

GRAIN SORGHUM MARKET VALUE CHAIN PROFILE

2012

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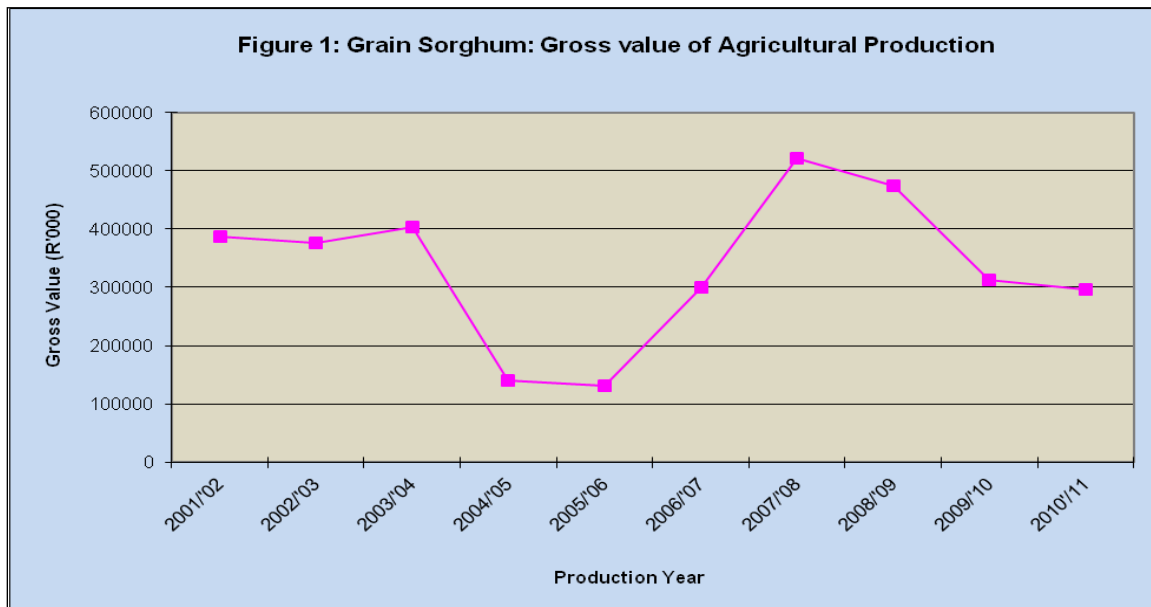
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1. DESCRIPTION OF THE INDUSTRY

Sorghum, like other grains, has two basic markets that it serves namely, the human component and the animal feed component. The animal feed industry is an important market for sorghum, as it is a component in the production of poultry, pet, pigeon and ostrich feeds. There are two types of sorghum, namely bitter and sweet sorghum cultivars. Preference is given to the sweet cultivars. Bitter sorghum is planted in areas where birds are a problem since it contains tannin which gives a bitter taste; consequently birds tend to avoid eating it. The gross value of production for grain sorghum for the past ten years is presented in Figure 1.



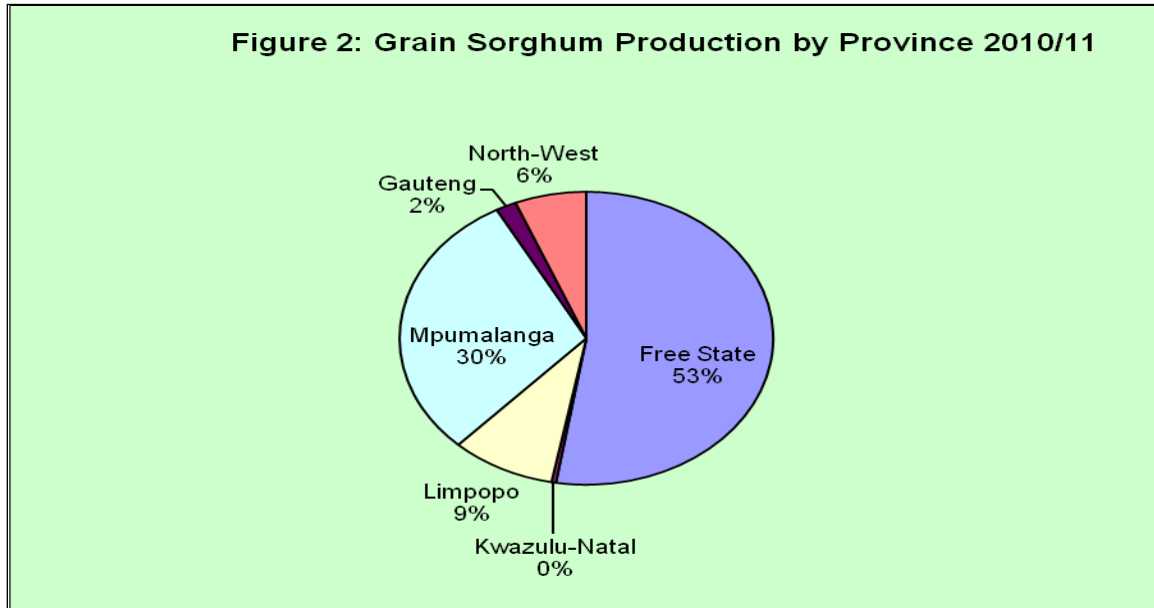
Source: Statistics and Economic Analysis, DAFF

The contribution of the sorghum industry to the gross value of agricultural production as depicted in Figure 1 shows a slight decline that occurred between 2001/02 and 2002/03 seasons and this was followed by a slight increase in the gross value of sorghum production during 2003/04 season. The GVP escalated to relatively higher levels during 2003/04 season and the experienced a sharp decline during 2004/05 and 2005/06. This decline can be attributed to prices that dropped to the lowest level during the same seasons. The contribution of the sorghum industry to the gross value of agricultural production experienced an increase in 2006/07 and 2007/08 production seasons owing to increases in both the local production and producer prices. The period under analysis closed with relatively lower contribution to the gross value of production by the sorghum industry during 2010/11 production season.

1.1 Production Areas

As shown in Figure 2, sorghum is mainly produced in the Free State (53 %), Mpumalanga (30%), and Limpopo (9%) provinces. Other provinces that contribute small percentages to the total grain

sorghum production in the country are the North West and Gauteng provinces, contributing 6% and 2% respectively to the total grain sorghum production in the republic.

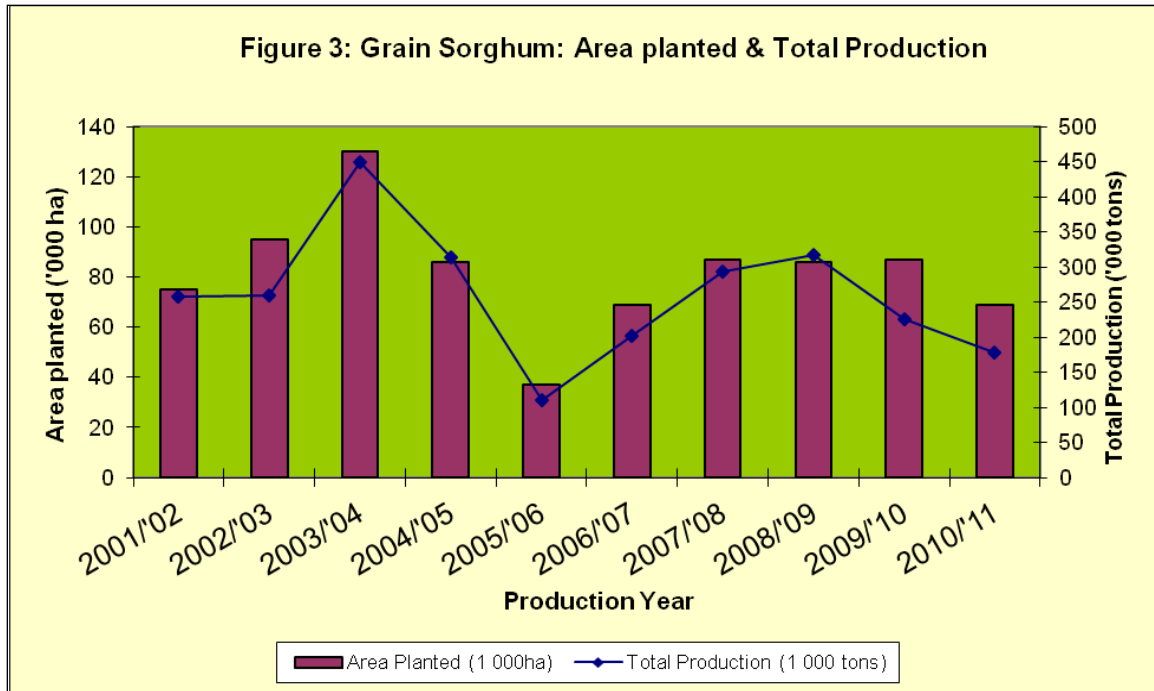


Source: Statistics and Economic Analysis

The three provinces of South Africa, namely Gauteng, North West and KwaZulu-Natal Provinces produce relatively smaller quantities of grain sorghum as evidenced by the figure above, which shows the recent production volumes for 2010/11 season. The Western and Eastern Cape Provinces do not play any major role in sorghum production.

1.2 Production Trends

Figure 3 below indicates that the period under analysis opened with relatively lower volumes of sorghum in the local market and this was followed by a sharp increase in production volumes during the 2003/2004 season as a result of improved plantings. During the 2005/06 season very less area was devoted to grain sorghum production and thus lower production volumes were realized during the period. The production volumes increased marginally to levels above 200 000 tons between 2006/07 and 2009/10 production years mainly due to improved producer price levels. Area planted to grain sorghum declined by about 20% during 2010/11 season compared to plantings for the preceding season (2009/10) and this led to about 21% decline in production volumes over the same period.

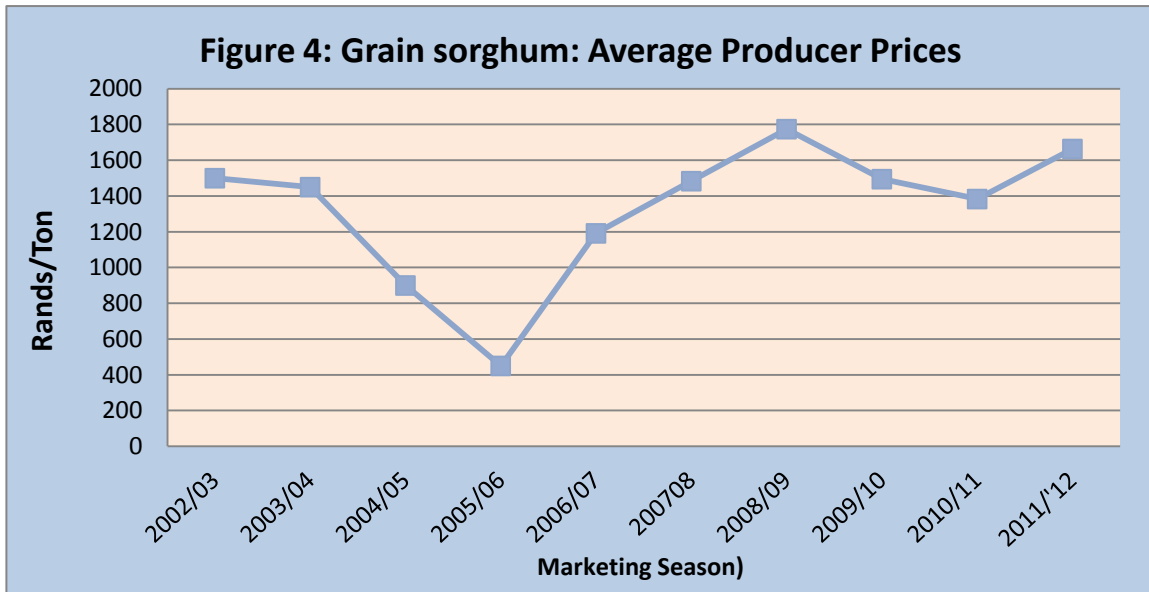


Source: Statistics and Economic Analysis, DAFF

2. MARKET STRUCTURE

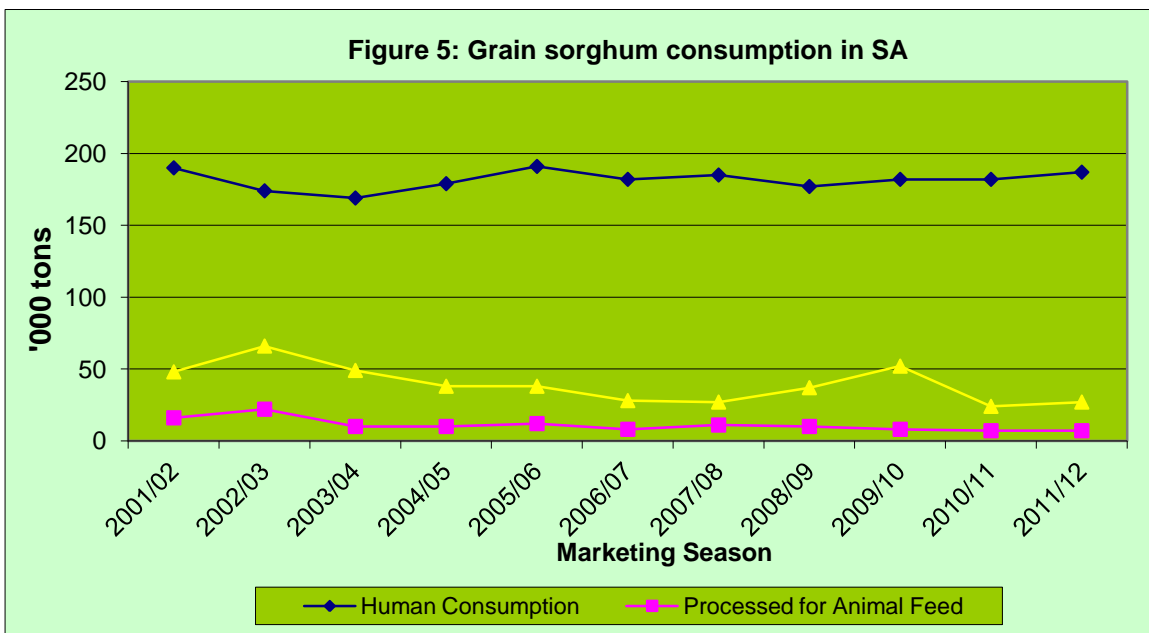
2.1 Domestic Market and Prices

Grain sorghum prices are highly volatile and in a year when local grain sorghum production exceeds consumption for food and beverages, the sorghum price is determined by the lowest price of competing grains. Presently the sorghum price is discounted against the cheapest of white and yellow maize. As depicted in Figure 4 below, the period under analysis opened with moderate producer prices for grain sorghum during the 2002/03 marketing season and this was followed by a slight decline in producer prices during 2003/04 marketing season. The lowest producer price for grain sorghum was experienced during 2005/06 marketing season and this can be attributed to higher stock levels during the same and the preceding marketing seasons. The period under analysis closed with relatively higher producer prices for grain sorghum during 2011/12 marketing season.



Source: Statistics and Economic Analysis, DAFF

Figure 5 below depicts grain sorghum consumption from 2002/03 to 2011/12 marketing seasons. Sorghum is mainly used for human consumption as malt, sorghum meal and sorghum rice. Malt is used for the manufacture of beer. Surpluses are used as stock feed in instances where sorghum is competitive with other grain crops in terms of nutritive value and price. Sorghum is successfully used as a substitute for maize as an energy source. The utilization of sorghum for human consumption remained relatively stable between 150 and 200 thousand tons for the period under analysis. The average annual commercial consumption of sorghum is approximately 225 000 tons, of which 181 000 tons is for human consumption (as malt and meal) and 44 000 tons is for animal feed.



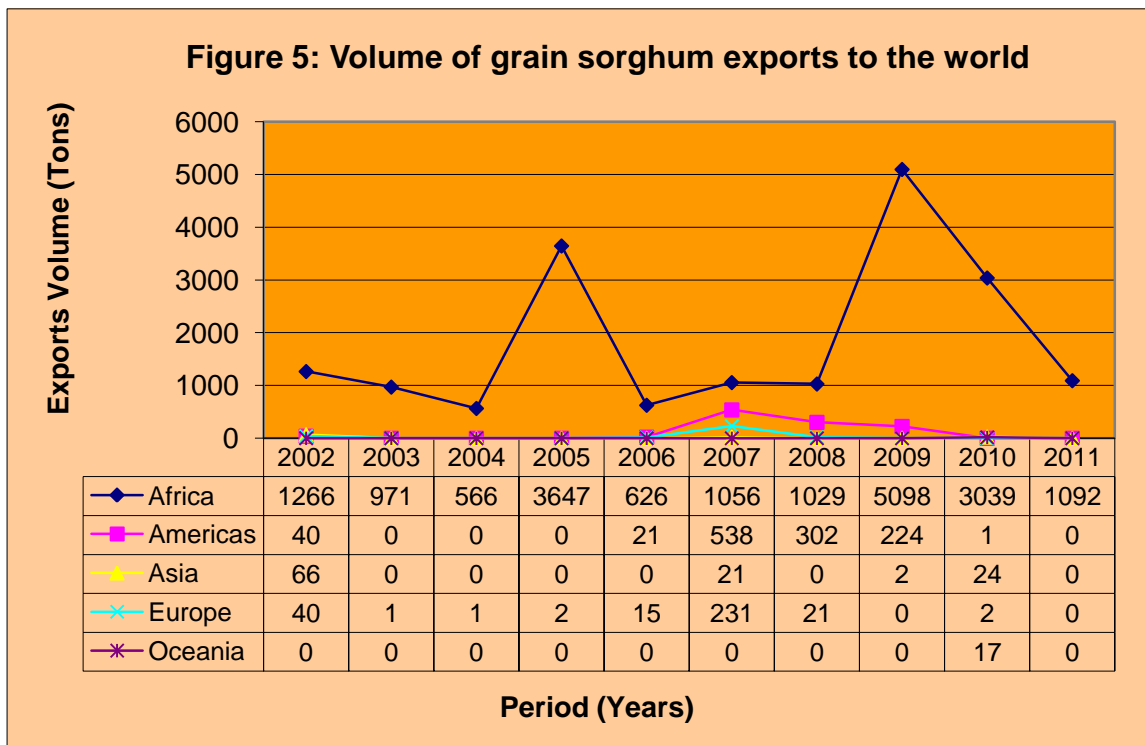
Source: Statistics and Economic Analysis, DAFF

The consumption of sorghum as animal feed shows a decreasing trend and can mainly be attributed to the fact that the sorghum industry is losing its market share in the poultry and pet feed markets as producers were switching to cheaper alternatives such as maize. The consumption of sorghum for malting purposes and as sorghum meal has remained relatively stable over the period, with slight decreases experienced during 2006 into 2007. Exports of grain sorghum have been very low during the period under review and continued to experience slight declines from 2002 to 2008, followed by an increase between 2008/09 and 2009/10 season.

2.2. Exports

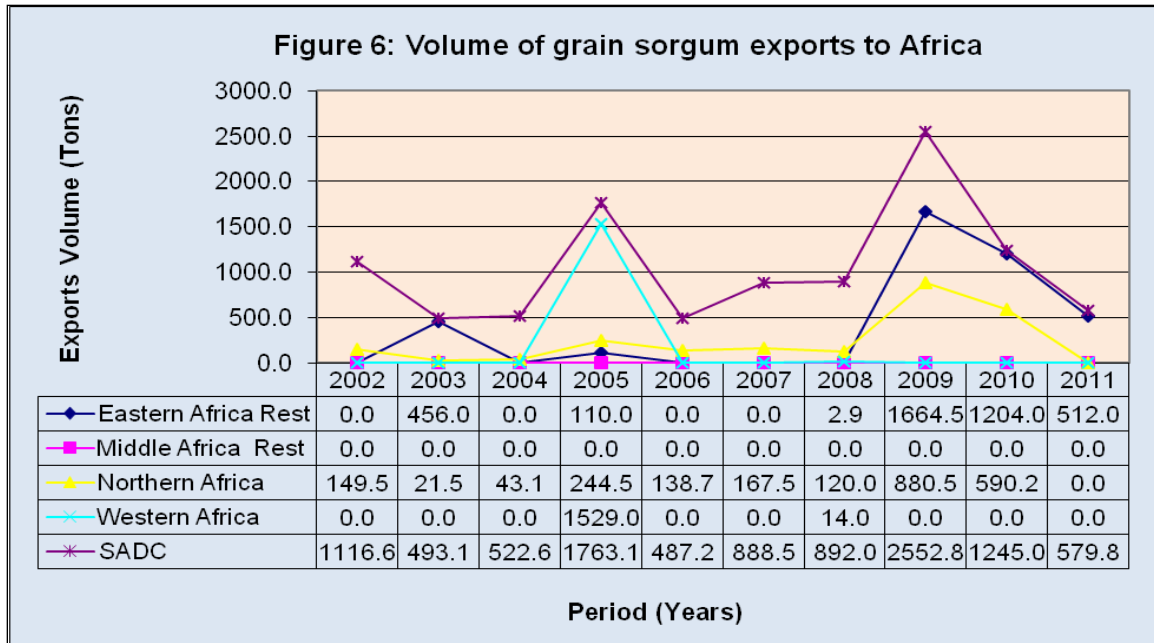
Exports of sorghum are handled by means of contracts between buyers and sellers subject to the requirements of the Agricultural Product Standards Act no 119 of 1990. South Africa exports sorghum mainly destined to the African region as depicted in Figure 5. Role players in the industry are concerned about the export of poor quality sorghum to Botswana that can harm the entire industry in the long run. The volume of sorghum exports to the world from 2002 to 2011 are presented in Figure 5.

Between the years 2002 and 2011 there were intermittent exports of grain sorghum to Asia, Europe, Africa and the Americas. The major export market that has been consistently maintained over the period under review is on the African continent, primarily in the SADC countries as depicted in Figure 5 below.



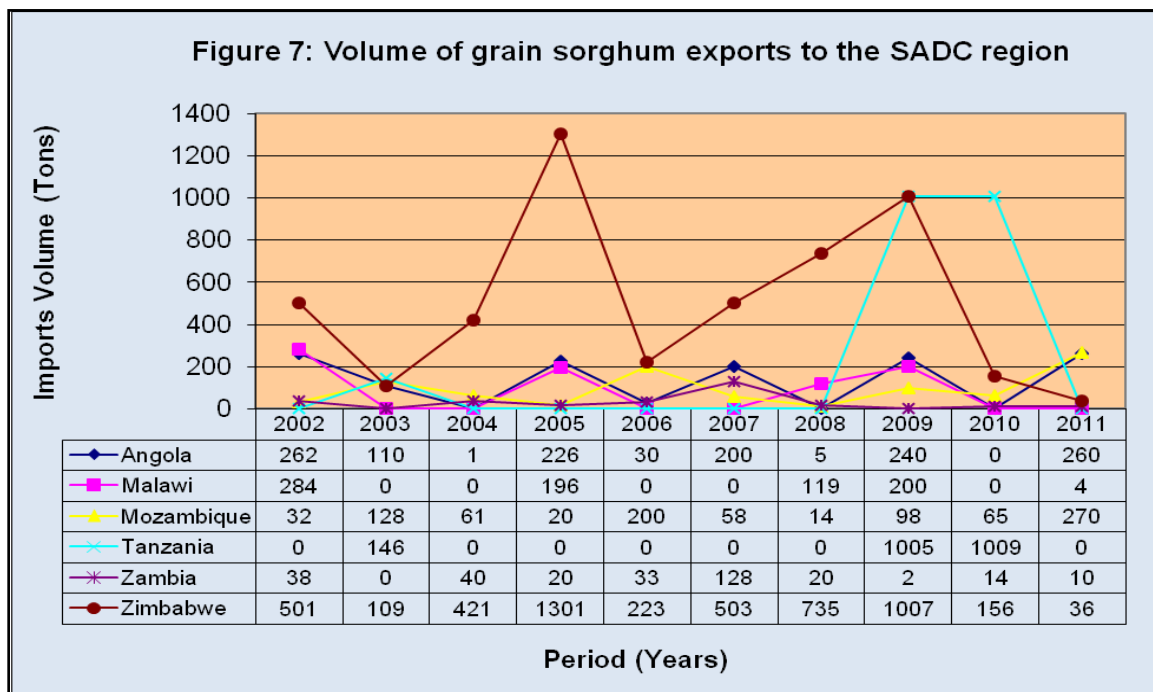
Source: Quantec Easydata

Figure 5 shows that the African continent is the major destination for exports of grain sorghum originating from South Africa. Grain sorghum exports from South Africa to the African continent increased significantly from the year 2007 until the highest volumes were recorded in 2009. This was followed by a continuous decline in the volume of exports to Africa between the years 2010 and 2011. The figure also indicates that some lower and erratic volumes of grain sorghum were exported other regions such as Americas, Asia, Europe and Oceania between 2002 and 2011.



Source: Quantec Easydata

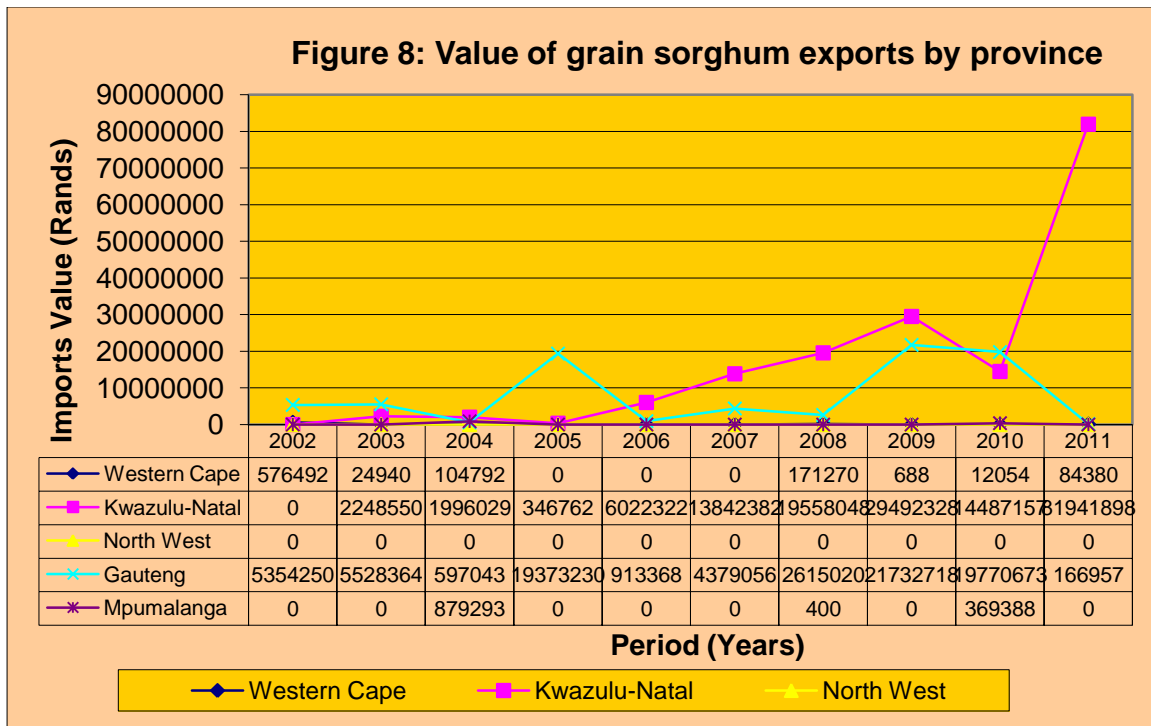
On the African continent as depicted in Figure 6, grain sorghum exports were mainly destined to the SADC region between the periods 2002 and 2011 with intermittent exports to the rest of the African continent, mainly to East Africa and Northern Africa. This situation can be attributed to the SADC Free Trade Agreement which allows free flow of goods and services within the SADC region as well as the shorter distance that exist between South Africa and most SADC member states.



Source: Quantec Easydata

Figure 7 indicates that the major export market for South African grain sorghum in the SADC region is Zimbabwe with minimal exports to other SADC countries such as Malawi, Mozambique, Angola, DRC and Zambia. These higher sorghum exports to Zimbabwe can be attributed to the economic crises in that country that resulted in the meltdown of the Zimbabwean agricultural sector. It is also important to note that during recent years, grain sorghum exports originating from South Africa to Tanzania started to show some reasonable increases. Grain sorghum exports to the SADC countries increased significantly during the year 2009, except those to Zambia which declined to the lowest in 2009. The volumes of grain sorghum exports to the United Republic of Tanzania were higher during the year 2010 while those to other countries declined during the same year. The period under analysis closed with lower volumes of sorghum exports to SADC countries and this is in line with the trend observed with regard to exports to the rest of the world.

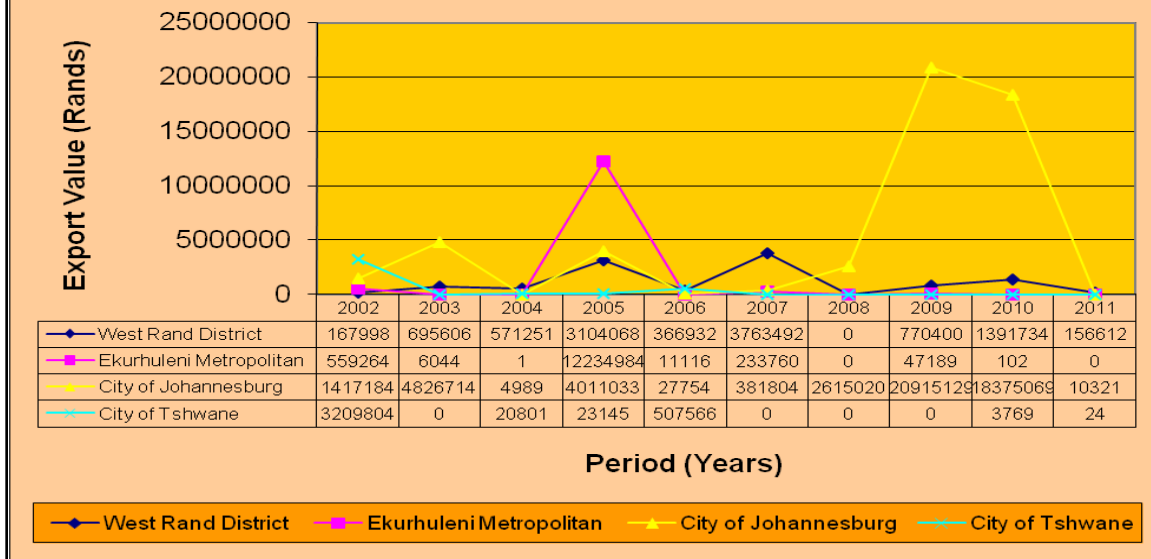
In the following section the values of grain sorghum exports from various provinces and districts within the provinces are presented. Grain sorghum export values by province are presented in Figure 8.



Source: Quantec Easydata

Figure 8 indicates that grain sorghum is exported mainly through the Gauteng and KwaZulu-Natal provinces. Although they do not form part of main sorghum-producing provinces, Gauteng province and KwaZulu-Natal are the main exporters of grain sorghum and this brings the notion that the main grain sorghum producers export their products via these provinces as a result of availability of suitable infrastructure and favorable logistics for exportation and the location of traders in these provinces. Grain sorghum exports from Western Cape and Mpumalanga provinces were minimal and interspersed during the period between 2002 and 2011. The contributions of the various districts to total Gauteng export value for grain sorghum are presented in Figure 9.

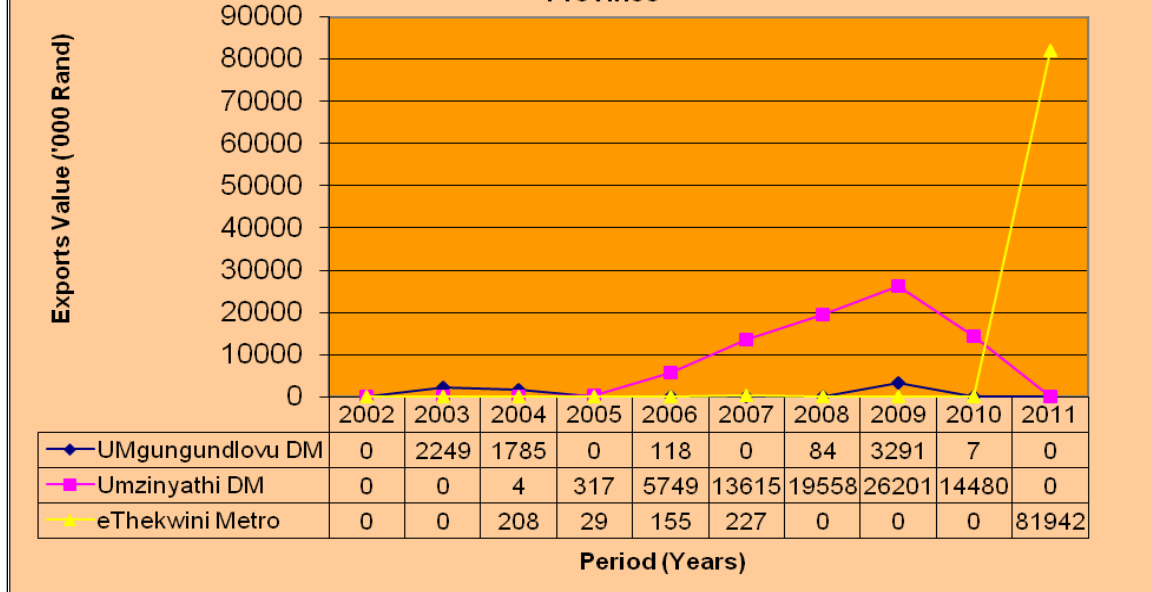
Figure 9: Value of grain sorghum exports from Gauteng



Source: Quantec Easydata

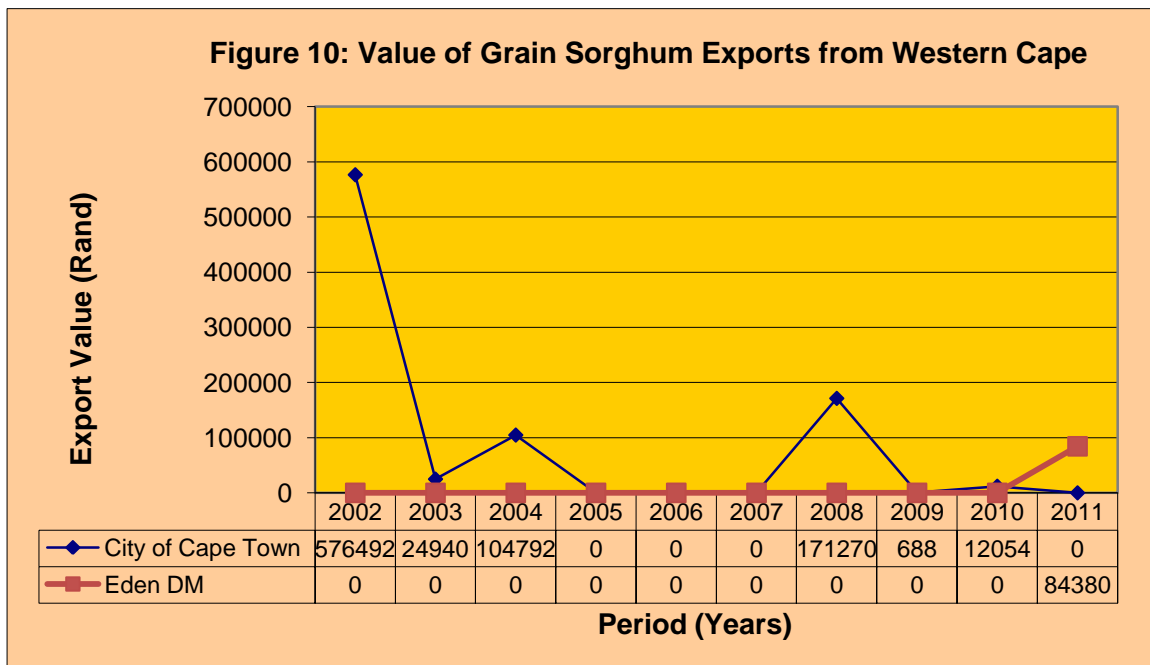
In the Gauteng province the grain sorghum is exported mainly through the City of Johannesburg and Ekurhuleni districts which recorded greater export values for grain sorghum over the period under review. The City of Tshwane and West Rand District Municipalities recorded intermittent exports between the periods 2002 and 2011 with slight increases from the West Rand District in 2007. Grain sorghum export values from the KwaZulu-Natal province are recorded in Figure 10 below.

Figure 10: Value of grain sorghum exports from KwaZulu-Natal Province



Source: Quantec Easydata

Figure 10 indicates that, from the KwaZulu-Natal province grain sorghum exports were mainly through UMzinyathi District in recent years between 2005 and 2010. EThekweni Municipality began exporting grain sorghum in minimal amounts from 2004 until 2008 while grain sorghum exports through the UMgungundlovu District Municipality have halted in 2007. Grain sorghum exports from all districts of KwaZulu-Natal province were low from 2002 to 2005. Umzinyathi District Municipality recorded the highest grain sorghum exports during the year 2009 and followed by UMgungundlovu District which exported grain sorghum to the value of approximately 1.9 million Rands. The availability of Durban harbor in the province, which serves as an overpass for exportation of various commodities, is the reason behind the exports recorded from this province. Grain sorghum export values from Western Cape province are presented in Figure 11.



Source: Quantec Easydata

From the Western Cape province, the City of Cape Town Municipality is the only major exit point for grain sorghum exports which is mainly because City of Cape Town is the most outfitted district in the province in terms of physical infrastructure. The City is blessed with enough transportation facilities such as air port and harbor which facilitates movement of agricultural products from the city to other countries, and as such grain sorghum producers from various areas are encouraged to export their products via Cape Town. However, exports of grain sorghum via the Western Cape province have diminished between the periods 2005 and 2007 and increased sharply in 2008. Eden district municipality has, for the first time in 2011, recorded some exports of grain sorghum while at the same time there were no exports of grain sorghum from City of Cape Town during the same year.

2.2.1. Share Analysis

The shares of various provinces to the total South African grain sorghum exports are illustrated in Table 1.

Table 1: Contribution of various provinces to South Africa's total grain sorghum exports (%)

| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Province | | | | | | | | | | |
| Western Cape | 9.72 | 0.32 | 2.93 | 0.00 | 0.00 | 0.00 | 0.77 | 0.00 | 0.03 | 0.1 |
| Kwazulu-Natal | 0.00 | 28.82 | 55.80 | 1.76 | 86.83 | 75.97 | 87.53 | 57.57 | 41.82 | 99.7 |
| North West | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Gauteng | 90.28 | 70.86 | 16.69 | 98.24 | 13.17 | 24.03 | 11.70 | 42.43 | 57.08 | 0.2 |
| Mpumalanga | 0.00 | 0.00 | 24.58 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.07 | 0.00 |

Source: Calculated from Quantec Easydata

Table 1 indicates that the Gauteng province commanded the greatest share of grain sorghum exports except during the years between 2006, 2009 and 2011, followed by KwaZulu-Natal province. This indicates that the greatest percentage of sorghum exports are recorded as originating from Gauteng and KwaZulu-Natal provinces despite the fact that the largest producers of grain sorghum are Free State, Mpumalanga, North West and Limpopo provinces. The implication is that most of grain sorghum produced from these provinces is transported to Gauteng and KwaZulu-Natal provinces because of the fact that these provinces are well equipped with suitable infrastructure and they are in addition well located to serve as exportation points. KwaZulu-Natal province surpassed Gauteng to become the largest exporter between the years 2006 and 2009; and again in 2011. During the year 2011, KZN province contributed 99.7% to South Africa's total grain sorghum exports in value terms, followed by Gauteng with 0.2%.

Table 2: Contribution of various districts to Gauteng's total grain sorghum exports (%)

| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|----------------------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| District | | | | | | | | | | |
| City of Tshwane | 59.95 | 0.00 | 3.48 | 0.12 | 55.57 | 0.00 | 0.00 | 0.00 | 0.02 | 0.01 |
| West Rand | 3.14 | 12.58 | 95.68 | 16.02 | 40.17 | 85.94 | 0.00 | 3.54 | 7.04 | 93.80 |
| Ekurhuleni | 10.45 | 0.11 | 0.00 | 63.15 | 1.22 | 5.34 | 0.00 | 0.22 | 0.00 | 0.00 |
| City of Johannesburg | 26.47 | 87.31 | 0.84 | 20.70 | 3.04 | 8.72 | 100 | 96.24 | 92.94 | 6.18 |

Source: Calculated from Quantec Easydata

Table 2 shows the share of the district grain sorghum exports to the total Gauteng's grain sorghum exports in percentages. It indicates clearly that from the Gauteng province, most grain sorghum exports originated from the City of Johannesburg, then Ekurhuleni and West Rand districts. The City of Johannesburg and Ekurhuleni are major Gauteng's grain sorghum exporters with the exception of the 2002 and 2006 years when more grain sorghum exports occurred through the City of Tshwane Metropolitan District. During the year 2011, West Rand accounted for about 93.8% of Gauteng's total value of grain sorghum exports followed by City of Johannesburg with 6.18%.

Table 3: Contribution of various districts to KZN's total grain sorghum exports (%)

| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---------------|------|------|-------|-------|-------|-------|------|-------|-------|------|
| District | | | | | | | | | | |
| UMgungundlovu | 0.00 | 100 | 89.41 | 0.00 | 1.96 | 0.00 | 0.00 | 11.16 | 0.05 | 0.00 |
| UMzinyathi | 0.00 | 0.00 | 0.19 | 91.53 | 95.46 | 98.36 | 100 | 88.83 | 99.95 | 0.00 |
| EThekwini | 0.00 | 0.00 | 10.39 | 8.47 | 2.58 | 1.64 | 0.00 | 0.00 | 0.00 | 100 |

Source: Calculated from Quantec Easydata

Table 3 indicates contribution of various districts to Kwazulu Natal Province's total grain sorghum exports in percentages. It is shown from the table that in Kwazulu Natal Province, UMzinyathi District is the major exporter of grain sorghum, followed by UMgungundlovu and lastly EThekwini. UMzinyathi commanded the greatest shares between the years 2005 to 2010 while during the other years more grain sorghum exports occurred through the UMgungundlovu district. eThekwini Metropolitan Municipality emerged to become the largest exporter of the product during the year 2011 and accounted for 100% of the province's total sorghum exports.

Table 4: Contribution of various districts to Western Cape's total grain sorghum exports (%)

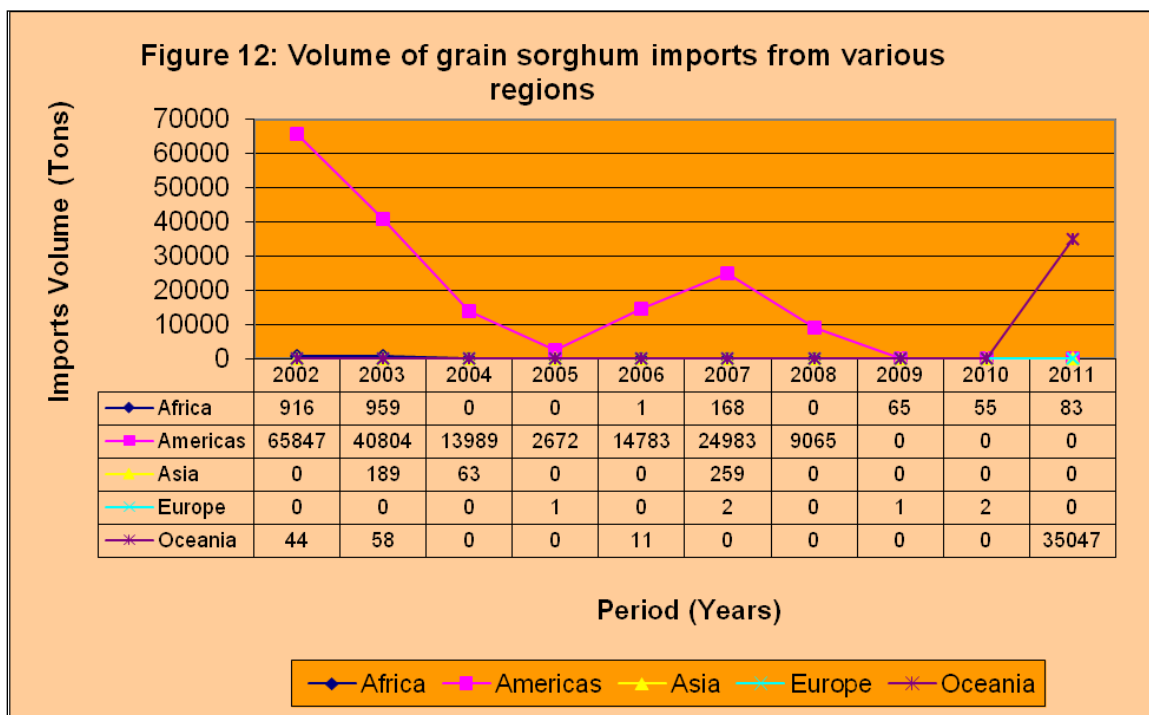
| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|-------------------|------|------|------|------|------|------|------|------|------|------|
| District | | | | | | | | | | |
| City of Cape Town | 100 | 100 | 100 | 0.00 | 0.00 | 0.00 | 100 | 100 | 100 | 0.00 |
| Eden District | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100 |

Source: Calculated from Quantec Easydata

Table 4 indicates that the City of Cape Town Municipality is the major exporter of grain sorghum in Western Cape. This is because of the presence of the harbor in the district which serves as viaduct for the products heading for the export market. The table further shows that between the periods 2002 to 2003 respectively, the district has been exporting the greatest amount of grain sorghum, dominating with a maximum of about 100% shares in consecutive years until it declined in shares to a minimum point from the years between 2005 and 2007. Between the years 2008 and 2010 the City of Cape Town rose above the occasion again and contributed 100% towards the provincial grain sorghum exports.

2.3 Imports

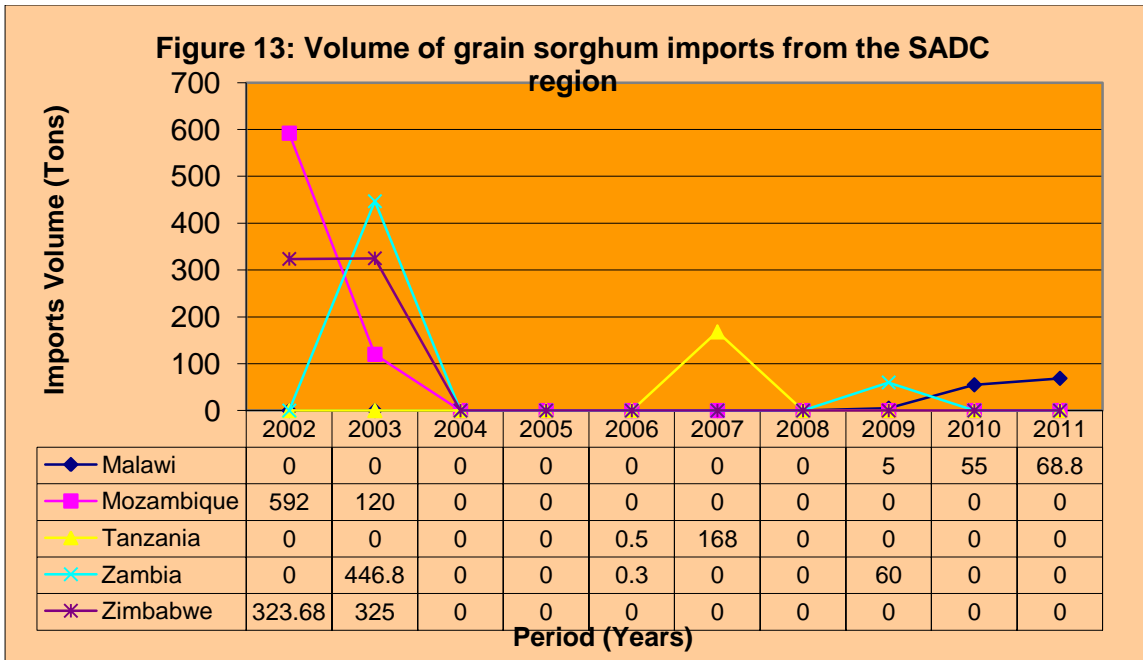
The volumes of grain sorghum imported from 2002 to 2011 pursue the pattern which is shown in Figure 12.



Source: Quantec Easydata

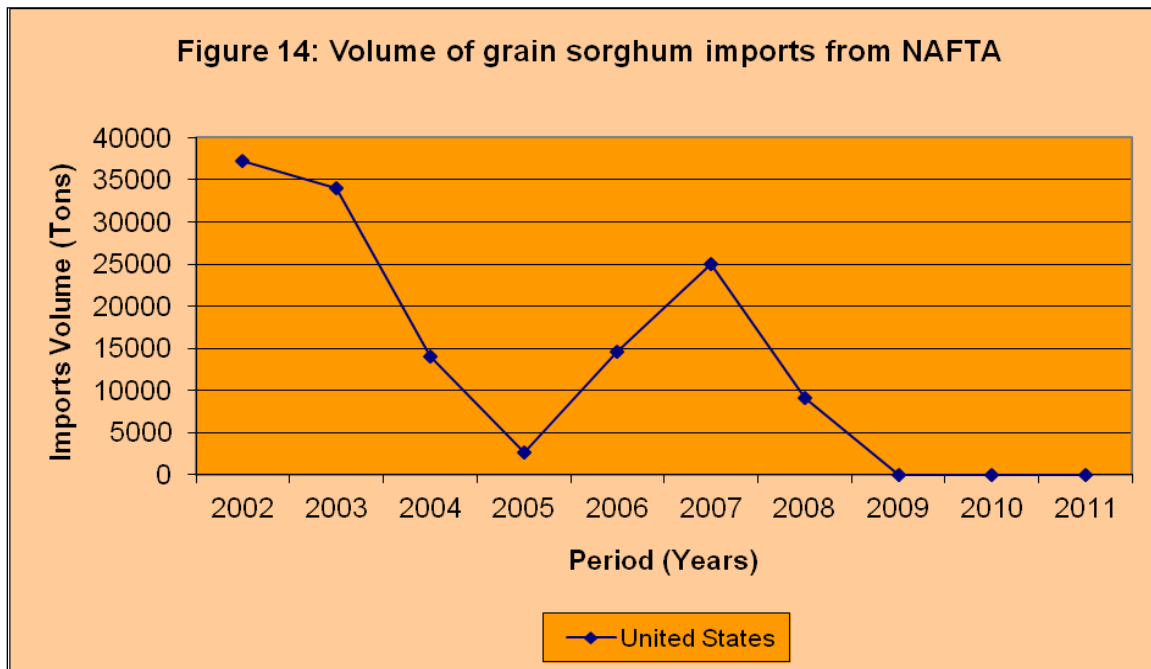
Figure 12 indicates that grain sorghum imports from the world fluctuated from the year 2002 until 2011 and that a peak was reached during the 2002 season. During the 2002 season lower quantities of grain sorghum were produced in South Africa while the demand was high and this resulted in our country importing more grain sorghum during that season. There is also an indication of relatively higher volumes of grain sorghum imports during the year 2007 due to the periodic drought experienced in the country during 2006 production season in the major grain producing regions. Figure 12 further indicates that South Africa imports grain sorghum mainly from the Americas and during some periods from Europe, Oceania and the African continent. Greater volumes of grain sorghum were imported from the Americas particularly between the years 2002 and 2008. The years 2009 and 2010 were characterized by lower volumes of grain sorghum imports mainly as a result of relatively higher levels of the local sorghum and maize production at that time. Also observable from Figure 12 is the fact that the volume of grain sorghum imports from Oceania increased to relatively higher levels during the year 2011 while imports from other regions were relatively lower during the same period.

The volumes of grain sorghum imports from the SADC region are presented in Figure 13 below. Figure 13 indicates that on the African continent, grain sorghum imports were acquired mainly from Mozambique, Zimbabwe and Zambia but these countries have ceased to export grain sorghum to South Africa from the year 2004. During 2007, smaller volumes of imports were recorded from Tanzania while Zambia increased its sorghum exports to South Africa during the year 2009. During the years 2010 and 2011, Malawi was the only country in the SADC region that exported grain sorghum to South Africa.



Source: Quantec Easydata

In the North American Free Trade Area (NAFTA) grain sorghum imports originate mainly from the United States of America as depicted in Figure 14 above. Imports of grain sorghum originating from the USA decreased substantially from the year 2003 until the lowest level of imports were attained in 2005. The volume of grain sorghum imports from the United States of America returned to slightly higher levels between 2006 and 2007, and then declined heavily between the years 2008 and 2011.



Source: Quantec Easydata

3. STORAGE OF SORGHUM

Commercial storage providers of sorghum operate according to the following framework:

- Storage and handling services like grading and cleaning are managed in such a way as to add value to the product of the owner of sorghum.
- Effective grain silo services are rendered at market-related costs and on sound business principles and are available to similar users of grain silo facilities on an equal basis.
- Sorghum is graded according to the grading regulations of the national department of agriculture.
- Any quantity of sorghum that complies with the requirements of the national department of health will be handled and stored subject to practical arrangements.
- The quality and quantity of sorghum is guaranteed during storage and agreed arrangements are adhered to.
- The market mechanisms that enhance the trading of sorghum are supported and used, and their requirements adhered to.
- Silo certificates are made available to the owners of sorghum for trading purposes.
- The sorghum specified on a silo certificate will, on presentation of the silo certificate, be supplied to the holder after all relevant costs have been paid.
- Grain silo service tariffs are available at the beginning of a marketing period at head offices and grain silos.

In addition to these services, storage facilities to previously disadvantaged individuals include the following:

- The storers of sorghum provide a means whereby previously disadvantaged individuals get access to mainstream marketing opportunities.
- Any quantity of sorghum delivered in bags or bulk will be received and stored in silos and/or marketed through silos as long as it complies with the sanitary and phytosanitary requirements.
- A full range of marketing possibilities is available from silo owners.
- Storers inform emerging producers on an ad hoc basis of quality regulations, prices, price structures, marketing opportunities and storage services available.
- Extension services are generally available to assist farmers with advice.

4. MARKET VALUE CHAIN

The grain sorghum value chain and value chain tree are depicted in Figure 15 and Figure 16 respectively.

Figure 15: Grain Sorghum value chain

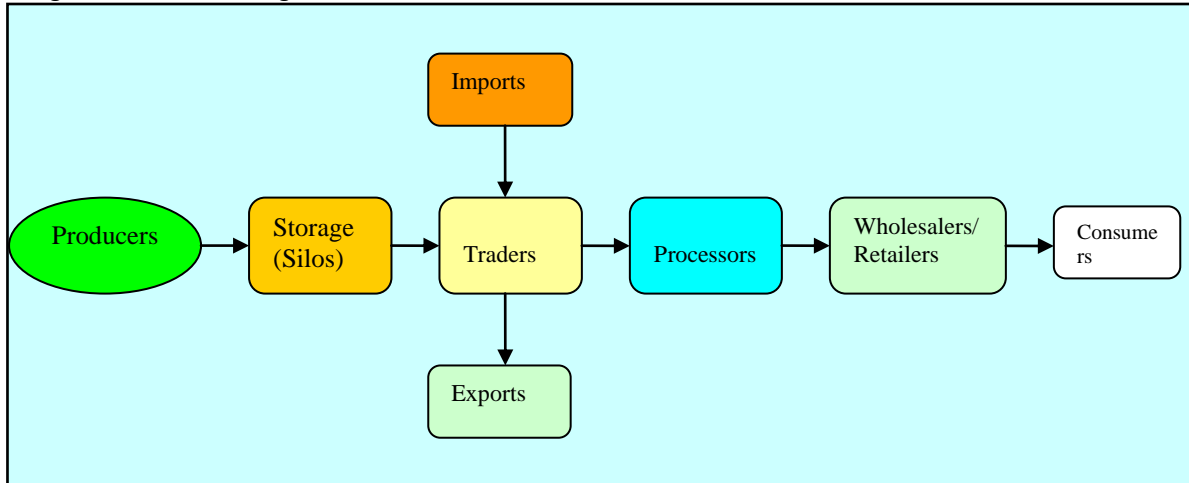
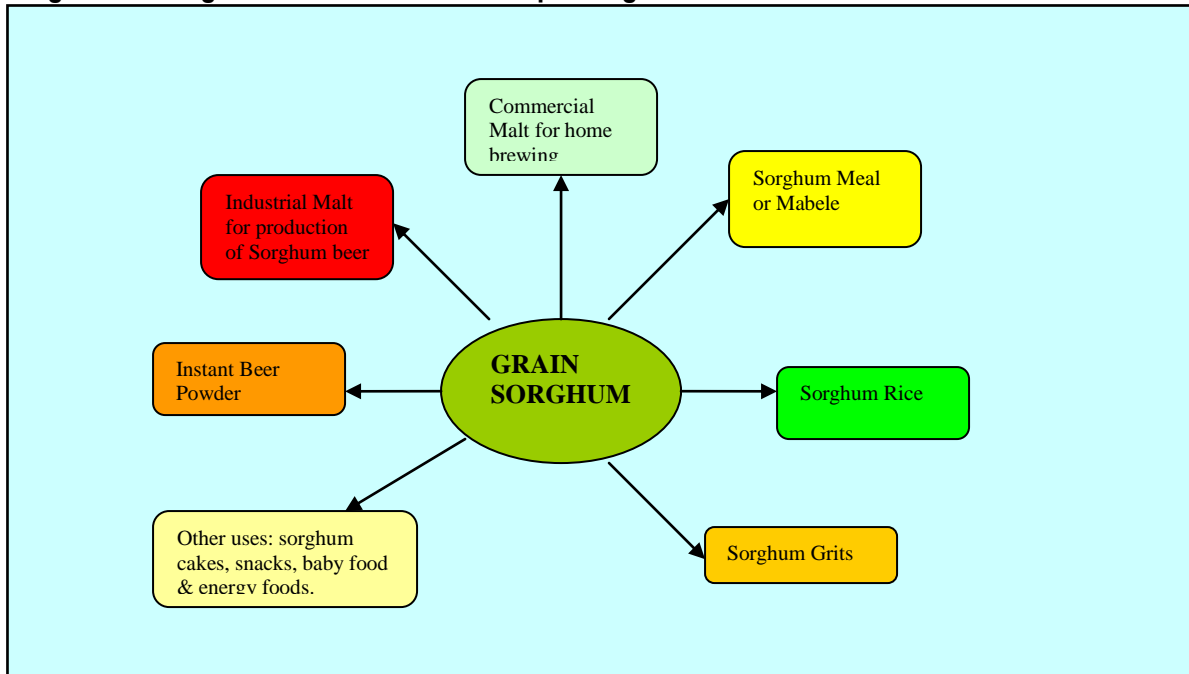


Figure 16: Sorghum Value Chain Tree: explaining its various uses.



Sorghum products for the consumer market include the following:

- Commercial malt: sorghum is saturated and left to germinate, and after germination it is then dried to a certain level and the malt is then packaged and sold for the home brewing

- of beer. Equal amounts of maize meal and commercial malt are then mixed with water and yeast to brew beer with an alcohol content of between 1 – 2%.
- Industrial malt: sorghum is soaked in water and given time to germinate after which it is dried. The malt is used for the production of sorghum beer with an alcohol content of about 3%.
 - Instant beer powder: due to urbanization of the traditional users of home brewed sorghum beer.
 - Sorghum meal: also known as *mabele* is a very popular breakfast cereal. It is processed in the same way as maize meal during the dry milling process.
 - Sorghum rice: which compete with samp and wheat rice.
 - Sorghum grits: used in the industrial brewing process for the production of sorghum beer.
 - Sorghum as animal feed: used as a component in the production of poultry, pet, pigeon and ostrich feeds.
 - Other uses such as sorghum cakes, energy foods, snacks and baby food.
 - There are also possibilities of producing ethanol from sorghum, even though according to SASOL it is currently not economically viable to produce ethanol from sorghum however; investigations into this matter continue.

5. MARKET INTELLIGENCE

5.1. Tariffs

Table 5 indicates the tariffs that are applied by South Africa on imports of sorghum originating from various countries.

Table 5: Tariffs applied by South Africa to imports of grain sorghum from various countries

| EXPORTING COUNTRIES | TRADE REGIME DESCRIPTION | APPLIED TARIFFS 2012 | ESTIMATED TOTAL AD VALOREM EQUIVALENT TARIFF 2012 |
|---------------------|--|----------------------|---|
| Australia | MFN duties (Applied) | 3.0% | 3.0% |
| Malawi | MFN duties (Applied) | 3.0% | 3.0% |
| | Preferential tariff for SADC countries | 0% | 0% |

Source: ITC Market Access Map

South Africa levies a 3.00% *ad valorem* tariff on imported sorghum originating from all import markets. However, sorghum imports from Malawi enters South Africa free of duty due to the existence Free Trade Agreement among SADC countries. There is also a statutory levy of R6/ton applicable to all producers and first buyers of sorghum, which is used to fund research and information services in the industry. The payment is shared between the producers and first buyers on a 50/50 basis. There is also an excise duty on sorghum beer and beer powder. When 'clear beer' is manufactured from sorghum malt, the excise duty on this beer would be the same as for beer brewed from barley malt

Table 6 shows tariffs (during 2012) applied by other countries to the exports of grain sorghum originating from South Africa.

Table 6: Tariffs applied by leading markets to grain sorghum originating from South Africa

| IMPORTING COUNTRIES | PRODUCT DESCRIPTION | TRADE REGIME DESCRIPTION | APPLIED TARIFFS 2012 | ESTIMATED TOTAL AD VALOREM EQUIVALENT TARIFF 2012 |
|---------------------|---------------------|--------------------------------------|----------------------|---|
| Angola | Grain sorghum | MFN duties (Applied) | 2.00% | 2.00% |
| DRC | Grain sorghum | MFN duties (Applied) | 10% | 10% |
| Kenya | Grain sorghum | MFN duties (Applied) | 25.00% | 25.00% |
| Mozambique | Grain sorghum | MFN duties (applied) | 25% | 25% |
| | | Preferential tariff for South Africa | 0.00% | 0.00% |
| Zambia | Grain sorghum | MFN duties (applied) | 15.00% | 15.00% |
| | | Preferential tariff for South Africa | 0.00% | 0.00% |
| Zimbabwe | Grain sorghum | MFN duties (Applied) | 10% | 10% |

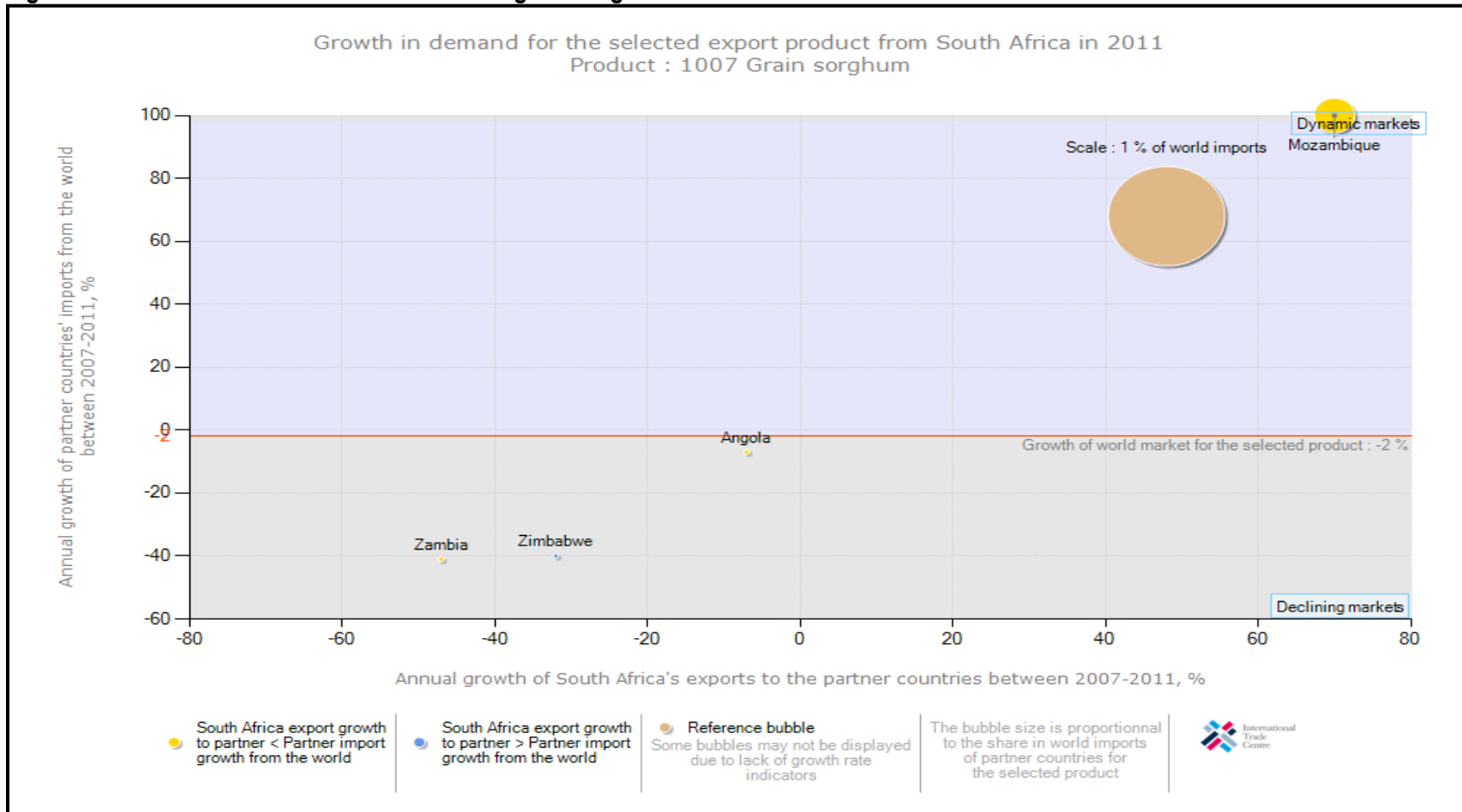
Source: ITC Market Access Map

Table 6 indicates that countries such as Kenya, Mozambique and Zambia apply higher import duties on imports of grain sorghum from the rest of the world. However, South Africa can be able to export sorghum to Mozambique and Zambia free of duty due to the SADC Free Trade Agreement which is currently in place. It is also evident from Table 6 that Angola, DRC and Zimbabwe's duties on imports of grain sorghum are generally lower ranging between 2% and 10% *Ad Valorem*.

5.2. Performance of the South African grain sorghum industry

Growth in demand for South African grain sorghum during 2011 is illustrated in Figure 17.

Figure 17: Growth in demand for South African grain sorghum in 2011



Source: ITC Trade Map

Figure 17 and Table 8 indicate that exports of sorghum from South Africa to the world (all importing countries excluding Mozambique) experienced a negative growth between the years 2007 and 2011, while exports of the same product to Mozambique increased by 70% and 59% in value and volume respectively.. The figure further indicates that the value of grain sorghum exported by South Africa to Mozambique, Zambia and Angola increased at a slower rate than the growth in these countries' value of sorghum imports from the rest of the world between 2007 and 2011. It is also clear from the figure that exports sorghum from South Africa to Zimbabwe have declined over the same period and that Zimbabwe's sorghum imports from the rest of the world has declined much faster than a decline in South Africa's sorghum exports to Zimbabwe.

Table 8: Grain sorghum exports during 2011

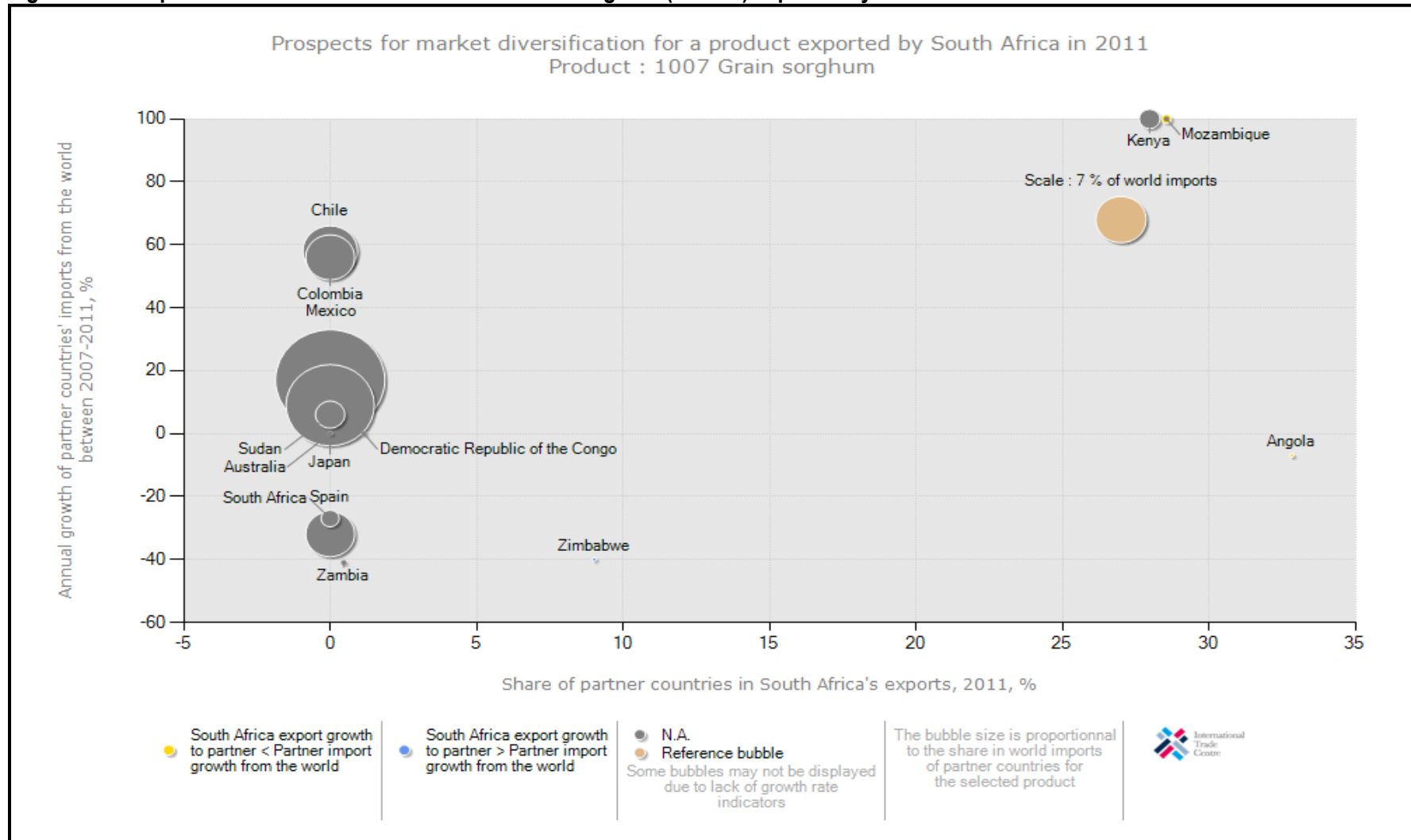
| Importers | Exported value 2011 (USD thousand) | Share in South Africa's exports (%) | Exported quantity 2011 (Ton) | Unit value (USD/Ton) | Exported growth in value between 2007-2011 (% p.a.) | Exported growth in quantity between 2007-2011 (% p.a.) | Exported growth in value between 2010-2011 (% p.a.) |
|------------|------------------------------------|-------------------------------------|------------------------------|----------------------|---|--|---|
| World | 865 | 100 | 1 092 | 792 | -7 | -5 | -52 |
| Angola | 284 | 32.8 | 260 | 1 092 | -7 | 7 | - |
| Mozambique | 247 | 28.6 | 270 | 915 | 70 | 59 | 184 |
| Kenya | 242 | 28 | 512 | 473 | - | - | - |
| Zimbabwe | 78 | 9 | 36 | 2 167 | -32 | -49 | -55 |
| DRC | 10 | 1.2 | 4 | 2 500 | - | - | - |
| Zambia | 4 | 0.5 | 10 | 400 | -47 | -42 | 0 |

Source: ITC Trade Map

South Africa exported a total of 1 092 tons of grain sorghum to the world during the year 2011. Table 8 and Figure 18 indicate that the greatest quantity of grain sorghum was exported to Angola, Mozambique, Kenya and Zimbabwe. These five major export destinations commanded the greatest share of South Africa's grain sorghum exports during the year 2011 as stated above. It is clear from the table (Table 8) and the figure (Figure 18) that grain sorghum exports from South Africa to the world declined by 40% (in value terms) between the years 2007 and 2011.

Figure 18 also illustrate the prospects for market diversification for grain sorghum exported by South Africa in 2010. As demonstrated in the figure, Angola is a destination for the largest proportion of South Africa's total grain sorghum exports, followed by Mozambique and Kenya. Figure 18 further shows that if South Africa wishes to diversify its exports of grain sorghum, potential markets exists in Sudan, Australia, Colombia, Mexico and Chile as these countries have significantly increased their imports of grain sorghum from world between the years 2007 and 2011.

Figure 18: Prospects for market diversification for Grain Sorghum (100700) exported by South Africa in 2011



Source: ITC Trade Map

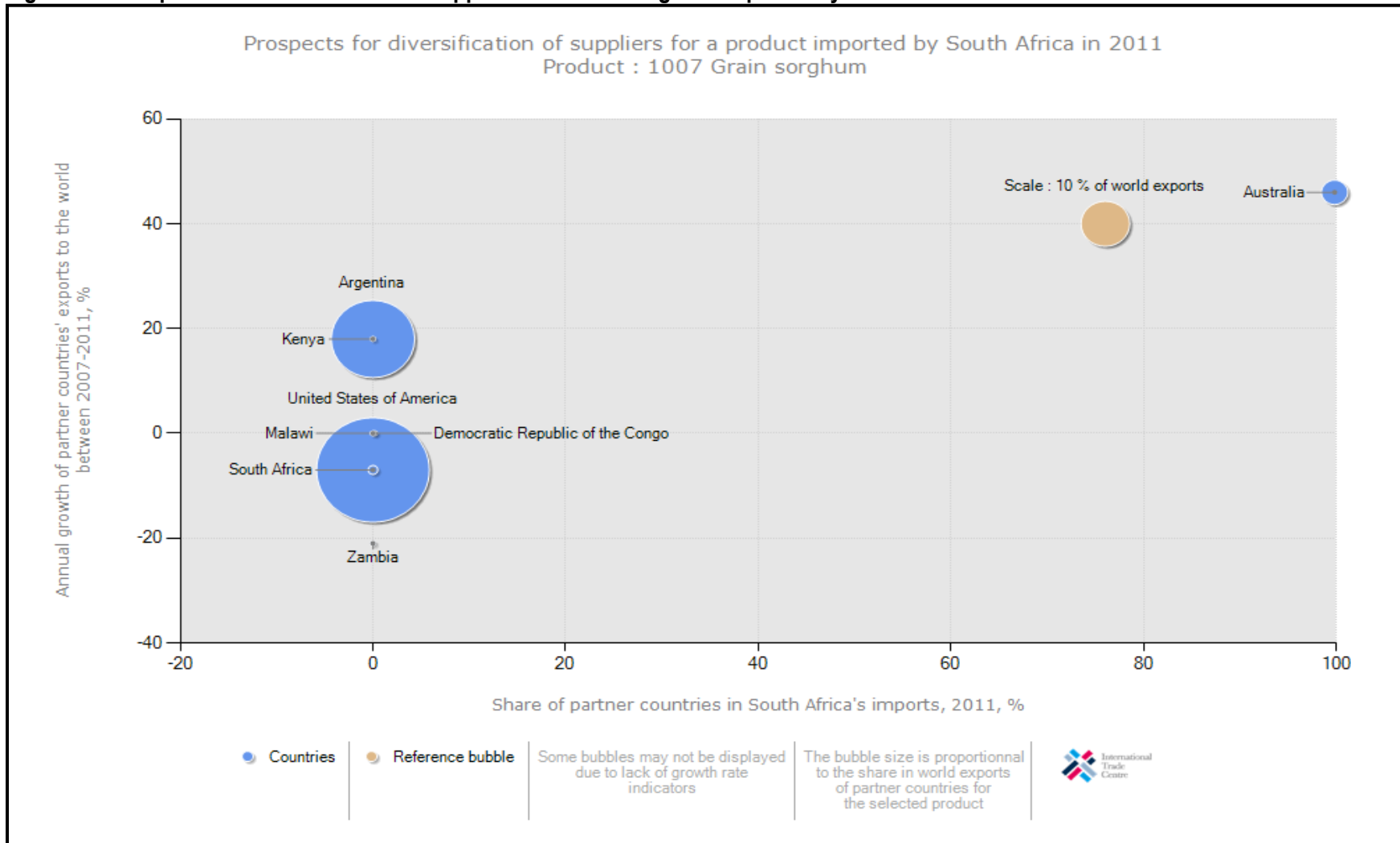
Table 9: Grain sorghum imports during 2011

| Exporters | Imported value in 2011 (thousand US\$) | Share in SA's imports (% p.a.) | Imported quantity in 2011 (tons) | Unit value (US\$/unit) | Imported growth in value between 2007 and 2011 (% p.a.) | Imported growth in quantity between 2007 and 2011 (% p.a.) | Imported growth in value between 2010-2011, %, p.a. |
|-----------|--|--------------------------------|----------------------------------|------------------------|---|--|---|
| World | 11 181 | 100 | 35 087 | 319 | -27 | -36 | 111 710 |
| Australia | 11 158 | 99.8 | 35 004 | 319 | - | - | - |
| Malawi | 21 | 0.2 | 69 | 304 | - | - | 133 |

Source: ITC Trade Map

Table 9 and Figure 19 show the level of grain sorghum imports for South Africa for the year 2011. The table demonstrates that Malawi was the major exporter of grain sorghum to South Africa during the year 2011 followed by Australia. South Africa imported 11 158 tons from Australia and 21 ton from Malawi during the year 2011. Imports of grain sorghum into South Africa declined by 27% and 36% in value and volume respectively between the years 2007 and 2011. Figure 19 also shows that, if South Africa wished to diversify its grain sorghum import base the prospective markets exist in United States of America, Argentina and Zambia.

Figure 19: Prospects for diversification of suppliers for Grain Sorghum imported by South Africa in 2011



Source: ITC Trade Map

6. ORGANIZATIONAL ANALYSIS

Table 10: SWOT Analysis – Industrial malt and commercial malt

| Strengths | Weaknesses |
|--|--|
| <ul style="list-style-type: none"> • Sorghum beer is a well established product as a traditional drink closely associated with culture and heritage of many South Africans, • Industrially brewed sorghum beer has a low alcohol content, • When sorghum beer is used in moderation, it can make a substantial contribution to a consumer’s diet. | <ul style="list-style-type: none"> • There is a shrinking market for sorghum beer as consumers move towards drinking clear beer when their incomes increase, • The promotion drive is low; not much is spent on promotion of malt, • The distribution system has to be very reliable and flexible in order to make drinkable sorghum beer available to consumers within the shortest time to avoid spoilage, • Image: unless perceptions can be changed, declining consumption could continue, • Quality can sometimes be poor. The poor quality of sorghum malt has resulted in traditional African beer brewers partially substituting industrial enzymes for sorghum malt, thereby reducing the demand for the malt. |
| Opportunities | Threats |
| <ul style="list-style-type: none"> • Capacity in the market – sorghum is the best alternative to barley for lager beer brewing, • A marketing campaign could promote consumption, • New entrants ensure more exposure, to the benefit of the entire market, • Dietary features are considerably better than in other alcoholic drinks, • Lager beer brewing where the starch component is sorghum may boost demand, | <ul style="list-style-type: none"> • Enzymes: industrial enzymes used in the place of sorghum malt • Price • Substitutes • Image |

Source: NAMC

Table 11: SWOT analysis – Sorghum meal

| Strengths | Weaknesses |
|---|---|
| <ul style="list-style-type: none"> • Familiar African product, • Nutritious and healthy product: sorghum is processed into a variety of attractive and nutritious traditional foods, • Capacity for market expansion, • Growing market as consumption is increasing, • Not genetically modified, • Non-allergenic and gluten free. | <ul style="list-style-type: none"> • VAT on sorghum meal, • Unknown by some consumers, • Price fluctuations: generally high processing costs, • Promotional drive: it is difficult to change into a symbol of prosperity while being associated with poor and marginal areas. |
| Opportunities | Threats |
| <ul style="list-style-type: none"> • Government and institutional markets: feeding schemes; research is essential to unleash sorghum’s capacity to be the cornerstone of food security, • Requests for the removal of VAT continue to be made, • Promotion: sorghum’s anti-oxidant benefits are currently being investigated, • Exports: a dependable supply and good quality of sorghum can gain export markets, • Gluten free, • Fortification: research is undergoing to develop a ‘super sorghum’ with improved nutritional traits, • Value added products such as Morvite are attractive to both manufacturers and consumers. | <ul style="list-style-type: none"> • Substitutes, • Excluded from school feeding schemes in some provinces, |

Source: NAMC

Table 12: SWOT analysis – Sorghum in animal feed

| Strengths | Weaknesses |
|---|---|
| <ul style="list-style-type: none"> • Attractive in mixed fowl feeds, • Non-GM: non-GM animal feed will possibly be important in the future, • Non-allergenic and gluten free | <ul style="list-style-type: none"> • VAT on sorghum, • Large differential in price between food and feed value, • Lower energy value than maize. |
| Opportunities | Threats |
| <ul style="list-style-type: none"> • Multigrain animal feeds for niche market animal products, • Continued requests for the removal of VAT. | <ul style="list-style-type: none"> • Erratic supply of sorghum, • Lack of additional silo bins at feed mills to handle sorghum, • Animal producers' perceptions of feeding value of sorghum. |

Source: NAMC

7. ACKNOWLEDGEMENTS

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Quantec Easy Data
www.quantec.co.za

ITC Market Access Map
www.macmap.org/SouthAfrica

ITC Trade Map
www.trademap.org

National Agricultural Marketing Council
www.namc.co.za

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