

A PROFILE OF THE SOUTH AFRICAN MACADAMIA NUTS MARKET VALUE CHAIN

2014

Directorate Marketing

Private Bag X15

ARCADIA

0007

Tel: 012 319 8455/6

Fax: 012 319 8131

Email: MogalaM@daff.gov.za

www.daff.gov.za



**agriculture,
forestry & fisheries**

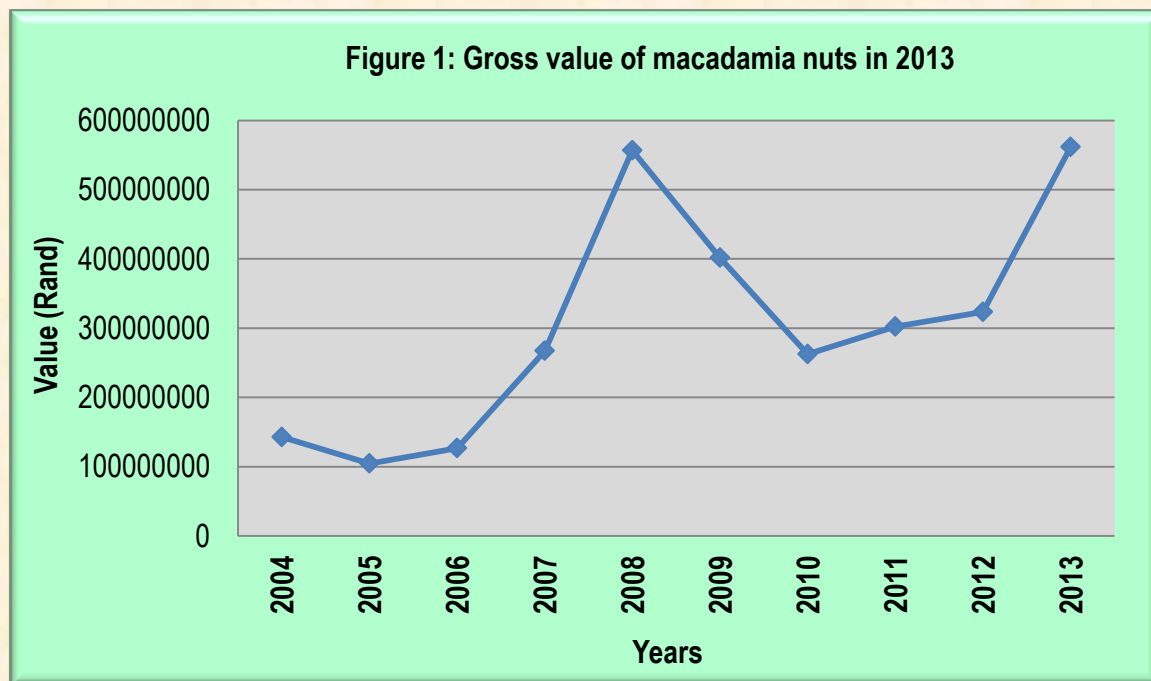
Department:
Agriculture, Forestry and Fisheries
REPUBLIC OF SOUTH AFRICA

TABLE OF CONTENTS

1. DESCRIPTION OF THE INDUSTRY	3
1.1. <i>Employment</i>	4
1.2 <i>Production trends</i>	4
1.2.1 <i>Production areas</i>	4
2. MARKET STRUCTURE	6
2.2 <i>Domestic markets</i>	6
3. EXPORTS AND IMPORTS	7
3.1 <i>Exports</i>	7
3.2 <i>Share analysis</i>	15
3.3 <i>South African Macadamia Nuts Imports</i>	17
4. PROCESSING	20
5. LOGISTICAL ISSUES.....	22
5.1 <i>Storage</i>	22
5.2 <i>Quality</i>	22
5.3 <i>Shelling</i>	22
5.4 <i>Drying</i>	22
5.5 <i>Packaging</i>	22
6. MARKET INTELLIGENCE.....	24
7. MARKET COMPETIVENESS	27
8. INDUSTRY ORGANIZATION	29
9. OPPORTUNITIES	29
10. THREATS	29
11. OTHER CHALLENGES	29
12. SAMAC AFFILIATED MACADAMIA MARKETING COMPANIES	30
13. ACKNOWLEDGEMENTS	31

1. DESCRIPTION OF THE INDUSTRY

Macadamia nuts are quickly becoming an important crop in South Africa and are possibly the fastest growing tree crop industry in the country. South Africa is the third largest macadamia nut producer in the world, after Australia (where they originated) and Hawaii. From 2011 to 2013, South Africa was number one in macadamia nut exports in the world. The nuts are a valuable food crop. Only two of the species i.e. *M. integrifolia* and *M. tetraphylla*, are of commercial importance. Macadamia tree takes five to twelve years to produce nuts and a good tree can produce nuts for 40 years. The trees require a hot subtropical climate without much humidity. In South Africa, KwaZulu-Natal, Mpumalanga and Limpopo are ideal areas. Macadamias are now widely used in the confectionery, baking, ice cream and snack food industries. Macadamia oil's rich, cushiony skin feel and high oxidative stability make it especially suitable for heavy creams and sun care formulations. Medical research has shown that the consumption of macadamias may significantly lower the risk of heart disease. Macadamia nuts are toxic to dogs; ingestion may result in macadamia toxicosis which is marked by weakness and hind limb paralysis with the inability to stand. The gross value of macadamia nuts is shown in Figure 1 below.



Source: SAMAC data 2013

Figure 1 above illustrates the contribution of the macadamia nuts industry to the total gross value of agricultural production over a 10 year period. In 2005, the industry's contribution dropped by 26.6% compared to the 2004 production season. This can be attributed to a drop in production volume and market prices in the same season. From 2006, the industry's contribution increased, steadily and in 2008 the gross value surged by 79%, when compared to 2007 value. In 2009, the industry's contribution decreased by 35% compared to the previous season. This is attributed to a loss of R54 million worth of nuts that were lost due to unsound kernels (SAMAC 2009). In 2010, macadamia nuts gross value declined by 53% compared to gross value in 2009. This can be

ascribed to a decline in macadamia prices in the same year. During 2011, the gross value of production increased by 15% when compared to the previous season. In 2012, the gross value increased by 7% when compared to the 2011 gross value. During 2013, the gross value has surged by 73.6%, when compared to 2012 gross value and this can be attributed to high producer price that occurred in the same year.

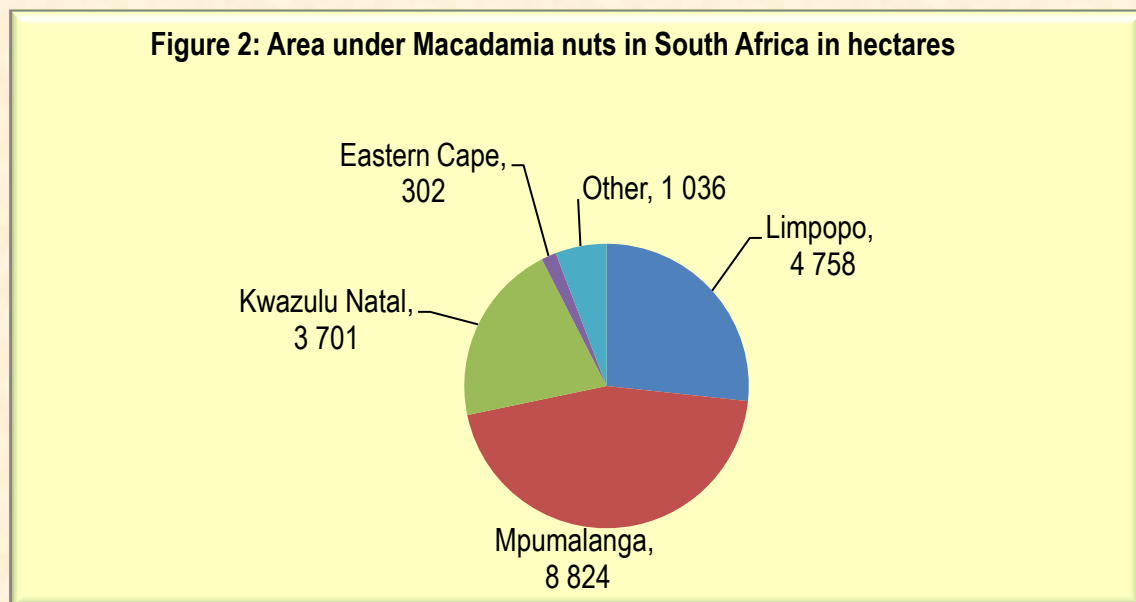
1.1. Employment

Although most of the workforce in the industry is employed seasonally for harvesting and processing from February to August, it is estimated that at least 3 500 new job opportunities have been created on macadamia farms over the last decade and another 300 permanent jobs in cracking facilities. In peak season, the industry presently provides employment for approximately 6000 farm workers and about 1 400 factory workers. Since production is expected to double within the next 5 to 7 years, employment creation will continue to grow at a similar pace.

1.2 Production trends

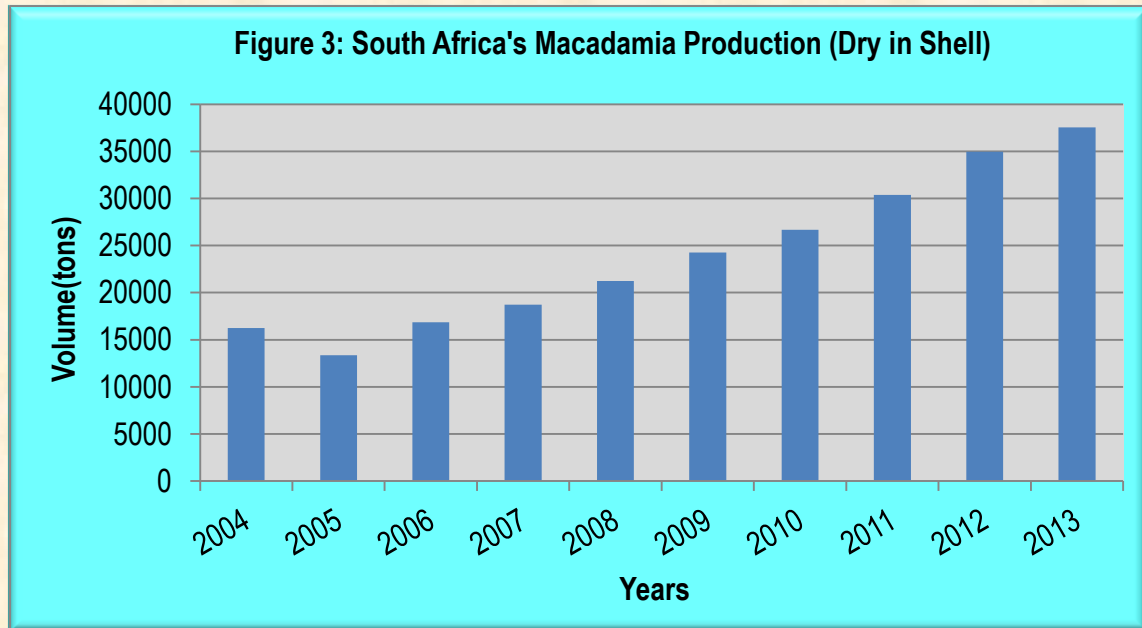
1.2.1 Production areas

In South Africa, macadamia nuts are mainly grown in three provinces: Limpopo (Tzaneen and Levubu), Mpumalanga (Nelspruit and Hazyview), and on the north and south coast of KwaZulu Natal. In the neighboring countries macadamias are produced in Swaziland, Malawi and Zimbabwe. There are close to 450 farmers involved in growing macadamia nuts that are supplied to 10 cracking factories. A number of growers are GLOBALGAP accredited and most of the cracking facilities are HACCP and /or ISO 9001 accredited. Macadamia nuts are also grown in Brazil, California, Israel, Thailand, Kenya, Swaziland, Costa Rica, New Zealand, Colombia and Guatemala.



Source: SAMAC data, 2012

Figure 2 above shows that in 2012, Mpumalanga province accounted for 8 824 ha of macadamia nuts, followed by Limpopo with 4 758 ha, Kwazulu Natal 3 701 ha and Eastern Cape with 302 hectares. In terms of number of trees planted, Mpumalanga has over 2.4 million, followed by Limpopo with over 1.4 million, Kwazulu Natal with approximately 1.1 million and Eastern Cape with 91 506. According to SAMAC, area under macadamia tree is approximately 17 800 hectare with approximately 5.3 million macadamia nuts trees.



Source: SAMAC data, 2013

Figure 3 above illustrates the production of macadamia nuts (Dry In Shell -DIS) over a 10 year period (also see Table 1 below). In 2005, there was a 17.6% decrease in total tonnages compared to previous year. This is attributed to bad weather during flowering and fruit set in Limpopo province. From 2006 production increased steadily, reaching a peak in 2012. In the 2009 season, South Africa produced 24 199 tons DIS macadamia (table 1 below). This is a 13.9% increase compared to the previous season. In 2010, production of dry in shell macadamia nuts has increased by 12% when compared to 2009 production year. Production growth is a factor of tree age, climate and production practices. In 2011, DIS output increased by 13.9% when compared to the 2010 production season. During 2012, DIS output has gone up by 15% when compared to 2011 DIS output. The DIS output figure has increased by 7.5% in 2013, when compared to previous DIS figure.

Table 1: Macadamia production per production region in 2012

Processed Macadamia	Limpopo	Mpumalanga	KZN	Total RSA
Wet In Shell (WIS) (kg)	13 287 827	19 604 310	4 902 290	37 794 427
Dry In Shell (DIS) (kg)	12 364 123	18 115 340	4 466 868	34 946 331
Sound Kernel (SK) (kg)	3 205 446	5 229 840	1 244 722	9 680 008
Unsound Kernel (USK) (kg)	412 232	553 420	165 012	1 130 664
Total Kernel (TK) (tons)	3 617 678	5 783 260	1 409 734	10 810 672

Processed Macadamia	Limpopo	Mpumalanga	KZN	Total RSA
SKR ¹ %	25.9%	28.9%	27.9%	27.7%
USKR ² %	3.3%	3.1%	3.7%	3.2%
TKR ³ %	29.3%	31.9%	31.6%	30.9%

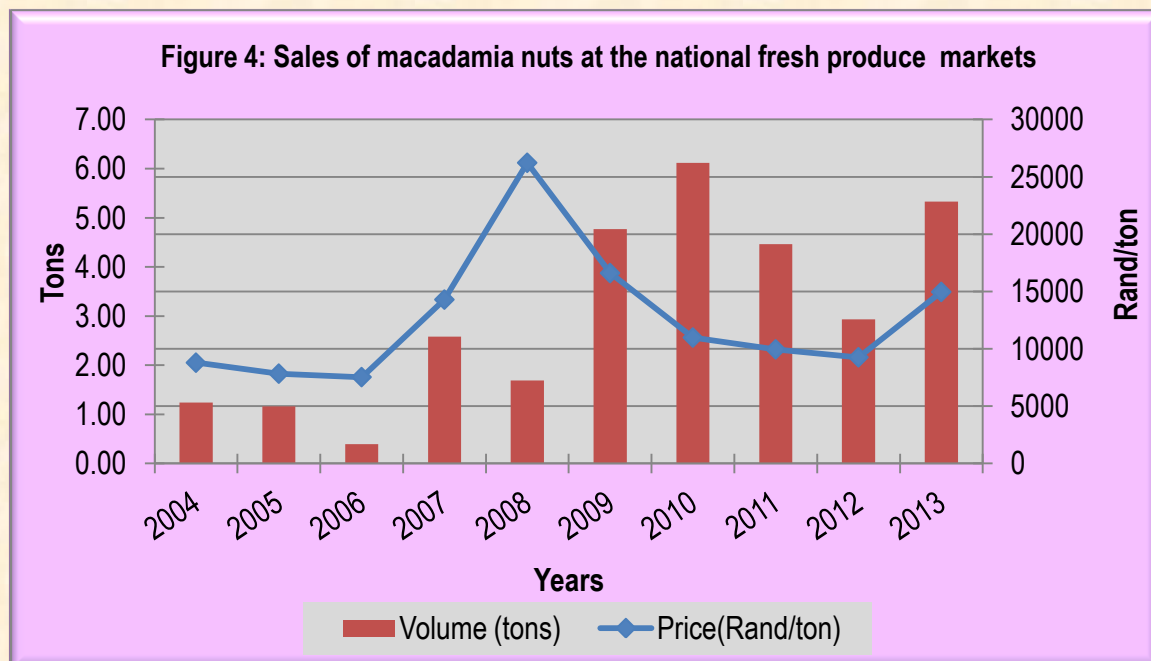
Source: SAMAC DATA, 2012

2. MARKET STRUCTURE

There is no regulation or restriction on the marketing of macadamia nuts. The prices of macadamia are determined by the market forces of demand and supply. The industry is export based with more than 95% of annual production shipped to international markets. United States of America, Europe and Asia are presently the largest markets for macadamias originating from South Africa. South Africa imports small volumes of Macadamia nuts and this can be attributed to high domestic production.

2.2 Domestic markets

The main buyers of macadamia nuts in South Africa are Spar, Pick 'n Pay and Woolworths. Macadamia nuts are also marketed through national fresh produce markets and directly to processing companies. Volumes of sales of macadamia nuts at the national fresh produce markets (NFPMs) are depicted in Figure 4.



Source: Statistics and Economic Analysis, DAFF

¹ SKR = Sound Kernel Recovery

² USKR = Unsound Kernel Recovery

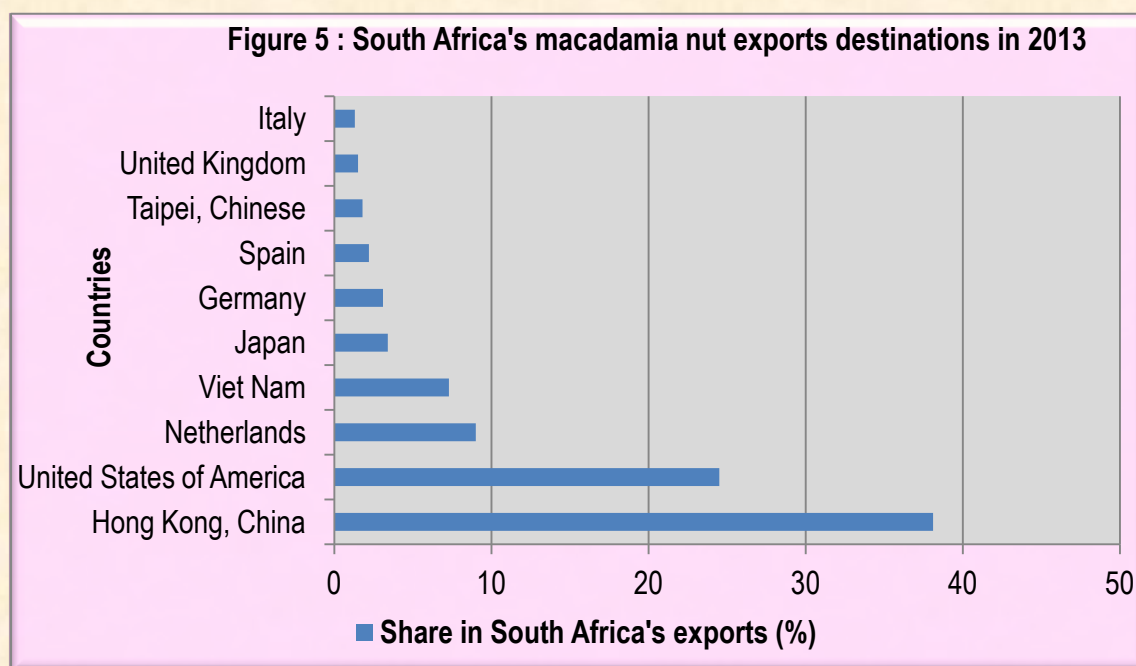
³ TKR = Total Kernel Recovery

The sales volumes have relatively fluctuated over the years. In 2006 the volumes fell by 66% compared to the previous year and this was accompanied by a 4% decrease in market prices. From 2007 the market prices increased significantly, reaching a peak in 2008. In 2009, the market prices dropped by 37% due to higher volumes supplied across the markets. In 2010, volumes supplied at the market increased by 28%, which led to a 33.8% drop in market prices. During 2011, macadamia nut prices dropped by 9.4% despite a 27% drop in volumes supplied across the markets. This can be attributed to poor uptake of macadamia nuts at the same year. In 2012, volume sold at national fresh produce markets continued to decline when compared to the previous year. The market price declined by 6.9% despite a 34% decrease in macadamia nuts volume supplied in the market and this can be attributed to poor demand of macadamia nut in the same year. During 2013, market price surged by 61% despite 81.9% increment in volume supplied in the market and this can be attributed to strong demand of macadamia nuts in the same year.

3. EXPORTS AND IMPORTS

3.1 Exports

Over 90% of the production (12% of world production) is exported annually. According to ITC Trademap during 2011, South African macadamia nuts export represented 36.78% of world macadamia nuts exports and it was ranked number 1. During 2012, South Africa's exports represented 28.81% of world exports and it is still ranked number 1. In 2013, South Africa exported 21 696 tons to the world and it is still number one in the world macadamia nut exports. South Africa has commanded 37.1% share of the world exports. In second place is Australia with 26% share, followed by the Kenya with 7.7%, Netherlands with 5.7%, and Guatemala with 5.1% and Hong Kong (China) with 3.9% share. South Africa has increased competitiveness in terms of macadamia nut exports, as during 2012, it commanded 27.81% share of world exports.



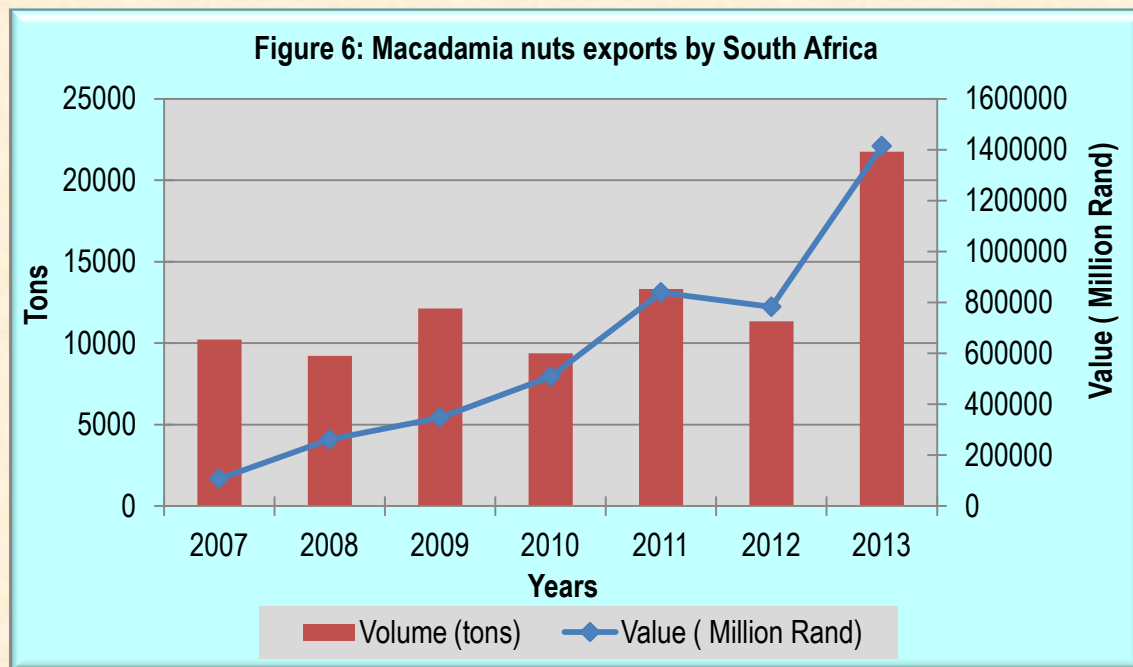
Source: ITC Trademap

Figure 5 above illustrates South African macadamia nuts export destinations in 2013. Hong Kong, China is the major export market for macadamia nuts originating from South Africa with 38.1% share, followed by the United States of America with 24.5% , the Netherlands with 9% and Viet Nam with 7.3% share. South Africa also exported macadamia nuts to Japan, Germany, Spain, Chinese Taipei and United Kingdom.

Importer	Exported value 2013 (USD thousand)	Share in South Africa's exports (%)	Exported quantity 2013 (Tons)	Unit value (USD/unit)	Exported growth in value between 2009-2013 (% , p.a.)	Exported growth in quantity between 2009-2013 (% , p.a.)	Exported growth in value between 2012-2013 (% , p.a.)
World	145900	100	21696	6725	33	20	53
Hong Kong, China	55545	38.1	13166	4219	110	63	107
USA	35685	24.5	2558	13950	23	-11	23
Netherlands	13087	9	918	14256	4	-11	9
Viet Nam	10623	7.3	2818	3770	80	48	118
Japan	5033	3.4	366	13751	12	-8	-31
Germany	4583	3.1	317	14457	13	-4	112
Spain	3141	2.2	220	14277	-6	-18	52
Taipei, Chinese	2622	1.8	177	14814	124	80	35
United Kingdom	2239	1.5	150	14927	-5	-20	62
Italy	1834	1.3	185	9914	49	41	40
Switzerland	1500	1	102	14706	9	-9	7043
Australia	1498	1	110	13618	100		
Norway	1102	0.8	65	16954			

Source: ITC Trademap

Figure 6 below shows that in 2008 macadamia nuts exports decreased slightly by 9.8% compared to 2007 exports. In 2009, the tonnages exported increased by 31.5% compared to the previous season. This can be attributed to high production volumes in the same year. It was less profitable to export in 2007, since less export values were recorded for high volumes exported. In 2010, the exports declined by 22.6% despite an increase in production volumes. It was more profitable to export macadamia nuts in 2010, since high value was recorded for less volume exported. During 2011, macadamia nuts exports increased by 42% when compared to the previous season. This can be attributed to a 13.9% increase in domestic production output. In 2011, it was highly profitable to export macadamia nut when compared to other years. During 2012, macadamia nuts exports dropped by 14.8% and it were more profitable to export when compared to the previous year. South Africa's macadamia nuts has surged by 91.9% in 2013, when compared to the previous year exports and this can be attributed to 7.5% increase in the domestic production output.

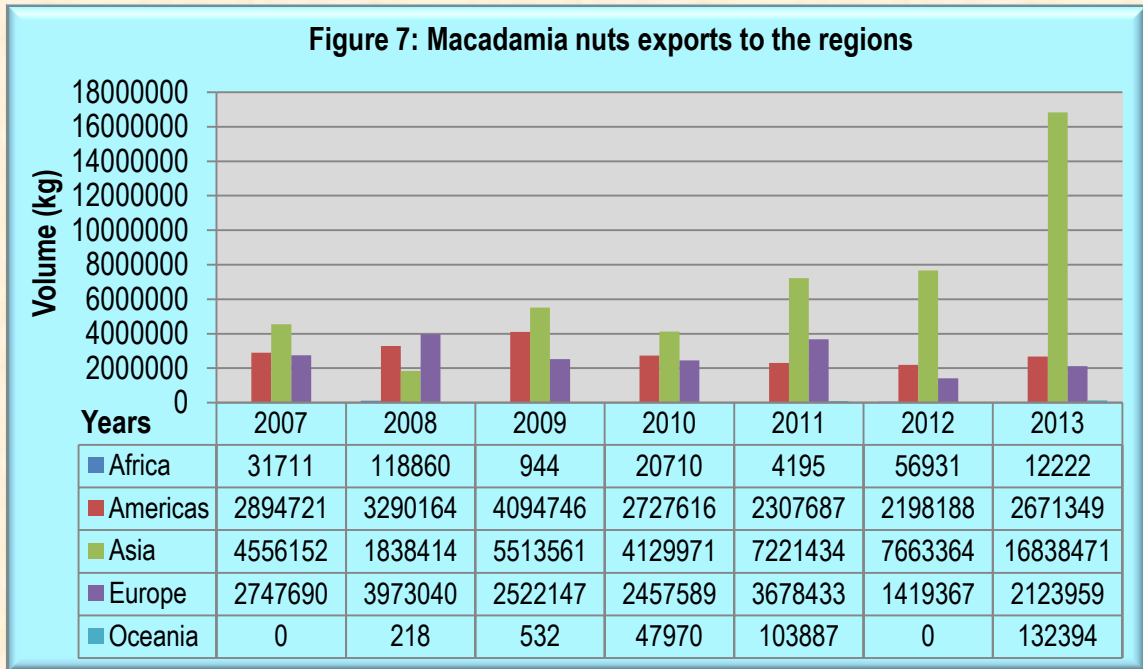


Source: Quantec Easydata

* *Macadamia nuts individual HS code was developed in 2007; it was previously classified in total nuts code and the available export data are only for 5 years.*

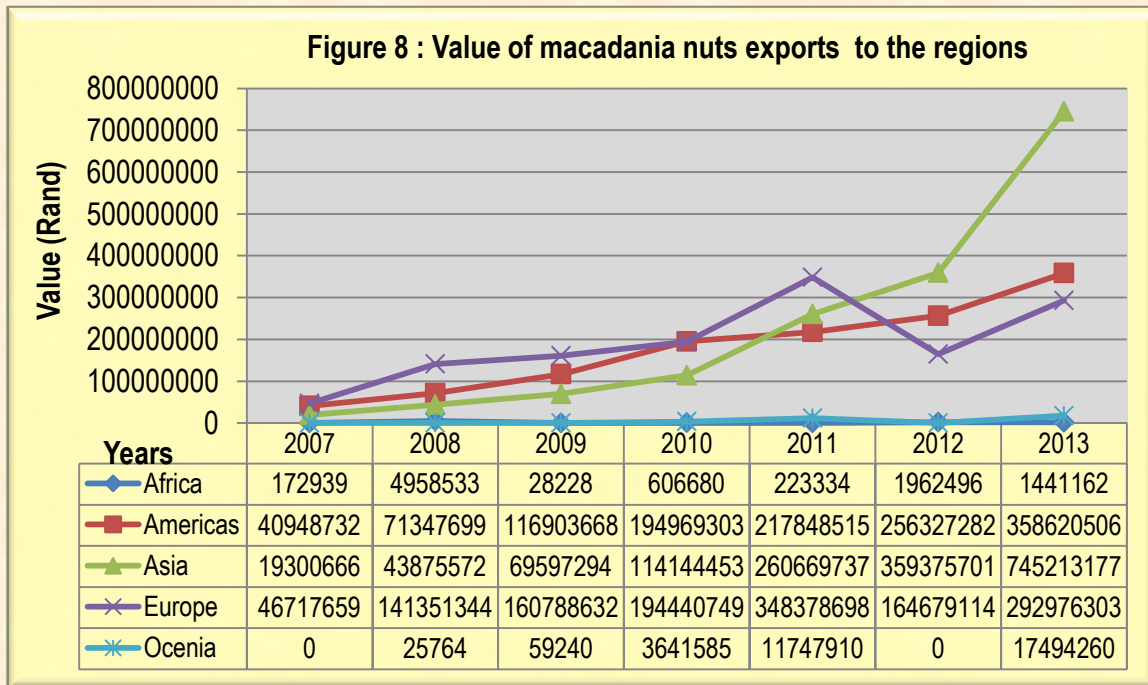
* *Macadamia nuts HS code has been separated into shelled and in shell during 2012. To get the total macadamia nuts export shelled and in shell export figures were combined.*

Exports of macadamia nuts to various regions of the world during the last five years are presented in Figure 7. The below figure indicates that high quantities of macadamia nuts were exported to Asia, European and Americas regions. In 2008, considerable volumes of macadamia nuts were exported to the African region. Macadamia nut exports to Oceania were insignificantly low. In 2010, South Africa exported high quantities of macadamia nuts to the Asian region (Hong Kong, China, Japan and Viet Nam) followed by the Americas (United States of America) and European region (Netherlands, Spain, United Kingdom and Germany). During 2011, high quantities of macadamia nuts were exported to the Asian region (Hong Kong, China and Japan), European region (Netherlands, Germany and United Kingdom) and Americas (United States of America). Considerable macadamia nuts were also exported to Oceania region (Australia and New Zealand). In 2012, higher volumes of macadamia nuts were exported to Asia (Hong Kong, China, Japan and Viet Nam). Considerable volumes were also exported to the Americas (United States of America) and Europe (Netherlands, Germany and Spain). During the same year, macadamia nuts to Africa (Angola) have significantly increased when compared to the 2011 exports. During 2013, Asian region (Hong Kong/China, Japan and Viet Nam) was by far the preferred export market for macadamia nuts originating from South Africa. Notable volumes were exported to Americas (United States of America), Europe (Netherlands, United Kingdom and Germany) and Oceania (Australia) regions. In the same time the export to African region has significantly dropped when compared to 2012 volumes.



Source: Quantec Easydata

Values of macadamia exports to the various regions are presented in Figure 8.

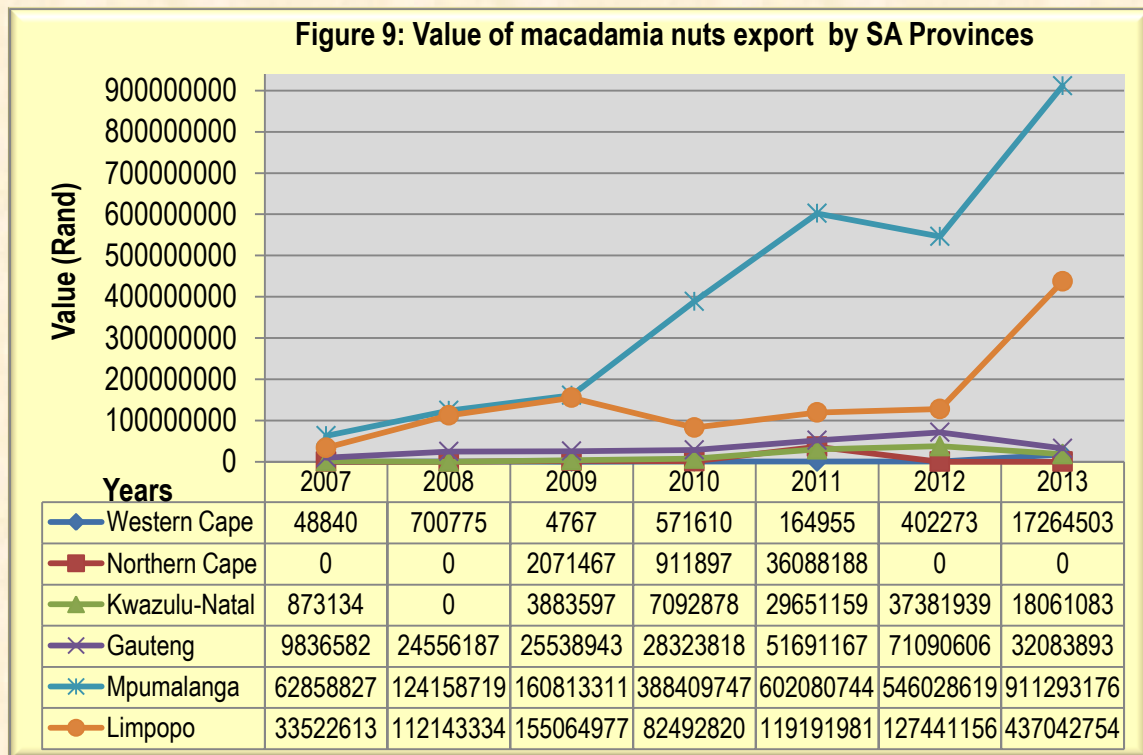


Source: Quantec Easydata

Figure 8 above, shows that it was generally more profitable to export macadamia nuts to European and Americas markets. It was less profitable to export macadamia nuts to Asian countries when comparing values and the volumes exported to the Americas and European countries. During 2011, it was more profitable to export macadamia to Oceania, European and Americas regions.

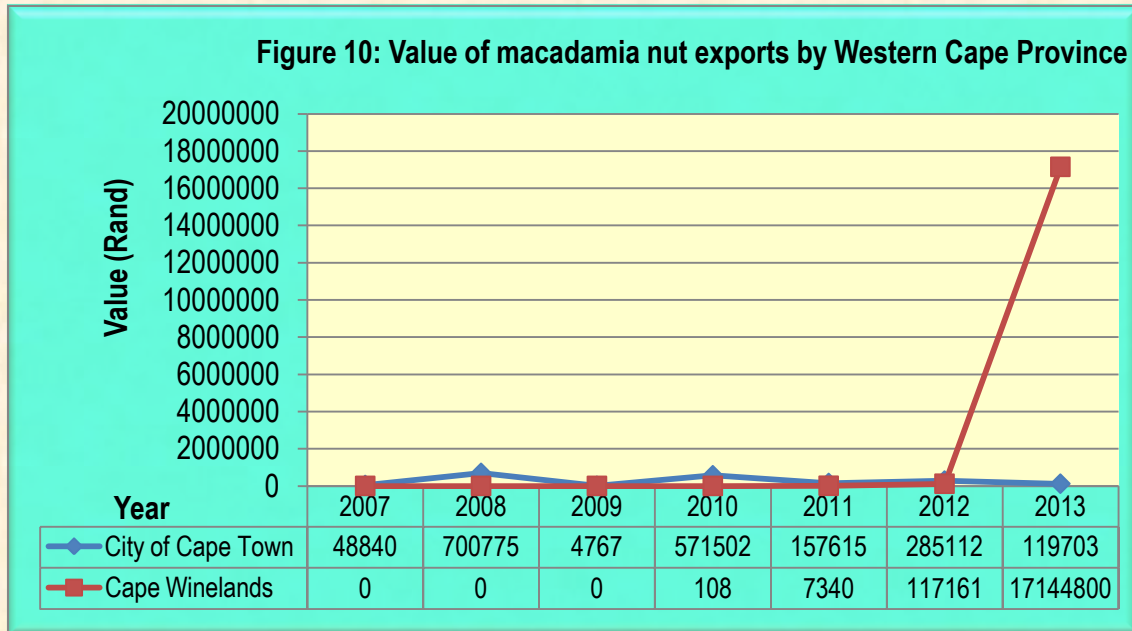
The exports to Africa and Asia fetched low values. In 2012, America and European markets continued to be more profitable markets for macadamia nuts originating from South Africa, while the African market remained the less profitable market. During 2013, Europe followed by America region continued to be the most profitable export markets. Asia followed by Africa region were the least profitable markets for macadamia nuts exported from South Africa.

Figure 9 below illustrates the value of macadamia nut exports from South African provinces for the past seven years. The highlights from the figure were that Mpumalanga and Limpopo are the top exporters of macadamia nuts in South Africa. The value for Kwazulu Natal macadamia nuts exports was low despite the province being one of top producers of macadamia nuts. High values of macadamia nuts for Mpumalanga and Limpopo can be attributed to high production volumes from these provinces and also the cracking factories situated in these provinces. High export values for Gauteng can be attributed to export agents and export exit points situated in this province. In 2011, values of macadamia nuts export for Mpumalanga, Northern Cape, Limpopo and Gauteng have increased significantly, when compared to the previous seasons. During 2012, macadamia nuts export values for Western Cape, Kwazulu Natal, Gauteng and Limpopo have increased while export value for Mpumalanga has slightly decreased in the same year. In 2013, export values for Western Cape, Mpumalanga and Limpopo have notably increased, while the export value for Gauteng and Kwazulu Natal has notably dropped when compared to the previous year.



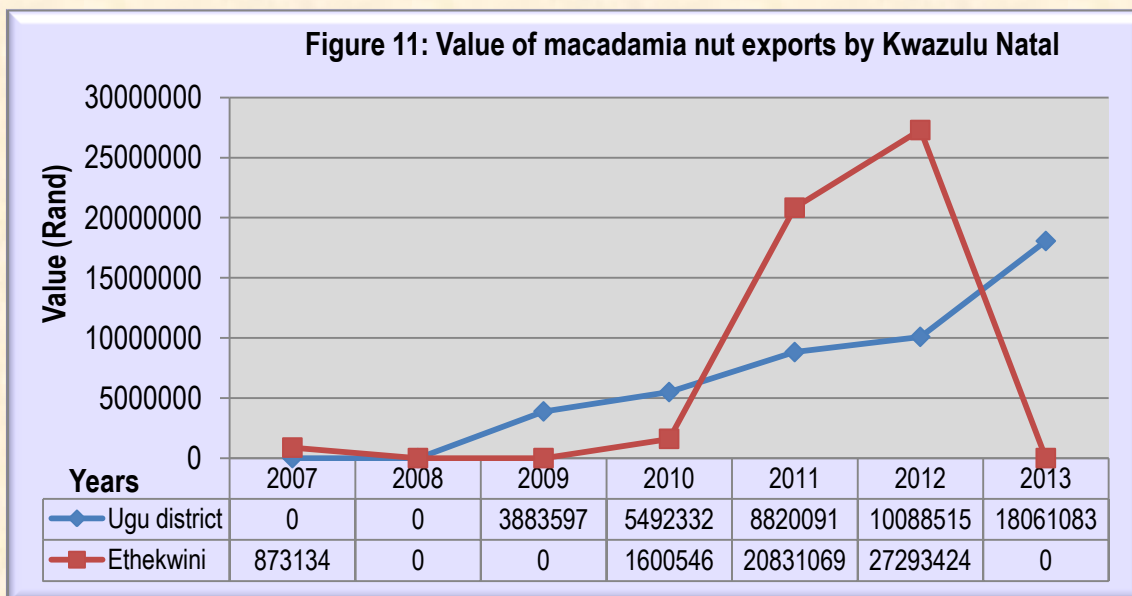
Source: Quantec Easydata

The following figures (Fig. 10 – 14) show the value of macadamia nuts from the various districts in the provinces of South Africa.



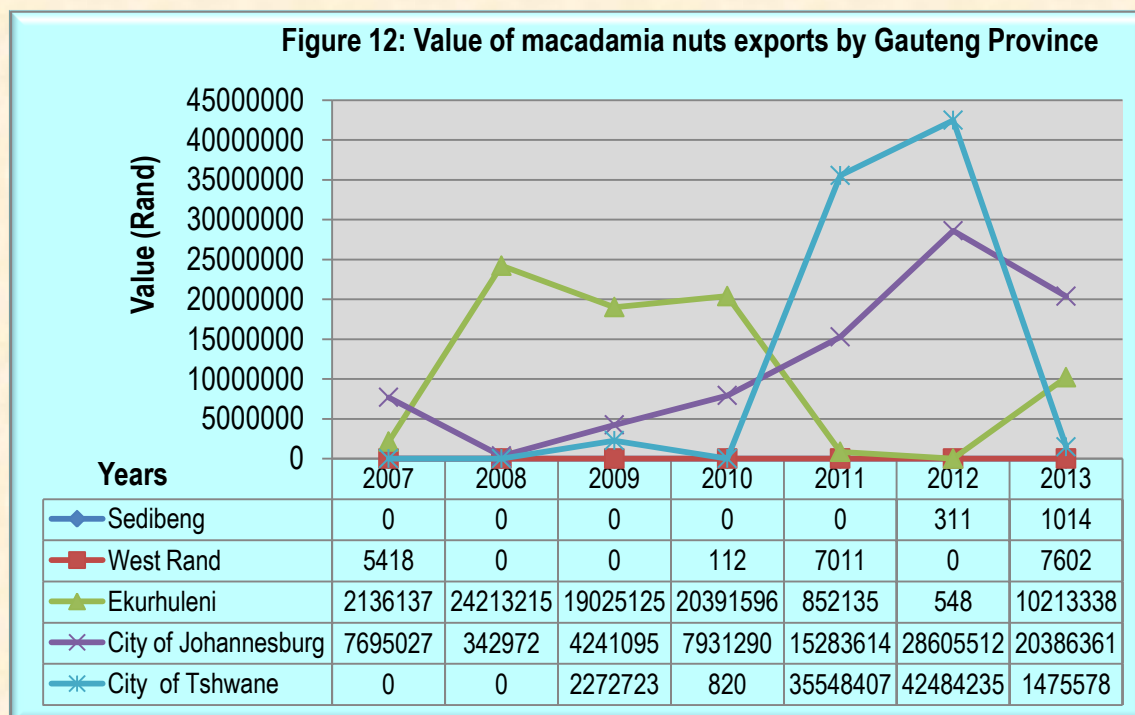
Source: Quantec Easydata

Figure 10 above shows that macadamia nuts from Western Cape Province were exported through the City of Cape Town. Notable export values were recorded in 2008. In 2010, there was a significant increase in macadamia nuts value originating from the City of Cape Town when comparing to 2009. During 2011, export value recorded for the City of Cape Town has dropped significantly while the value for Cape Winelands has improved. In 2012, export value for both City of Cape Town and Cape Winelands districts have increased significantly. During 2013, Cape Winelands district was the main contributor to Western Cape macadamia nut exports and at the same time City of Cape Town export value has notably dropped, when compared to 2012 export value.



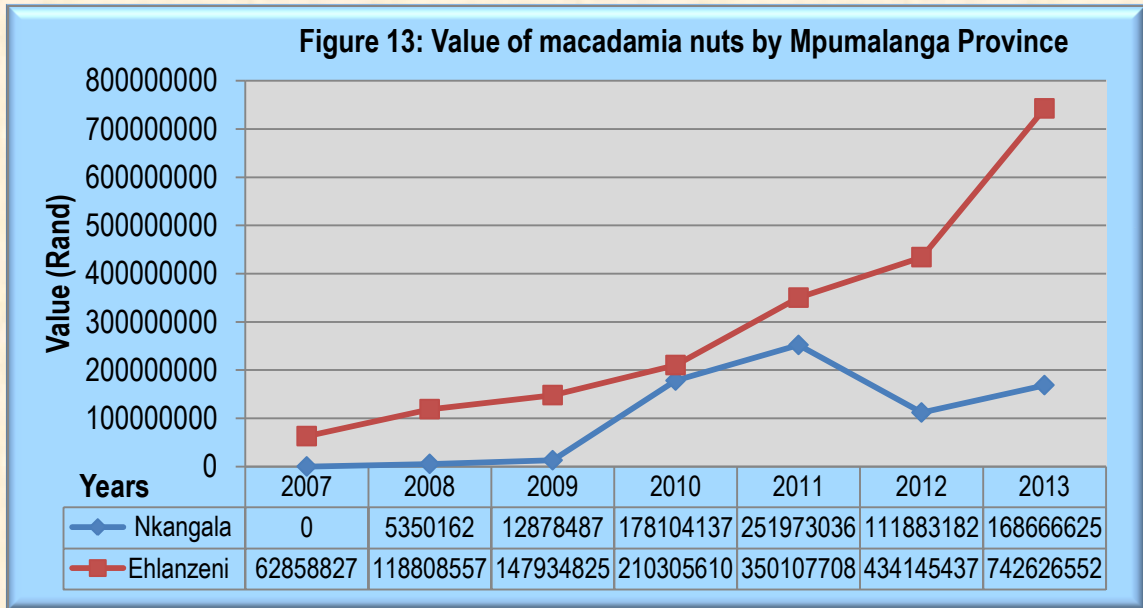
Source: Quantec Easydata

Figure 11 above shows that macadamia nuts from the Kwazulu Natal province were exported from the Ethekewini in 2007, 2010 and 2011. Exports from Ugu district were recorded from 2009 to 2013. There were no values of macadamia nuts recorded for Kwazulu Natal in 2008. In 2011, export values recorded for Ethekewini and Ugu districts have increased significantly when compared to the 2010 season. During 2012, Ugu and Ethekewini continued to record high export values for macadamia nuts originating from the Kwazulu Natal province. Ugu district export value surged by 79%, when compared to 2012 export value and there was no export recorded for Ethekewini district.



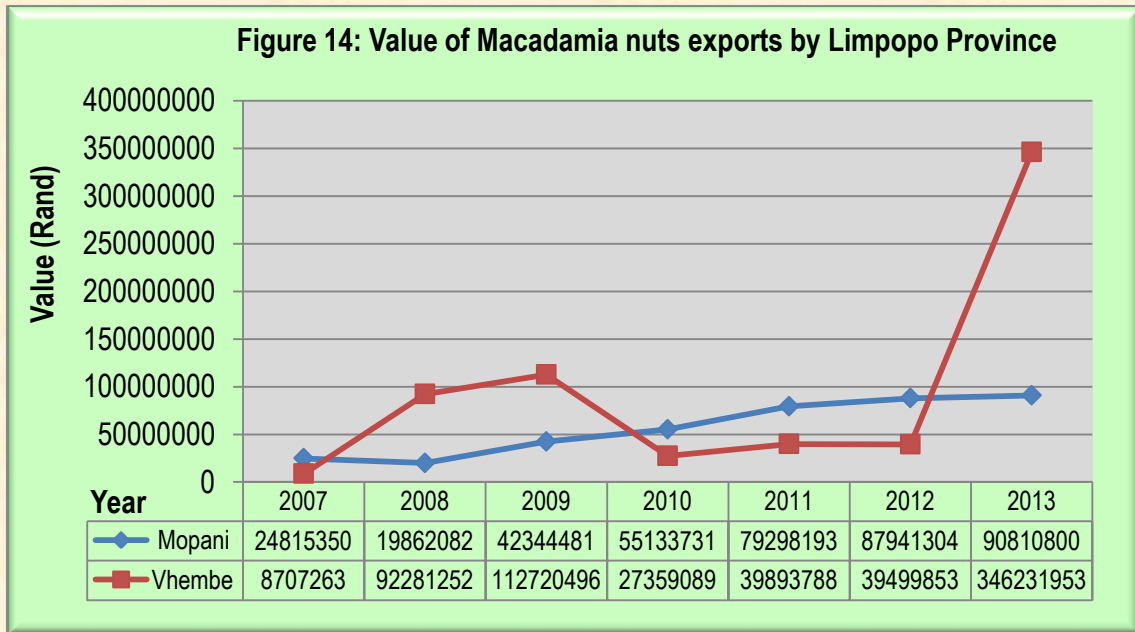
Source: Quantec Easydata

Figure 12 above shows that macadamia nuts exports by Gauteng province were exported mainly through Ekurhuleni, City of Johannesburg and City of Tshwane. The high export value was recorded in 2008 for Ekurhuleni district. In 2010, export value for West Rand and City of Tshwane were insignificant, while the export value for Ekurhuleni and City of Johannesburg have considerably increased. During 2011, export values for the City of Tshwane and City of Johannesburg have increased significantly, while export value for Ekurhuleni has notably declined, when compared to the 2010 season. In 2012, City of Johannesburg continued to dominate in macadamia nut exports originating from Gauteng province. In the same year, the City of Tshwane export value has increased significantly, while Ekurhuleni export value has dramatically dropped. During 2013, City of Johannesburg had the highest export value in Gauteng export, but the export value for this municipality has notable dropped when compared to 2012. In the same year Ekurhuleni export value has notably increased. City of Tshwane export value has drastically dropped, while export value for Sedibeng and West Rand were insignificant.



Source: Quantec Easydata

Figure 13 above shows that macadamia nut exports by Mpumalanga province were exported mainly from Ehlanzeni and Nkangala district municipalities. Notable export values were recorded in 2011 for both Nkangala and Ehlanzeni districts. Export values for Nkangala and Ehlanzeni districts have further increased when compared to 2010. During 2012, Ehlanzeni macadamia nut export value has surged while the export value for Nkangala has dropped significantly when compared to 2011 export values. In 2013, Nkangala district export value has surged and Ehlanzeni export value has notably increased, when compared to the 2012 export values.



Source: Quantec Easydata

Figure 14 above illustrates that the macadamia nut exports from Limpopo province were exported from Vhembe and Mopani districts. Notable export values were recorded in 2009 for Vhembe and in 2012 for Mopani district. In 2010, the export value for Vhembe has significantly dropped while the export value for Mopani district has increased. During 2011, export values from Mopani and Vhembe district has increased drastically, when compared to the 2010 season. In 2012, macadamia nuts export values for Mopani and Vhembe continued to increase, when compared to the previous year export value from Limpopo province. During 2013, Mopani and Vhembe are still the main contributors to macadamia nuts exported from Limpopo province and the export value for Mopani district has surged when compared to 2012 export value.

3.2 Share analysis

Table 2 below is an illustration of provincial shares towards national macadamia nut exports. In 2011, Mpumalanga commanded 71.77%, Limpopo commanded 14.21% and Gauteng commanded a 6.16% share of macadamia nut exports. During 2012, Limpopo, Gauteng, Kwazulu Natal and Western Cape provinces have slightly increased their export shares, while in the same time Mpumalanga province export share has slightly dropped. In 2013, Limpopo has increased its export share from 16.79% to 30.87% and Mpumalanga export share has slightly dropped to 64.37%. In the same year, Western Cape has slightly increased its export share while Mpumalanga and Kwazulu Natal export shares has decreased. It is interesting that the greatest share of export was commanded by the provinces that have high production volumes which is mostly not a case in most produce.

Table 2: Share of provincial exports to the total RSA macadamia nut exports (%)

Year Provinces	2007	2008	2009	2010	2011	2012	2013
Western Cape	0.05	0.27	0	0	0.02	0.05	1.22
Northern Cape	0	0	0.60	0.18	4.30	0	0
Kwazulu-Natal	0.81	0	1.12	1.40	3.54	4.78	1.28
Gauteng	9.18	9.39	7.35	5.58	6.16	9.09	2.27
Mpumalanga	58.67	47.47	46.29	76.49	71.77	69.79	64.37
Limpopo	31.29	42.87	44.64	16.25	14.21	16.29	30.87
South Africa	100	100	100	100	100	100	100

Source: Calculated from Quantec Easydata

Table 3 below indicates that Ekurhuleni and City of Johannesburg commanded the greatest share of macadamia nuts exports from Gauteng province during the 7 year period. In 2010, Ekurhuleni has commanded 72% share while City of Johannesburg has commanded 28% share of Gauteng macadamia nuts exports. During 2011, City of Tshwane commanded 68.77% share of macadamia nuts exports recorded for Gauteng province. Ekurhuleni export share dropped to 1.65% when compared to 72% share in 2010 season. In 2012, City of Johannesburg export share has considerably increased while the export share of the City of Tshwane has dropped to 59.76% when compared to 2011 export shares. In the same year there were no export shares recorded for West Rand and Ekurhuleni. City of Johannesburg has commanded 63.54% of Gauteng macadamia nuts exports share during 2013. In the same year Ekurhuleni has commanded 31.83% and City of Tshwane export share has dropped from 59.76% to 4.60%.

Table 3: Share of district exports to the total of Gauteng provincial macadamia nut exports (%)

Years District	2007	2008	2009	2010	2011	2012	2013
West Rand	0.06	0	0	0	0.01	0	0.02
Ekurhuleni	21.72	98.60	74.49	72.00	1.65	0	31.83
City of Johannesburg	78.23	1.40	16.61	28.00	29.57	40.24	63.54
City of Tshwane	0	0	8.90	0	68.77	59.76	4.60
Gauteng	100	100	100	100	100	100	100

Source: Calculated from Quantec Easy data

Table 4 below shows that Vhembe and Mopani commanded the greatest share of macadamia nut exports from Limpopo province during the period under review. In 2010, Mopani has commanded 66.83% and Vhembe has commanded 33.17% share of Limpopo's macadamia exports. Vhembe district is one of the areas producing high quantities of macadamia nuts. In 2011 and 2012, Mopani continued to lead by commanding 66.53% and 69.01% share of macadamia nut exports from Limpopo province. During 2013, Vhembe has commanded the greatest share with 79.22% of Limpopo province export share and the Mopani export share has dropped from 69.01% to 20.78%.

Table 4: Share of district exports to the total of Limpopo Provincial macadamia nut exports (%)

Year District	2007	2008	2009	2010	2011	2012	2013
Mopani	74.03	17.71	27.31	66.83	66.53	69.01	20.78
Vhembe	25.97	82.29	72.69	33.17	33.47	30.99	79.22
Limpopo	100	100	100	100	100	100	100

Calculated from Quantec Easydata

Table 5 below indicates that Ehlanzeni commanded greatest share of macadamia nuts exports from the Mpumalanga province during the period under review. In 2008 and 2009, the share commanded by Nkangala district municipality was less significant. In 2010 Nkangala has commanded 45.85% share of macadamia nuts from Mpumalanga. During 2011 and 2012, Ehlanzeni continued to command high shares in macadamia nut exports from Mpumalanga province. Ehlanzeni commanded an 81.49% share of Mpumalanga export share during 2013 and Nkangala has commanded 18.51% share.

Table 5: Share of district exports to the total of Mpumalanga Provincial macadamia nut exports (%)

Year District	2007	2008	2009	2010	2011	2012	2013
Nkangala	0	4.31	8.01	45.85	41.85	20.49	18.51
Ehlanzeni	100	95.69	91.99	54.15	58.15	79.51	81.49
Mpumalanga	100	100	100	100	100	100	100

Calculated from Quantec Easydata

Table 6 below shows that, from 2007 to 2009 City of Cape Town has commanded 100% share of Western Cape provincial macadamia nuts export share. From 2010 to 2012, the City of Cape Town continued to command high export share, but in 2013 the export share dropped from 70.88% to 0.69%. Cape Winelands commanded a 99.31% share of Western Cape export shares during 2013.

Table 6: Share of district exports to the total of Western Cape provincial macadamia nut exports (%)

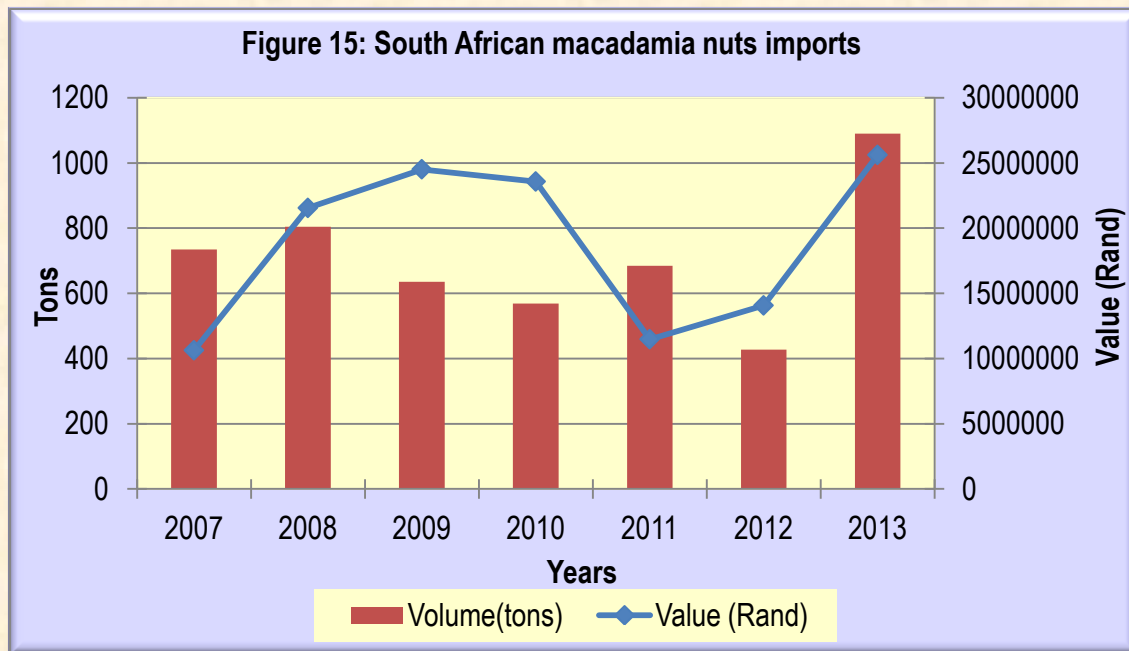
Year District	2007	2008	2009	2010	2011	2012	2013
City of Cape Town	100	100	100	99.98	95.55	70.88	0.69
Cape Winelands	0	0	0	0	4.45	29.12	99.31
Western Cape	100	100	100	100	100	100	100

Source: Calculated from Quantec Easy data

3.3 South African Macadamia Nuts Imports

South Africa is not a major macadamia nut importer. The country represented 0.73% of world imports during 2013 and its ranking in the world macadamia nuts imports was 18. This is attributed to high macadamia nuts production by South Africa, but South Africa has slightly increased its imports, as in 2012 its imports were ranked number 47. During 2013, the United States of America remained the top macadamia nuts importer, followed by Hong Kong, Japan, Germany, China, Netherlands, Viet Nam, and Luxembourg.

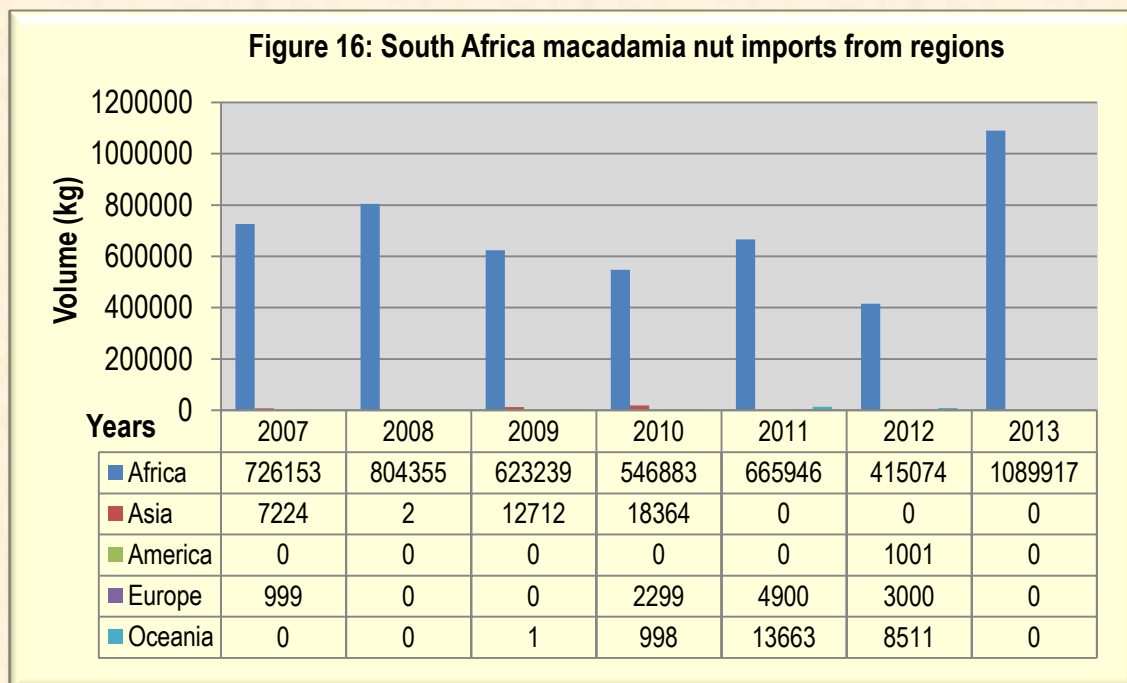
Figure 15 below illustrates South African macadamia nuts imports for the past 7 years. In 2008, there was a 9.5% increase in macadamia nut imports while in 2009 the imports decreased by 21%. The decline in imports in 2009 can be attributed to high domestic production in the same year. In 2007 and 2008 it was cheaper to imports since lower values were recorded for higher volumes imported. During 2010, South Africa macadamia nuts imports have declined by 10.6% when compared to 2009 and it was also expensive to import macadamia nuts as high values were recorded for lower volumes imported. South African macadamia nuts increased by 20% during the 2011 production season, when compared to 2010. It was also relatively cheap to import macadamia nuts in the 2011 season. During 2012, South Africa's macadamia nut imports dropped by 37.5%, when compared to 2011 imports. This can be attributed to an increase domestic macadamia nut production output. South Africa macadamia nuts imports surged by 154% during 2013, despite a 7.5% increase in the domestic production output.



Source: Quantec Easydata

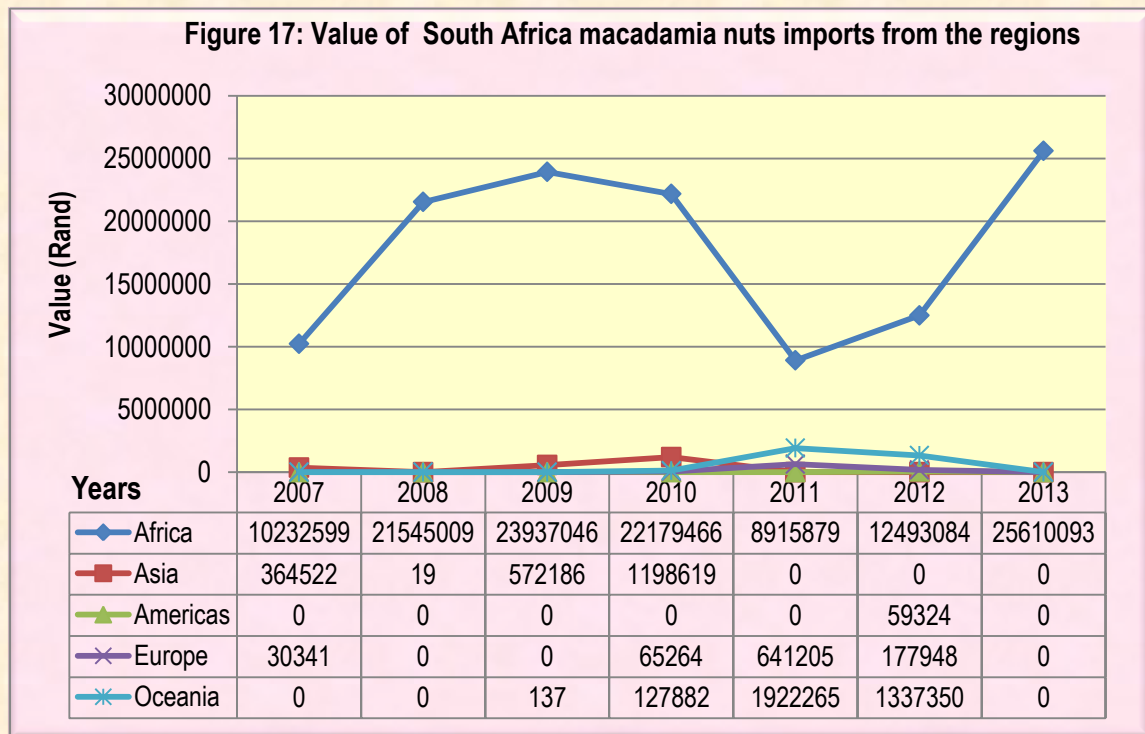
* Macadamia nuts individual HS code was developed in 2007; it was previously classified in total nuts code and the available import data is only for 5 years.

* Macadamia nuts HS code has been separated into shelled and in shell during 2012. To get the total macadamia nuts import shelled and in shell import figures were combined.



Source: Quantec Easydata

Figure 16 above illustrates the regions supplying South Africa with macadamia nuts. South Africa generally imports high volumes of macadamia nuts from African countries (Malawi and Zimbabwe). A fraction of macadamia nuts was imported from Asia (Japan). Macadamia nuts from Europe were recorded in 2007 and 2010. South Africa imported considerable volumes of macadamia nuts from the Oceania region (Australia) during 2010. During 2011; South Africa imported macadamia nuts mainly from Malawi, Zimbabwe, Australia, Mozambique and Netherlands. In 2012, Malawi continued to be the main macadamia nut supplier for South Africa, followed by Australia and Zimbabwe. Malawi supplied 72.6%, Australia 9.5% and Zimbabwe 9% of South Africa's macadamia nut imports. During 2013, South Africa imported macadamia nuts solely from African region. Zimbabwe commanded a 50.2% share, Malawi has commanded 39.9% share and Mozambique has commanded 2.3% share of South Africa's imports.



Source: Quantec Easydata

Figure 17 above shows high import value for the African region due to high volumes imported from that region. Import values for Asia and Europe were less significant due to lower import volumes from these regions. In 2010, it was more expensive to import macadamia nuts from Oceania, since high import value was recorded for less volume imported. During 2011, it was cheaper to import from Asia and Africa. In the same year it was more expensive to import from the Oceania region. In 2012, it was still cheaper to import macadamia nuts from African region while imports from the Oceania region remain relatively expensive. It was cheaper to import macadamia nut during 2013, when compared to 2012 imports.

4. PROCESSING

The kernel is the main product from the macadamia nut tree. After harvesting, the husks covering the nuts are removed. The nuts are fried, the shells are cracked, and the kernels are removed to be oil-roasted or dry-roasted. Kernels are commonly sold as snack nuts and chocolate-covered candy. Ice cream manufacturers and the baking industry also use macadamia kernels as an ingredient. The shell and husk also have uses. Shells can be used as mulch, fuel for processing macadamia nuts, planting medium for anthurium culture, plastic manufacture and as a substitute for sand in the sand-blasting process. Husks are used as mulch or composted for fertilizer. Oil can be extracted from culled nuts. The cosmetic industry, especially in Japan, uses the oil in soaps, sunscreens and shampoos. The remaining press cake might be used for animal feed. The various uses of macadamia nuts are illustrated in Figure 18 while the market value chain is depicted in Figure 19.

Figure 18: Macadamia Value Chain Tree explaining its uses

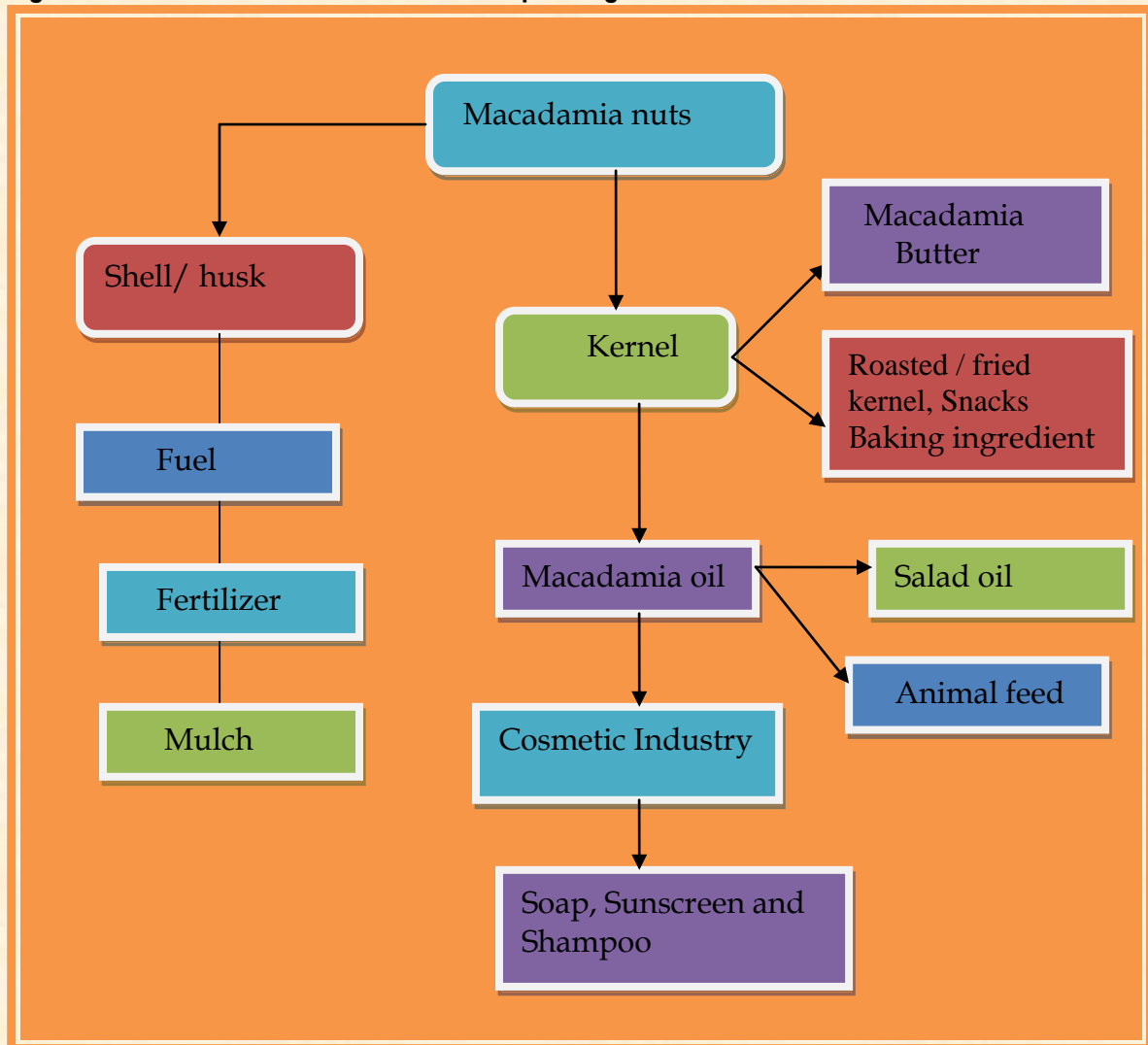
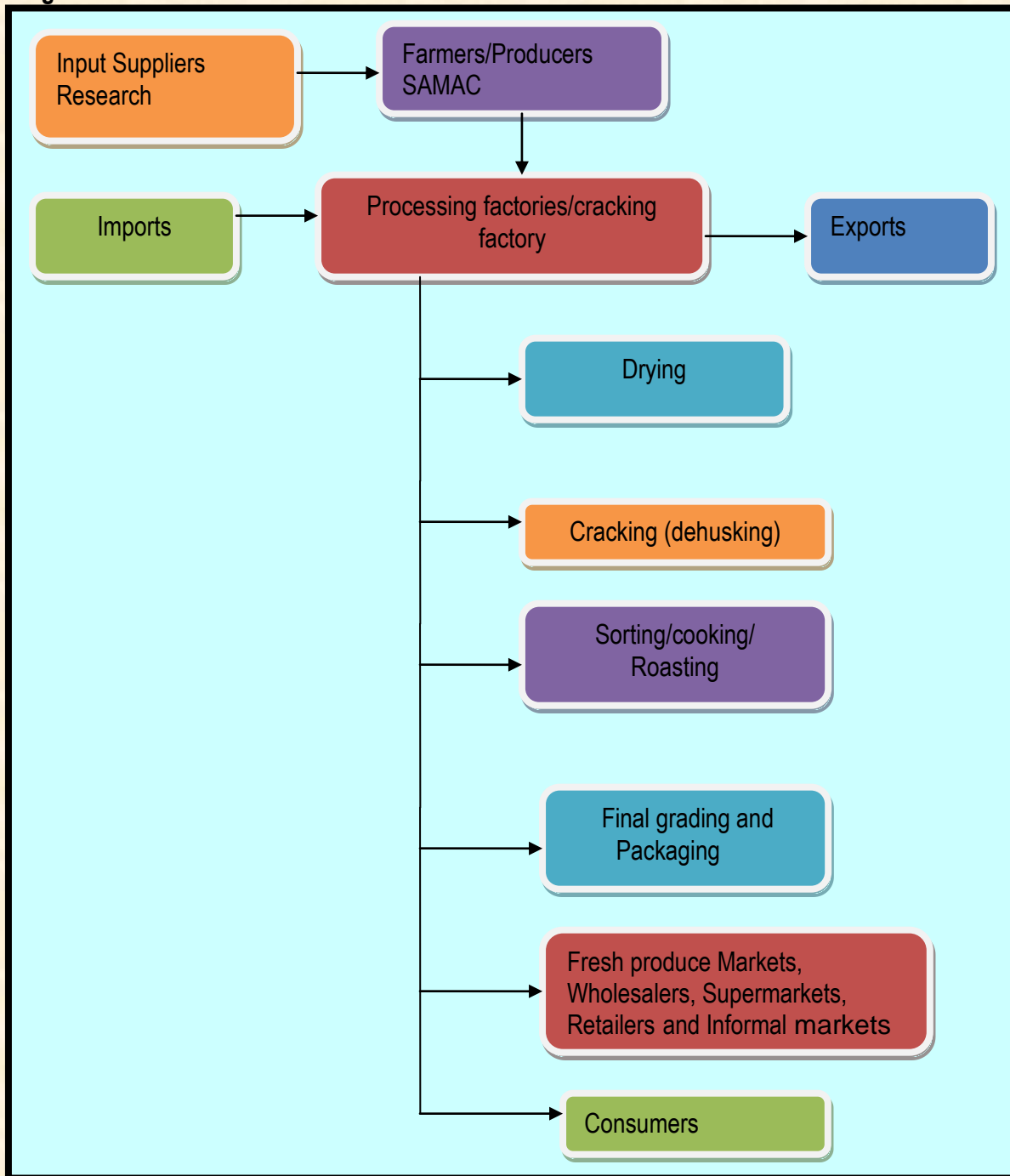


Figure 19: Market value chains for macadamia nuts



Macadamia value chain can be broken down into the following levels: the producer of macadamia nuts (farmers), processing /cracking factory owner (who dry, crack (dehusk), sort, cook, roast, grade, package, store and distribute macadamia nuts). Processing factories also market and sell macadamia nuts to fresh produce markets, wholesalers, supermarkets, retailers and informal markets and then to end users (consumers).

5. LOGISTICAL ISSUES

5.1 Storage

Vacuum packed raw macadamia kernel should be stored in a cool (15°C to 25°C), dry and well ventilated area. Stored under these conditions, raw macadamia kernel which conformed to all the quality specifications at packing, will maintain this quality for 16 to 18 months without any serious quality deterioration. This length of time of quality preservation is of course only achieved if the correct vacuum pouch material, with the oxygen and water vapour transmission rate properties as described below is used:-

5.2 Quality

Minimum quality standards for South African macadamias were first agreed to and implemented by marketers in 1994. These covered the main quality parameters affecting kernel rancidity (free fatty acids and peroxide value), hygiene (Coliforms and E.Coli) and moisture level (moisture content %). These minimum quality standards have now been extended to include additional quality parameters, providing a more comprehensive definition of quality specifications in line with international trends.

5.3 Shelling

For successful shelling, the nuts should be dried to a moisture content of about 1, 5 % to ensure that kernels shrink away from the shells. Therefore, nuts should be dried before shelling. The final drying takes place in large containers through which hot air is circulated. The macadamia nut has a very hard shell, but is easily cracked mechanically between rotating steel rollers. A nutcracker or shelling machine works on the principle that nuts are cracked between a rotating steel roller and a fixed plate. The distance between the roller and the plate is adjustable according to the grading size of the nuts. The kernels of the nuts that have been properly dried drop from the shells when the nuts are cracked.

5.4 Drying

Freshly harvested, dehusked nuts contain 25% moisture and must be dried before they are stored in bulk. Wire frames containing 3 layers of nuts are used for drying. Air must circulate freely between the frames to prevent mould. A fan may be used. The nuts could also be sundried, but if the freshly harvested nuts are exposed to the sun immediately, the shells may crack. These cracks provide access to insects when the nuts are stored. If the nuts are not dried, but immediately stored in bags or other containers, fungal growth could occur.

5.5 Packaging

Packaging also plays a vital role in ensuring safe and efficient transport of a product and conforming to handling requirements, uniformity, recyclable materials specifications, phytosanitary requirements, proper storage needs and even attractiveness (for marketing purposes).Macadamia

stored in its original, unopened package in a cool, dry environment, it will normally retain that quality for at least a year from its package date. For longer shelf life, the product should be stored under cold storage with low relative humidity. Macadamia kernels can easily deteriorate during handling and repackaging unless certain principles are kept in mind. Unlike other edible nuts, the macadamia kernel requires a storage environment, which is very low in moisture and oxygen. This is best achieved by a combination of gas flushing with food grade carbon dioxide or nitrogen, and partial vacuuming before hermetically sealing the pouch. Only then will a satisfactory shelf life be attained.

The partial vacuum also helps to stop the kernels rubbing during transit and to prevent puncturing of the protective film. Once the package is opened and the kernels are exposed to the atmosphere for several hours they will absorb moisture and begin to lose their "crunch". Even an increase in moisture from 1.5% to 1.8% makes a significant difference to the texture. If stored open to the air the kernel moisture will continue to rise and the eating quality will decrease markedly. If stored under these conditions at room temperature for several weeks their taste will change as rancidity slowly develops. Deterioration may also occur if kernel is packaged in poor quality packaging materials e.g. Polythene or cellophane bags. The shelf life of kernel packed under these conditions may be considerably less than a month before there is a discernible loss of eating quality. The fried or roasted nuts are packed in airtight bottles, tins or plastic containers for consignment and marketing.

6. MARKET INTELLIGENCE

Tariffs applied by the various markets to macadamia nuts originating from South Africa during 2012 and 2013 are presented in Table 6.

Table 6: Tariffs applied by various export markets for macadamia nuts originating from South Africa.

Country	Product description (H0802610) and (H0802620)	Trade regime description	Applied tariff	Estimated total ad valorem equivalent tariff	Applied tariff	Estimated total ad valorem equivalent tariff
			2012		2013	
Canada	Macadamia nuts, fresh or dried (In shell and shelled)	MFN duties (Applied)	0.00%	0.00%	0.00%	0.00%
China	Macadamia nuts, fresh or dried (In shell and shelled)	MFN duties (Applied)	0.00%	0.00%	0.00%	0.00%
France	Macadamia nuts, fresh or dried (In shell and shelled)	Preferential tariff for South Africa	0.00%	0.00%	0.00%	0.00%
Germany	Macadamia nuts, fresh or dried (In shell and shelled)	Preferential tariff for South Africa	0.00%	0.00%	0.00%	0.00%
Congo	Macadamia nuts, fresh or dried (In shell and shelled)	MFN duties (Applied)	30.00%	30.00%	30.00%	30.00%
Hong Kong	Macadamia nuts, fresh or dried (In shell and shelled)	MFN duties (Applied)	0.00%	0.00%	0.00%	0.00%

Country	Product description (H0802610) and (H0802620)	Trade regime description	Applied tariff	Estimated total ad valorem equivalent tariff	Applied tariff	Estimated total ad valorem equivalent tariff
			2012		2013	
Israel	Macadamia nuts, fresh or dried (In shell and shelled)	MFN duties (Applied)	4.00%	4.00%	4.00%	4.00%
Lebanon	Macadamia nuts, fresh or dried (In shell and shelled)	General tariff	5.00%	5.00%	5.00%	5.00%
Japan	Macadamia nuts, fresh or dried (In shell and shelled)	MFN duties (Applied)	5.00%	5.00%	5.00%	5.00%
		Preferential tariff for GSP countries	2.50%	2.50%	2.50%	2.50%
Viet Nam	Macadamia nuts, fresh or dried (In shell and shelled)	MFN duties (Applied)	30.00%	30.00%	30.00%	30.00%
Kenya	Macadamia nuts, fresh or dried (In shell and shelled)	MFN duties (Applied)	25.00%	25.00%	25.00%	25.00%
Malawi	Macadamia nuts, fresh or dried (In shell and shelled)	Preferential tariff for South Africa	10.00%	10.00%	0.00%	0.00%
Netherlands	Macadamia nuts, fresh or dried (In shell and shelled)	Preferential tariff for South Africa	0.00%	0.00%	0.00%	0.00%
Spain	Macadamia nuts, fresh or dried (In shell and shelled)	Preferential tariff for South Africa	0.00%	0.00%	0.00%	0.00%

Country	Product description (H0802610) and (H0802620)	Trade regime description	Applied tariff	Estimated total ad valorem equivalent tariff	Applied tariff	Estimated total ad valorem equivalent tariff
			2012		2013	
United Kingdom	Macadamia nuts, fresh or dried (In shell and shelled)	Preferential tariff for South Africa	0.00%	0.00%	0.00%	0.00%
United States of America	Macadamia nuts, fresh or dried (In shell and shelled)	MFN duties (Applied)	13.00\$/ton	0.24%	13.00\$/ton	0.14%
Zimbabwe	Macadamia nuts, fresh or dried (In shell and shelled)	MFN duties (Applied)	40.00%	40.00%	40.00%	40.00%
Italy	Macadamia nuts, fresh or dried (In shell and shelled)	Preferential tariff for South Africa	0.00%	0.00%	0.00%	0.00%

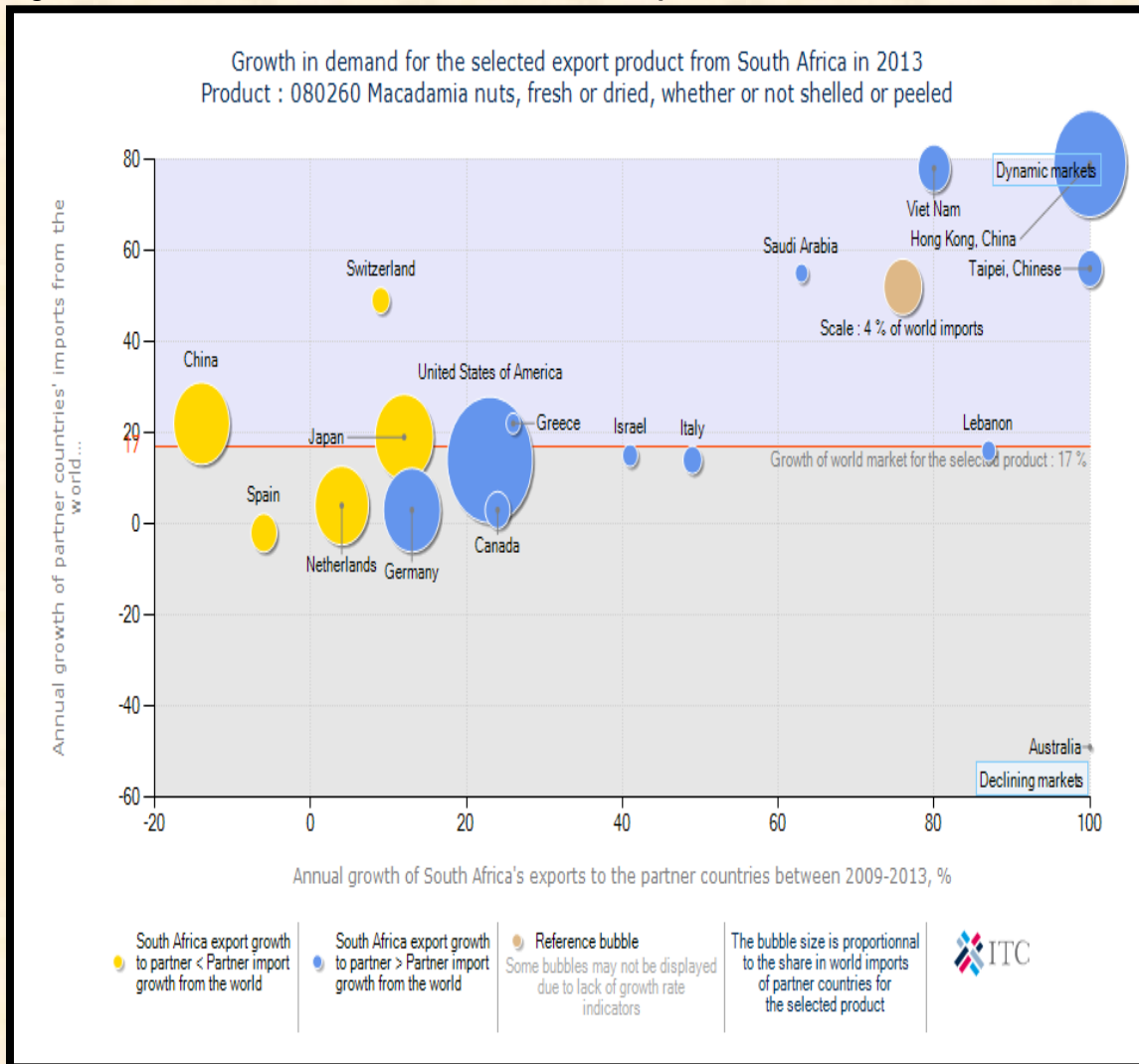
Source: Market Access Map

During 2013, Hong Kong (China) and United States of America were the biggest export markets for South Africa's macadamia nut and these countries apply 0.00% and 0.14% tariff respectively. The lucrative export markets for macadamia nut are in European countries (France, Germany, Netherlands, Italy and United Kingdom) since the countries apply a 0.00% preferential tariff to macadamia nuts originating from South Africa due to EU-SA Free Trade Agreement (FTA). In African market only Kenya and Mozambique apply 0.00% preferential tariff to macadamia nuts originating from South Africa. Other African markets in Kenya, and Zimbabwe are protected by 25% and 40% tariffs respectively in spite of the existence of the SADC-FTA. Zimbabwe and Kenya are other countries producing macadamia nuts in Africa; hence a high tariff can be a measure to protect their domestic producers

7. MARKET COMPETITIVENESS

Figure 20 below illustrates growth in demand for macadamia nuts exports from South Africa in 2013.

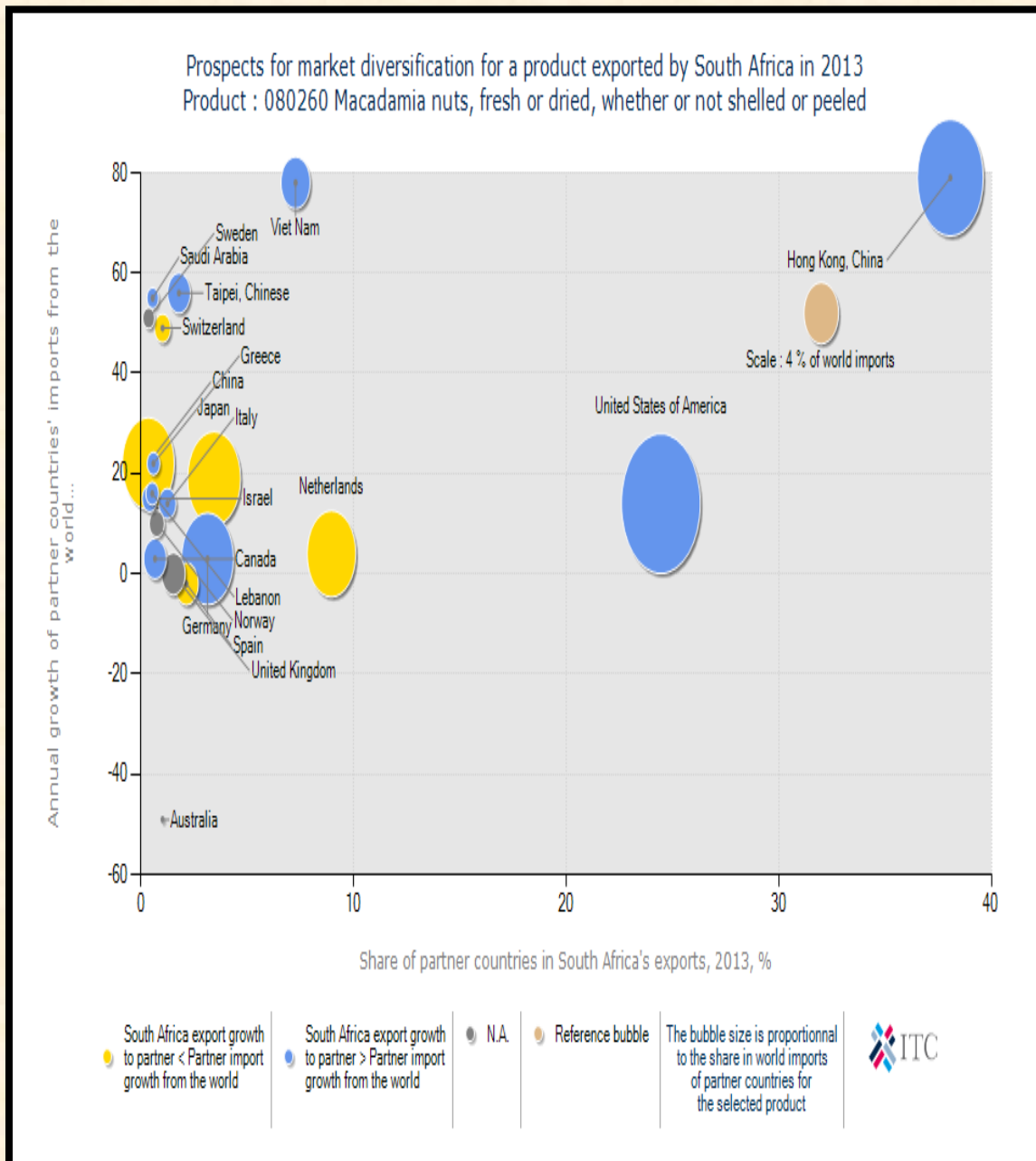
Figure 20: Growth in demand for macadamia nuts exports from South Africa in 2013



Source: ITC Trade Map

Figure 20 above shows that South Africa's macadamia nuts exports to Hong Kong, China, Taipei, Lebanon, Saudi Arabia, Israel, Germany, Netherlands, United States of America, Canada, Japan and Italy are growing faster than the world imports into these countries. South Africa's performance is regarded as a gain in the dynamic markets. South Africa's macadamia nuts to Switzerland are growing slower than the world imports into this country. South Africa's performance in this market is regarded as a loss in the dynamic markets. South Africa's exports to Spain are declining faster than the world imports into this country. Prospects for market diversification for macadamia nuts exported from South Africa during 2013 are depicted in Figure 21.

Figure 21: Prospects for market diversification for macadamia nuts exported by South Africa in 2013



Source: ITC Trade Map

Figure 21 above shows that the United States of America and Hong Kong, China are the biggest export markets for macadamia nuts from South Africa. Other market exists in Switzerland, Greece, Germany, Japan and Italy. However, if South Africa is to diversify its macadamia nut exports the most lucrative markets exist in Viet Nam, Taipei Chinese, Saudi Arabia and Sweden, which have increased their macadamia nuts imports from the world between 2009 and 2013. Viet Nam has experienced an annual growth rate of 78% and Taipei Chinese has experienced 56% annual growth rate. Spain, and Australia have experienced a negative growth between 2009 and 2013.

8. INDUSTRY ORGANIZATION

The macadamia nut industry is formally organized through the Southern African Macadamia Growers' Association (SAMAC). The association is comprised of macadamia nut growers, processors and marketers. The association is funded by its grower members who pay a production levy, which is collected by the processors. SAMAC uses the funds collected to finance research and the dissemination of research results to growers, processors and marketers. SAMAC is also a member of the INC (The International Nut and Dried Fruit Council) where it has the opportunity to interact with international macadamia role players and other various key role players within the International nut trade.

9. OPPORTUNITIES

The volume of macadamia nuts exported has grown tremendously over the past few years and is expected to increase in the future. South Africa is tapping into new markets in China and Hong Kong. A number of major growers have already received accreditation for Global GAP and the rest of the industry is aware of the need to follow fast in their footsteps. Every effort is being made by the industry to keep pace with, or even ahead of international demands in terms of quality standards, including the judicious use of chemicals at farm level. The South African industry target was set for 95% Global Gap accreditation at farm level in 2004. Most South African processors are HACCP/ISO accredited. Worldwide demand for macadamia nuts exceeds supply and the market is expected to grow. The use of macadamia nut in as an ingredient in confectionary and baking presents a huge opportunity.

10. THREATS

The macadamia industry suffers a high incidence of local and organized theft. Factors' influencing unsound kernel percentage in South Africa is stink bug damage, kernel discolorations and kernel immaturity. The stink bug damage is prevalent. Factors that affect nut quality have to be addressed on a continual basis. The integrated pest management is still the most responsible, efficient and cost effective way to control damage caused by these insects.

11. OTHER CHALLENGES

South African macadamia industry indicates that land claims are one of their major issues that raise uncertainties for farmers. Land, as a political and social issue, dates back from the Native Land Act of 1913, which dispossessed blacks and exploited their social domination to the land. The current government of the Republic of South Africa imposed an obligation to land reform by facilitating restorative land justice, increasing access to land and improving tenure security. These pose challenges to farmers in terms of investing on the land.

12. SAMAC AFFILIATED MACADAMIA MARKETING COMPANIES

Company	Contact Person	Tel	Email
Golden Macadamias	Allen Duncan	+27 13 733 5034	allen@goldenmacadamias.com
Green Farms Nut Company	Jill Whyte	+27 15 516 4710	whytespr@mweb.co.za
Ivory Macadamias	Walter Giuricich	+27 82 967 6757	sales@ivorymacs.co.za
Maximacs	Pierre Lombaard	+27 13 712 7268	pierre@maximacs.com
Mayo Macs Macadamias	PJ Venter	+27 13 733 4600	pj@mayoestate.co.za
Empirestate Trading	Pieter vd Westhuizen	+27 82 336 8434	pieter@empirestatesa.co.za
Khuvuka Max	Cobus Kok	+27 82 829 8380	christian@sagefoods.co.za
Tzamac	Graeme Taylor	+27 83 586 2522	graeme@tzamac.co.za
Nutpro CC	Anthony Lombaard	+27 83 449 1734	nutpro@tiscali.co.za

13. ACKNOWLEDGEMENTS

The following organizations are acknowledged:

National Department of Agriculture, Forestry and Fisheries

Directorate: Statistics and Economic Analysis
Private Bag X246
Pretoria
0001
Tel (012) 930 1134
Fax (012) 319 8031

Trade and Industrial Policy Strategies (TIPS)

P.O. Box 11214
Hatfield
0028
Tel (012) 431 7900
Fax (012) 431 7910

SAMAC (South African Macadamia Growers' Association)

www.samac.org.za

Quantec Easy Data

www.easydata.co.za

Market Access Map

www.macmap.org

International Trade Centre

www.trademap.org

Disclaimer: This document and its contents have been compiled by the Department of Agriculture, Forestry and Fisheries for the purpose of detailing the macadamia nuts industry. Anyone who uses this information does so at his/her own risk. The views expressed in this document are those of the Department of Agriculture, Forestry and Fisheries with regard to macadamia nut industry, unless otherwise stated. The Department of Agriculture, Forestry and Fisheries accepts no liability that can be incurred resulting from the use of this information