A PROFILE OF THE SOUTH AFRICAN BEETROOT MARKET VALUE CHAIN

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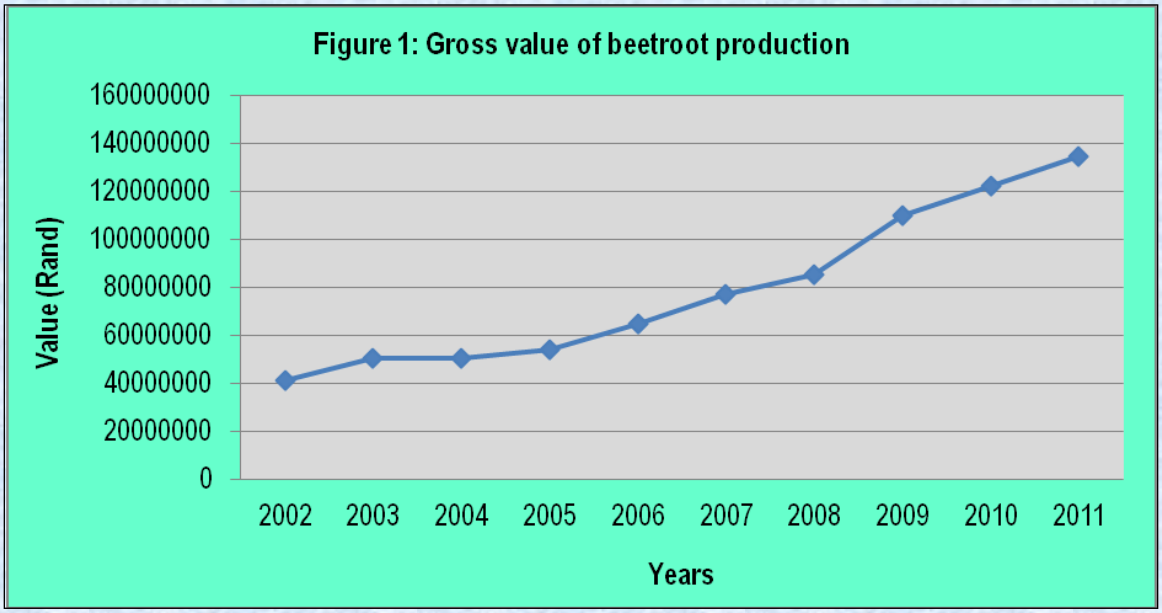
1. DESCRIPTION OF THE INDUSTRY

Beetroot is a biennial plant grown as an annual crop for its storage root. The beetroot is indigenous to Asia Minor and Europe Majority of beetroot is grown for processing. The roots are boiled and eaten as a cooked vegetable, either plain, fried or served with sauces. In addition beetroot can be used in salads and it is also preserved by pickling and canning. Beetroot juice is today advocated as a stimulant for the immune system and as a cancer preventative. Beetroot has long been considered beneficial to the blood, the heart and the digestive system. Beetroot is a rich source of carbohydrates, a good source of protein, and has high levels of important vitamins minerals and micro nutrients. Figure 1 below illustrates the contribution of beetroot industry to the gross value of agricultural production over 10 years period.



Source: Statistics and Economic Analysis, DAFF

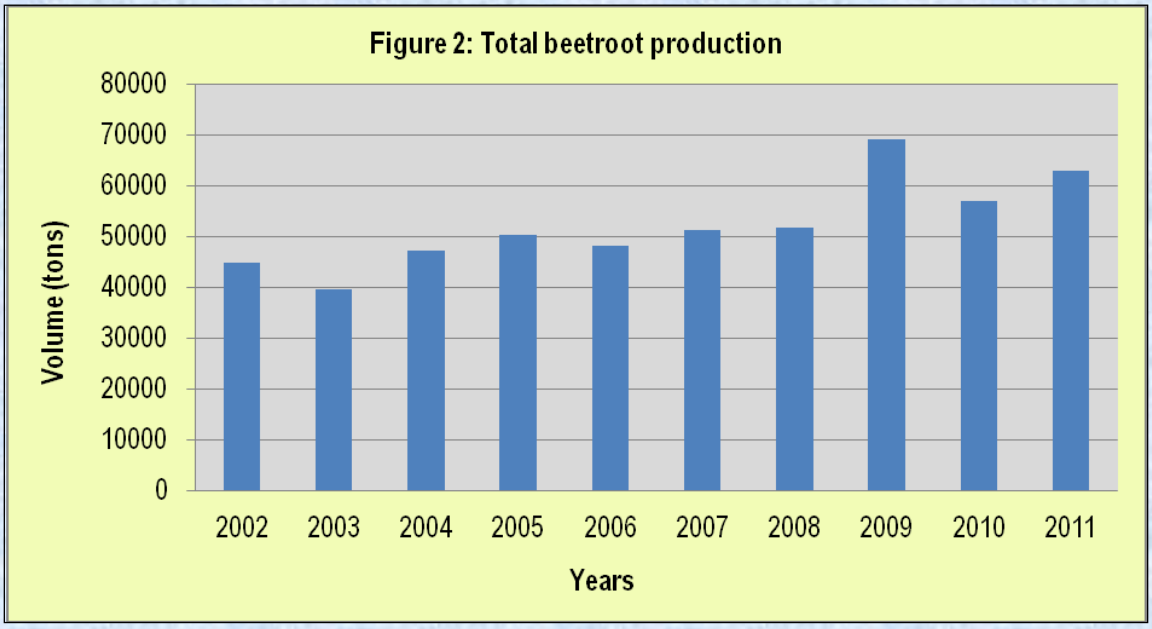
The beetroot industry has shown a steady growth in gross value except for the year 2004 where there was a 0.5% decline in gross value. The decline of gross value can be attributed to the slight decline in prices received by the producers in the same period. From 2005, gross value increased steadily reaching a peak in 2011. In 2011, the gross value was 10% higher compared to 2010 production. This can be attributed to the high production output and producer prices that occurred in the same year.

1.1 Production Areas

Beetroot is a cool weather crop that is hardy and tolerates some freezing. It grows best in spring and autumn, but does well in summer in the Highveld and in winter in the Lowveld. The best quality beetroot are obtained if the crop is grown to maturity in the shortest possible time. The main producing regions are North West, Gauteng, Mpumalanga, Kwazulu Natal and Western Cape. Globally, France, United States of America, Germany, Russia and Turkey are top five countries producing beetroot (FAOSTAT 2009).

1.2 Production Trends

The total South African beetroot production for the period 2002 to 2011 is presented in Figure 2.

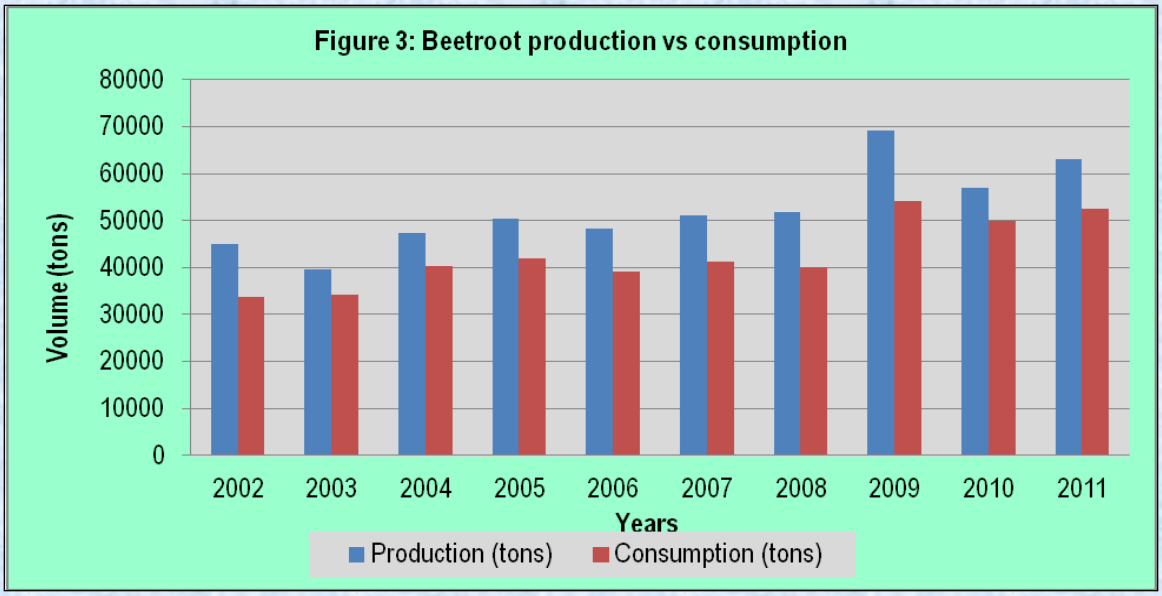


Source: Statistics and Economic Analysis, DAFF

The area planted to beetroot each year is determined by the climatic and economic factors. This might lead to fluctuations in area planted each year. Figure 2 shows fluctuations in beetroot production with a slight decrease of 11.6% in production volume in 2003 compared to 2002. In 2006, the production decreased by 4.3% compared to the previous year. From 2007, the production volume increased steadily reaching a peak in 2009. This can be attributed to favorable climatic conditions that occurred. In 2010 production dropped by 17% when compared to 2009 production year. In 2011, production output increased by 10.6% when compared to the previous year.

1.3 Production vs. Consumption of beetroot

Figure 3 below depicts local consumption of beetroot compared to the production over the 10 year period. The figure indicates that the production of beetroot is higher compared to local consumption. The average beetroot consumption is approximately 42 732 tons per annum. This indicates that South Africa is self sufficient in terms of beetroot production and the surplus beetroot is exported. Australian are the highest consumers of beetroot in the world, mainly contributed by the Australian tradition of using sliced processed beetroot on hamburgers.



Source: Statistics and Economic Analysis, DAFF

2. MARKET STRUCTURE

There is no regulation or restriction in the marketing of beetroot. The prices of beetroot are determined by market forces of demand and supply. The industry uses fresh produce market, informal market, processor and direct selling to wholesalers and retailers. Beetroots are also exported to other countries through export agents and marketing companies. South Africa also imports beetroot from other countries.

2.1 Domestic market and price

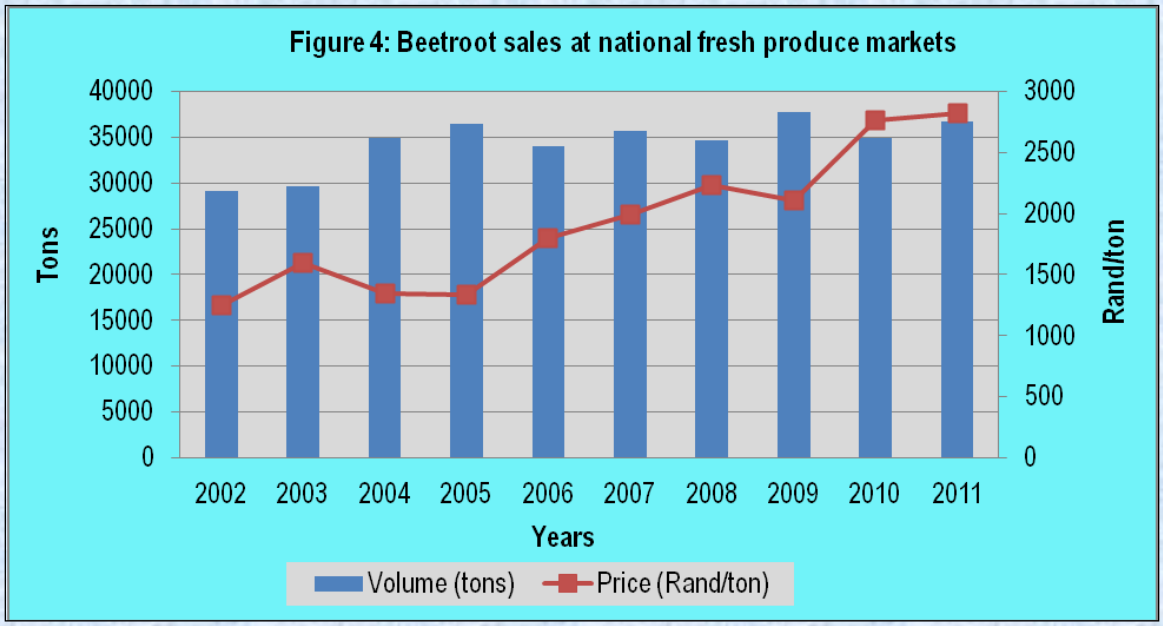
The distribution of the annual beetroot crop is given in Table 1 below.

Table 1: Beetroots sold through different market channels

Years	National fresh produce market (Tons)	Exports (Tons)	Processing (Tons)
2002	29 187	133	11 229
2003	29 610	360	5 499
2004	34 897	334	7 021
2005	36 412	198	8 358
2006	33 989	176	9 048
2007	35 686	225	9 990
2008	34 611	306	11 805
2009	37 819	416	15 022
2010	34 980	477	7 023
2011	36 775	1 048	10 496

Source: Statistics and Economic Analysis, DAFF

Table 1 above shows that in 2011, there was a 5% increase in beetroot sold through national fresh produce markets compared to the previous year. Exports volume increased by 119% and processing activities increased by 49% in the same year. This can be attributed to the increase in beetroot production volumes. National Fresh Produce Markets (NFPMs) remain an important channel for the sales of fresh beetroot in South Africa. In 2011, 58% of all beetroots were distributed through fresh produce markets and the remaining 42% represented exports, direct sales from producers to wholesalers, retailers, processors, informal traders and consumers. Figure 4 below illustrates the sales of beetroot at the national fresh produce markets over 10 years period.



Source: Statistics and Economic Analysis, DAFF

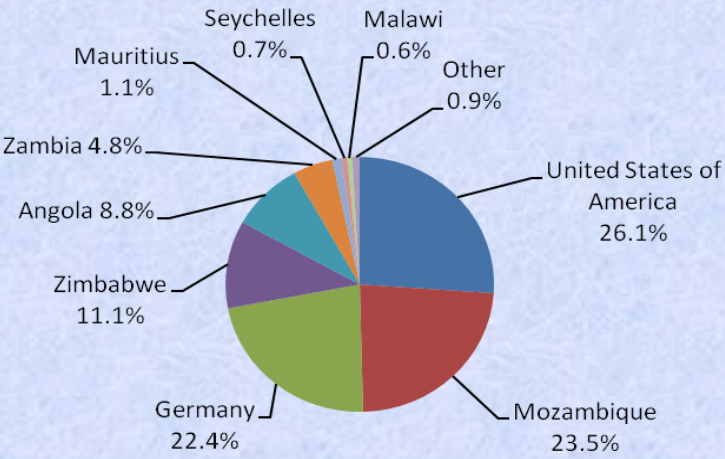
In 2003, beetroot price increased by 27.7% despite a1.4% increase in beetroot volumes supplied. In 2004 to 2005 prices decreased slightly due to increase in volume supplied across the markets during the same years. The price increase steadily from 2006 to 2008 and in 2009, the prices decreased by 5.4% due to high volume supplied to the markets. In 2010, beetroot prices increased by 31% due to 7.5% decrease in beetroot volumes supplied to the market. Market prices eased higher by 2% in 2011 despite 5% increase in beetroot volumes and this can be attributed to strong demand of beetroot.

2.2 South Africa Beetroot Exports

South Africa is self-sufficient in terms of beetroot production (see Figure 3). South Africa is not a major beetroot exporter. In 2011, it represented 0.21% of world exports and its ranking in the world was number 29. South Africa has improved its competiveness in terms of exports as in 2010, it was ranked number 38. Most of beetroot produced was destined for domestic markets. In 2011, South African beetroot exports were destined mainly to the United States of America, Mozambique, Germany, Zimbabwe and Angola. Globally, Netherlands, China, Italy, Israel, Spain, Mexico and

France are major beetroot exporters. Figure 5 below illustrates South African beetroot export destinations.

Figure 5: South Africa beetroot exports destinations in 2011



Source: ITC Trade Map

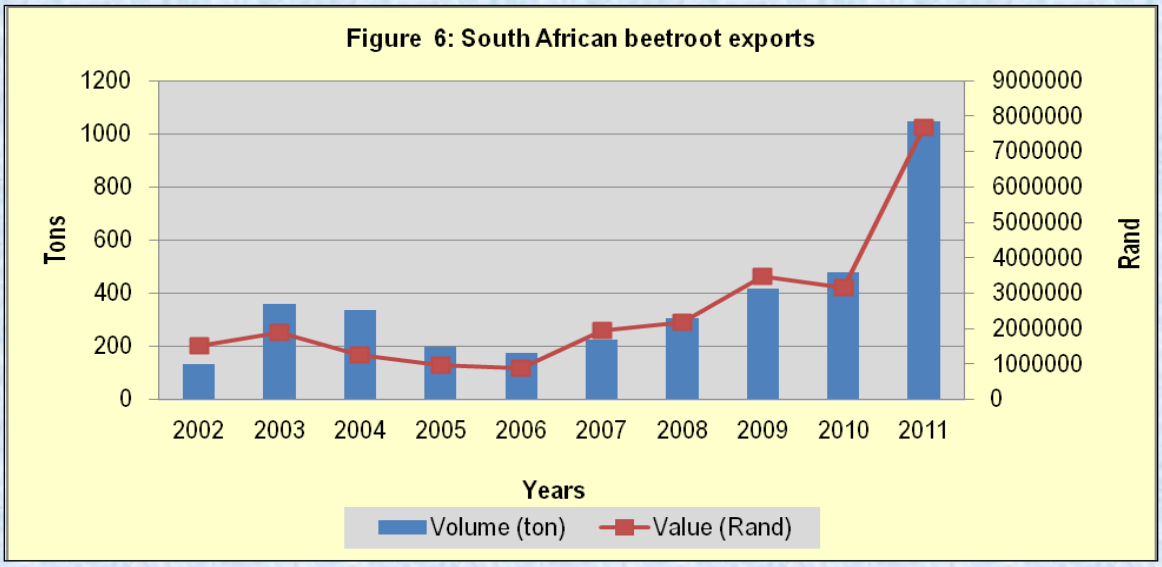
Further details relating to South African beetroot exports are presented in Table 2.

Table 2: South African beetroot exports in 2011

Importer	Exported value 2011 (USD thousand)	Share in South Africa's exports (%)	Exported quantity 2011 (Tons)	Unit value (USD/unit)	Exported growth in value between 2007-2011 (%, p.a.)	Exported growth in quantity between 2007-2011 (%, p.a.)	Exported growth in value between 2010-2011 (%, p.a.)
World	1056	100	1048	1008	37	42	144
United States of America	276	26.1	2	138000	-	-	-
Mozambique	248	23.5	483	513	99	100	176
Germany	237	22.4	129	1837			415
Zimbabwe	117	11.1	164	713	128	135	109
Angola	93	8.8	147	633	11	27	15
Zambia	51	4.8	86	593	51	48	31
Mauritius	12	1.1	19	632	-5	-4	-8
Seychelles	7	0.7	4	1750	3	-1	-59
Malawi	6	0.6	7	857	1	18	200
DRC	4	0.4	3	1333	-16	-16	-60

Source: ITC Trade Map

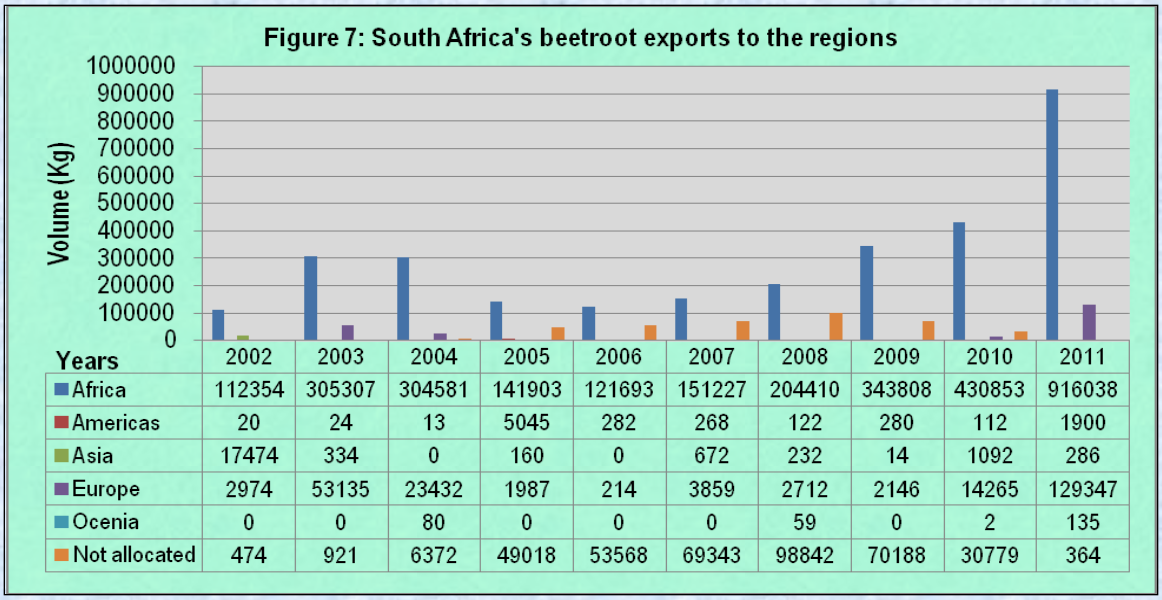
Table 2 indicates that during 2011, the biggest share of South African beetroot exports were destined to the United States of America, which commanded 26.1% of South Africa's beetroot exports, followed by Mozambique which commanded 23.5%, Germany which commanded 22.4% and Zimbabwe which commanded 11.1%. Beetroot exports to Zimbabwe have increased by 128% and 135% in value and quantity respectively between 2007 and 2011 period. Beetroot exports to Mauritius have decreased by 5% and 4% in value and quantity respectively between 2007 and 2011 period. South Africa's beetroot to Democratic Republic of the Congo have also decreased by 16% and 16% in value and quantity between 2007 and 2011 period. Figure 6 illustrates beetroot exports from South Africa over the past 10 years.



Source: Quantec Easydata

The most significant export volumes were recorded in 2003, 2004 and 2008 to 2011. In 2009, the export volume increased by 26% compared to the previous year. In 2010, beetroot exports increased by 14.6% despite a 7.5% drop in production volumes. There was a 119% increase in beetroot export in 2011 compared to the previous year. This can be attributed to 10.6% increase in production output. It was less profitable to export beetroot in 2003 to 2006 since lower export values were recorded for volume exported.

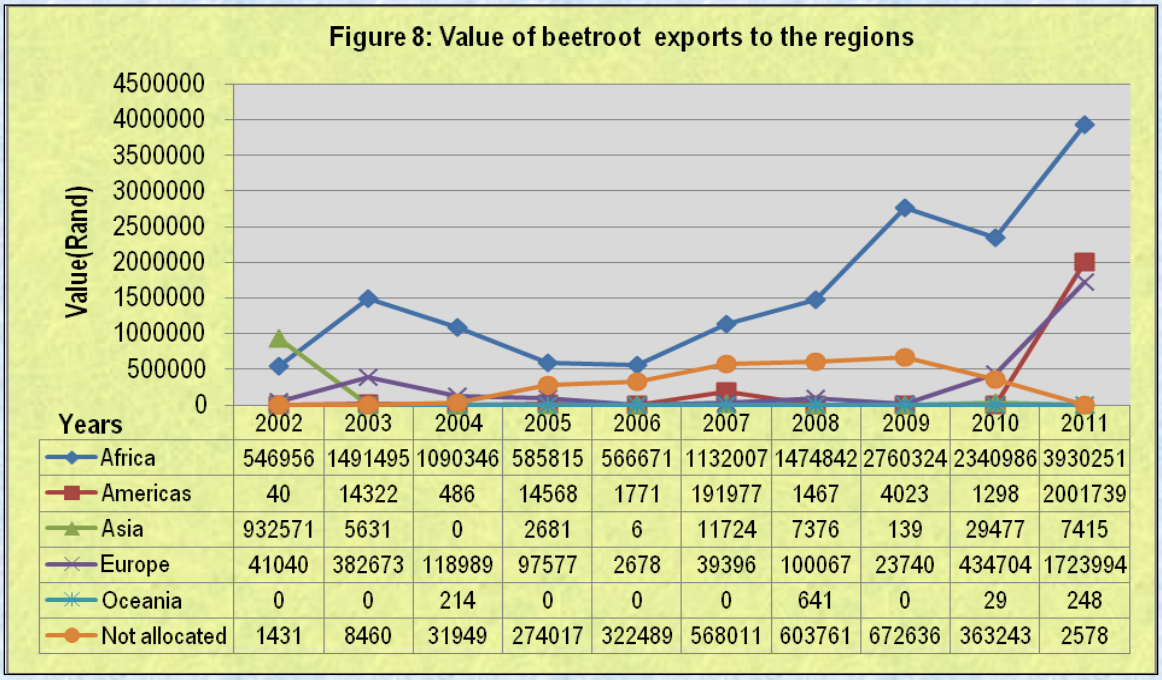
Figure 7 below illustrates beetroot exports volumes to the various regions. High beetroot quantities were exported to African countries. In 2002, 2007 and 2010 a considerable volume of beetroot was exported to Asian region. In 2003, 2004, 2010 and 2011 considerable volume of the beetroot were exported to European region. Oceania region registered the lowest beetroot quantities. From 2005 to 2010 high quantities of beetroot exports were not allocated to any region. In 2011, South Africa exported the highest volume of beetroot to African and European regions.



Years	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Africa	112354	305307	304581	141903	121693	151227	204410	343808	430853	916038
Americas	20	24	13	5045	282	268	122	280	112	1900
Asia	17474	334	0	160	0	672	232	14	1092	286
Europe	2974	53135	23432	1987	214	3859	2712	2146	14265	129347
Ocenia	0	0	80	0	0	0	59	0	2	135
Not allocated	474	921	6372	49018	53568	69343	98842	70188	30779	364

Source: Quantec Easydata

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



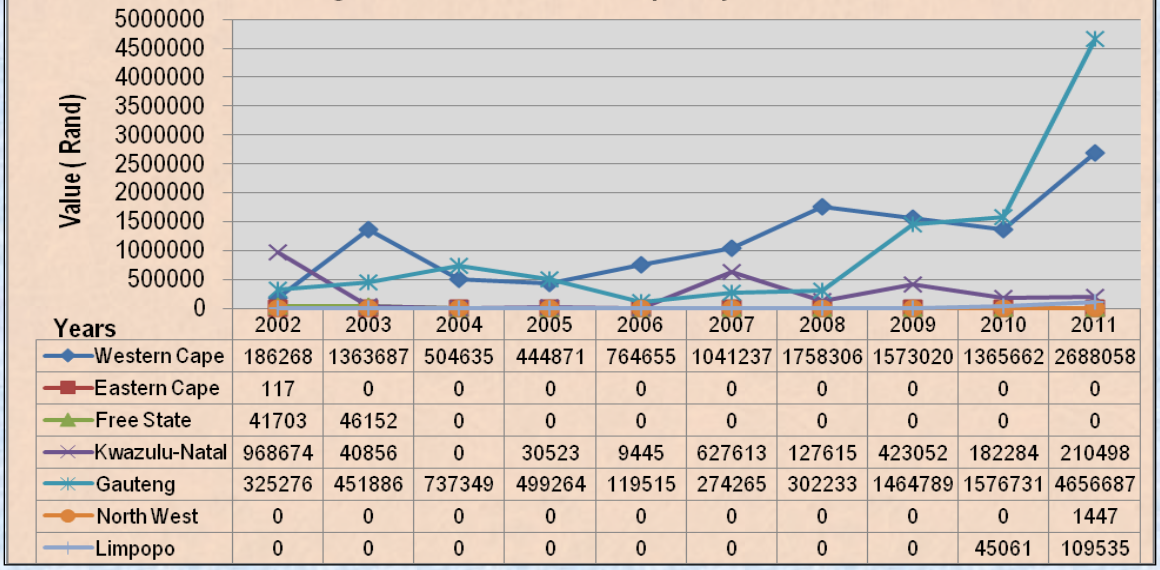
Years	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Africa	546956	1491495	1090346	585815	566671	1132007	1474842	2760324	2340986	3930251
Americas	40	14322	486	14568	1771	191977	1467	4023	1298	2001739
Asia	932571	5631	0	2681	6	11724	7376	139	29477	7415
Europe	41040	382673	118989	97577	2678	39396	100067	23740	434704	1723994
Oceania	0	0	214	0	0	0	641	0	29	248
Not allocated	1431	8460	31949	274017	322489	568011	603761	672636	363243	2578

Source: Quantec Easydata

High exports values were recorded for African countries as high quantities of beetroot were exported to those countries. In 2010 the export value for African region has dropped by 15% despite 25% increase in export volumes exported to African region. A highest export value for African region was recorded in 2011. High export values were not allocated to any region from 2007 to 2009. Beetroot exports to Europe have also fetched high values and the highest value was

recorded in 2011. The highest export value for Americas region was recorded in 2011. Figure 9 below illustrates beetroot exports by provinces during the past ten years.

Figure 9: Value of beetroot export by South African Provinces

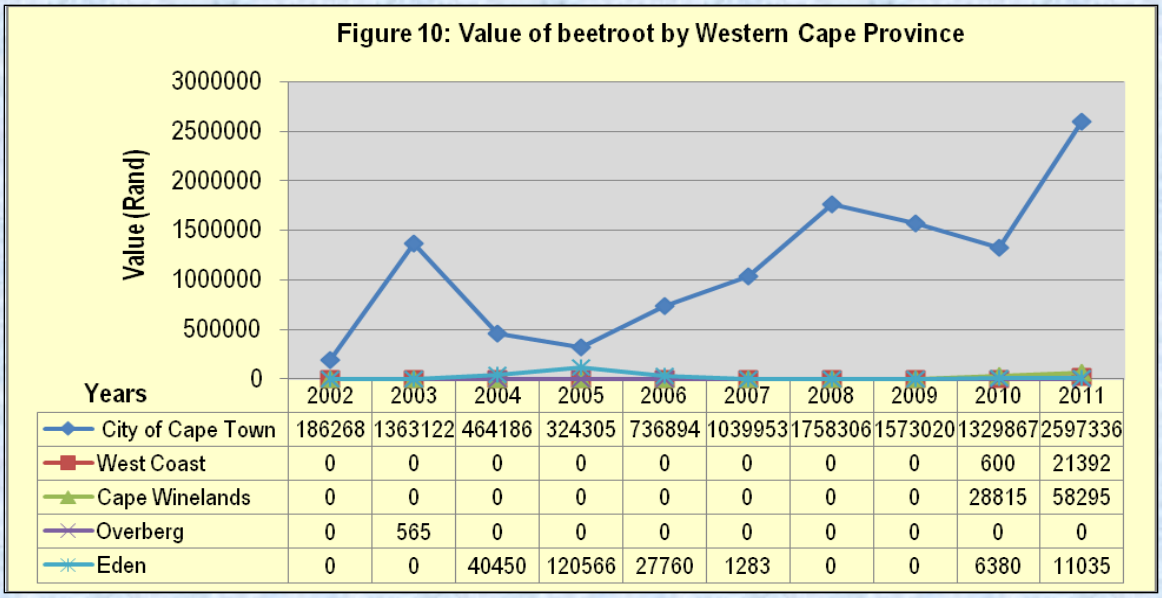


Years	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Western Cape	186268	1363687	504635	444871	764655	1041237	1758306	1573020	1365662	2688058
Eastern Cape	117	0	0	0	0	0	0	0	0	0
Free State	41703	46152	0	0	0	0	0	0	0	0
Kwazulu-Natal	968674	40856	0	30523	9445	627613	127615	423052	182284	210498
Gauteng	325276	451886	737349	499264	119515	274265	302233	1464789	1576731	4656687
North West	0	0	0	0	0	0	0	0	0	1447
Limpopo	0	0	0	0	0	0	0	0	45061	109535

Source: Quantec Easydata

The Western Cape, Gauteng and KwaZulu-Natal are the biggest exporters of beetroot in South Africa. In 2011, there was an increase in beetroot value exported from Western Cape, Gauteng, Limpopo and Kwazulu Natal. In 2010, beetroot export value was recorded for Limpopo province for the first time in 10 year period. From 2004 to 2011, there were no beetroot exports originating from the Eastern Cape and Free State provinces. In 2011, North West province recorded its first export value but it was less significant. The high exports values from Western Cape, Gauteng and KwaZulu-Natal can be attributed to the exports exit points and the registered exporters located in these provinces. The following figures (Figure 10-13) show the value of beetroot exports from the various districts of the different provinces of South Africa.

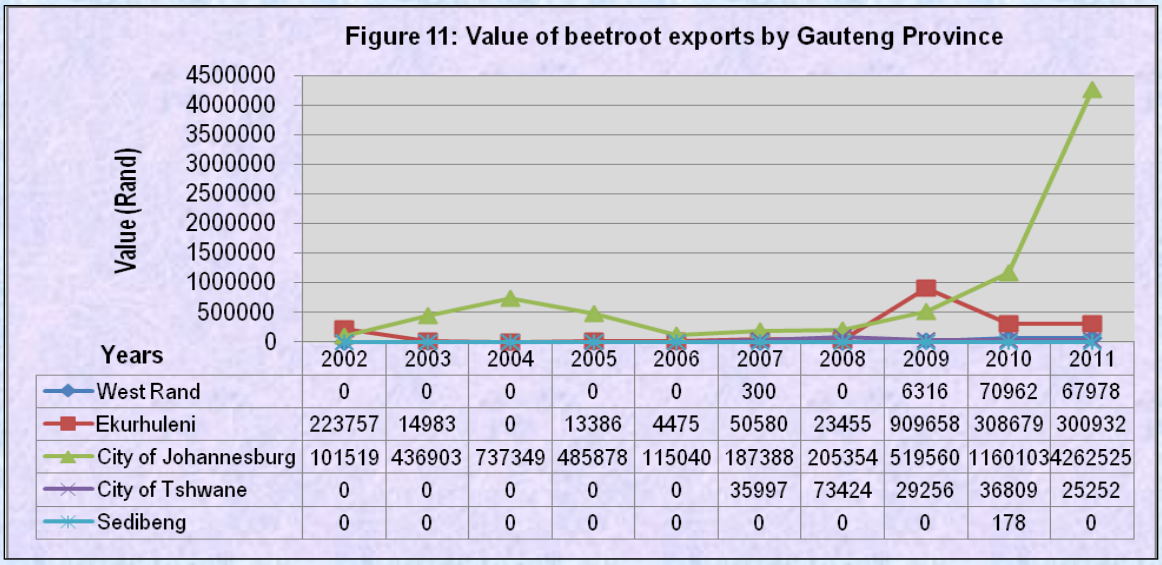
Figure 10 below indicates that beetroot exports by Western Cape province were mainly from the City of Cape Town. Beetroot exports from Eden municipality were in 2004 to 2007, 2010 and 2011. In 2010 and 2011, West Coast and Cape Winelands have contributed beetroot exports from Western Cape. The highest beetroot export value was recorded in 2011 for the City of Cape Town and in 2005 for Eden municipality. The high export value by City of Cape Town can be attributed to Cape Town harbour which serves as an exports exit point.



Years	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
City of Cape Town	186268	1363122	464186	324305	736894	1039953	1758306	1573020	1329867	2597336
West Coast	0	0	0	0	0	0	0	0	600	21392
Cape Winelands	0	0	0	0	0	0	0	0	28815	58295
Overberg	0	565	0	0	0	0	0	0	0	0
Eden	0	0	40450	120566	27760	1283	0	0	6380	11035

Source: Quantec Easy data

Figure 11 below indicates that beetroot exports by Gauteng province were mainly from the City of Johannesburg and Ekurhuleni district municipality. City of Tshwane contributed in beetroot export to a lesser extent. The highest export value was recorded in 2010 from City of Johannesburg. In 2010 and 2011, West Rand district municipality has contributed considerably to beetroot exports from Gauteng province. In 2011, export value for City of Johannesburg has increased significantly while the values for Ekurhuleni, West Rand and City of Tshwane have slightly decreased.

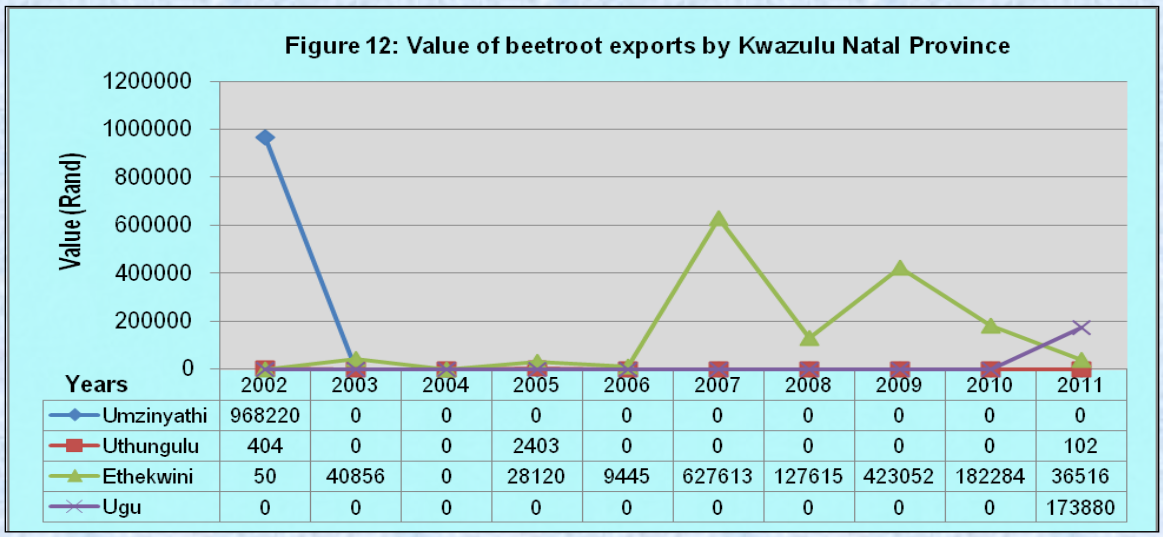


Years	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
West Rand	0	0	0	0	0	300	0	6316	70962	67978
Ekurhuleni	223757	14983	0	13386	4475	50580	23455	909658	308679	300932
City of Johannesburg	101519	436903	737349	485878	115040	187388	205354	519560	1160103	4262525
City of Tshwane	0	0	0	0	0	35997	73424	29256	36809	25252
Sedibeng	0	0	0	0	0	0	0	0	178	0

Source: Quantec Easydata

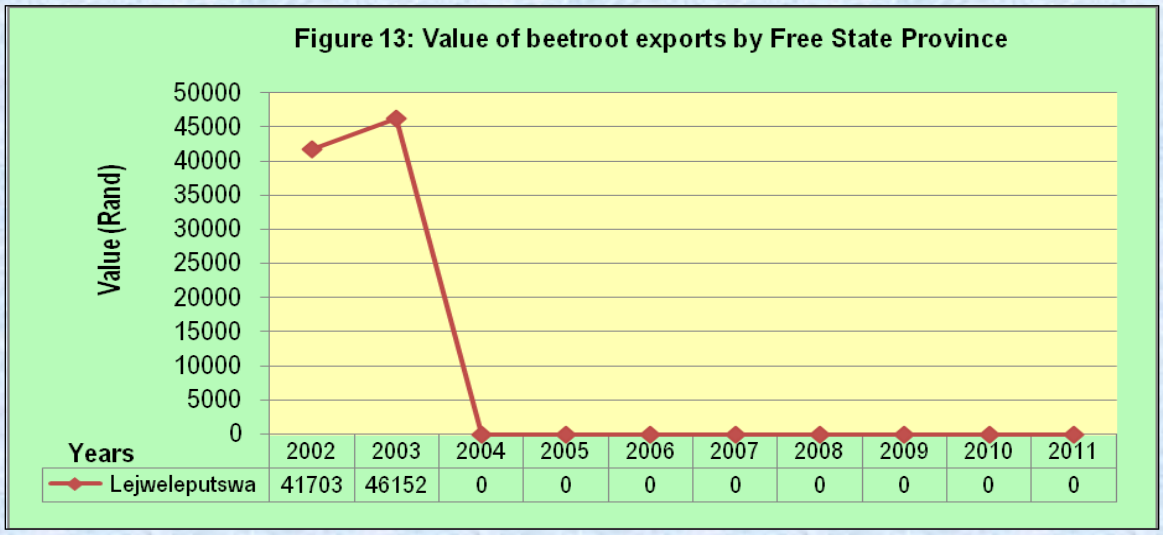
Figure 12 below indicates that the beetroot exports by KwaZulu-Natal province were mainly from Ethekwini district municipality. In 2010, the value of export has decreased significantly when compared with export value in 2009. In 2002, Umzinyathi has contributed significantly to beetroot

export from Kwazulu Natal province. Ugu district municipality has contributed to beetroot exports from Kwazulu Natal province during 2011.



Years	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Umzinyathi	968220	0	0	0	0	0	0	0	0	0
Uthungulu	404	0	0	2403	0	0	0	0	0	102
Ethekwini	50	40856	0	28120	9445	627613	127615	423052	182284	36516
Ugu	0	0	0	0	0	0	0	0	0	173880

Source: Quantec Easydata



Years	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Lejweleputswa	41703	46152	0	0	0	0	0	0	0	0

Source: Quantec Easydata

Figure 13 above indicates that beetroot exports by Free State province were from Lejweleputswa district. The province exported beetroot in 2002 and 2003 and the highest export value was recorded in 2003. From 2004 to 2011 there was no beetroot exports recorded from Free State province.

2.3 Share Analysis

Table 3 below is an illustration of provincial shares towards national exports. The Western Cape, Kwazulu Natal and Gauteng provinces commanded the greatest share of South Africa beetroot exports in a ten year period. In 2011, Western Cape province commanded 35.06%, Gauteng 60.74% and KwaZulu-Natal 2.75% of total share of South Africa beetroot exports. In 2011, there

was a 3% decline in share of beetroot exported by Kwazulu Natal province. There was an 11% increase in beetroot exports share Gauteng province. The high export shares in Western Cape, KwaZulu-Natal and Gauteng can be attributed to registered exporters and exports exit points based in these provinces.

Table 3: Share of provincial beetroot exports to the total RSA beetroot exports (%)

Year Provinces	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Western Cape	12.24	71.68	40.63	45.64	85.57	53.59	80.36	45.45	43.08	35.06
Eastern Cape	0.01	0	0	0	0	0	0	0	0	0
Free State	2.74	2.43	0	0	0	0	0	0	0	0
Kwazulu-Natal	63.64	2.15	0	3.13	1.06	32.30	5.83	12.22	5.75	2.75
Gauteng	21.37	23.75	59.37	51.22	13.37	14.11	13.81	42.32	49.74	60.74
Limpopo	0	0	0	0	0	0	0	0	1.43	1.43
North West	0	0	0	0	0	0	0	0	0	0.02
South Africa	100	100	100	100	100	100	100	100	100	100

Source: Calculated from Quantec Easydata

Table 4: Share of beetroot exports to the total Western Cape provincial beetroot exports (%)

Year District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
City of Cape Town	100	99.96	91.98	72.90	96.37	99.88	100	100	97.38	96.62
West Coast	0	0	0	0	0	0	0	0	0.04	0.80
Cape Winelands	0	0	0	0	0	0	0	0	2.11	2.17
Overberg	0	0.04	0	0	0	0	0	0	0	0
Eden	0	0	8.02	27.10	3.63	0.12	0	0	0.47	0.41
Western Cape	100	100	100	100	100	100	100	100	100	100

Source: Calculated from Quantec Easydata

Table 4 above shows that the City of Cape Town commanded the greatest share of beetroot exports from Western Cape province during the ten year period. Eden district contributed notably to Western Cape beetroot export in 2005. West Coast, Cape Winelands and Overberg contributions to beetroot exports were insignificant. Cape Town harbour renders exit point for beetroot exports from the City of Cape Town municipality.

Table 5: Share of beetroot exports to the total Gauteng provincial beetroot exports (%)

Year District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
West Rand	0	0	0	0	0	0.11	0	0.43	4.50	1.46
Ekurhuleni	68.79	3.32	0	2.68	3.74	18.44	7.76	62.10	19.58	6.46
City of Johannesburg	31.2	96.7	100	97.32	96.26	68.32	67.95	35.47	73.58	91.54

Year District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
City of Tshwane	0	0	0	0	0	13.12	24.29	2	2.33	0.54
Sedibeng	0	0	0	0	0	0	0	0	0.01	0
Gauteng	100	100	100	100	100	100	100	100	100	100

Source: Calculated from Quantec Easydata

Table 5 above indicates that Ekurhuleni and City of Johannesburg commanded the greatest share of beetroot exports from Gauteng province. City of Tshwane has commanded high share in 2008. In 2011, Ekurhuleni commanded 6.46% and City of Johannesburg commanded 91.54% share of beetroot exports by Gauteng province. In 2010, export share for Ekurhuleni has decreased by 13.12% and City of Johannesburg export share has increased by 17.96% when compared to 2010 beetroot exports share.

Table 6: Share of beetroot exports to the total Kwazulu Natal provincial beetroot exports (%)

Year District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Umzinyathi	99.95	0	0	0	0	0	0	0	0	0
Uthungulu	0.04	0	0	7.87	0	0	0	0	0	0.05
Ethekwini	0.01	100	0	92.13	100	100	100	100	100	17.35
Ugu	0	0	0	0	0	0	0	0	0	82.50
Kwazulu Natal	100	100	0	100	100	100	100	100	100	100

Source: Calculated from Quantec Easydata

Table 6 above illustrates that in 2003 2006 to 2010, Ethekwini commanded 100% share of beetroot exports from KwaZulu-Natal province during the period under review. Umzinyathi commanded the greatest share in 2002 and Uthungulu contributed notably to export share in 2005. During 2011, Ugu has commanded 82.50% share of beetroot exported through Kwazulu Natal province. In 2011, Ethekwini export share has decreased by 82.65% when compared to 2010 export share. The greatest share by Ethekwini can be attributed to Durban harbour which renders exports exit point.

Table 7: Share of beetroot exports to the total Free State provincial beetroot exports (%)

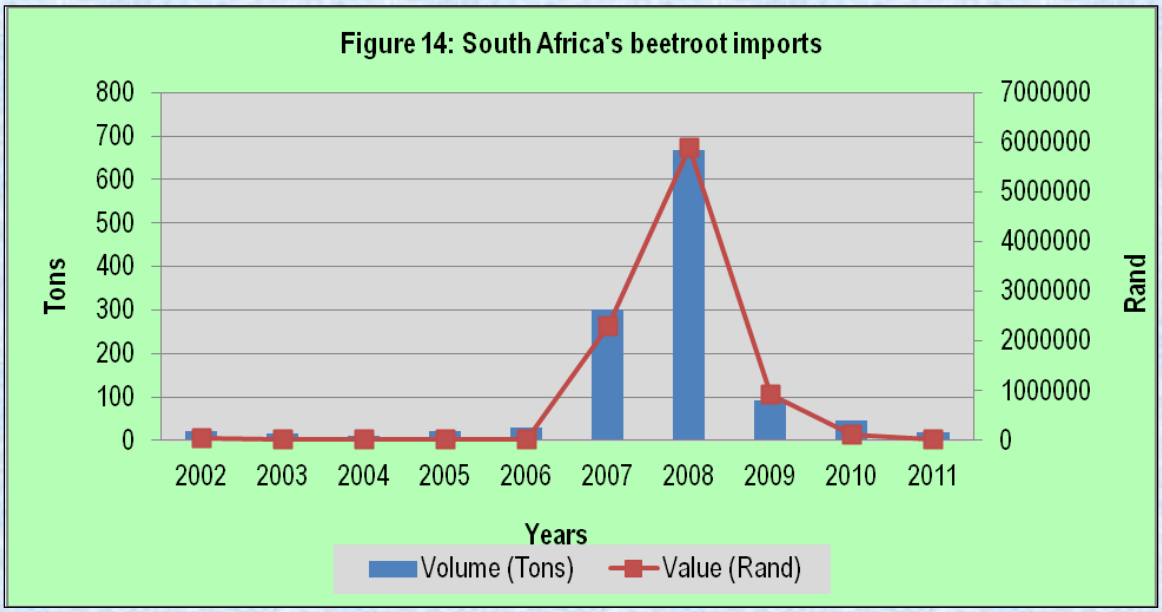
Year District	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Lejweleputswa	100	100	0	0	0	0	0	0	0	0
Free State	100	100	0	0	0	0	0	0	0	0

Source: Calculated from Quantec Easy data

In Free State province Lejweleputswa commanded the 100% share in 2002 and 2003. In other years the province has recorded zero trade in beetroot.

2.4 South African beetroot Imports

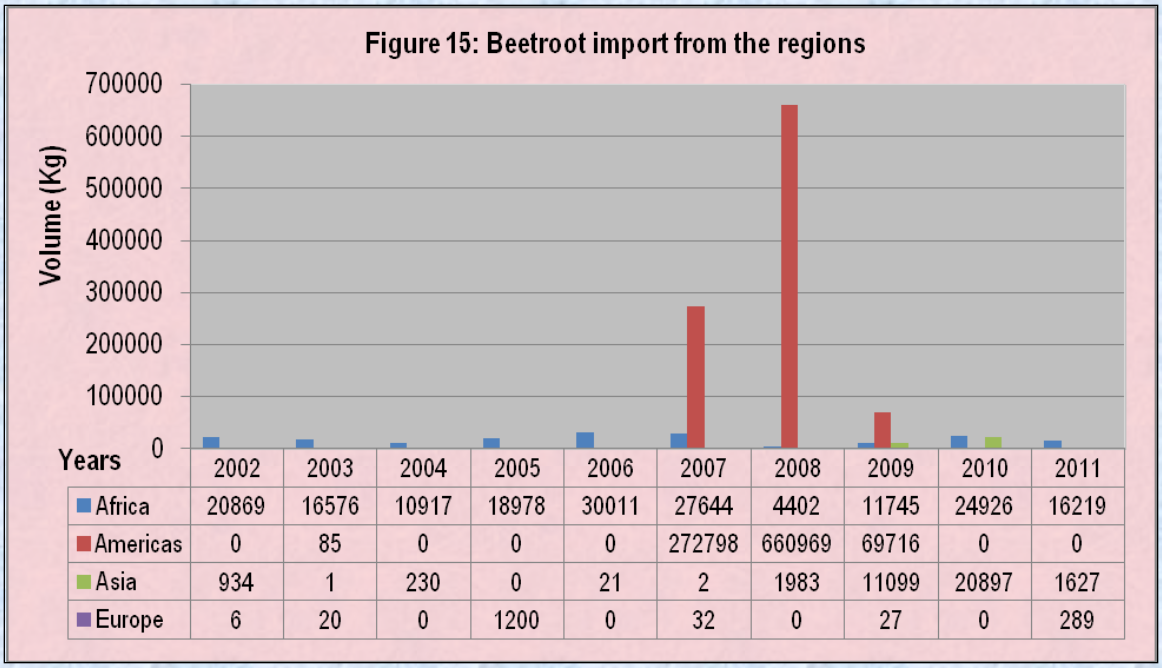
South Africa is not a major beetroot importer. In 2011, it represented 0% of world imports and its ranking in the world import was 120. In 2011, South Africa imported beetroot from Ghana and China. Globally, Germany, Russian Federation, United Kingdom, Republic of Korea, Japan and USA, are the top countries importing beetroot.



Source: Statistics and Economic analysis, DAFF

Figure 14 above shows the beetroot imports by South Africa in the ten year period. It was generally cheaper for South Africa to import beetroot except from 2007 to 2009, since more volumes were imported at a lesser value. The significant imports volumes were in 2007 and 2008 despite high domestic production during the same period. In 2009, beetroot imports volume decreased by 86% compared to 2008. This can be attributed to high domestic beetroot production that occurred in the same year. In 2010, South Africa's beetroot imports dropped by 50.5% as compared to 2009. Beetroot imports have decreased by 60% in 2011 and this can be attributed to 10.6% increase in domestic production.

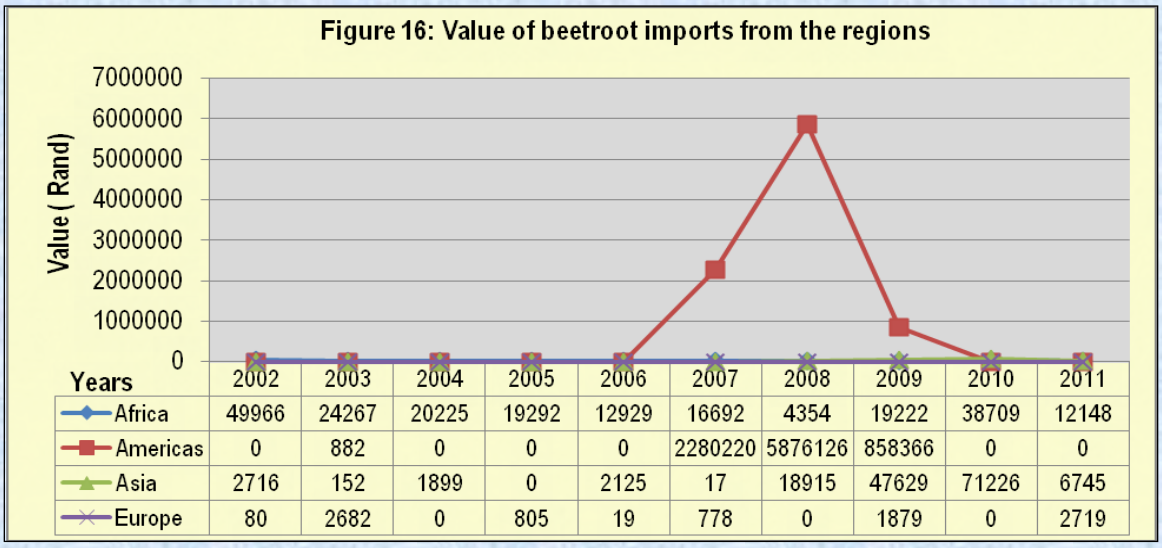
Figure 15 illustrates imports of beetroot from various regions during the last ten years. South Africa import beetroot mainly from African countries. In 2005, considerable volumes of beetroot were imported from the European region. From 2007 to 2009, South Africa has imported high volumes of beetroot from Americas region. In Asia considerable beetroot import volumes were recorded in 2009 and 2010. During 2010 and 2011, there were no beetroot imports from Americas region.



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Africa	20869	16576	10917	18978	30011	27644	4402	11745	24926	16219
Americas	0	85	0	0	0	272798	660969	69716	0	0
Asia	934	1	230	0	21	2	1983	11099	20897	1627
Europe	6	20	0	1200	0	32	0	27	0	289

Source: Quantec Easydata

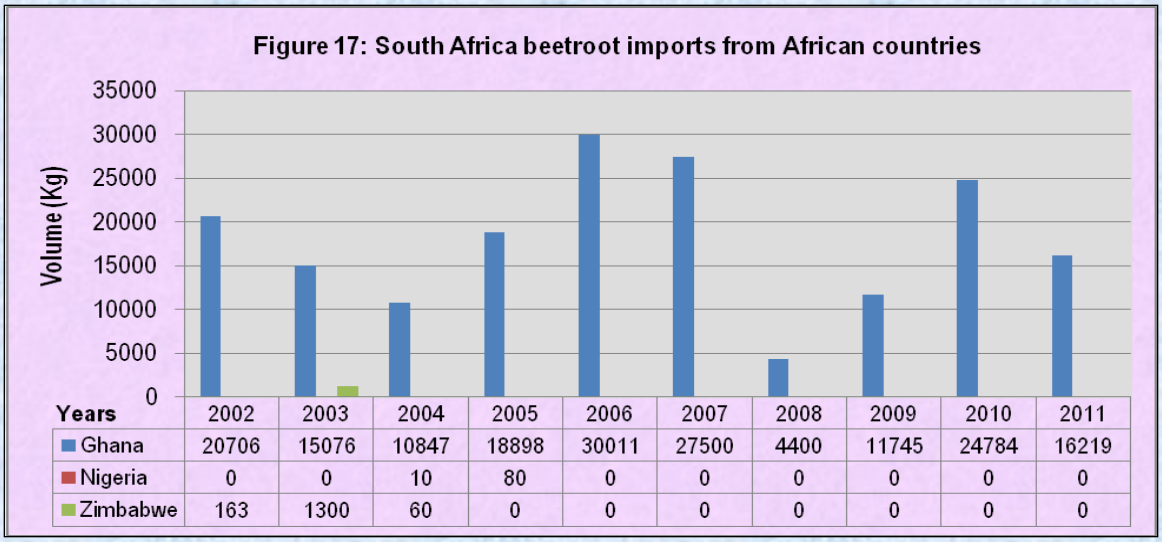
Values of beetroot imports from the various regions of the world are presented in Figure 16.



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Africa	49966	24267	20225	19292	12929	16692	4354	19222	38709	12148
Americas	0	882	0	0	0	2280220	5876126	858366	0	0
Asia	2716	152	1899	0	2125	17	18915	47629	71226	6745
Europe	80	2682	0	805	19	778	0	1879	0	2719

Source: Quantec Easydata

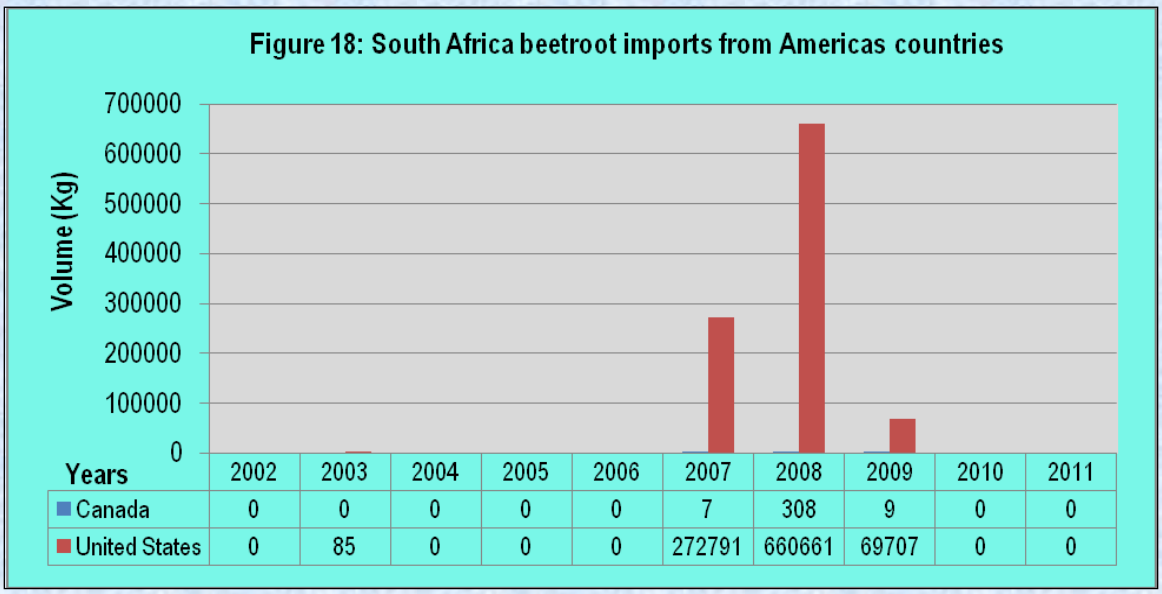
Figure 16 above shows that high import values were recorded in 2007 and 2008 for Americas regions. In 2009, there was a significant decline in value from the Americas while the Africa and Asia export values increased. During 2010 and 2011, there was a further decline in the value of imports and this can be attributed to cheaper imports.



Years	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Ghana	20706	15076	10847	18898	30011	27500	4400	11745	24784	16219
Nigeria	0	0	10	80	0	0	0	0	0	0
Zimbabwe	163	1300	60	0	0	0	0	0	0	0

Source: Quantec Easydata

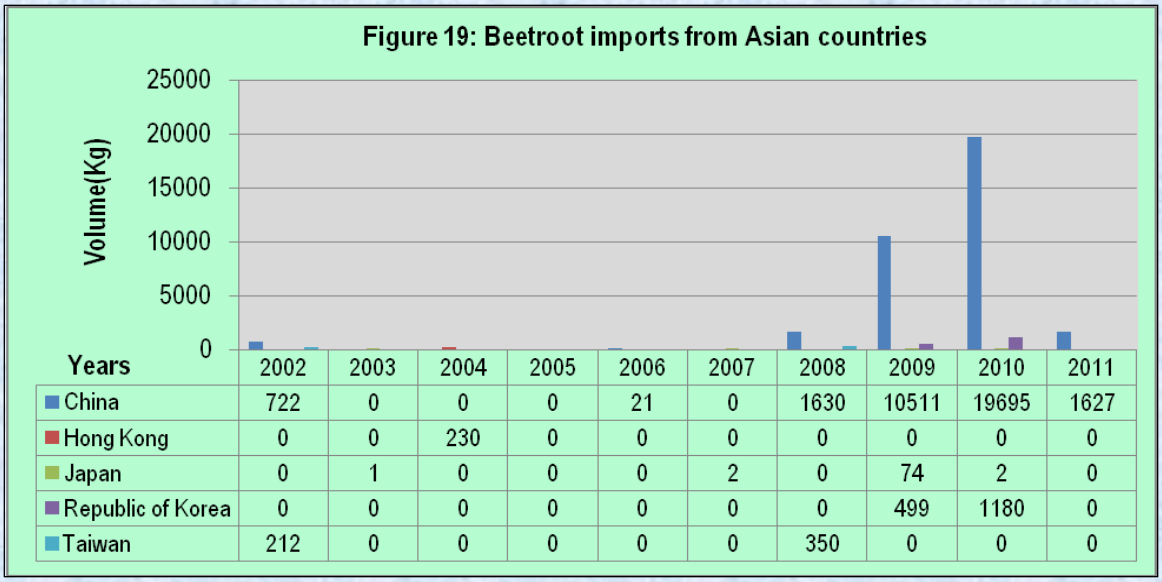
Figure 17 above shows that South Africa imports high quantities of beetroot from Ghana. Imports from Nigeria was in 2004 and 2005 and were less significant. High imports volumes were recorded in 2002, 2005 to 2007 and in 2010 and 2011. From 2002 to 2004, South Africa has imported beetroot from Zimbabwe and during 2011, South Africa imported beetroot only from Ghana.



Years	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Canada	0	0	0	0	0	7	308	9	0	0
United States	0	85	0	0	0	272791	660661	69707	0	0

Source: Quantec Easydata

Figure 18 above shows that the beetroot imports from America's countries were mainly from the United States of America and the significant imports volumes were recorded in 2007 and 2008. In 2002, 2004 to 2006 and 2010 to 2011, there were no beetroot imports from American countries.



Years	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
China	722	0	0	0	21	0	1630	10511	19695	1627
Hong Kong	0	0	230	0	0	0	0	0	0	0
Japan	0	1	0	0	0	2	0	74	2	0
Republic of Korea	0	0	0	0	0	0	0	499	1180	0
Taiwan	212	0	0	0	0	0	350	0	0	0

Source: Quantec Easydata

Figure 19 shows that beetroot imports from Asian countries were mainly from China. Beetroot imports from Hong Kong, Japan, Korea and Taiwan were less significant. In 2010, South Africa imported high quantities of beetroot from China and considerable volumes were also imported from Republic of Korea. During 2011, South Africa imported beetroot from China only.

2.5 Processing

Table 12 below indicates that beetroot that went for canning have shown fluctuations over the period under review. In 2011, there was a 49% increase in beetroot canning activities compared to the previous year and this can be attributed to increase in domestic production. In 2002 considerable volume were processed into juice and the volume decreased significantly in 2003 and there was no volumes recorded for juice in the following years.

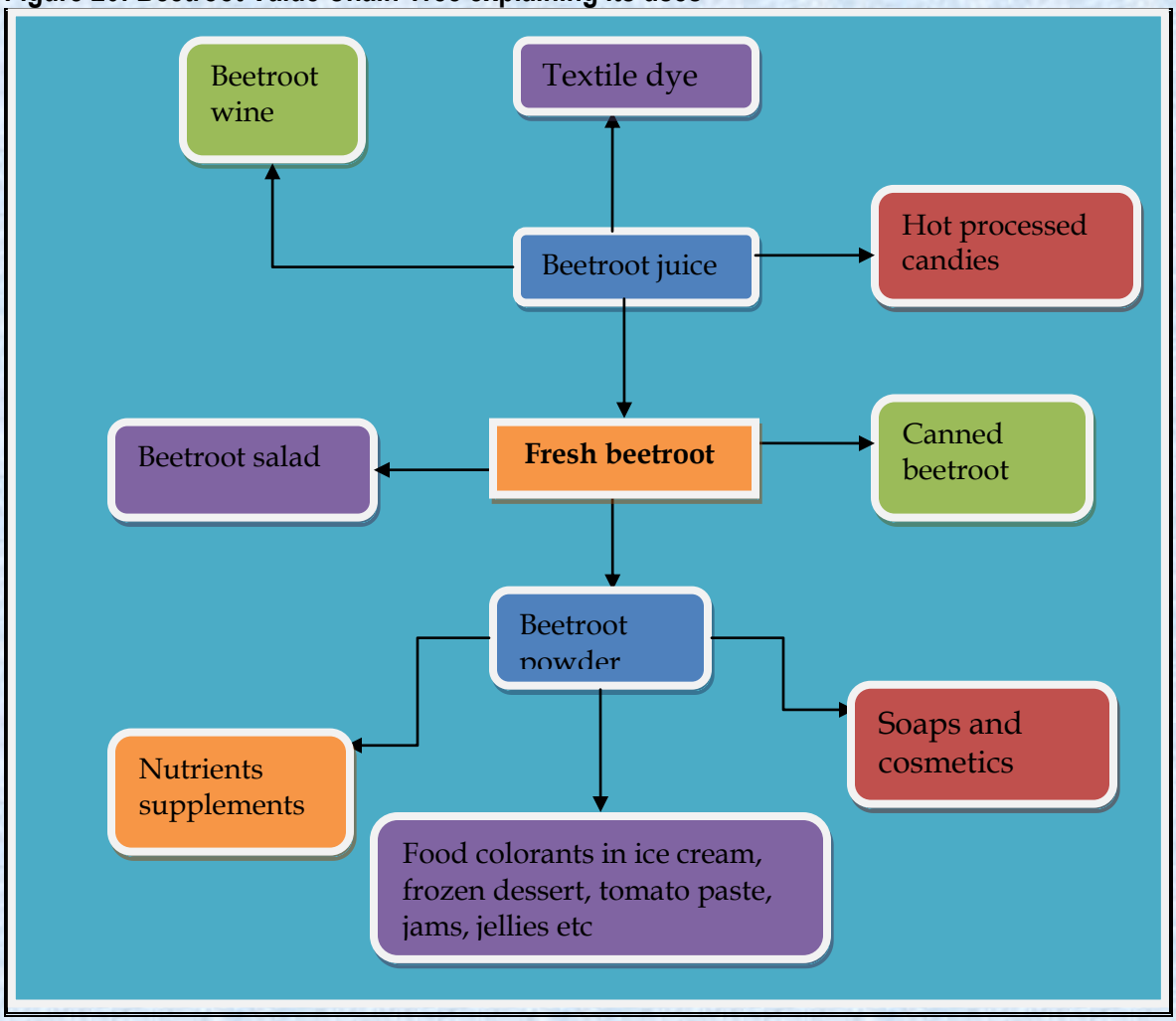
Table 11: Processed beetroot

Years	Canning		Juices		Total processing	
	Volume (Tons)	Value (Rand)	Volume (Tons)	Value (Rand)	Volume (Tons)	Value (Rand)
2002	6965	3138801	4264	2040694	11229	5179495
2003	5408	3851541	90.7	106524	5498.9	3958065
2004	7021	4160226	0	0	7021	4160226
2005	8358	6035991	0	0	8358	6035991
2006	9048	4744765	0	0	9048	4744765
2007	9990	6902486	0	0	9990	6902486
2008	18805	92291686	0	0	18805	92291686
2009	15022	14812644	0	0	15022	14812644
2010	7023	6924553	0	0	7023	6924553
2011	10495	1528982	0	0	10495	1528982

Source: Statistics and Economic Analysis, DAFF

The beetroot value chain tree explaining its uses is illustrated in Figure 20 below.

Figure 20: Beetroot Value Chain Tree explaining its uses

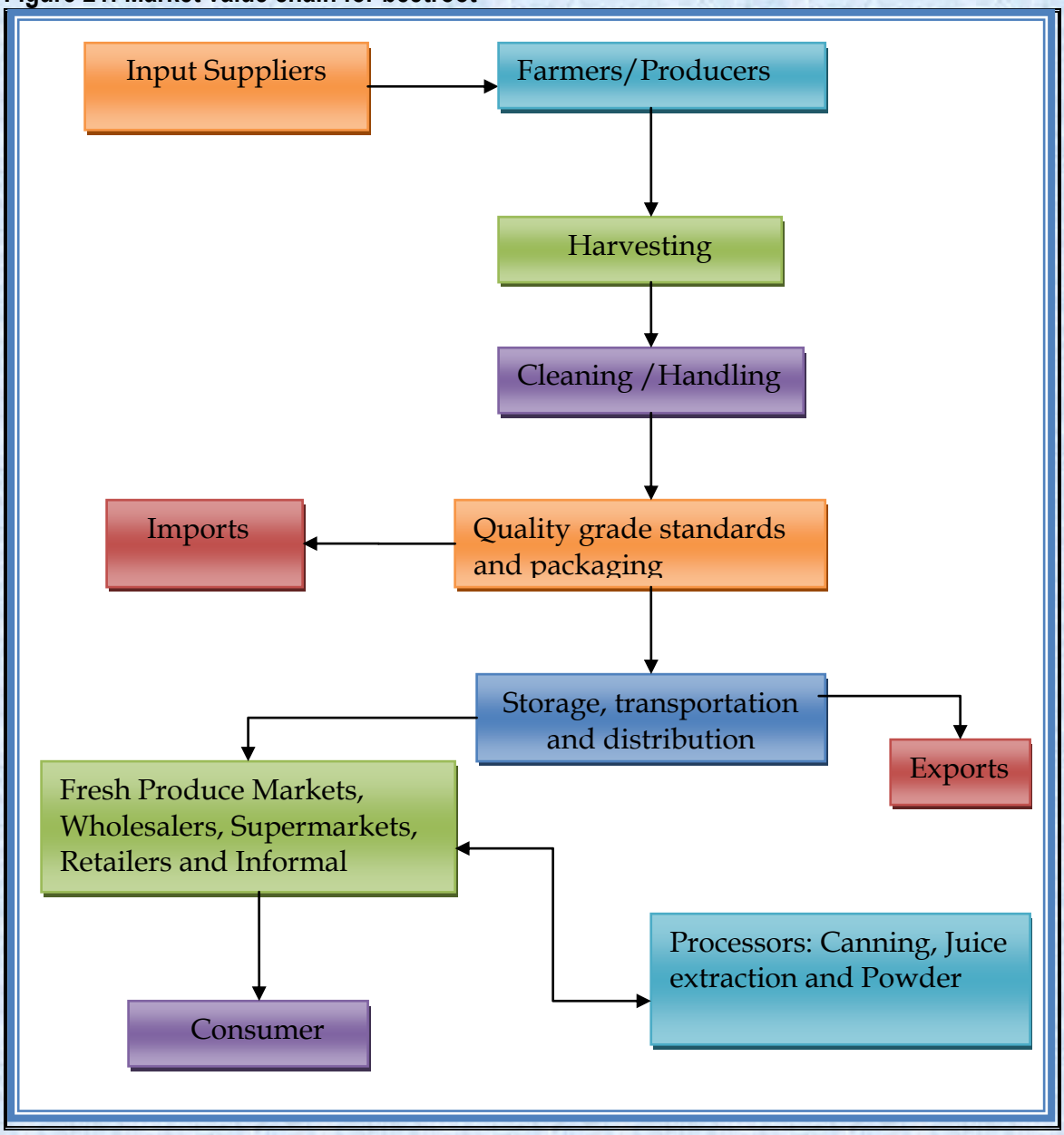


Beetroot can be eaten raw and it can add a refreshing touch to a salad, sandwich or an accompaniment to vegetables. Beetroot can be steamed cooked in boiling water. Beetroot can be used in food colouring and it is used in ice cream, frozen dessert to give colour without imparting flavour. Beetroot red is used to enhance the redness of tomato paste, strawberry ice cream and yoghurt. There has been repeated attempt to use beetroot as a natural dye for textiles. Beetroot is also common health drink and it also makes wines. Beetroot can also be prickled and canned.

2.6 Market value Chain for beetroot

The market value chain for beetroot is illustrated in Figure 21. The beetroot value chain can be broken down into the following levels: the producers of beetroot (farmers); pack house owners (cleans, grade and quality control); cold storage and transport facilities (store and transport beetroot on behalf of farmers); traders in beetroot (market and sell beetroot); processors (add value to beetroot and process beetroot to other usable forms); and end users (consumers).

Figure 21: Market value chain for beetroot



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3. MARKET INTELLEGENCE

3.1 Tariffs

Tariffs applied by the various markets to beetroot originating from South Africa during 2010 and 2011 are presented in Table 13.

Table 13: Tariffs applied by various exports markets to beetroot from South Africa.

Country	Product description (H07069010)	Trade regime description	Applied tariff	Estimated total ad volorem equivalent tariff	Applied tariff	Estimated total ad volorem equivalent tariff
			2010		2011	
Angola	Fresh or chilled salad beetroot	MFN duties (Applied)	15.00%	15.00%	15.00%	15.00%
Austria	Fresh or chilled salad beetroot	Preferential tariff for South Africa	0.00%	0.00%	0.00%	0.00%
Belgium	Fresh or chilled salad beetroot	Preferential tariff for South Africa	0.00%	0.00%	0.00%	0.00%
Canada	Fresh or chilled salad beetroot	MFN duties (Applied)	12.50%	12.50%	12.50%	12.50%
China	Fresh or chilled salad beetroot	MFN duties (Applied)	13.00%	13.00%	13.00%	13.00%
Czech Republic	Fresh or chilled salad beetroot	Preferential tariff for South Africa	0.00%	0.00%	0.00%	0.00%
France	Fresh or chilled salad beetroot	Preferential tariff for South Africa	0.00%	0.00%	0.00%	0.00%
Germany	Fresh or chilled salad beetroot	Preferential tariff for South Africa	0.00%	0.00%	0.00%	0.00%
Ghana	Fresh or chilled salad beetroot	MFN duties (Applied	20.00%	20.00%	20.00%	20.00%
Italy	Fresh or chilled salad beetroot	Preferential tariff for South Africa	0.00%	0.00%		
Japan	Fresh or chilled salad beetroot	MFN duties (Applied)	3.00%	3.00%	3.00%	3.00%

Country	Product description (H07069010)	Trade regime description	Applied tariff	Estimated total ad volorem equivalent tariff	Applied tariff	Estimated total ad volorem equivalent tariff
			2010		2011	
Mozambique	Fresh or chilled salad beetroot	Preferential tariff for South Africa	15.00%	15.00%	15.00%	15.00%
Republic of Korea	Fresh or chilled salad beetroot	MFN duties (Applied)	30.00%	30.00%	30.00%	30.00%
Russian Federation	Fresh or chilled salad beetroot	General tariff (MFN)	15.00%	15.00%	15.00%	15.00%
United Kingdom	Fresh or chilled salad beetroot	Preferential tariff for South Africa	0.00%	0.00%	0.00%	0.00%
United States of America	Fresh or chilled salad beetroot	MFN duties (Applied)	2.70%	2.70%	2.70%	2.70%
Zambia	Fresh or chilled salad beetroot	Preferential tariff for South Africa	0.00%	0.00%	0.00%	0.00%
Zimbabwe	Fresh or chilled salad beetroot	MFN duties (Applied)	40.00%	40.00%	40.00%	40.00%

Source: Market Access Map

The lucrative export markets for beetroot from South Africa, is in European markets (Australia, Belgium, Czech Republic, France, Germany,, Sweden and United Kingdom) preferential tariff of 0% is applied to beetroot originating from South Africa this is due to EU – SA Free Trade Agreement (FTA).Other markets exists in USA since this country apply very less tariffs to exports of beetroot originating from South Africa and all members of the World Trade Organization. African markets in Angola, Zimbabwe, and Mozambique are highly protected by high tariffs of 15%, 40% and 20% respectively in spite of the existence of the SADC-FTA. Zambia applies 0% preferential tariff to beetroot originating from South Africa due to SADC-FTA.

3.2 Non tariff barriers

3.2.1 The European Union

Non-tariff barriers can be divided into those that are mandatory and laid out in the EU Commission's legislature, and those that are as a result of consumers, retailers, importers and other distributions' preferences.

Product legislation: quality and marketing

There are a number of pieces of EU legislation that govern the quality of produce that may be imported, marketed and sold within the EU.

General Food Law covers matters in procedures of food safety and hygiene (micro-biological and chemical), including provisions on the traceability of food (for example, Hazard Analysis and Critical Control Points, of HACCP).

EU Marketing Standards, which govern the quality and labeling of vegetables, are laid out in the CAP framework under regulation EC 2200/96. These regulations include diameter, weight and class specifications, and any produce that does not comply with these standards are not allowed to be sold on the EU markets (detailed lists of products and their standards can be found in the annexes to the directive). The legislation (under EU 1148/2001) also dictates that a Certificate of Conformity must be obtained by anyone wishing to export and sell vegetables in the EU, if that particular vegetable falls under the jurisdiction on the EU marketing standards, vegetables to be used in further processing needs a Certificate of Industrial Use, whilst another legislative directive covers the Maximum Residue Limits (MRL) of various pesticides allowed.

3.2.1 (b) Product legislation: phytosanitary regulations

The international standard for phytosanitary measures was set up by the International Plant Protection Committee (IPPC) to protect against the spreading of diseases or insects through the importation of certain agricultural goods. The EU has its own particular rules formalized under EC 2002/89, which attempts to prevent contact of EU crops with harmful organisms from elsewhere in the world.

The crux of the directive is that it authorizes the Plant Protection Services to inspect a large number of vegetable products upon arrival in the EU. This inspection consists of a physical

examination of a consignment deemed to have a level of phytosanitary risk, identification of any harmful organisms and certification of the validity of any phytosanitary certificate covering the consignment. If the consignment does not comply with the requirements, it may not enter the EU, although certain organisms can be fumigated at the expense of the exporter.

3.2.1(c) Product legislation: packaging

The EU commission lays downs rules for materials that come into contact with food and which may endanger people's health or bring about an unacceptable change in the composition of the foodstuffs. The framework legislation for this EC 1935/2004. Recycling packaging materials are also emphasized under 94/62/EC, whereby member states are required to recycle between 50% and 65% of packaging waste. If exporters do not ship produce in packaging which is reusable, they may be liable for the costs incurred by the importing companies. Wood packaging is subject to phytosanitary controls (see Directive EC 2002/89) and may need to undergo heat treatment, fumigation, etc.

3.2.1. (d) Non-legal market requirements: social and environmental accountability

To access a market, importers must not only comply with the legal requirements set out above, but also with market requirements and demands. For the most part, these revolve around quality and the perceptions of European consumers about the environmental, social, health and safety aspects of both the products and the production techniques. Whilst supplying vegetables that complies with these issues may not be mandatory in the legal sense, they are becoming increasingly important in Europe and cannot be ignored by existing or potential exporters.

(i) Social responsibility is becoming important in the industry, not only amongst consumers, but also for retail outlets and wholesalers. The Social Accountability 8000 (SA8000) certification is a management system based on International Labour Organization (ILO) conventions, and deals with issues such as a child labour, health and safety, and freedom of association, and requires an on-site audit to be performed annually. The certificate is seen as necessary for accessing any European market successful. The major retailers in the EU also play an important role in tackling environmental issues, which means that exporters have to take these into account when negotiating exporting arrangements.

(ii) Environmental issues are becoming increasingly important with European consumers. Consumer movements are lobbying against purchasing non-environmental friendly or non-sustainable produce. To this end, both governments and private partners have created standards (such as ISO 14001 and EUREPGAP) and labels to ensure produce adhere to particular specifications. Labels are an absolute must for exporters attempting to enter the rapidly expanding organic produce market. The EU Commission has recently adopted and EU label for identifying food produced according to EU organic standards in the directive EEC 209/91

3.2.1 (e) Consumer health and safety requirements

Increasing consumer conscience about health and safety issues has prompted a number of safety initiatives in Europe, such as EUREPGAP on good agricultural practices (GAP) by the main European retailers, the international management system of HACCP, which is independently

certified and required by legislation for European producers as well as food imported into Europe (EC 852/2004), and the ISO 9000 management standards system (for procedures and working methods), which is certified by the International Standards Organization (ISO).

3.2.2 The United States

The USDA has quality standards for vegetables that provide a basis for domestic and international trade and promote efficiency in marketing and procurement. At the same time the USDA issues quality certificates based on these standards and a comprehensive grading system. Graders are located around the country at terminal markets. These certification services, which facilitate the ordering and purchasing of products by large-volume buyers, assure these buyers that the product they purchase will meet the terms of the contract in terms of quality, processing, size, packaging and delivery.

3.2.3 Asian Market Access

Japan's agricultural sector is heavily protected, with calculations from the Organization for Economic Co-operation and Development (OECD) estimating that almost 60% of the value of Japan's farm production comes from trade barriers or domestic subsidies. Japan uses tariff rate quotas (TRQ) to protect its most sensitive products, and reserves the right for trading many of these products (within the quota) for one or two state trading enterprises. However, these extremely protective measures apply only to some products; others are able to compete more effectively with outside competition, often on the grounds of higher quality.

Perhaps the biggest barrier to trade with Japan in vegetable markets is its strict phytosanitary requirements, which have often been challenged in the WTO as having little or no scientific justification. Other measures that are being challenged include Japan's use of fumigation on agricultural products when cosmopolitan pests (already found in Japan) are detected. Japan is also increasing its labeling requirements

4. GENERAL DISTRIBUTION CHANNELS

There are roughly three distinct sales channels for exporting vegetables. One can sell directly to an importer with or without the assistance of an agent (usually larger, more established commercial farms). One can supply a vegetable combine, which will then contract out importers/marketers and try to take advantage of economies of scale and increased bargaining power. At the same time vegetable combines might also supply large retail chains. One can also be a member of a private or co-operate export organization (including marketing boards) which will find agents or importers and market the produce collectively. Similar to a vegetable combine, an export organization can either supply wholesale markets or retail chains depending on particular circumstances. Export organizations and marketing boards will wash, sort and package the produce.

5. LOGISTICAL ISSUES

5.1 Mode of transport

The transportation of vegetables falls within two categories – ***ocean cargo*** and ***air cargo*** – with ocean cargo taking much longer to reach the desired location but costing considerably less. Of course, the choice of transportation method depends, for the most part, on the fragility of the produce and how long it can remain relatively fresh. With the advent of technology and container improvements, the feasibility, cost and attractiveness of sea transportation have improved considerably. As more developing countries begin to export and supply major developed countries markets, so the number and regularity of maritime routes, and the container vessels travelling these routes, increase.

Presently South American countries like Peru benefit from the asparagus trade, which has lead to some level of economies of scale with other vegetable products, and this has enabled cheaper transport prices for their other vegetable varieties. Such economic of scale could benefit SADC countries if more producers became exporters and took advantage of the various ports which have special capabilities in handling vegetable produce (for example, the proposed terminal in Maputo). For some products, in order to reach the destination market with an acceptable degree of freshness, air transport is the only option (asparagus, for example, is flown from Peru to the sufficient to cover the transport costs, and collective agreements between farmers of different commodities with different harvest periods can become particularly important.

5.2 Cold chain management

Cold chain management is crucial when handling perishable products, from the initial packing houses to the refrigerated container trucks that transport the produce to the shipping terminals, through to the storage facilities at these terminals (and their pre-cooling capability), onto the actual shipping vessels and their containers, and finally on to the importers and distributors that must clear the produce and transport it to the markets/retail outlets, etc. For every 10^{o}C increase above the recommended temperature, the rate of respiration and ripening of produce can increase twice or even thrice. Related to this are the increasingly important traceability standards, which require an efficiently controlled supply chain and internationally accepted business standards.

5.3 Packaging

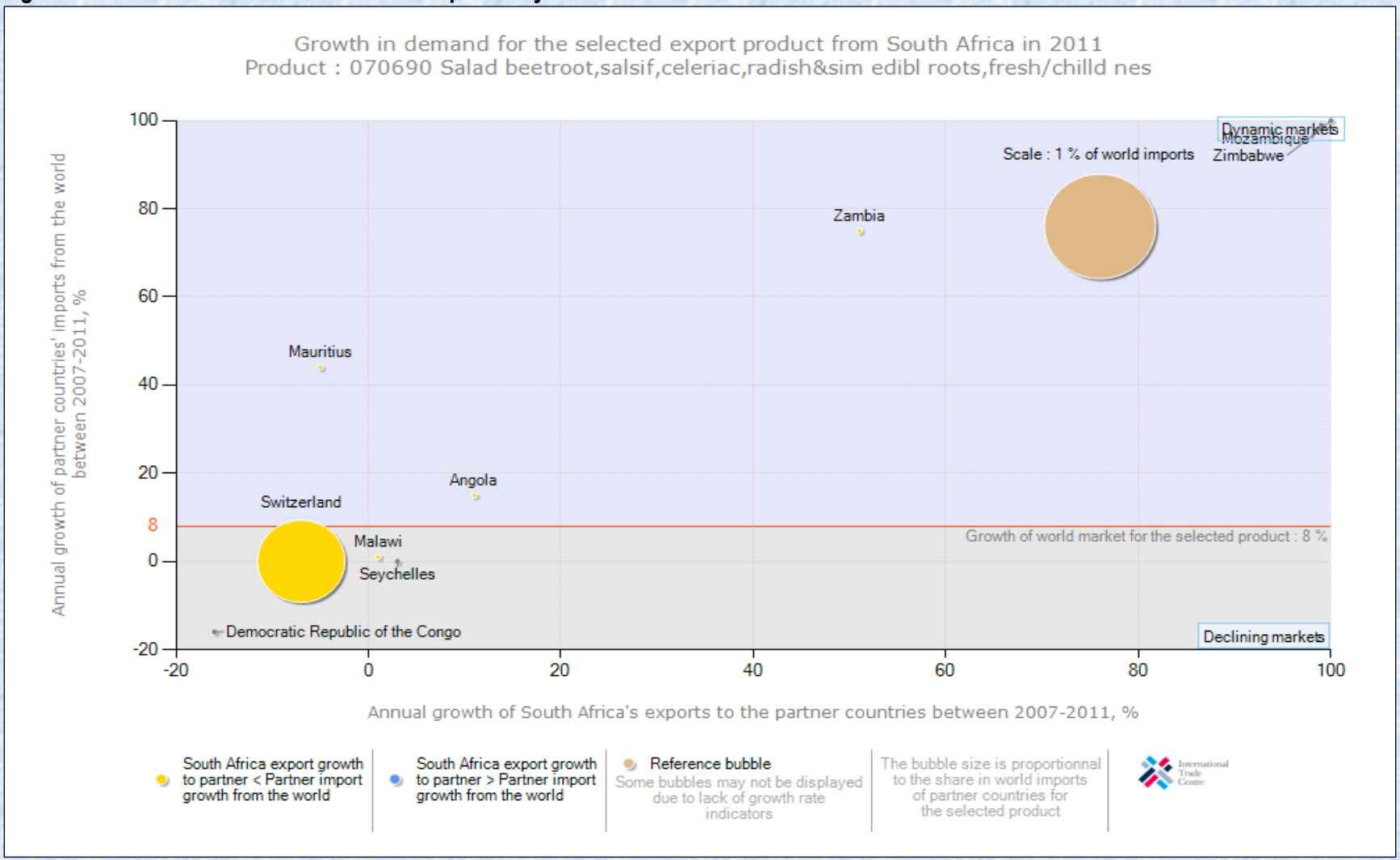
Packaging also plays a vital role in ensuring safe and efficient transport of a product and conforming to handling requirements, uniformity, recyclable materials specifications, phytosanitary requirements, proper storage needs and even attractiveness (for marketing purposes).

6. COMPETIVENESS OF SOUTH AFRICA BEETROOT EXPORTS

Figure 21 below, illustrate that South African beetroot export to Mozambique, Zimbabwe, Zambia and Angola are growing slower than the world import into these countries. This is regarded as a loss in dynamic markets and South Africa's performance in these countries is regarded as an under achievement. South Africa's exports to Mauritius, Malawi and Switzerland are declining

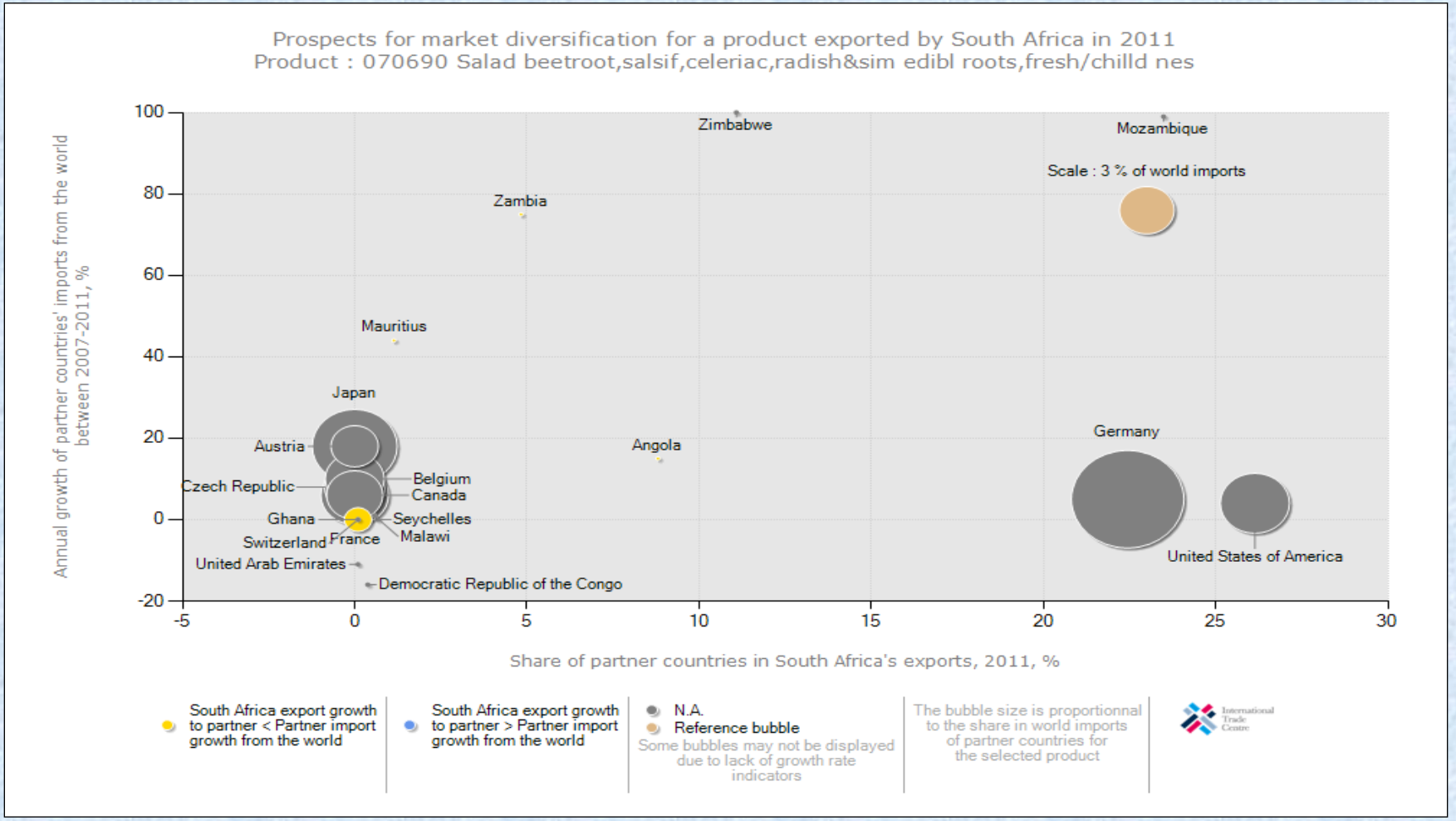
while the world imports are growing. South African beetroot exports are declining faster than the world imports into Democratic Republic of the Congo.

Figure 21: Growth in demand for beetroot exported by South Africa in 2011



Source: ITC Trade Map

Figure 22: Prospects for market diversification for beetroot exported by South Africa in 2011



Source: ITC Trade Map

Figure 22 above shows that the United States of America, Mozambique and Germany are currently the biggest markets for beetroot exports from South Africa. Prospective export markets for beetroot from South Africa are mainly in Mauritius, Japan Austria, Angola and Austria. Other small markets exist in Belgium and Germany. However, if South Africa is to diversify its beetroot exports the most lucrative markets exist in Zimbabwe and Mauritius which have increased their beetroot imports from the world by 128% and 99% respectively. Beetroot imports from the world to the Democratic Republic of the Congo and United Arab Emirates have declined from 2007– 2011 and as a result those country has recorded a negative growth rate.

7. ACKNOWLEDGEMENTS

The following organizations are acknowledged

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