

**A PROFILE OF THE SOUTH AFRICAN HEMP MARKET VALUE CHAIN**

**2011**

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## RECENT DEVELOPMENTS

The European Union and many South African Companies are planning a R25 million five year project to boost hemp cultivation in South Africa. Projects are being discussed in the Eastern Cape for sustainable hemp production that will produce jobs and income in an already impoverished and poverty-stricken area. Demand for hemp products worldwide has increased by 233% over the past two years and yearly South African Hemp imports have grown from R500 000 to R1-million rands in the last year.

### 1. DESCRIPTION OF THE INDUSTRY

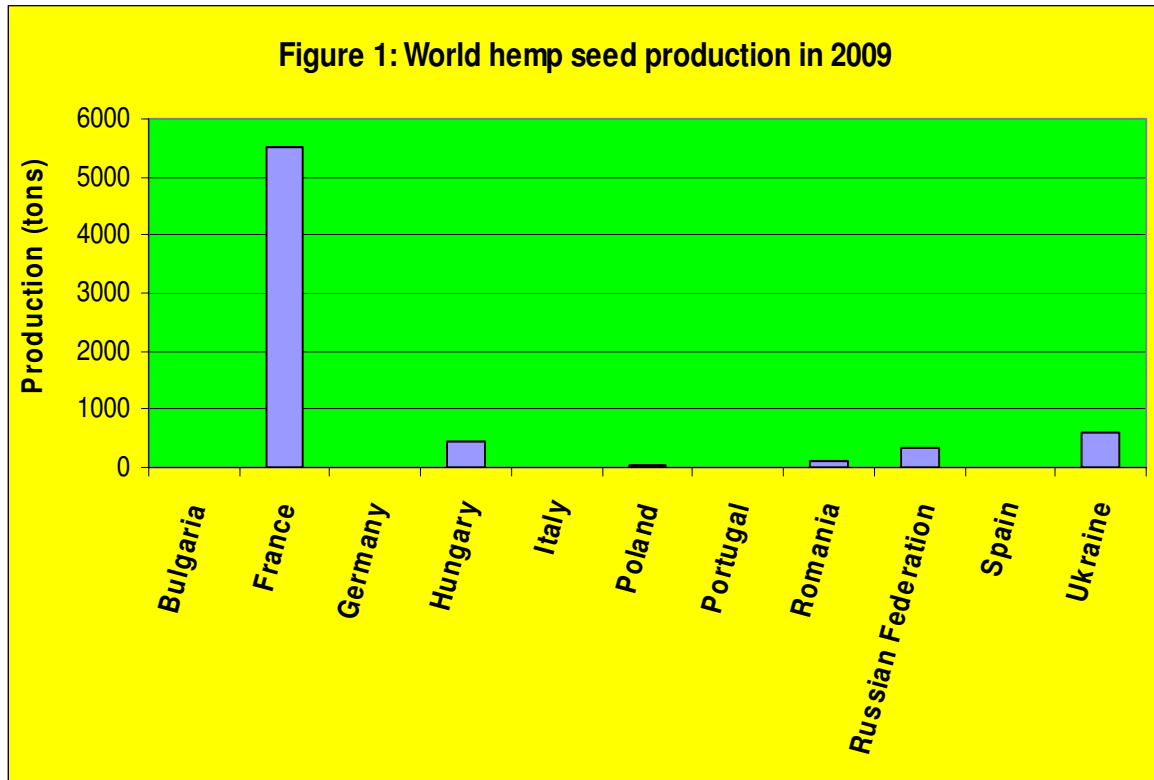
Hemp is one of the most important fiber crops both for South Africa and the rest of the world. It has been cultivated longer than any other fiber crop. There seems to be never-ending list of benefits of the hemp plant with products ranging from clothing and textile to cosmetics and insulating boards. However it is the perceived relationship with Marijuana that gave the plant a bad name. Both come from the plant family *Cannabis sativa* L., but from different varieties. Hemp has been grown in South Africa for medical purposes for centuries. It has been illegal in South Africa since 1903 when dagga prohibition was passed.

The South African government and the private sector are presently engaged in a process of trying to sort out the hemp legislation to create an environment in which this product can be commercialized. The product is currently grown in South Africa mainly for the experimental or research purposes.

#### 1.1 Production Areas

Hemp is widely distributed in Southern Africa. The first trials were planted in the North West Province in ARC experimental farm near Rustenburg. The other trials were planted by ARC-Institute for Industrial Crops in the Eastern Cape and Western Cape, Limpopo, Gauteng, Mpumalanga, KwaZulu-Natal and Northern Cape. The largest producers of hemp in the world are countries in Eastern Europe (Romania and Poland) and China. At least 26 countries permit commercial cultivation of hemp, UK and Germany being the biggest producers of hemp in Western Europe.

## 1.2 Global Hemp Production



Source: Food and Agriculture Organization

Figure 1 illustrates world hemp seed production in 2009 year. The graph further illustrates that France was the largest producer of hemp globally followed by Ukraine then Hungary. During the same period under review, France produced approximately 5 500 tons of hemp seed while Ukraine produced around 700 tons f hemp seed during the same period. The figure also shows that Bulgaria, Germany, Italy, Spain and Portugal had zero hemp seed production during the same period under scrutiny. The figure also illustrates that non of the African countries are producing seed hemp in 2009 year due to legislative issues surrounding the production of hemp especially in South Africa.

## 2. MARKET STRUCTURE

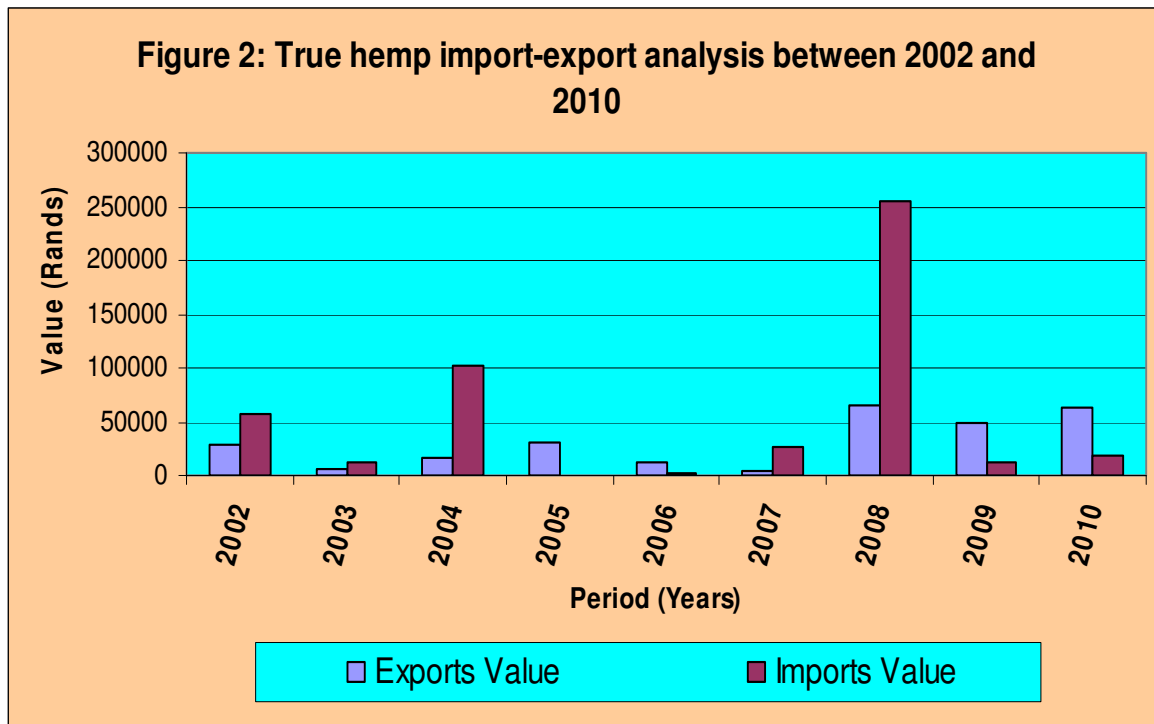
### 2.1. Domestic Market and Prices

In South Africa not enough hemp is produced for the local market due to legislative barriers. There is an existing market in South Africa for imported hemp products, mainly hemp textiles. Several hemp products, such as clothing, soaps, and shampoo, are manufactured in South Africa from imported raw materials.

There is also potential demand in some other segments of the local market, such as, for example, hemp based composite materials.

## 2.2. Import-Export Analysis

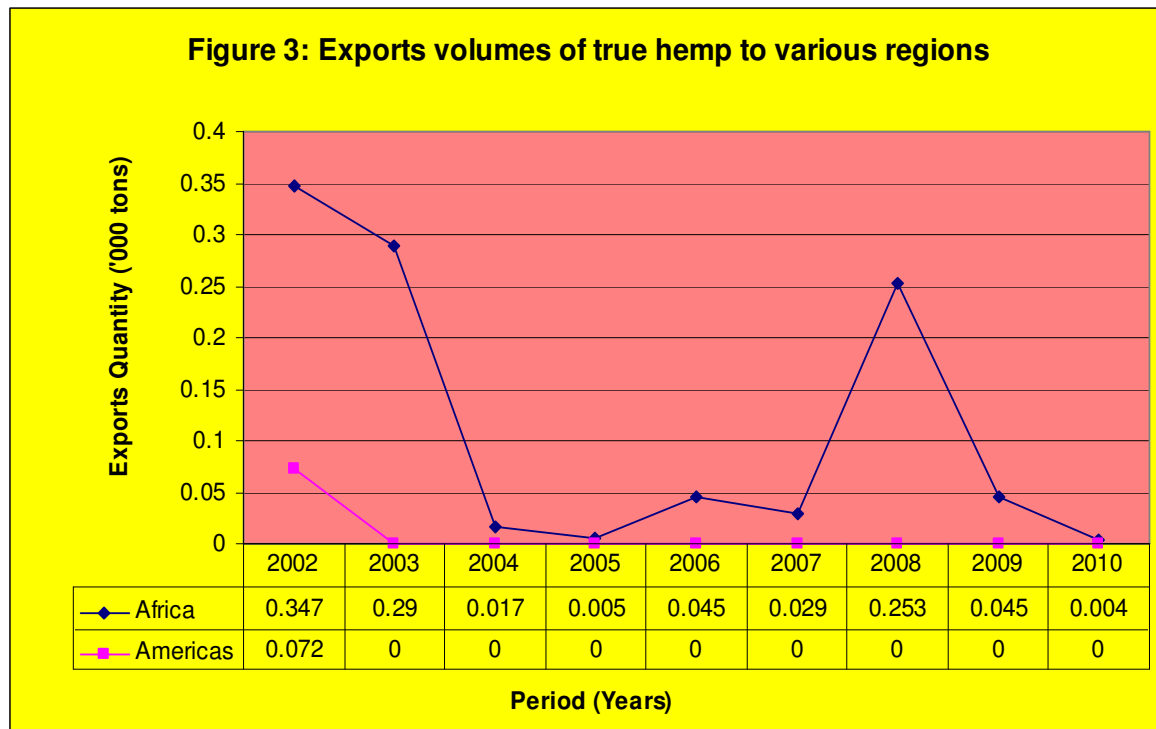
Exports and Imports of true hemp from 2002 to 2010 are compared in Figure 2 below.



Source: Quantec Easy Data

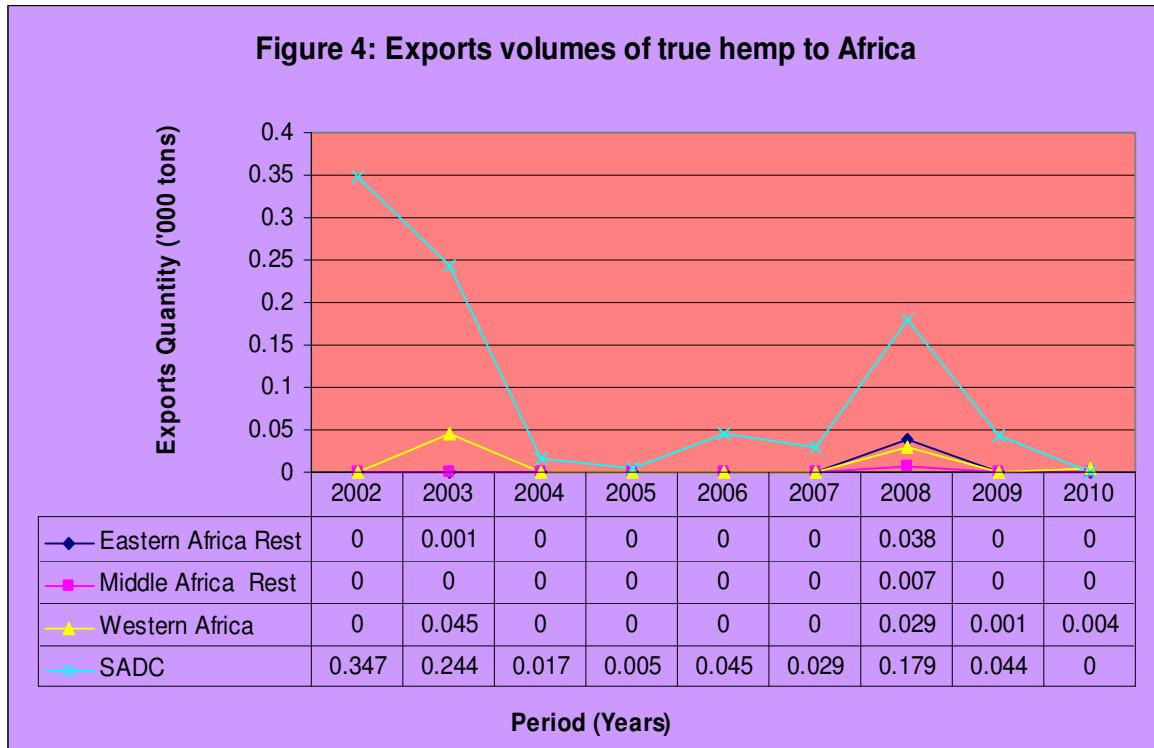
Figure 2 indicates true hemp exports from South Africa to the world and true hemp imports from the world into South Africa between 2002 to 2010 period. In the graph above, it is clear that South Africa is a net importer of hemp (mainly hemp fiber and seed) and this is due to the low level of production in the country resulting from the fact that hemp production is not legal in South Africa. Although hemp is not legitimately produced in the country, its products are in high demand, leading our manufacturers to buy it as raw material from countries where it is produced in larger amounts and legally. It appears from Figure 2 that from the year 2002, South Africa imported raw hemp fiber and seed for processing purposes and then exports the processed products. Throughout the period under examination, the value of hemp exports has been below R50 000, except in 2008 and 2010 when prices were good in hemp exports. Also interesting to note was that in 2002, 2004, and 2008 years, hemp import values proved to be far beyond export values.

### 3. HEMP EXPORTS



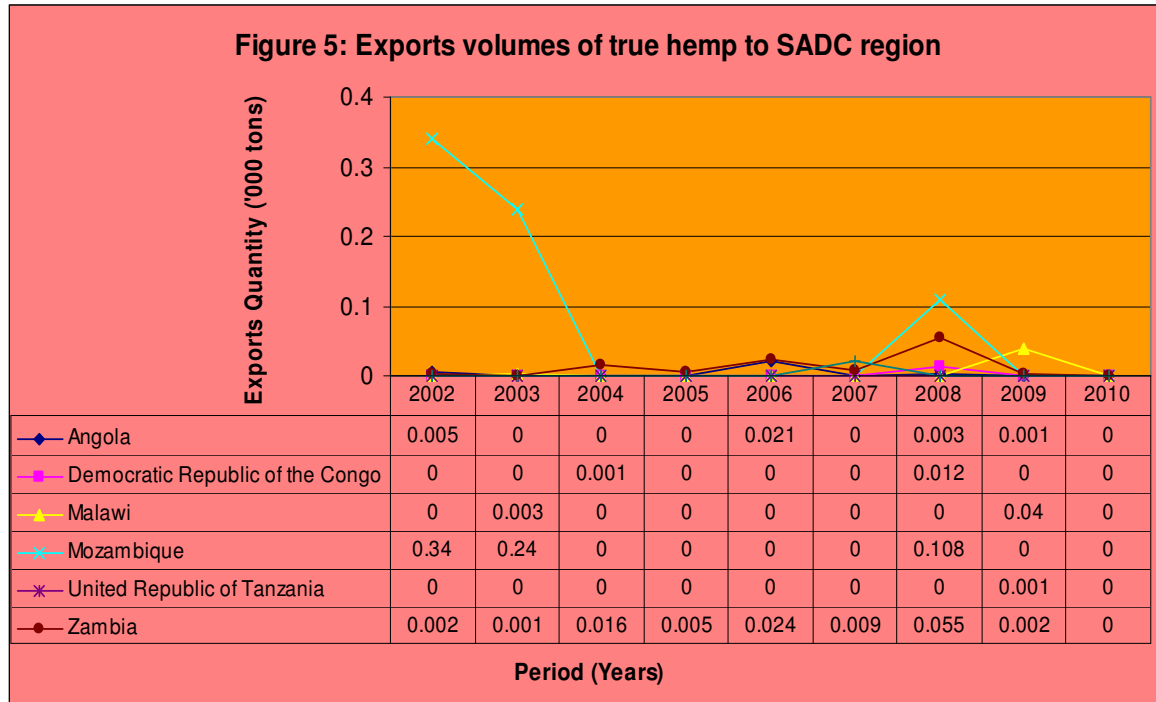
**Source: Quantec Easy Data**

Figure 3 depicts volumes of true hemp exports from South Africa to various regions of the world between 2002 and 2010 period. During the same period under review, South Africa has been exporting its hemp products mainly to the African continent with no competition from the other regions. A peak in volumes of exports of true hemp products occurred in 2002 at approximately 0.347 tons. Exports volumes of hemp started to increase in 2002 until a decline in 2003 to 2007 years. A surge of exports took place in 2008 and then a decline occurred in 2009 with a dramatic decline in 2010 year. The graph further depicts that South Africa managed to export low volumes of hemp to Africa between 2004 and 2007 of not more than 0.05 tons. Between 2003 and 2010 of the period under scrutiny, there were no true hemp exports from South Africa to the Americas.



**Source: Quantec Easy Data**

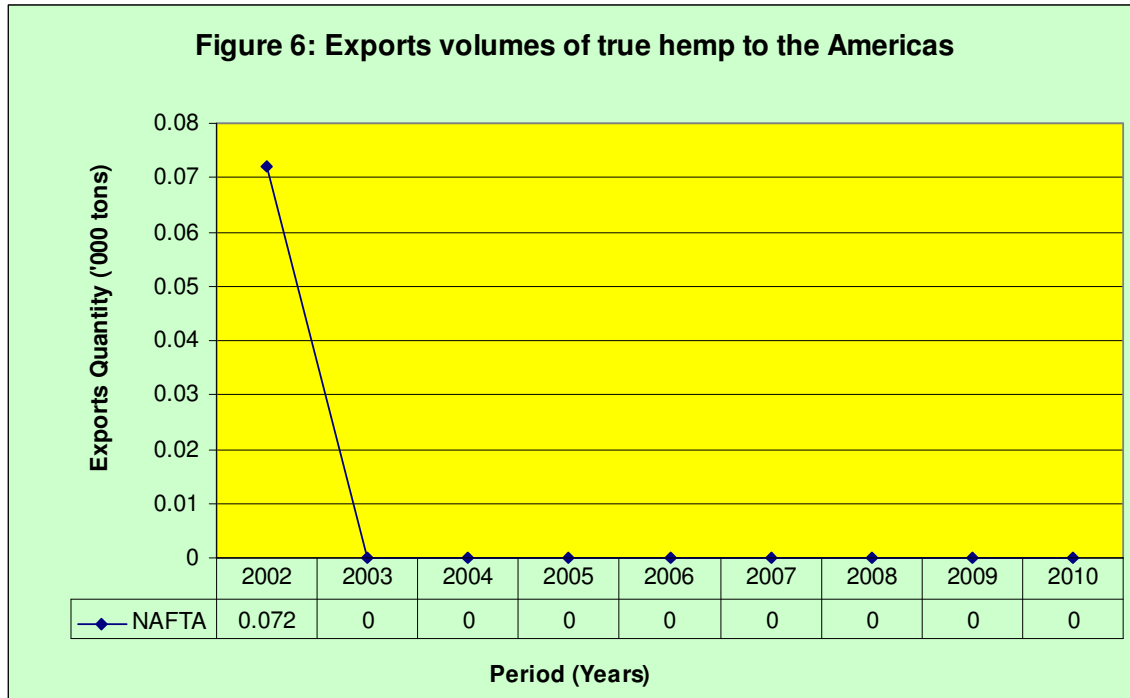
Figure 4 shows volumes of true hemp exports from South Africa to Africa between 2002 and 2010 period. The figure further shows that South African produced hemp products were exported mainly to the SADC region. This can be ascribed to the fact that there's preferential tariff agreement between SADC and South Africa making it cheaper to export to them than to other regions. Exports volumes of hemp from South Africa to SADC started to increase in 2002 and during the same period attained a peak at approximately 0.347 tons and again in 2008 at approximately 0.179 tons. The figure also shows that between 2004 and 2007 of the period under scrutiny, there were no hemp exports from South Africa to Eastern Africa, Middle Africa and Western Africa.



**Source: Quantec Easy Data**

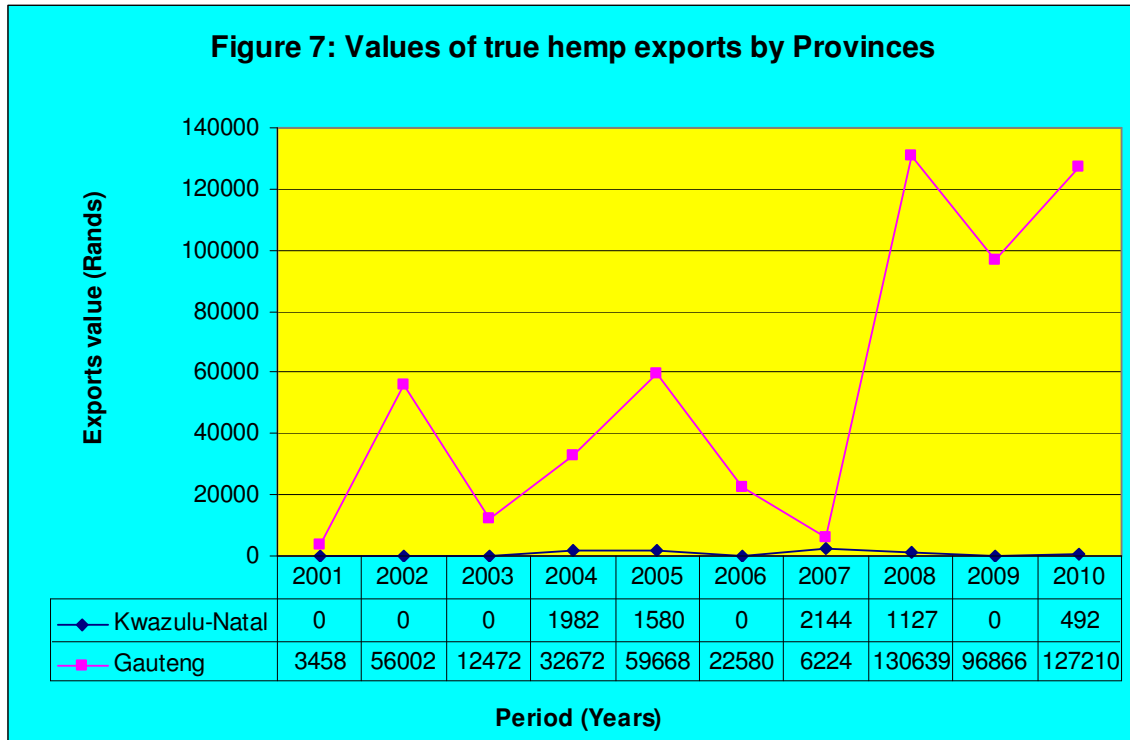
Figure 5 illustrates volumes of true hemp exports from South Africa to the SADC region between 2002 and 2010 period. During the period under review, the major market for South African produced hemp exports was mainly Mozambique. This can be ascribed to the fact that there's preferential tariff agreement between South Africa and SADC countries making it cheaper to export to them than to other countries. Exports volumes of hemp from South Africa to Mozambique started to increase in 2002 and during the same period attained a peak at approximately 0.34 tons; exports volumes of hemp from South Africa to Mozambique also attained a peak in 2008 at approximately 0.108 tons. The figure also illustrates that between 2004 and 2007 of the period under review, there were no hemp exports from South Africa to Malawi and Mozambique. Between 2002 and 2008 there were no hemp exports from South Africa to United States of Tanzania. The figure also illustrates that during 2010 year, South Africa did not export hemp to the SADC region due to very low levels of production in South Africa.





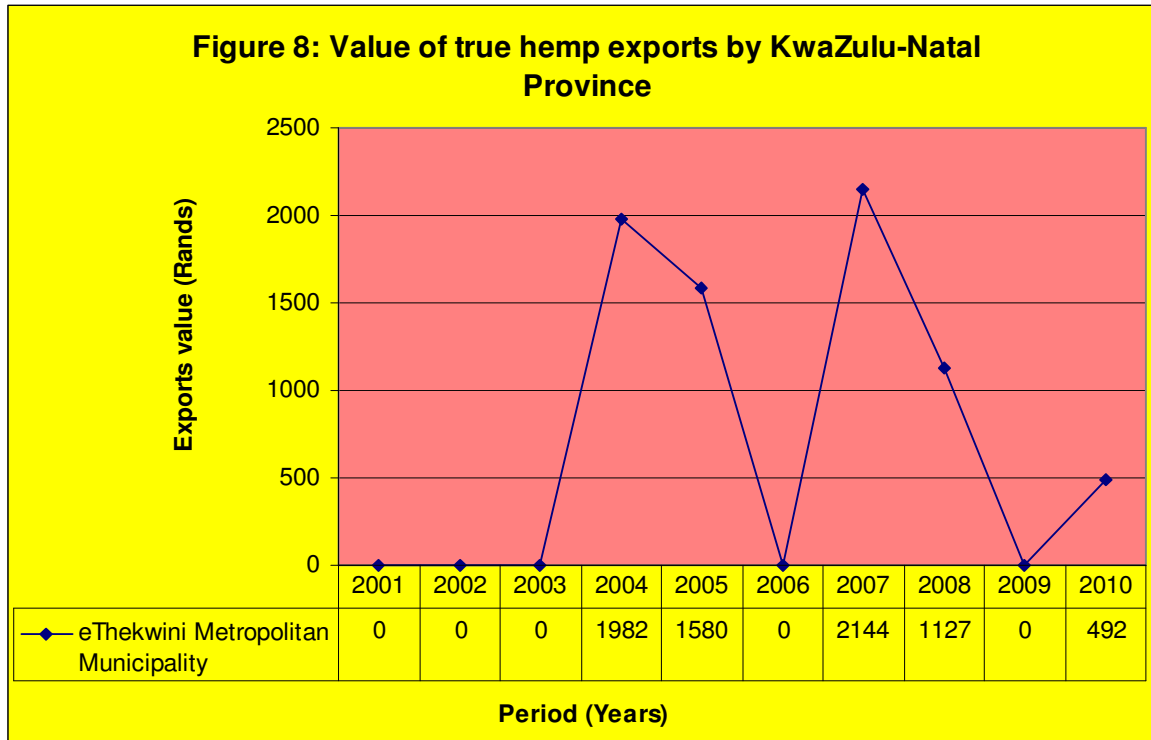
**Source: Quantec Easy Data**

Figure 6 indicates volumes of true hemp exports from South Africa to the Americas between 2002 and 2010 period. The major market for true hemp from South Africa was mainly NAFTA region during the period under examination. Exports volumes of true hemp from South Africa to NAFTA started to increase in 2002 and during the same period attained a peak at approximately 0.072 tons and this can be ascribed to the fact that there's preferential tariff agreement because South Africa is a member of SADC and SACU, that's making it cheaper to export to these countries than to other regions and to other countries. On the other hand it could be as a result of SADC Free Trade Agreement which allows South Africa to export hemp products to any SADC country free of duty. Between 2003 and 2010 years, there were no exports of hemp from South Africa to NAFTA region.



**Source: Quantec Easy Data**

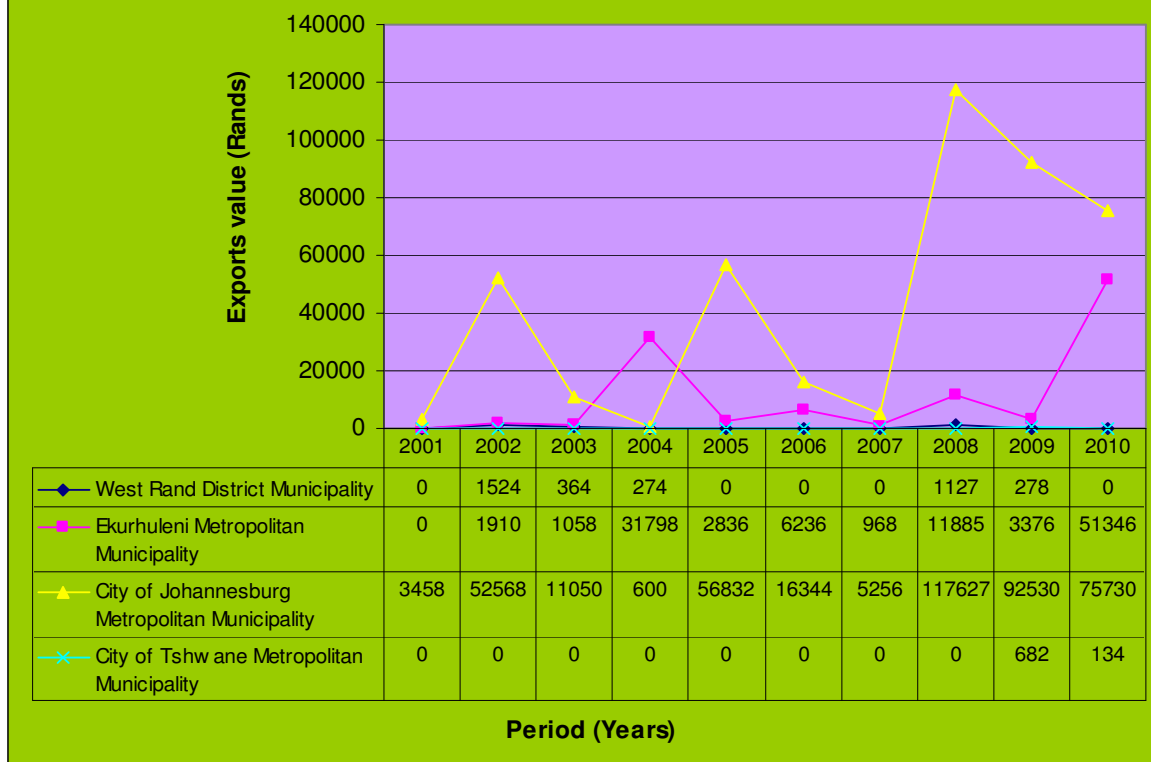
Figure 7 depicts volumes of true hemp exports originating from Provinces of South Africa to the world over the past ten years. The graph further depicts that during the period under review, the major supplier of true hemp from South Africa to the world was Gauteng Province followed by very low levels of supply from KwaZulu-Natal province. Exports of true hemp from South Africa to the world started to increase in 2002 and then a decline occurred in 2003. In 2004 and 2005 exports of true hemp started to increase again and then a decline in 2006 and 2007 due to low levels of production in South Africa. Exports of true hemp from Gauteng province to the world attained a peak in 2008 and in 2010 at approximately R130 639.00 and R127 210.00 respectively. The figure also depicts that in 2009, there was a slight decline in exports of true hemp from Gauteng province to approximately R96 866.00.



**Source: Quantec Easy Data**

Figure 8 shows values of true hemp exports by KwaZulu-Natal Province to the world between 2001 and 2010 period. The graph further shows that during the same period under review, the major supplier of true hemp from KwaZulu-Natal to the world was eThekweni Metropolitan Municipality with no competition from the other municipalities. The figure also shows that exports of true hemp from eThekweni Metro Municipality to the world attained a peak in 2004 and in 2007 at an export value of about R1 982.00 and R2 144.00 respectively. In 2001, 2002, 2003, 2006 and 2009, there were no exports of true hemp from eThekweni Metro Municipality to the world due to short supply in the province.

**Figure 9: Values of true hemp exports by Gauteng Province**



**Source: Quantec Easy Data**

Figure 9 indicates values of true hemp exports from Gauteng Province to the world between 2001 and 2010 period. The figure further indicates that during the same period under examination, the major suppliers of true hemp from Gauteng was City of Johannesburg Metro followed by Ekurhuleni Metro. The graph also indicates that exports of true hemp from City of Johannesburg started to increase in 2002 and then declined in 2003 and 2004. In 2005 exports of true hemp from the City of Johannesburg Metro to the world started to increase again and then declined in 2006 with a dramatic decline in 2007 until an increase and a peak was attained in 2008 at an exports value of approximately R117 627.00. The figure also indicates that exports of true hemp from Ekurhuleni Metro attained a peak in 2010 at an export value of approximately R51 348.00. During the period under examination, the City of Tshwane Metro managed to export true hemp only in 2009 and 2010 years.

### 3.1 Share Analysis

**Table 1: Share of provincial exports to the total RSA hemp exports (%)**

Years Province	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
KwaZulu-Natal	0	0	0	5.72	2.58	0	25.62	0.86	0	0.39
Gauteng	100	100	100	94.28	97.42	100	74.38	99.14	100	99.61

**Source: Calculated from Quantec Data**

As shown in Table 1, Gauteng and KwaZulu-Natal were the main hemp-exporting provinces in South Africa between 2001 and 2010 period. The table further shows that the Gauteng Province commanded the greatest share of hemp exports over the KwaZulu-Natal Province during the past ten years.

**Table 2: Share of district hemp exports to the total KwaZulu-Natal provincial hemp exports (%)**

Years District	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
eThekweni Metro Municipality	0	0	0	100	100	0	100	100	0	100

**Source: Calculated from Quantec Data**

Table 2 indicates that during the period under review eThekweni Metropolitan Municipality commanded the greatest share of exports of processed hemp products from KwaZulu-Natal province with the exception of 2001, 2002, 2003, 2006 and 2007 years.

**Table 3: Share of district hemp exports to the total Gauteng provincial hemp exports (%)**

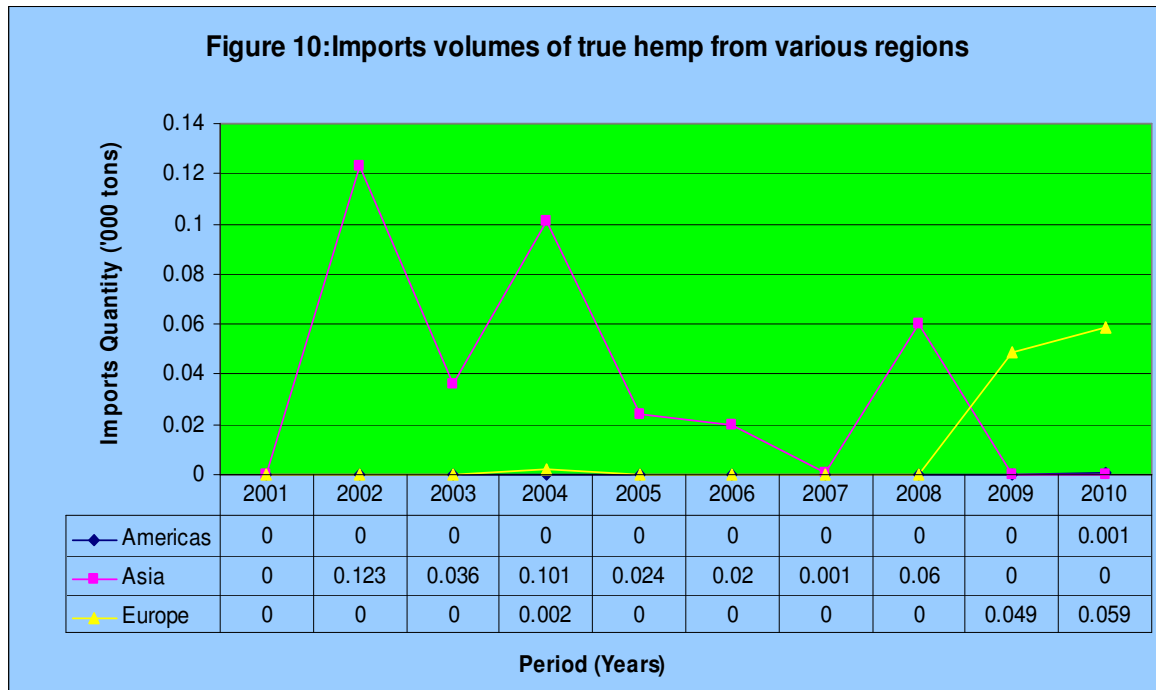
Years District	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
West Rand District	0	2.72	2.92	0.84	0	0	0	0.86	0.29	0
Ekurhuleni Metro	0	3.41	8.48	97.32	4.75	27.62	15.55	9.10	3.49	40.36
City of Johannesburg	100	93.87	88.60	1.84	95.25	72.38	84.45	90.04	95.52	59.53
City of Tswane Metro	0	0	0	0	0	0	0	0	0.70	0.11

**Source: Calculated from Quantec Data**

Table 3 indicates that during the period under review the City of Johannesburg Metropolitan Municipality commanded the greatest share of exports of processed hemp products from Gauteng province with the exception of 2004 year while the Ekurhuleni Metropolitan Municipality commanded the greatest share in the year 2004. The West Rand District Municipality's share of processed hemp products was very low with no exports recorded in 2001, 2005 to 2007 and 2010 Years.

#### 4. HEMP IMPORTS

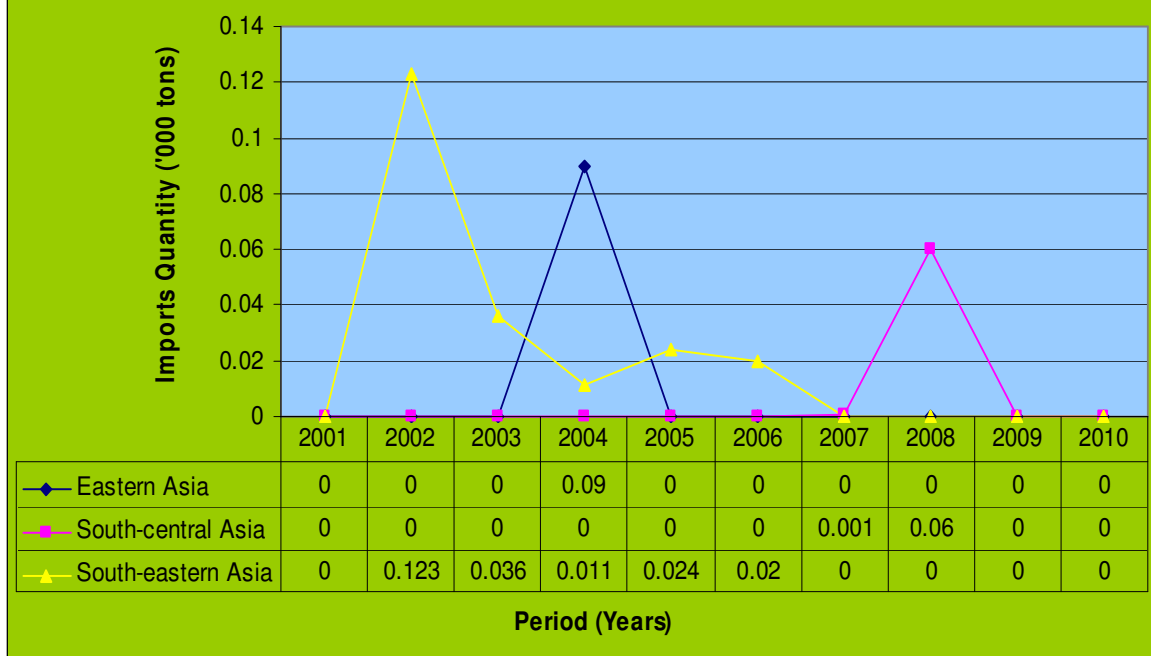
This section analyses the value of true hemp imports from various regions around the globe into South Africa from 2001 to 2010 period.



**Source: Quantec Easy Data**

Figure 10 shows volumes of true hemp imports originating from various regions into South Africa over the ten year period. The graph further shows that export markets for true hemp originated mainly from Asia and Europe. This is mainly because true hemp production in these regions has been legalized and is produced on a larger scale than in other regions. South Africa normally imports hemp raw materials from these countries for the manufacturing of the products such as clothing, soaps and shampoo (and other health care products). The figure also shows that in 2002 year, volumes of raw hemp imports from Asia into South Africa started to increase and during the same period attained a peak at approximately 0.123 tons while those from Europe attained a peak in 2010 at approximately 0.059 tons. The graph further shows that there were fluctuations in terms of hemp imports from Asia during the period under scrutiny. The figure also shows that between 2001 and 2009 years, there were no hemp imports from the Americas into South Africa while Europe only managed to supply South Africa with true hemp in 2004, 2009 and 2010 years.

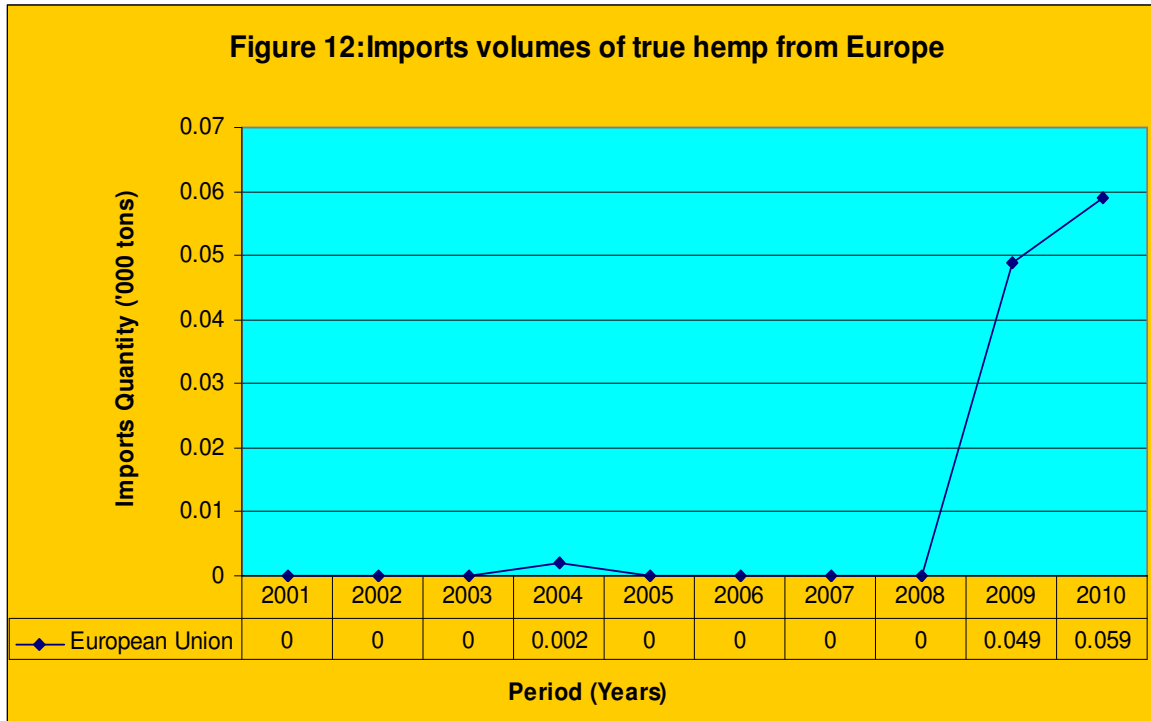
**Figure 11: Imports volumes of true hemp from Asia**



**Source: Quantec Easy Data**

Figure 11 illustrates volumes of true hemp imports from Asia into South Africa over a ten year term. The figure further illustrates that during the period under scrutiny, imports of hemp were mainly from South-eastern Asia followed by Eastern Asia and South-central Asia. Hemp is thought to have been growing in South-central Asia for more than 4500 years and records illustrates that the growing of this plant has never stopped in this continent since then, giving Asia a comparative advantage in the market. The graph further illustrates that there were fewer fluctuations in terms of hemp imports from South-eastern Asia during the period under review. Imports of true hemp from South-eastern Asia into South Africa started to increase in 2002 and during the same year attained a peak of approximately 0.123 tons while South Africa imported hemp from Eastern Asia at a peak of approximately 0.09 tons. Imports of true hemp from South-central Asia into South Africa attained a peak in 2008 at approximately 0.06 tons during the same period under examination.





**Source: Quantec Easy Data**

Figure 12 indicates volumes of true hemp imports from Europe into South Africa between 2001 and 2010 period. The figure further indicates that during the period under scrutiny, the major import market for hemp was mainly from the European Union. South Africa imported hemp raw materials from the European Union with approximately 0.11 tons during the ten year period. In 2004 and 2009 years, imports of true hemp from European Union into South Africa started to increase though at low volumes of approximately 0.002 tons and 0.049 tons until a peak was attained in 2010 at approximately 0.059 tons.

## 5. MARKET INTELLIGENCE

**Table 4: List of importing markets for true hemp exported by South Africa to the world in 2010**

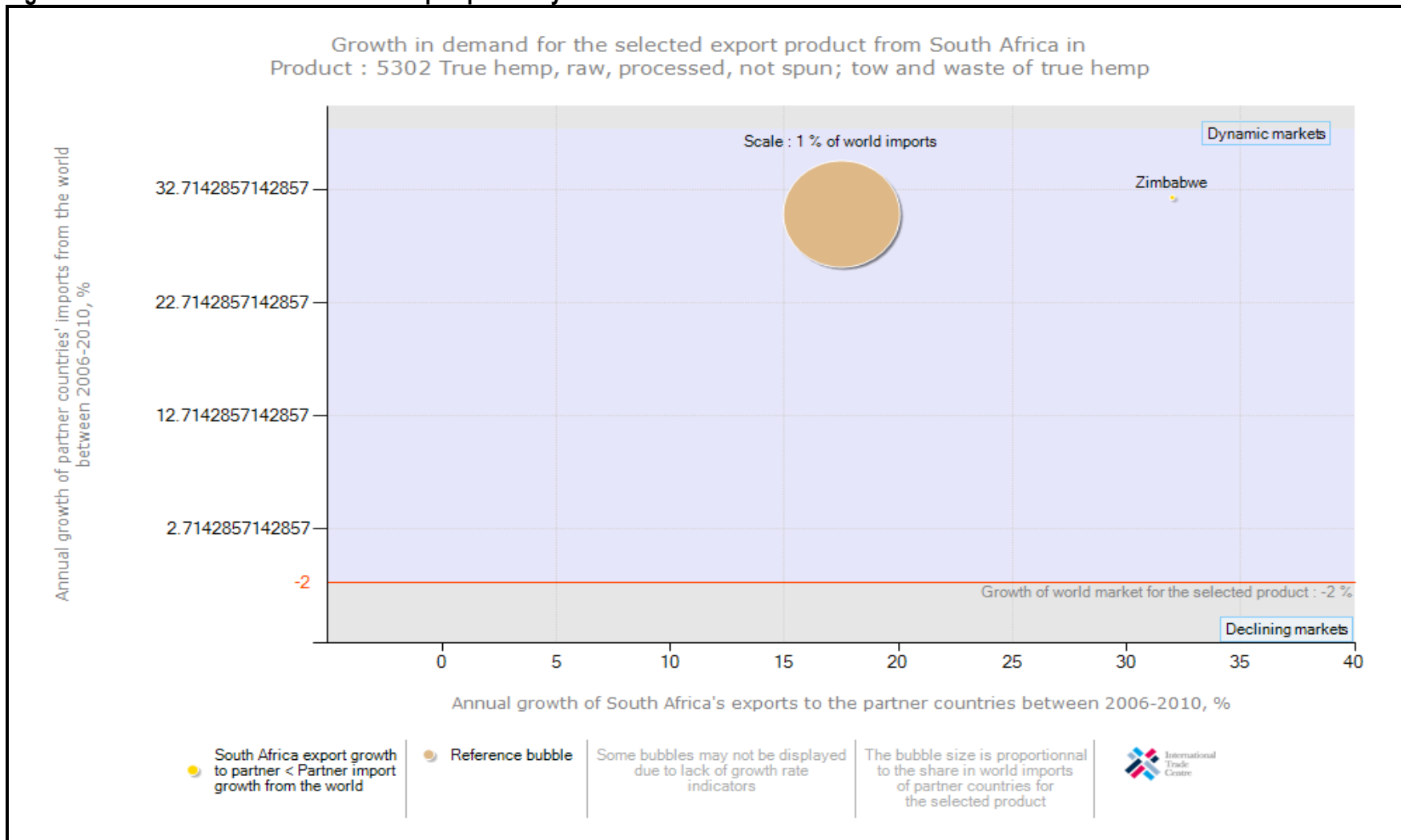
Importers	Trade Indicators							Tariff (estimated) faced by South Africa (%)
	Exported value 2010 (USD thousand)	Share in South Africa's exports (%)	Exported quantity 2010 (tons)	Unit value (USD/unit)	Exported growth in value between 2006-2010 (% p.a.)	Exported growth in quantity between 2006-2010 (% p.a.)	Exported growth in value between 2009-2010 (% p.a.)	
World	9	100	4	2250	62	41	50	
Mozambique	5	55.6	1	5000			25	0
Zimbabwe	4	44.4	3	1333	32			0

**Source: Quantec Easy Data**

Table 4 shows the list of importing markets for true hemp exported by South Africa to the world in 2010. The table further shows that the top importers for true hemp from South Africa were Mozambique and Zimbabwe during 2010 period. The table also shows that South Africa is a net exporter of true hemp although it managed to export only 4 tons of true hemp during the period under review.

The table further shows that Mozambique had a highest share in South Africa's exports of true hemp of about 55.6% during this period, as compared to 44.4% of Zimbabwe share in South Africa's exports of true hemp during the same period.

**Figure 13: Growth in demand for true hemp exported by South Africa in 2010**



Source: Trademap

Figure 13 depicts growth in demand for true hemp exports from South Africa to the world in 2010. The bubble graph further depicts that the annual growth of South Africa's exports true hemp to Zimbabwe increased between 2006 and 2010 period to approximately 33%. The figure also depicts that during the period under examination, Zimbabwe was a dynamic market for true hemp products from South Africa.

The annual growth of Zimbabwe imports from the world between 2006 and 2010 also increased.

**Table 5: List of supplying markets for true hemp imported by South Africa in 2010**

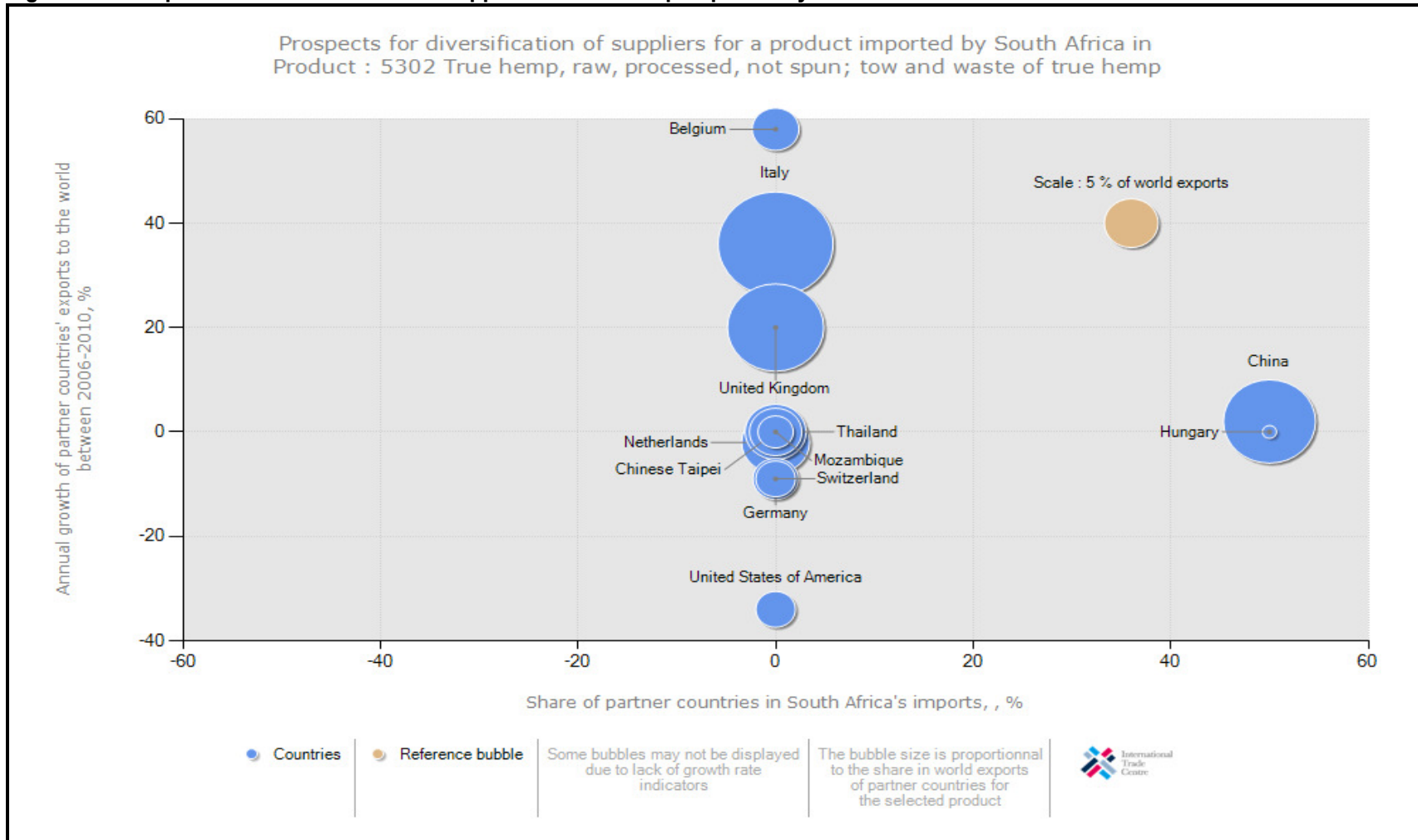
Exporters	Trade Indicators							Tariff (estimated) applied by South Africa (%)
	Imported value 2010 (USD thousand)	Share in South Africa's imports (%)	Imported quantity 2010 (tons)	Unit value (USD/unit)	Imported growth in value between 2006-2010 (%, p.a.)	Imported growth in quantity between 2006-2010 (%, p.a.)	Imported growth in value between 2009-2010 (%, p.a.)	
World	2	100	0	0	0	0	0	0
China	1	50	0	0	0	0	0	0
Hungary	1	50	0	0	0	0	0	0

**Source: Trade Map**

Table 5 confirms the list of supplying markets for true hemp imported by South Africa in 2010. The table further confirms that South Africa is a net exporter of true hemp during the 2010 period. The table also confirms that the top suppliers of true hemp from the world to South Africa were China and Hungary during 2010 period. The table further confirms that China had a highest share of about 50% in South Africa's imports of true hemp during this period, while Hungary had an equal share of about 50% in South Africa's imports of true hemp during the same period.

The table also confirms that South Africa did not import true hemp from the world during the 2010 period. The above mentioned countries are ranked through their share in South Africa's imports of true hemp and the imported value of US\$ 1 each country during the period 2010.

**Figure 14: Prospects for diversification of suppliers of true hemp imported by South Africa in 2010**



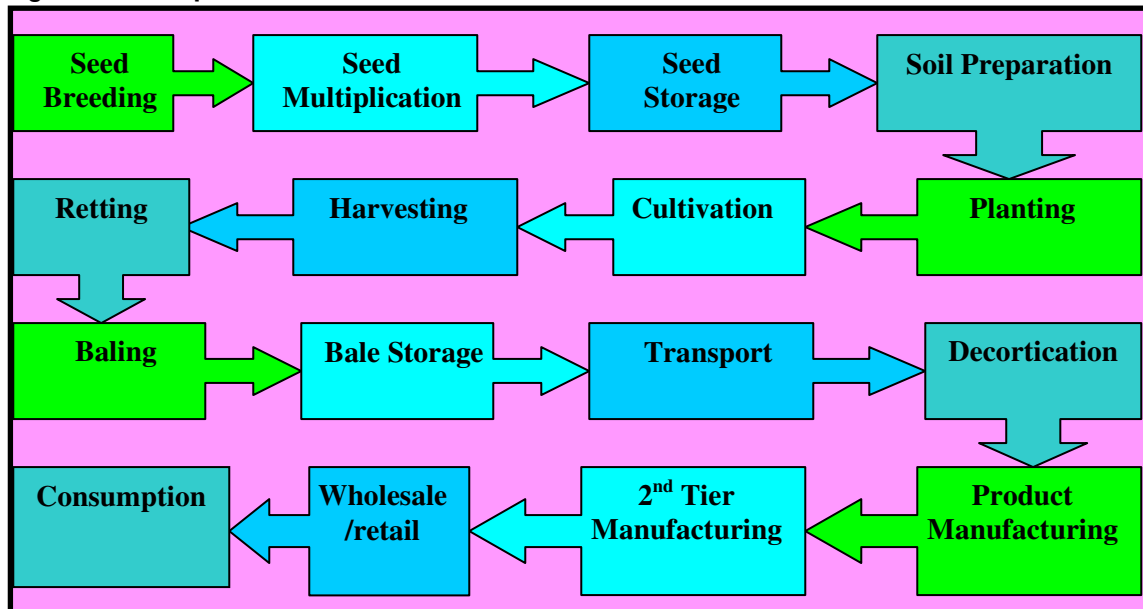
Source: Trademap

Figure 14 indicates prospects for diversification of suppliers of true hemp imported by South Africa from the world in 2010. The bubble graph further indicates that China and Hungary were the biggest suppliers of true hemp to South Africa during the period 2010, with a share of partner countries in South Africa's imports of approximately 50% each.

The graph also indicates that should South Africa decide to diversify its suppliers of true hemp imports, small but attractive markets exist in Belgium, Italy, Thailand and Mozambique during the period under review.

## 6. HEMP MARKET VALUE CHAIN

Figure 15: Hemp Market Value Chain

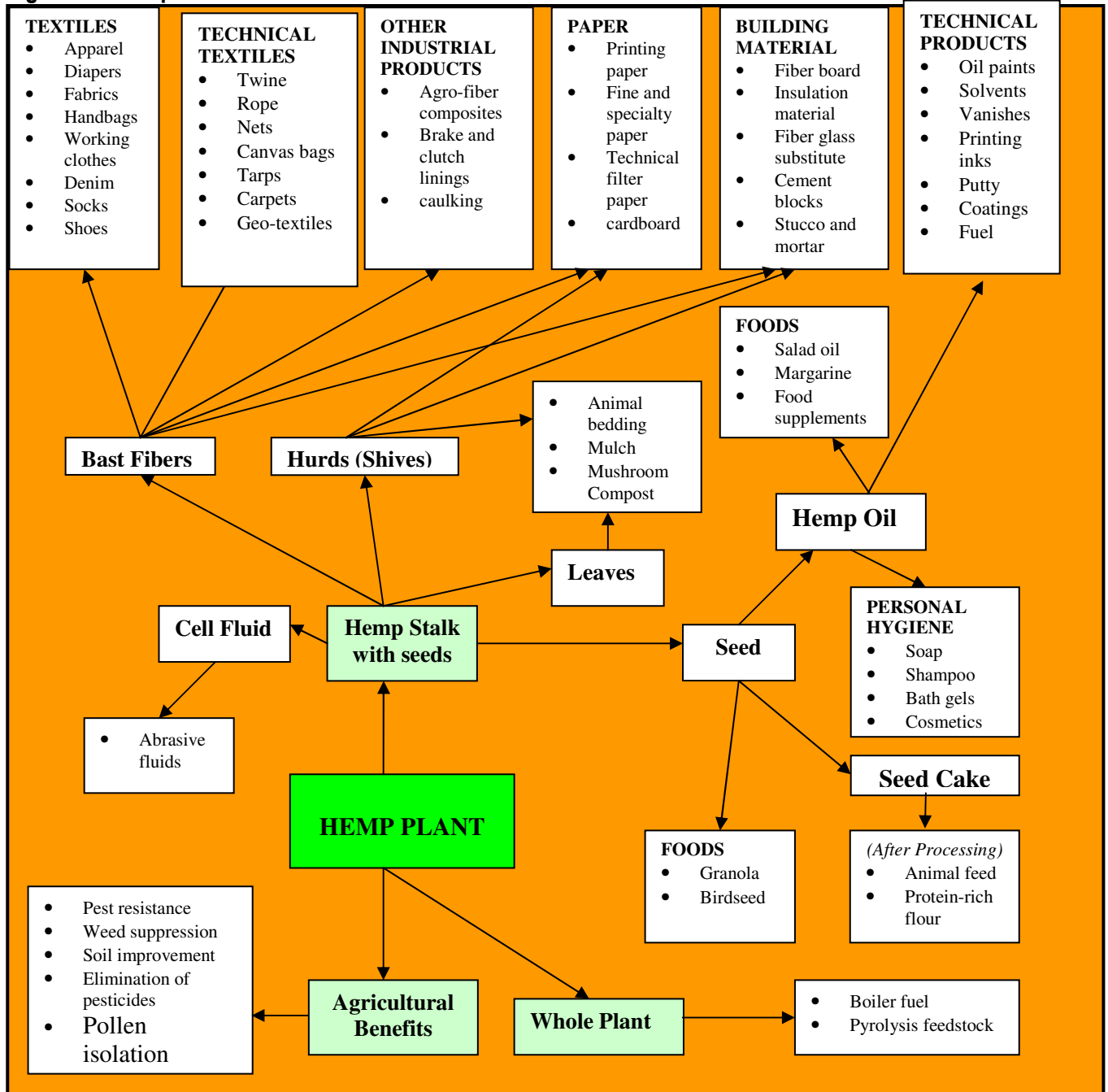


The hemp value chain begins with seed breeding and multiplication followed by seed storage, soil preparation and planting. After harvesting hemp, the bast fibers must be separated from the rest of the stalk and this is done through the process called retting. Once the stalks are retted, dried and baled, they are taken to a central location for processing. With mechanical process called breaking, stalks are pressed between fluted rollers to crush and break the woody core into short pieces (called hurds), separating some of it from the bast fibre. The remaining hurds and fibre are separated in a process called decortication with one machine called a decorticator. After this process various hemp raw materials are taken to the manufacturers who produce final hemp products such as bags, shoes, socks and cosmetics.



## 6.1 Hemp Value Chain Tree explaining its various uses

Figure 16: Hemp value chain tree



Source: Roulac (1997)

The markets for hemp products include high-end value added opportunities such as the oil and health food markets; woven and knitted textile such as carpets and apparel, moulded or pressed textiles; medium to low-end value adding opportunities such as pulp and paper, building materials, beverages, livestock feed and bedding and biomass fuels.

All parts of hemp plant can be used in the industry for manufacturing of various products. Whole stalk of the hemp plant can be used to make environmentally friendly paper, packaging material, cardboard, cigarette papers, filters and newsprint.

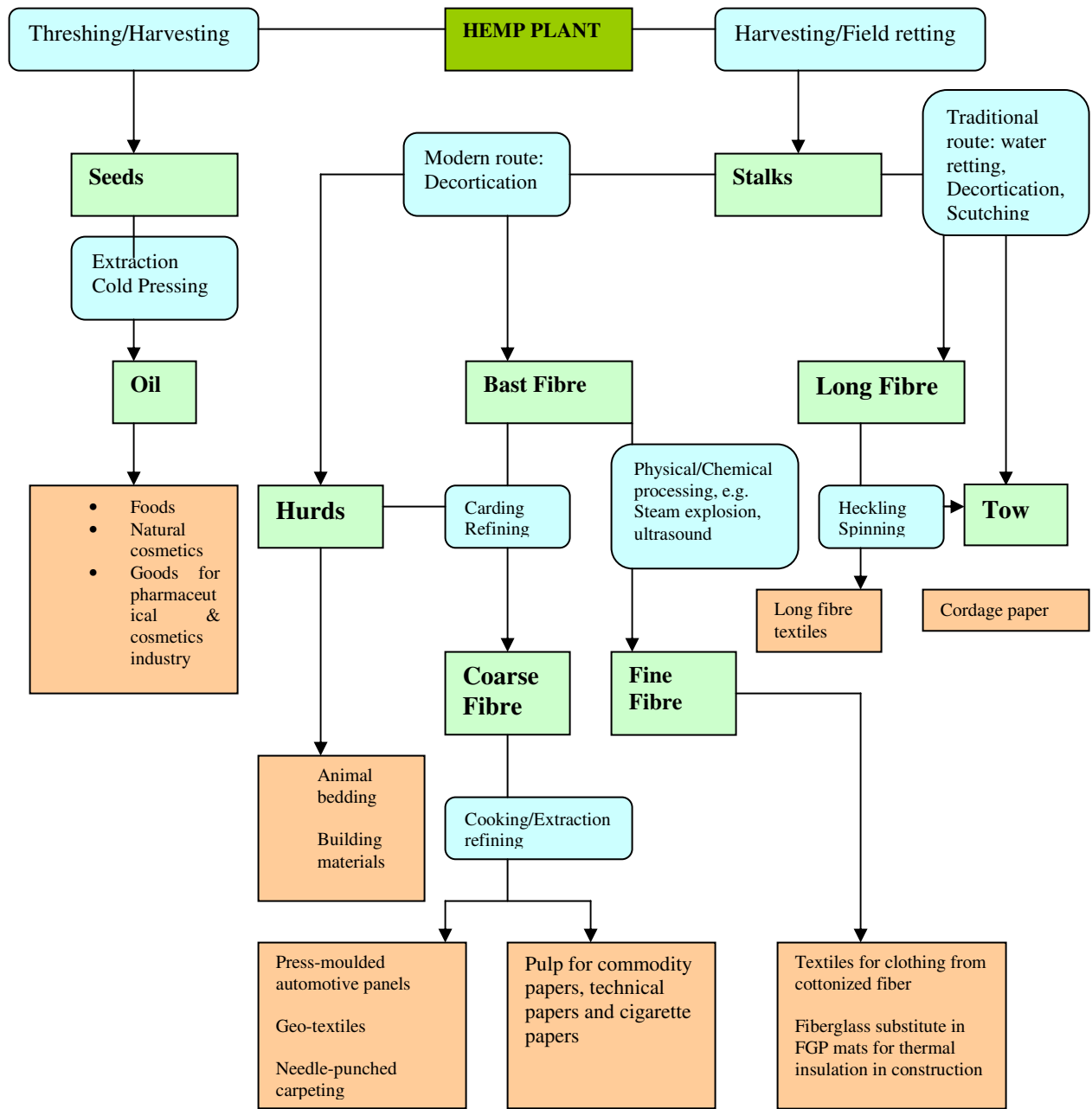
It also produces a large amount of biomass, which can be converted into ethanol to be used as fuel as an environmentally friendly alternative to toxic petrochemicals. The by-products from this process include foods, animal feed, bio-chemicals and various materials, making it a much attractive option to oil refineries.

The woody core of the stalk (Hurds) can be used building materials, insulation material and fibre-board. Hemp applications in the building industry range from a strong, light and durable cement, when mixed with lime, to environmentally friendly insulation, to an input for fibre-board. The bast fibre can be used to make fabrics, apparel, bags, shoes, socks and carpets. Due to its high absorbency rate and quick decomposition, hemp has several applications as industrial product. It can be used for animal bedding, mulch, boiler fuel and chemical absorbent.

Hemp seed contains up to 25% high quality protein with all eight essential amino acids. This can be used to make bread, granola, ice cream, protein powder and oil. After pressing hemp seed for oil, the remaining solids are still very nutritious for both humans and animals and can be processed into protein-rich flour and animal feed. Hemp oil can also be used to manufacture cosmetics, soap, shampoo, hand cream, salad oil, margarine, oil paints, leather care and printing ink.

Figure 17 provides a summary of the processing routes as well as the products that are formed at each stage of the processing of the hemp plant.

Figure 17: Processing of the hemp plant



Source: Roulac (1997)

## 7. MARKET ACCESS

The major export markets for South African hemp are the SADC countries. The following tariffs are applied by various export markets to hemp and hemp products originating from South Africa based on the data from 2010:

**Table 6**

IMPORTING COUNTRY	TYPE	APPLIED TARIFFS	ESTIMATED TOTAL ADVALOREM	APPLIED TARIFFS	ESTIMATED TOTAL ADVALOREM
		2009		2010	
Australia	MFN duties (Applied)	0.00%	0.00%	0.00%	0.00%
USA	MFN duties (Applied)	0.00%	0.00%	0.00%	0.00%
China	MFN duties (Applied)	6.00%	6.00%	6.00%	6.00%
Kenya	MFN duties (Applied)	0.00%	0.00%	0.00%	0.00%
Guinea	MFN duties (Applied)	5.00%	5.00%	5.00%	5.00%
Ghana	MFN duties (Applied)	10.00%	10.00%	10.00%	10.00%
Nigeria	MFN duties (Applied)	5.00%	5.00%	5.00%	5.00%
Angola	MFN duties (Applied)	2.00%	2.00%	2.00%	2.00%
	Preferential Tariff for SADC countries	0.00%	0.00%	0.00%	0.00%
Tanzania	MFN duties (Applied)	0.00%	0.00%	0.00%	0.00%
	Preferential Tariff for SADC countries	0.00%	0.00%	0.00%	0.00%
DRC	MFN duties (Applied)	5.00%	5.00%	5.00%	5.00%
	Preferential Tariff for SADC countries	0.00%	0.00%	0.00%	0.00%

Source: ITC Market Access Map

Hemp and Hemp products from South Africa can be exported to the SADC countries free of duty due to the SADC Free Trade Agreement. Table 6 indicates that Ghana and China have a heavily protected hemp industry with tariffs of 10% and 6% respectively, as compared to other countries. These tariffs have not changed in 2010.

Hemp textiles and hemp products from other countries can enter South Africa free of duty. This is to make it easier for South Africa based manufacturers to import hemp fibre and textiles from other countries to be able to manufacture the products that are demanded in the country. There is a legislation that prohibits commercial growing of hemp in South Africa, but hemp products are amazingly in higher demand and this could be one of those reasons that made our country not to charge any tariff for hemp imports.

## **8. CHALLENGES**

In South Africa it is not permissible to cultivate hemp commercially on a large scale. A special permission to grow hemp is granted on conditions issued in terms of Section 22A (9) (a) (i) of the Medicines and Related Substances Act 101 of 1965 to possess and cultivate it for only research purposes. The commercial cultivation of hemp in South Africa is prohibited due to the following legislations:

- The Drugs and Drug Trafficking Act, 1992 (Act No 140 of 1992) which describes hemp as dagga. The Act prohibits the possession, processing, transportation and commercialization of hemp. This Act is enforced by the South Africa Police Services,
- Medicines and Related Substances Act, 1965 (Act No 101 of 1965) which requires that a permit should be obtained from the Department of Health in accordance with Section 22A (9) (a)(i) of this Act. The Act allows possession and cultivation of hemp for research purposes only,
- The Environmental Conservation Act, 1989 (Act No 73 of 1989) describes hemp as a declared weed or invasive alien plant species. This Act is enforced by the Department of Environmental Affairs and Tourism.

## 9. ACKNOWLEDGEMENTS

The following organizations are acknowledged:

**Agricultural Statistics: Department of Agriculture, Forestry and Fisheries**

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Fax: 012 348 5874  
Website: [www.quantec.co.za](http://www.quantec.co.za)

**ITC Market Access Map**

Website: <http://www.macmap.org/South> Africa

**Food and Agriculture Organization of the United Nations**

Website: [www.fao.org](http://www.fao.org)

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