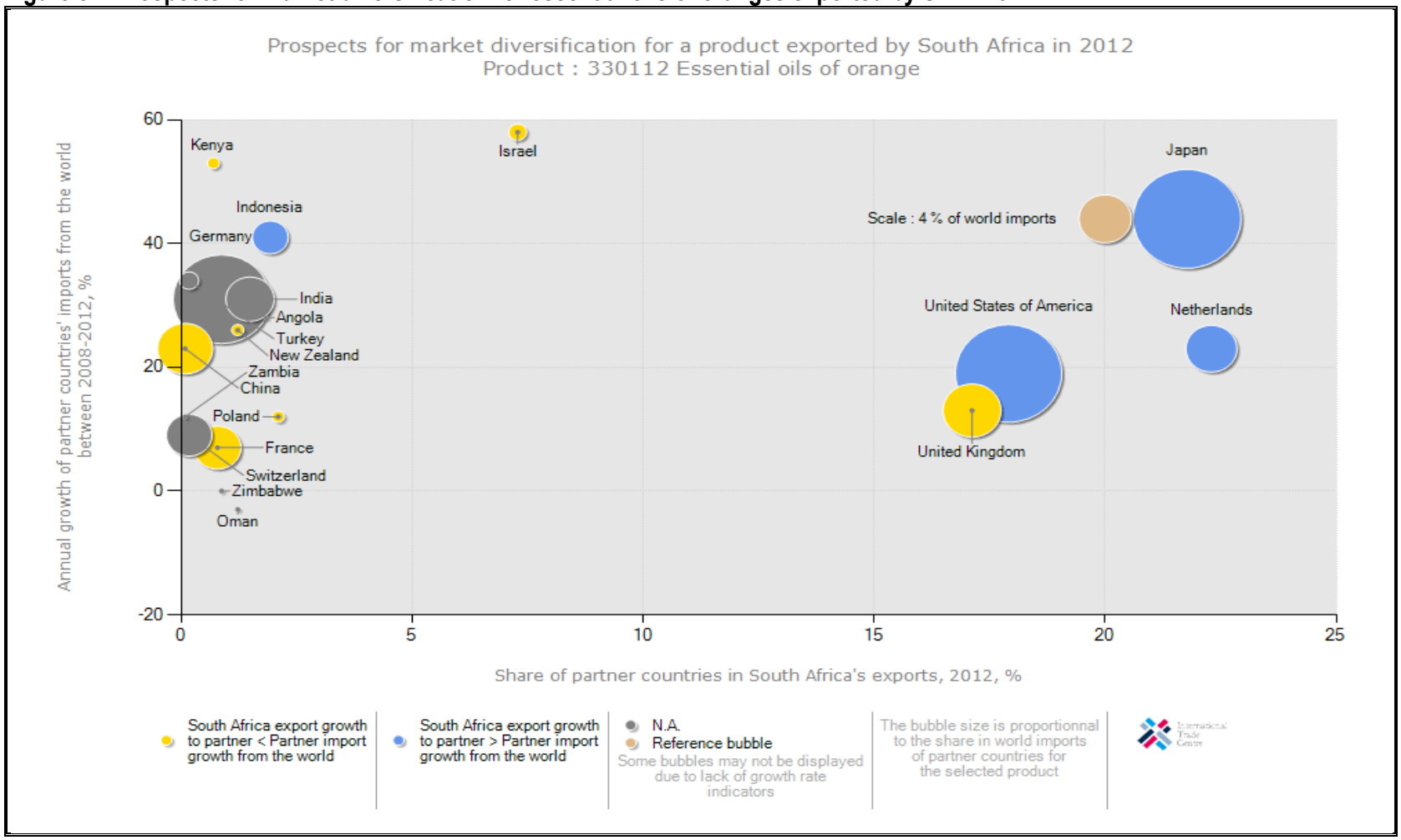


Source: ITC Trade Map

Figure 36 depicts growth in demand for essential oils of oranges exported by South Africa to the world in 2012. The figure further depicts that China and United Kingdom were the biggest import markets of essential oils of oranges exported by South Africa during the same period under examination. The figure also depicts that South Africa's exports of essential oils of oranges to Japan were growing faster at about 73% in a dynamic market, while Indonesia was growing faster at 50% also in a dynamic market.

The graph further depicts that Netherlands and United Kingdom were the only growing and attractive markets for essential oils of oranges from South Africa, with an annual growth of South Africa's exports of 10% and 40% growth in a declining market.

Figure 37: Prospects for market diversification for essential oils of oranges exported by SA in 2012



Source: ITC Trade Map

Figure 37 shows prospects for market diversification for essential oils of oranges exported by South Africa to the world in 2012. The figure further shows that United States of America and Japan were the biggest import markets of essential oils of oranges from South Africa to the world during the same period under review. The graph also shows that if South Africa had to diversify its markets of essential oils of oranges, small but attractive markets exist in Indonesia during the period under examination.

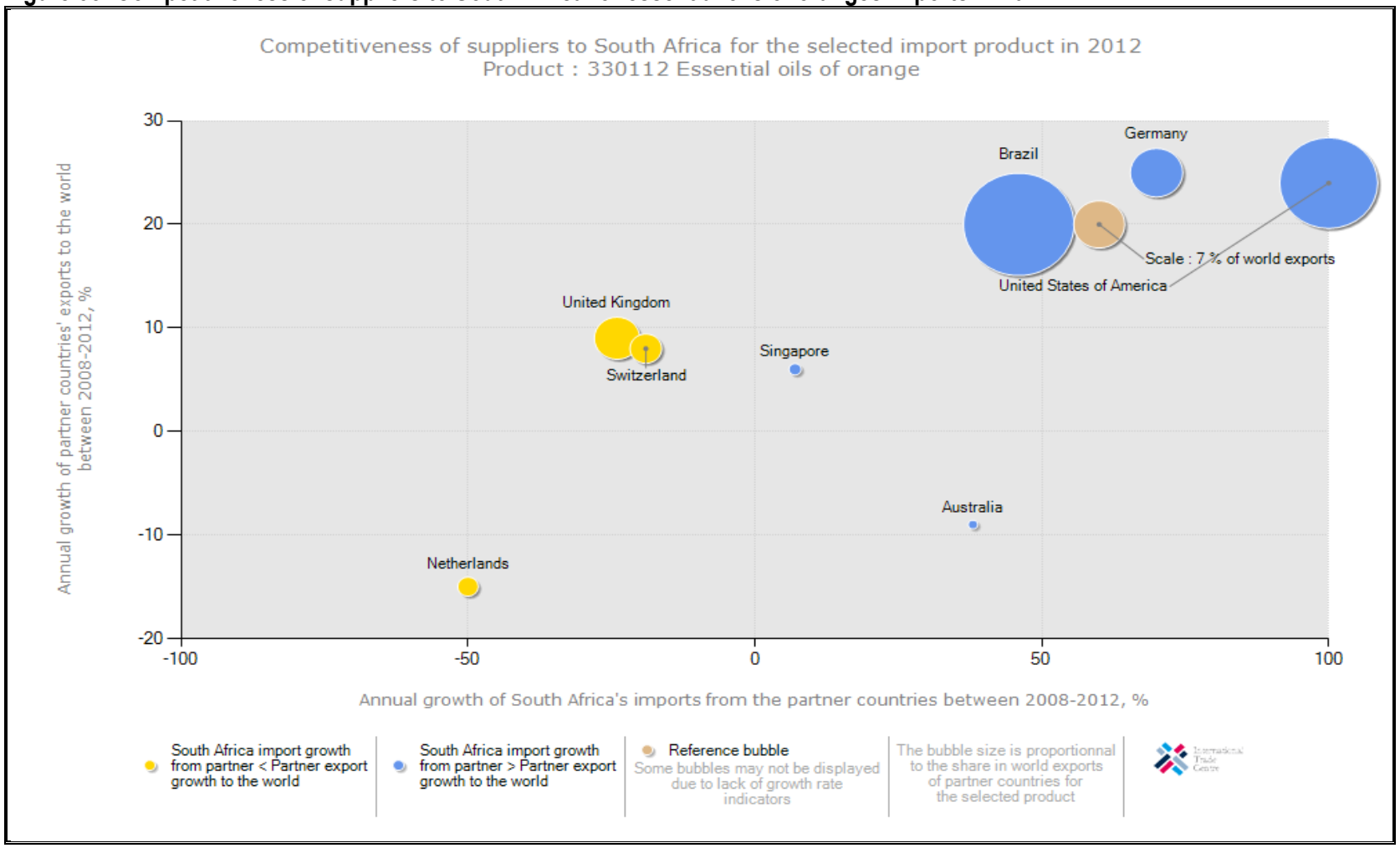
Table 23: List of supplying markets for essential oils of oranges imported by SA in 2012

Exporters	Trade Indicators							Tariff (estimated) applied by South Africa (%)
	Imported value 2012 (USD thousand)	Share in South Africa's imports (%)	Imported quantity 2012 (tons)	Unit value (USD/unit)	Imported growth in value between 2008-2012 (%, p.a.)	Imported growth in quantity between 2008-2012 (%, p.a.)	Imported growth in value between 2011-2012 (%, p.a.)	
World	494	100	54	9148	-4	-11	-9	
United States of America	107	21.7	18	5944	103	91	245	0
Australia	85	17.2	3	28333	38	18	-44	0
United Kingdom	63	12.8	5	12600	-24	-21	2	0
Switzerland	52	10.5	2	26000	-19	-24	49	0
Zimbabwe	44	8.9	15	2933	25	-11	-76	0
Germany	38	7.7	4	9500	70	52	12	0
Brazil	37	7.5	3	12333	46	11	208	0
France	27	5.5	1	27000			1250	0
Netherlands	14	2.8	0		-50		367	0

Source: ITC Trade Map

Table 23 illustrates the list of supplying markets for essential oils of oranges imported by South Africa from the world in 2012. The table further illustrates that South Africa imported a total of 54 tons of essential oils of oranges from the world during the period under review. The reason for South Africa to import less essential oils of oranges (51 tons) was that South Africa was a net exporter of essential oils of oranges (269 tons) during the same period under scrutiny. In world terms, United States of America and Australia commanded the greatest export market share of essential oils of oranges to South Africa during the period under scrutiny. In 2012, South Africa's imports of essential oils of oranges from United States of America increased in value and quantity by 103% and 91% respectively. South Africa's imports of essential oils of oranges from Australia also increased in value and quantity by 38% and 18% respectively between 2008 and 2012. South Africa's imported growth in value to United States of America increased by 245% and South Africa's imported growth in value to Australia decreased by 44% between 2011 and 2012.

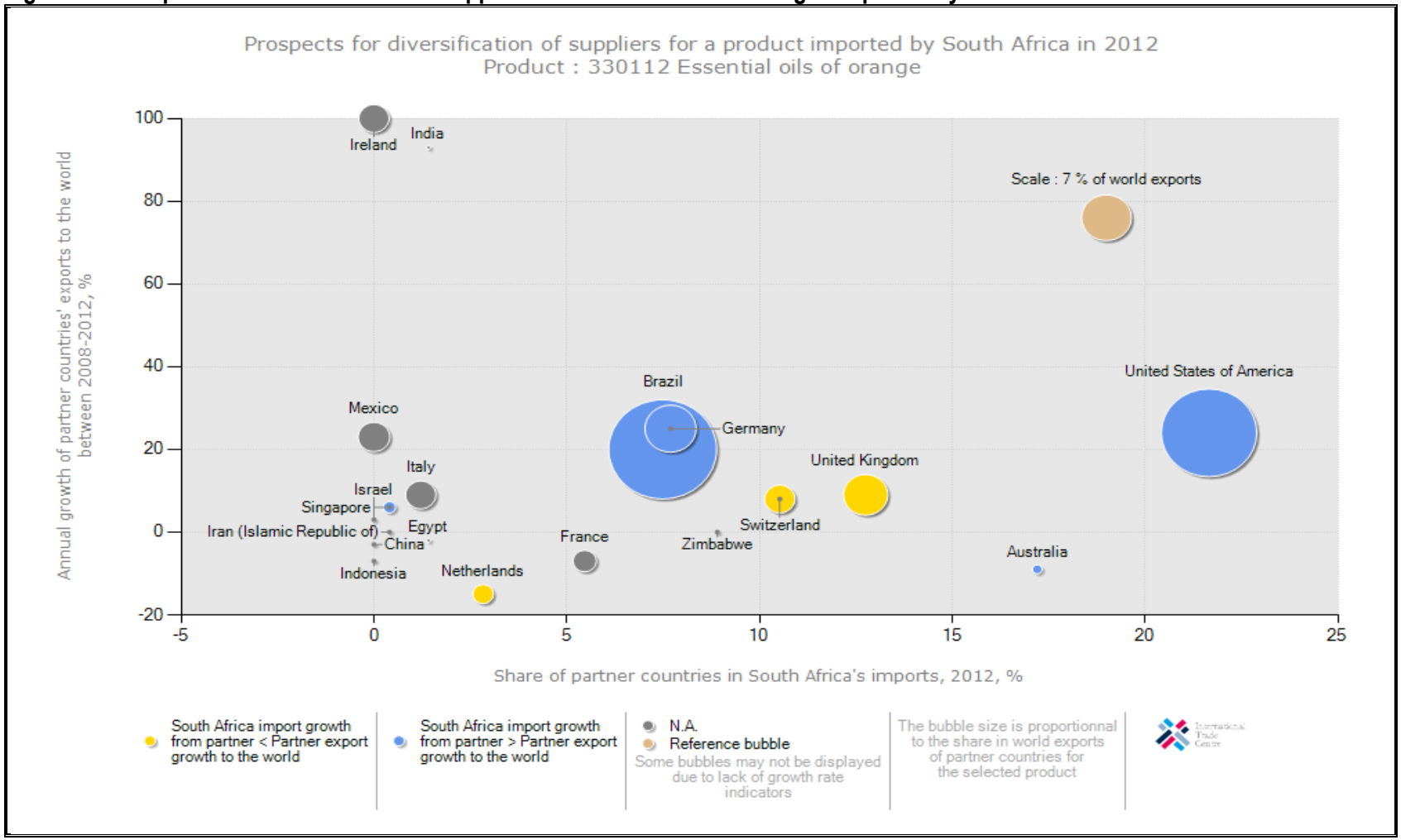
Figure 38: Competitiveness of suppliers to South Africa for essential oils of oranges imports in 2012



Source: ITC Trade Map

Figure 38 indicates competitiveness of suppliers to South Africa for essential oils of oranges imported from the world in 2012. The figure further indicates that Brazil and United States of America were the biggest suppliers of essential oils of oranges imported by South Africa during the period under review. The figure also indicates that Germany, followed by Australia and Singapore was the most competitive suppliers of essential oils of oranges with annual growth of South Africa's imports at about 70%, 40% and 5% respectively between 2008 and 2012.

Figure 39: Prospects for diversification of suppliers for essential oils of oranges imported by SA in 2012



Source: ITC Trade Map

Figure 39 depicts prospects for diversification of suppliers for essential oils of oranges imported by South Africa from the world in 2012. The figure further depicts that Brazil and United States of America commanded the greatest market share for essential oils of oranges imported by South Africa during the period under review. The figure also depicts that if South Africa had to diversify its import markets of essential oils of oranges, potential and attractive markets are available in Australia and Singapore with an export market share of between 2% and 17% respectively during the period under scrutiny.

Table 24: List of importing markets for essential oils of peppermint exported by South Africa in 2012

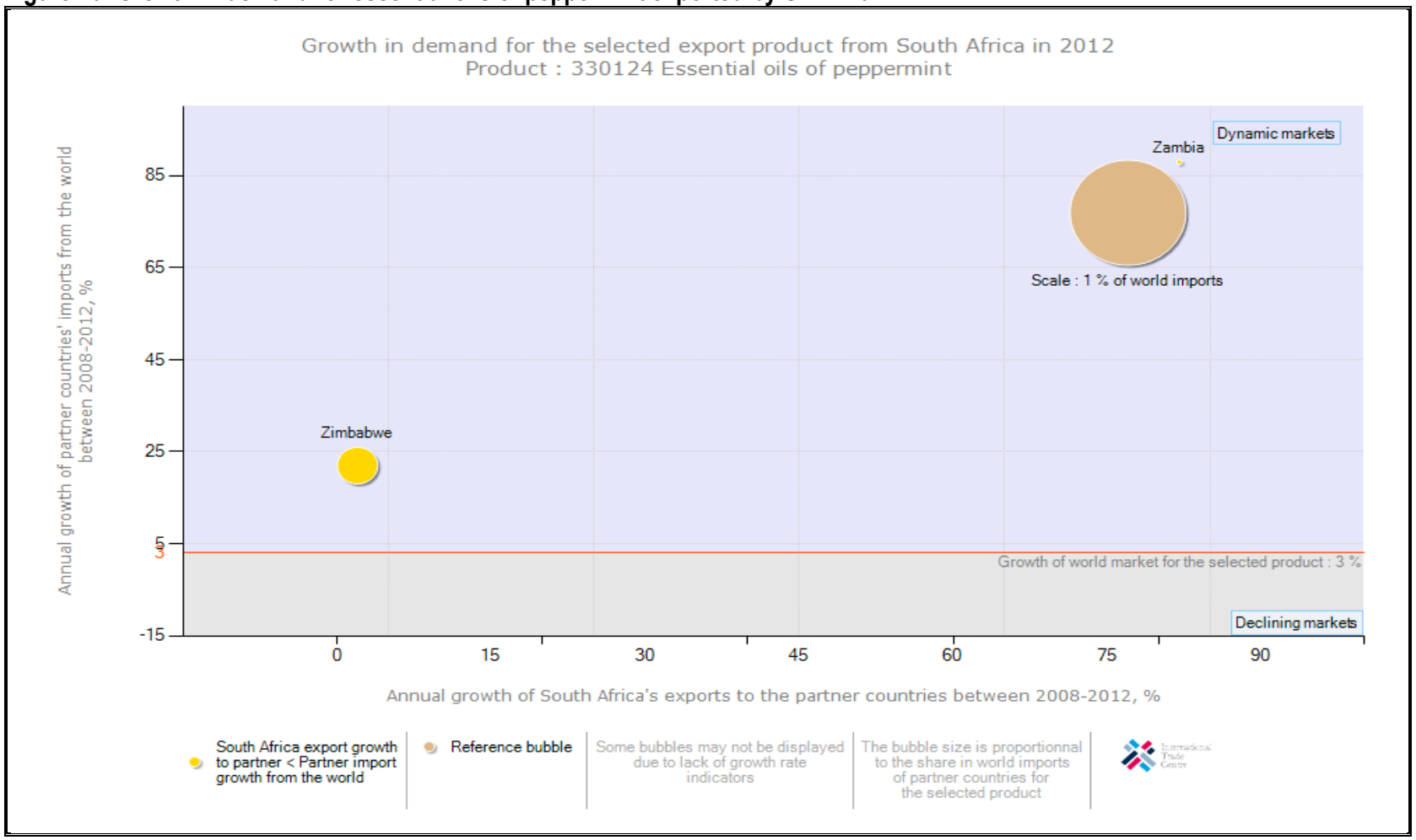
Importers	Trade Indicators							Tariff (estimated) faced by South Africa (%)
	Exported value 2012 (USD thousand)	Share in South Africa's exports (%)	Exported quantity 2012 (tons)	Unit value (USD/unit)	Exported growth in value between 2008-2012 (%, p.a.)	Exported growth in quantity between 2008-2012 (%, p.a.)	Exported growth in value between 2011-2012 (%, p.a.)	
World	120	100	4	30000	18	18	19	
United States of America	63	52.5	2	31500				0
Zimbabwe	48	40	2	24000	2	20	30	5
Zambia	7	5.8	0		82		-13	0
Mozambique	1	0.8	0					0

Source: ITC Trade Map

Table 24 indicates the list of importing markets for essential oils of peppermint exported by South Africa to the world in 2012. The table further indicates that United States of America was the biggest import market for essential oils of peppermint from South Africa during the period under examination. During the period under examination, South Africa exported 4 tons of essential oils of peppermint to the world, with Zambia and Mozambique sitting at 0 tons during the same period. The table also indicates that South Africa's exports of essential oils of peppermint to Zimbabwe increased in value and quantity by 2% and 20% per annum respectively, and the exported growth in value between 2011 and 2012 increased by 30%. United States of America commanded the greatest share of essential oils of peppermint exports of about 52.5% as compared to Zimbabwe's share of 40% and 5.8% of Zambia and 0.8% share to Mozambique during the period under scrutiny.

The table further indicates that Zimbabwe's exported growth in value between 2011 and 2012 increased at 30%, and interestingly more than the world averages. South Africa's exported growth in value to Zambia between 2011 and 2012 decreased by 13%.

Figure 40: Growth in demand for essential oils of peppermint exported by SA in 2012

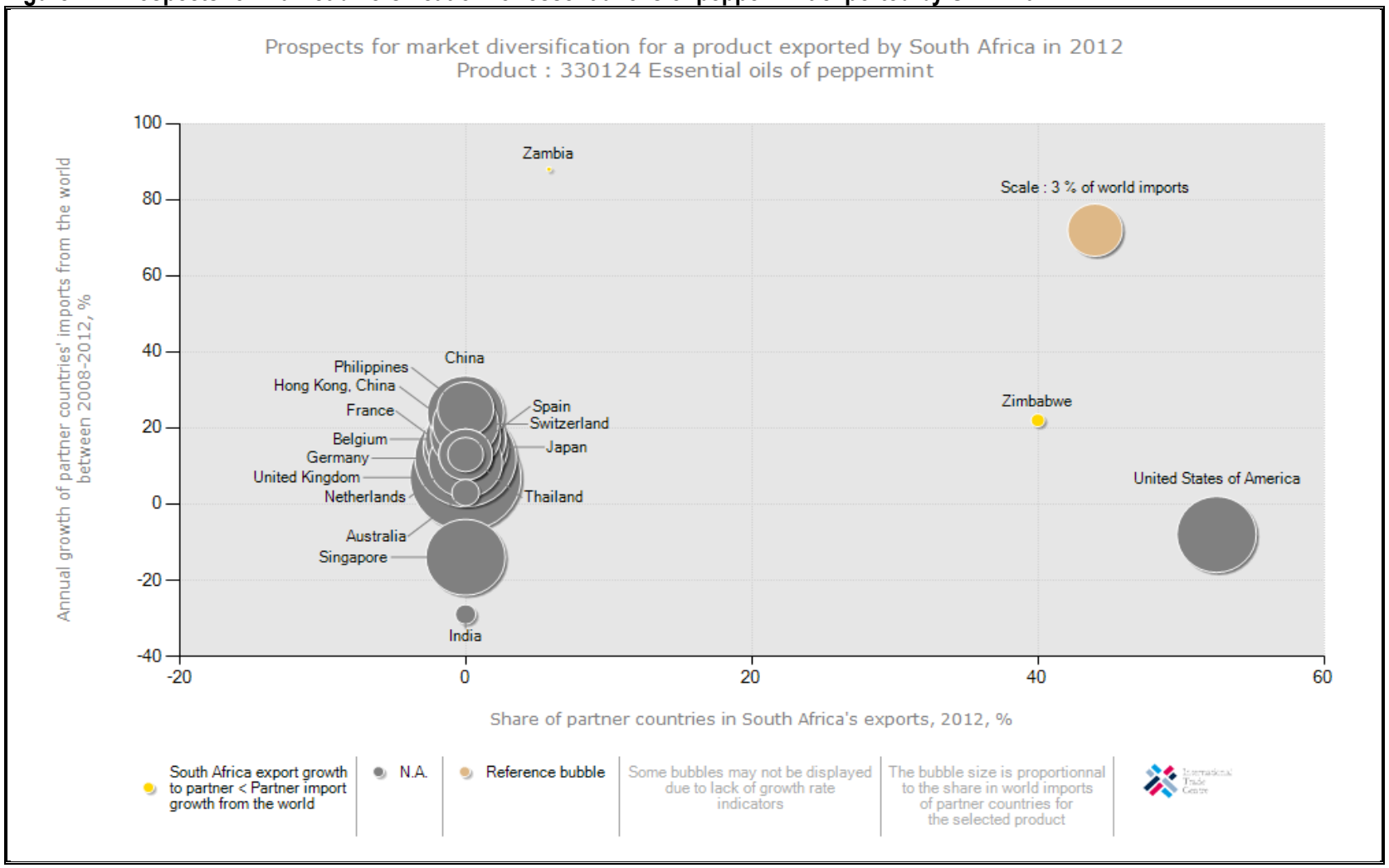


Source: ITC Trade Map

Figure 40 illustrates growth in demand for essential oils of peppermint exported by South Africa to the world in 2012. The figure further illustrates that Zimbabwe was the biggest market for essential oils of peppermint exports from South Africa during 2012. The bubble graph also illustrates that exports of essential oils of peppermint from South Africa to Zambia grew by 85% during the period under examination. The figure also illustrates that the annual growth of South Africa's exports of essential oils of peppermint to a dynamic market such as Zambia was growing positively by 85% and Zambia annual growth to world imports of essential oils of peppermint also grew by more than 85%.

In world terms, the bubble graph further illustrates that Zimbabwe's annual growth imports from the world grew up by 25% between 2008 and 2012, while South Africa's annual growth exports to Zimbabwe slightly increased by 1% over the same period under examination.

Figure 41: Prospects for market diversification for essential oils of peppermint exported by SA in 2012



Source: ITC Trade Map

Figure 41 shows prospects for market diversification for essential oils of peppermint exported by South Africa to the world in 2012. The graph further shows that Zimbabwe was the biggest export market for essential oils of peppermint originating from South Africa during the period under examination. The figure also shows that should South Africa want to diversify its markets of essential oils of peppermint, small and attractive market exist in Zambia during 2012.

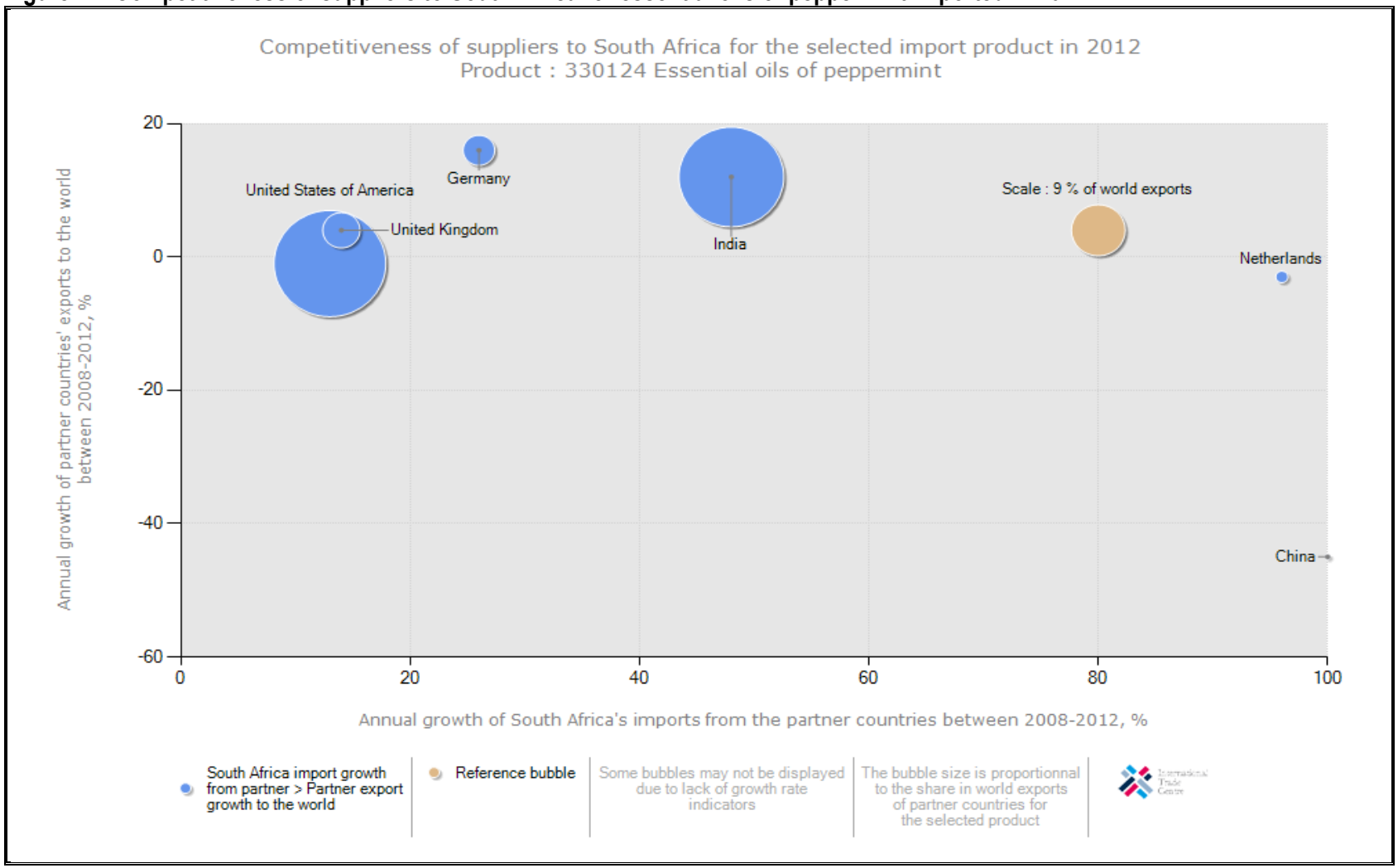
Table 25: List of supplying markets for essential oils of peppermint imported by South Africa in 2012

Exporters	Trade Indicators							Tariff (estimated) applied by South Africa (%)
	Imported value 2012 (USD thousand)	Share in South Africa's imports (%)	Imported quantity 2012 (tons)	Unit value (USD/unit)	Imported growth in value between 2008-2012 (%, p.a.)	Imported growth in quantity between 2008-2012 (%, p.a.)	Imported growth in value between 2011-2012 (%, p.a.)	
World	1849	100	44	42023	22	16	15	
United States of America	775	41.9	17	45588	13	11	33	0
United Kingdom	579	31.3	10	57900	14	-6	14	0
China	173	9.4	8	21625	126	94	-22	0
Thailand	122	6.6	3	40667				0
Spain	68	3.7	2	34000			209	0
India	63	3.4	2	31500	48	18	-34	0
Netherlands	28	1.5	1	28000	96	0	-58	0
Singapore	24	1.3	1	24000			140	0

Source: ITC Trade

Table 25 illustrates the list of supplying markets for essential oils of peppermint imported by South Africa from the world in 2012. The table further illustrates that United States of America was the biggest supplier of essential oils of peppermint into South Africa, followed by United Kingdom during the period under review. The table also illustrates that South Africa's imports of essential oils of peppermint from United States of America grew at a rate less than the average exports from the rest of the world. The table further illustrates that United States of America supplied South Africa with 17 tons out of 44 tons from the world of essential oils of peppermint as compared to the rest of the world. The table also illustrates that although United States of America was the biggest supplier of essential oils of peppermint in 2012, China and India were the most competitive suppliers in terms of growth both in value and quantity at approximately 126% and 94% per annum and also between 48% and 18% per annum respectively between 2008 and 2012.

Figure 42: Competitiveness of suppliers to South Africa for essential oils of peppermint imported in 2012

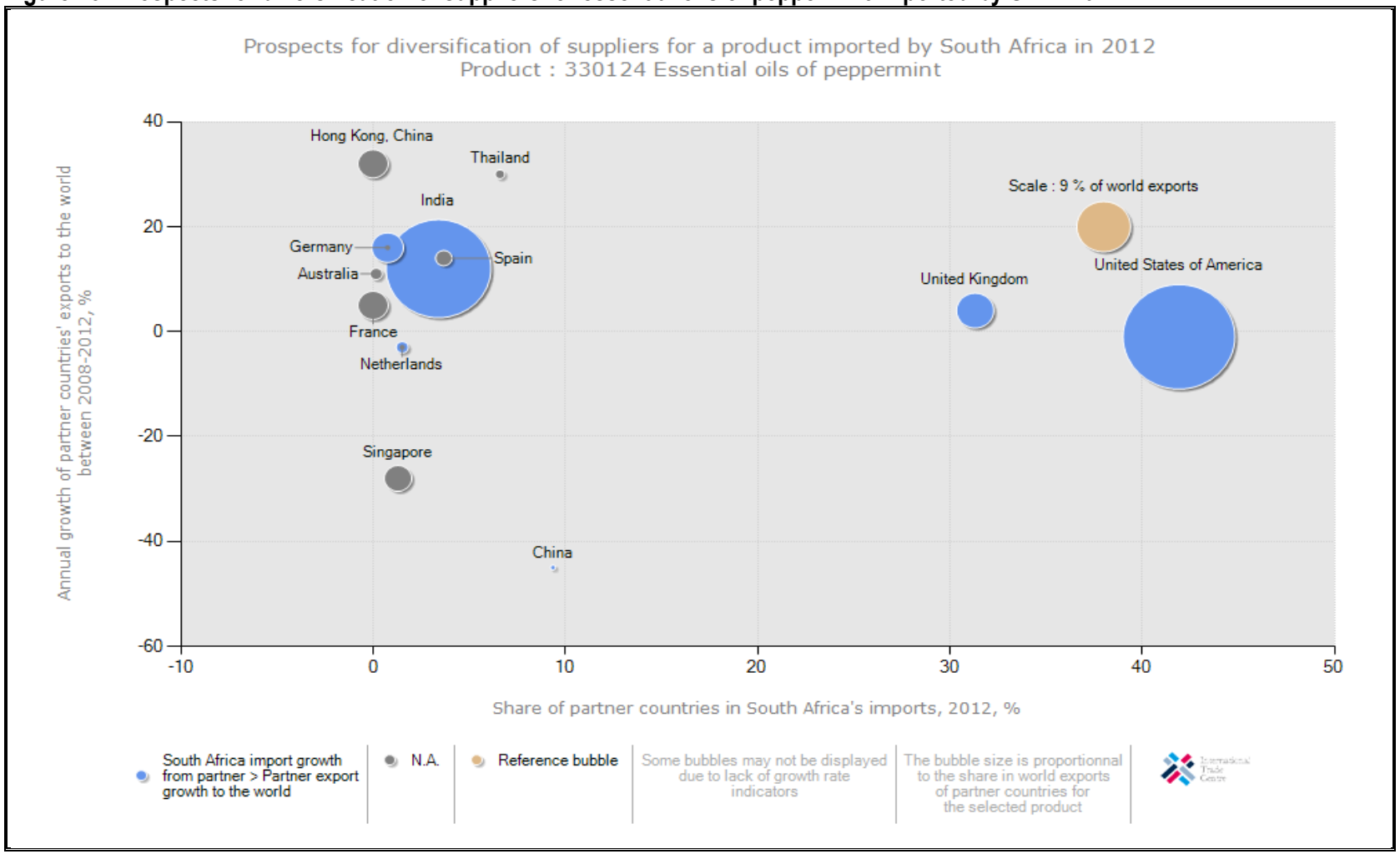


Source: ITC Trade Map

Figure 42 shows competitiveness of suppliers to South Africa for essential oils of peppermint imported from the world in 2012. The figure further shows that United States of America and India were the biggest suppliers of essential oils of peppermint imported by South Africa during the period under scrutiny. The figure also shows that China and Netherlands were the most competitive suppliers of essential oils of peppermint with an annual growth of South Africa's imports of about 100% and 90% respectively during the period under scrutiny.

The figure further shows that South Africa's annual imports growth in value to the United States of America grew up by 13% and 11% in value and quantity respectively between 2008 and 2012, while South Africa's annual imports growth in value to India grew up by 48% and 18% in value and quantity respectively between 2008 and 2012.

Figure 43: Prospects for diversification of suppliers for essential oils of peppermint imported by SA in 2012



Source: ITC Trade Map

Figure 43 indicates prospects for market diversification for essential oils of peppermint imported by South Africa from the world in 2012. The graph further indicates that United States of America and India were the biggest suppliers for essential oils of peppermint to South Africa during the period under examination. The figure also indicates that should South Africa want to diversify its markets of essential oils of peppermint, small and attractive markets exist in Netherlands, Germany and United Kingdom during 2012. During the same period, the figure further indicates that United States of America commanded approximately 41.9% share in South Africa's imports of essential oils of peppermint, with India at approximately 31.3% and China with 9.4% over the same period.

11. THE ESSENTIAL OILS OF PEPPERMINT

11.1 Description of the herb peppermint

Mentha x *piperita* L. is a sterile, perennial herb originating from a hybridization between watermint (*Mentha aquatica*), and spear mint (*Mentha spicata*), and therefore must be propagated vegetatively. The entire plant has a very characteristic sharp, mint odor, because of the presence of the volatile oil. This is an easy growing perennial herb, growing up to 1 meter high, with underground runners and a distinctive menthol fragrance.

11.1.1 Properties of peppermint

Peppermint is a decongestant, cooling, fragrant and bitter herb that is anti-spasmodic, diaphoretic, digestive, antiseptic and slightly anesthetic. It contains a high amount of essential oil, which contains menthol, menthone, menthyl acetate and menthofuran.

11.1.2 Safety precautions and warnings

Peppermint essential oil must be used in moderation and the menthol contained in the oil may cause sensitizing to some individuals skin. It can irritate the mucus membranes if the dosage is too high. If used in pregnancy, very small amounts should be used and not recommended for infants.

11.1.3 Production levels in South Africa

Under irrigation and good management, peppermint will yield 20 to 25 tons of plant material per hectare per year, at an oil recovery rate of o.3 % or 60 to 75 kg essential oil per hectares.
Dry land production will generally be less, but it will depend entirely on the quantity of rainfall and its frequency throughout the season.

11.1.4 Major production Areas in South Africa

Peppermint can be grown in most parts of South Africa where rainfall of higher than 1000 mm per annum occurs with long periods of sunlight and cool night temperatures. The latter are needed for the correct balance of high quality oil production and it limits the constituent menthofuran, which is undesirable in the oil. There are indigenous species growing in South Africa in the temperature zones and these are indicators of where the crop can be grown successfully.

The best areas are the escarpment of Mpumalanga, Gauteng, Eastern Free State, higher altitudes of Kwazulu Natal, and areas in the Eastern and Western Cape.

11.1.5 Stem, Leaves, and Flowers

Peppermint is a summer growing perennial with upright, usually purplish, smooth stems growing to one meter in height. The lance shaped leaf margins are finely toothed, their surfaces smooth, both above and beneath, or very slightly hairy (hardly visible), on the principal veins and midrib on the underside. The whorled clusters of little reddish violet flowers are in the axils of the upper leaves, forming loose, interrupted spikes, and rarely bear seeds.

11.1.6 Essential part of peppermint

The whole plant is cut at flowering stage for steam distillation. The oil is found on the undersides of the leaves.

11.1.7 Post harvest handling

- **Sorting and Distillation**

The crop is steam distilled and the steam/oil vapor is condensed and separated. Condensing and separation equipment should be manufactured from stainless steel and a general processing hygiene followed to ensure no contaminants are present. The time for oil extraction varies, depending on the type of steam source, the herb weight, and the moisture content.

- **Grading**

The main chemical constituent of peppermint oils is menthol; however, it also contains menthyl acetate and isovalerate, menthone, cineol, pinene, limonene and other constituents. The quality of the oil is determined by the correct combination of chemical constituents, especially menthol and menthone and the absence of menthofuran.
Once the oil is separated, the product is relatively stable for many months, provided it is stored out of direct sunlight and away from heat. The odor and taste is a good indication of the quality of the oil.

- **Packaging and Storage**

Epoxy lined, fluorinated plastic and galvanized drums are used for bulk storage and transportation. Peppermint essential oil should be stored in a cool, dry area until it is used. Once opened, refrigeration and tightly closing the cap will prolong its shelf life.

- **Marketing**

The market for essential oils in South Africa is divided into local buyers and international buyers. The local buyers include marketing agents and companies from chemical and pharmaceutical, as well as food and flavoring industries. The international buyers are divided into flavor and fragrance

houses, cosmetics and personal health care, aromatherapy and food manufacturers who buy in large quantities. The major market in the world for essential oils exists in the United States, followed by Japan and Europe. However, production continues to be concentrated in Europe, with seven of the world's largest essential oil processing firms. In the United States, the major users of essential oils are the soft drink companies.

11.1.8 The peppermint sale price

Price is largely regulated by the world supply and demand. Peppermint is presently being produced in countries with low labor costs such as china and India. This can make it difficult for a South African farmer to compete, unless there is a fair degree of value adding applied. Organically grow mint oil is always in demand and will fetch better prices.

11.1.9 Essential Oils of Peppermint Industrial Utilization

Peppermint essential oil is mainly used as flavoring in toothpaste, ice cream, confectionery, soft drinks, tobacco, chewing gum, and other varieties of foods. It can also be found in shampoos, soaps, balms and liniments. The oil has a cooling effect for fevers. Peppermint tea and tea blends are becoming more popular as natural food stuff. Peppermint tea is used for relief of palpitations of the heart and nausea.

11.1.10 Cosmetic Utilization

The therapeutic peppermint value lies in its ability to relieve flatulence, bloating and colic, inhibit the growth of certain bacteria, and can assist in smoothing and relaxing muscles when inhaled or applied to the skin. It increases sweating, stimulates secretion of bile, assists in curing ulcers. Peppermint eases nervous headaches and is used for aid in cases of cholera and diarrhea. Peppermint is used to disguise the taste of unpalatable drugs, as it imparts its aromatic characteristics to whatever prescription it enters into. In aromatherapy the essential oil is used to stimulate hot and verve endings and increase blood flow.

Table 26: Role players in the South African Fragrance and flavor industry and essential oil trading

Company	Address	Contact Person	Telephone Number	Email
Comhan Products (Pty) Ltd	Box 413066, Craig hall 2024	Nathalie Jelonek	+27 (0) 11 325 6090	njelonek@comhan.co.za
Cranbrook Flavours	Po Box 1644, Edenvale 1610		011 398 6000	Support@CranbrookFlavours.com
Craetive Flavors International (Pty)Ltd	Box 302, Strubens Valley 1735	Adri Stander	+27(0) 11 760 1830	Adristander@ibi.co.za
Danlink Ingredients (Pty)Ltd	Box 3208, Cramerview 2060	Sambashni Govender	+27(0) 11 469 4508	sg@danlink.com
Deli Spices (Pty)Ltd	Box 611, Eppindust 7475	Robin Haller	+27(0) 21 505 2000	Robin.haller@delispices.co.za
Dunmustard Distributors	Box 1518, Westville 3630	Anthony Krijger	+27(0) 31 701 7734	Mustard@mweb.co.za
Firmenich (Pty)Ltd	P/Bag X113, Halfway House 1685	Dody Leijenaar	+27(0) 11 653 0700	Dody.leijenaar@firmenich.com
FlavourCraft (Pty) Ltd	Box 962, New Germany 3620	Ryan Ponquett	+27(0) 31 764 9760	ryanp@fcraft.co.za
Flavourome (Pty) Ltd	P/Bag X6, Kyalami 1684	David Wright	+27(0) 11 314 0219	davidw@flavourome.co.za

Company	Address	Contact Person	Telephone Number	Email
Foodspec Co (Pty) Ltd	Box 1783, Pinegowrie 2123	Jenal Harduth	+27 (0) 11 793 1333	jrharduth@foodspec.co.za
Fruition CC	Box 505, Wellington 7654	Nick Schwerin	+27 (0) 21 873 6716	nick@fruition.co.za
Frutarom South Africa (Pty) Ltd	Box 4449, Honeydew 2040	Darrell Gray	+27 (0) 11 794 1362	dgray@za.frutarom.com
Givaudan South Africa (Pty) Ltd	Box 83027, South Hills 2136	Antoine Nourrain	+27 (0) 11 406 8700	Antoine.nourrain@givaudan.com
Illovo Sugar Ltd	Post Office Sezela 4215	Charles Kruger	+27 (0) 39 975 8216	ckruger@illovo.co.za
International Flavors & Fragrances (SA)(Pty) Ltd	Box 40, Isando 1600	Levi Thamage	+27 (0) 11 922 8800	Levi.thamage@iff.com
Junnderee (Pty) Ltd	P/Bag X2025, Isando 1600	Chris Young	+27 (0) 11 974 7822	chrisy@jannderee.com
Letaba Citrus Processors (Pty) Ltd	Post Net Suite 100, P/Bag X 4019, Tzaneen, 0850	Carmen Sacco	+27 (0) 15 304 4000	Carmen.sacco@letaba.com
McCollum & Associates SA (Pty) Ltd	Box 880, Morningside 2057	Peter Harrison	+27 (0) 11 234 8470	pjh@maccallum.co.za
Mane South Africa (Pty) Ltd	Unit 1, Bertie Park, 12 Bertie Avenue, Eppindust	Mark Mulholland	+27 (0) 21 534 4422	Mark.mulholland@mane.co.za
McCormick South Africa (Pty) Ltd	P/Bag X 64, Halfway House 1683	Mike Palmer	+27 (0) 11 690 0311	mike@mccormick.co.za

Company	Address	Contact Person	Telephone Number	Email
Nicola-J Flavours & Fragrances (Pty) Ltd	Box 6837, Halfway House 1685	Jason Vlantis	+27 (0) 11 315 6582	jason@nicola-j.co.za
Petrow Food Ingredients (Pty) Ltd	Box 11172, Randhart 1457	Craig Taylor	+27 (0) 11 613 2702	craig@petrowfoods.co.za
Savannah Fine Chemicals (Pty) Ltd	Box 75864, Gardenview 2047	Colleen Maroun	+27 (0) 11 856 4500	Colleen.maroun@savannah.co.za
Savoury Food Industries	Box 43028, Industrial, 2042	Harry Meyer	+27 (0) 11 309 1606	Hmeyer2@pioneerfoods.co.za
Sensarome (Pty) Ltd	P/Bag X 6, Kyalami, 1684	Themba Nghalaluma	+27 (0) 11 805 8294	themban@sensarome.co.za
Sensetek CC	Box 2598, Bedfordview 2008	Mike Capon	+27 (0) 11 608 4944	mikec@sensetek.biz
Sensient Colors South Africa (Pty) Ltd	Suite 173, P/Bag X 7, Northriding 2162	Dershana Jackison	+27 (0) 11 462 7150	dershanaj@sa-sensient.co.za
Sharon Bolel Chemical Marketing	Box 693, Edenvale 1610	Sharon Bolel	+27 (0) 11 454 5400	Sharon@sharonbolel.co.za
SK Chemtrade Services (Pty) Ltd	Box 5101, Meadowdale 1612	Vanessa Salt	+27 (0) 11 974 1124	vanessa@skchemtrade.co.za
Sunspray Food Ingredients (Pty) Ltd	Box 43057, Industrial 2042	Rene Cross	+27 (0) 11 473 6811	Rene.Cross@sunspray.co.za
Symrise (Pty) Ltd	Box 143, I sando 1600	Rudy McLean	+27 (0) 11 921 5600	Rudy.mclean@symrise.com

Company	Address	Contact Person	Telephone Number	Email
Unique Flavors	Box 9583, Centurion 0048	Johan Smith	+27 (0) 12 644 0334	johan@uniqueflavors.co.za
Val-U-Flavours (Pty) Ltd	Box 10053, Belhar 7507	Rurik McKaiser	+27 (0) 21 981 7892	rurik@vuf.co.za
Von Holy Consulting CC	Box 4449, Edenvale 1610	Corene Von Holy	+27 (0) 83 267 6004	vonholy@worldonline.co.za
Afriplex Flavours & Fragrances (Pty) Ltd	Box 3186, Paarl 7620	Grant Momple	+27 (0) 21 872 4976	grant@afriplex.co.za
Agrana Fruit South Africa (Pty) Ltd	Box 143, Bergvliet 7864	Philippe Gomez	+27 (0) 21 705 0210	Philippe.gomez@agrana.co.za
Bidfood Technologies (Pty) Ltd	Box 37200, Chempet, 7442	John Morris	+27 (0) 21 527 5020	John.morris@crownnational.co.za
Cargill Flavor Systems (RSA) (Pty) Ltd	Box 354, Table View 7439	Nicole Lombard	+27 (0) 21 556 1512	Nicole_lombard@cargill.com
Carst & Walker (Pty) Ltd	Box 87710, Houghton 2041	Gloria Ford	+27 (0) 11 489 3631	Gloria.ford@carst.co.za
Chemimpo SA (Pty) Ltd	Box 1378, Randburg 2125	Dawie S Maartens	+27 (0) 11 293 2000	Dawie.maartens@chemimpo.co.za
Claman (Pty) Ltd	Box 70667, Bryanston 2021	Clarissa Heyman	+27 (0) 11 704 5289	clarissa@claman.co.za
Clive Teubes (Pty) Ltd	Box 4919, Randburg 2125	Ron Allwright	+27 (0) 11 793 1207	ron@teubes.com
Coca Cola South	Box 9999,	Karen Vokes	+27 (0) 11 644 0666	Kvokes@afr.ko.com

Company	Address	Contact Person	Telephone Number	Email
Africa (Pty) Ltd	Johannesburg 2000			
Soil	27 Musgrave Avenue, Durban, 4001	Nikki or Grant	+27 (0) 31 201 2778	nikki@soil.co.za grant@soil.co.za

Source: South African Association of the Flavour & Fragrance Industry (SAAFFI)

Table 27: Sector Organizations and Research Institutions Involved in the Essential Oils Industry.

Organization	Role
South African Essential Oils Producer Association (**SAEOPA**)	Its role is to provide knowledge for current and potential oil producers with information ranging from species selection, quality control etc.
Small Enterprise Development Agency (**SEDA**)	SEDA has been involved in setting up essential oil business incubation, which provide technical assistance in the Eastern Cape & North West Province
The Council for Scientific & Industrial Research (**CSIR**)	CSIR is active in developing production techniques and has developed various steam distillation techniques. It also provides technical consulting services.
Agricultural Research Council (**ARC**)	It introduced essential oil crops into selected rural communities and it also provides mentorship support to selected farmers of essential oils.
Department of Agriculture and Academic Institutions in South Africa	Conduct research and development of manuals to help growers.

Source: South African Essential Oils Producers Association (SAEOPA)

12. ACKNOWLEDGEMENTS

The following organizations are acknowledged:

Directorate: Economic Analysis & Statistics
Department of Agriculture, Forestry and Fisheries
Tel: (012) 319 8453
Fax: (012) 319 8031
Website: www.daff.gov.za

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Karen Swanepoel
University of Zululand
Tel: 035 902 6359/ 082 785 8700
Fax: 035 902 6428
Website: http://safarmer.net/SAEOPA

South African Association of the Flavour & Fragrance Industry (SAAFFI)
Tel: +27 (0) 11 447 2757
Fax: 0866 203 723
E-mail: info@saaffi.co.za
Website: www.saaffi.co.za

ITC Market Access Map
Website: http://www.macmap.org/SouthAfrica

ITC Trade Map
Website: http://www.trademap.org.

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