

MENDEL UNIVERSITY IN BRNO

Faculty of Regional Development and International Studies

**The Development of South African Agriculture
with an Emphasis on the Wool Industry**

Diploma Thesis

Author: Bc. Šárka Páchová

Supervisor: Ing. Vojtěch Tamáš, Ph.D.

Brno 2015

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Abstract

Páchová, Šárka. The Development of South African Agriculture with an Emphasis on the Wool Industry. Brno, 2015. Diploma Thesis. Mendel University in Brno.

The diploma thesis focuses on the development of South African agriculture with a greater emphasis on the wool industry. This work is divided into two parts; the first part defines the general trends in the development of agribusiness, the current role, the specifics and the position of agriculture in the world with the influences of globalization. It also describes the historical development of the agricultural sector in South Africa and the general characteristics of the wool commodity. The second part of this work concentrates on the analysis of the agricultural sector in South Africa and its current position within the South African economy together with the international trade in agricultural commodities. Subsequently, the thesis identifies the development of the wool commodity in the world market with a detailed analysis of the South African market and the entire wool industry in South Africa.

Key words: South Africa, agriculture, development, agribusiness, globalization, wool industry, wool market

Abstrakt

Páchová, Šárka. Vývoj jihoafrického zemědělství s důrazem na vlnářský průmysl. Brno, 2015. Diplomová práce. Mendelova univerzita v Brně.

Diplomová práce se zabývá vývojem jihoafrického zemědělství s větším důrazem na vlnářský průmysl. Tato práce je rozdělena do dvou základních částí, první část vymezuje obecné trendy vývoje agrobyznysu, současnou roli, specifika a postavení zemědělství ve světě včetně dopadů globalizace. Dále definuje historický vývoj zemědělského sektoru v Jihoafrické republice a obecnou charakteristiku komodity vlny. Druhá část této práce se zaměřuje na analýzu zemědělského sektoru v Jihoafrické republice a jeho současné postavení v rámci jihoafrické ekonomiky společně s mezinárodním obchodem se zemědělskými komoditami. Následně diplomová práce identifikuje vývoj vlny na světovém trhu s detailní analýzou jihoafrického trhu a celého vlnářského průmyslu v Jihoafrické republice.

Klíčová slova: Jihoafrická republika, zemědělství, vývoj, agrobyznys, globalizace, vlnářský průmysl, trh s vlnou

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1 Introduction

The unique character and development of South African history was significantly influenced by its cultural diversity and natural resource endowment, which simultaneously had a great impact on the developing process of its agricultural sector. These features created a framework in which various people, organizations and beliefs formed the specific results. The combination of all of these distinctive characteristics, which were present in just one single country, was truly rare and also showed to have such a powerful influence on the overall course of the South African development.

Despite the weakening position of the primary sector in South African economy, its importance and function still remains crucial for the general growth of the country. It is vital to pay close attention not only to the historical progress of this sector but also the current stage and the position it has within the national as well as global economy.

This thesis focuses on the development of agriculture in South Africa with an emphasis on the wool industry. The wool industry plays an important role in the international trade of the country. Over the years, South African wool has built a great reputation in the world, and thus started to compete only with the best worldwide wool traders.

I have chosen this topic for several reasons. One of the many interesting aspects of the wool industry is that, the Czech Republic happens to be one of the largest importers of the South African wool and I would like to also analyse other significant markets of the wool commodity. Another reason is the fact that I have already gained lots of experience in South African agriculture through the work on my own development project in South Africa, which was concerning another agricultural commodity – bamboo, as well as my bachelor thesis was focused on this commodity. I have also gotten lots of information about the historical and current state of the South African agricultural sector through my studies at one of the agricultural universities in South Africa, namely the University of Fort Hare. It is very interesting and enriching to analyse in detail some other important agricultural commodity, which could be a significant asset to the agricultural as well as economic growth in South Africa.

2 Objective and Methodology

The overall objective of the given thesis is **to characterize the development of South African agriculture with an emphasis on the wool commodity in South Africa** and its position within the international trade. To fulfil the overall objective, the following partial objectives were determined:

- I. To describe the general trends and the position of agribusiness and agriculture at current global market.
- II. To characterize the influence of globalization on the agrarian sector.
- III. To define the general development of South African agriculture in the historical context.
- IV. To briefly outline the basics characteristics of the wool commodity.
- V. To describe the development of the agricultural sector in South Africa, its position in the national economy, the development of the agricultural production and the international agricultural trade in South Africa.
- VI. To define the main wool production centres in the world and the international wool market.
- VII. To characterize the South African wool commodity with its international trade flows.

Methodology

The following methodology was used during the writing of this thesis:

The diploma thesis was divided into a literature part that defines the theoretical framework as the basis for the analytical part of the work. **The literature part** summarizes and discusses **the following aspects** associated with the issue of agribusiness:

- The definition of the general trends and the current position of agribusiness in the agricultural sector
- The influence of globalization on the agrarian sector, which includes the position of agriculture in the globalized world, the context of the global agricultural issues, the socio-economic structure of agriculture, the role and specifics of agriculture in developing countries and the agrarian dualism

- The description of the development in South African agriculture in the historical context
- The fundamental characteristics of the wool commodity, which includes sheep breeds, the sheep supply chain and the common types of wool

The individual parts of the analytical work are divided into chapters, which mainly focus on **the following areas**:

- The analyses of the agricultural sector in South Africa, its position within the South African economy, the development of the agricultural production and the international agricultural trade in South Africa.
- The specification of the world wool market with its major production centres and the international wool trade.
- The analyses of the wool industry and the wool market in South Africa together with the trade flows from and to South Africa.

To fulfil the overall objective and the partial objective of the thesis, **the following methods** were used:

The literature part is comprised of:

- The methods of content analysis for contextualizing of various documents, and also the methods for research synthesis.
- The method of interpretation used in order to simplify the extensive issue for the given length of the diploma thesis.

The analytical part is comprised of:

- The methods of analysis and synthesis; the comparative method that allows the comparison of the evolution in the timelines; mathematical and statistical methods used for description, comparison, analysis of the dependence and development between economic variables and for collecting and categorizing socio-economic data; the method of deduction;
- The modelling method in which the actual situation is replicated into the situation model (the commodity chain model);

- Statistical methods of construction of index numbers that are dependent on the nature of the base period such as fixed base method and chain base method;
- Other methods for quantifying and classifying certain phenomena.

Usage of **various databases:**

Various databases for the writing of this thesis were used. Czech and foreign academics and professional publications, scientific articles, foreign data sources such as national and international statistical databases were mostly used. All of these sources provided secondary data from which was possible to complete the analytical work of the thesis.

The main data sources for this diploma thesis were:

- **In the literature part**, Czech and foreign professional and academic literature resources and specialised scientific articles were mostly used, which concentrated on the socio-economic issues related to agriculture and agribusiness.
- **In the analytical part**, secondary sources that were predominantly used were specifically from the international databases such as: the *Food and Agricultural Organization of the United Nations (FAOSTAT)*, which allows one to obtain the global data related to food and agriculture in the different timelines. There is data about various agricultural crop and livestock commodities and also about exports and imports of these commodities. All this global data was really useful for the analyses in this thesis, although there are some limitations while using this database, as the data is not up to date, the latest data is usually between 2011 and 2014 and the oldest from 1990, and some of the data is based on FAO estimation and calculation, especially data for developing countries; another source was the *Statistics South Africa* website, which provides data from the latest South African Census in 2011; *Department of Agriculture, Forestry and Fisheries (DAFF) of Republic of South Africa* provides data related to agriculture and the agricultural commodities in South Africa; the *Czech Statistical Office (ČSÚ)* and *Database of the World Bank (The World Bank)*. Other data sources are listed in the end of this thesis in the chapter of resources.

3 Literature

1. General Trends and the Current Role of Agribusiness

3.1.1 The Forming of Agribusiness

In history, the critical task of agriculture was usually connected to the security of a sufficient amount of food. In the present day the concept of agriculture is changing. It is mostly due to the multifunctional conception and its importance in sustainable development. It is indubitable that its production function is still absolutely irreplaceable. (Bečvářová, 2005a)

The role of agriculture differs according to various communities and national economies of developed or developing countries in the world. In developing countries, agriculture plays a crucial role in the production of food and is one of the main sources of employment. On the other hand, developed countries do not place as large an emphasis on this function, as it is not as important as in the past. In all national economies, it can be seen that there are numerous links and connections to the agricultural sector and the many other economical sectors. These links and connections influence the orientation and performance of agriculture, either directly or indirectly. Other economical sectors, which influence agriculture the most, are predominantly supply industries such as agricultural engineering, the chemical industry, the pharmaceutical industry and so on. These kinds of industries influence the agricultural sector primarily by means of price. Customers and factors such as politics and regulations also influence the agricultural sector as well. (Boháčková, Brožová, 2010)

In the past, agriculture was initially based upon a more traditional way of agricultural production, which consisted of simply crop production and livestock, without any other activities. Presently, the agricultural sector is perceived as a complex and diverse range of multiple sectors such as crops, livestock, water and forestry, which is known as the agrarian sector. (Ibid)

The agricultural sector has become a part of a complex system of multiple sectors, which secure the food processes. The position, character and intensity of relations between agriculture and other sectors, within national and world economies, is changing within a much wider complexity of interconnected sectors. This aims to ensure the food

security and the final products that are made from agricultural raw materials. (Bečvářová, 2005)

The development of agriculture in most countries in the world depends on the overall economic development. The agricultural sector has 3 dominant functions, namely production, supply and creation of labour for the industry. These functions directly and indirectly help to create capital wealth. (Norton, Alwang, 1993)

Food processes, which represent the classical function of agriculture, are not the only sector that makes use of natural resources. These natural resources can be divided by their productive and non-productive usage. These usages can be placed into four development stages (Zachariasse, 2002 in Bečvářová, 2008):

- In **stage one** there was the development of agricultural production based on the technological improvement. There were also no restrictions that would prevent the use of natural resources. The development of technical and agricultural sciences largely contributed to productivity. The agricultural production was determined by the level of the technology and was suitable for the supply-oriented model. Development of the agricultural production, predominantly in the developed world, led to the problems with overproduction. Therefore agriculture became part of a different model, motivated by needs, demand-oriented model.
- **Stage two** was characterized by the growth of agricultural production as a result of technological development, which contributed to the intensification of agricultural production. The development of other sectors showed growth in employment and the demand for food. There also appeared to be a growth in use of natural resources, which were the first signs of negative environmental burdens and the first competitive negotiation of land.
- **Stage three** was defined by biological and technological innovations, which positively influenced the variety of product offerings and services. There was the effort to create a comprehensive control system of agricultural production to satisfy the growing demand. The solution to the demand satisfaction is to move from the problem of the technology of agricultural and food production to the area of agricultural economics, management and making of various policies.

- **The fourth stage** reflects the current stage of development, which is evoked by modern technology, quality of agricultural products, conservation of natural resources and also by communication problems and increased competition.

In the same manner which agriculture was developing throughout the centuries, agribusiness also started to shape gradually. Agribusiness can be defined in different ways. Each definition reflects the changes, which happened in the agricultural sector over the past 50 years (Bryceson, 2006).

The term agribusiness is in the classic concept understood as a wide complexity of various activities, which are associated with the production and distribution of products from agricultural producers. This includes manufacturing activities on farms, storage processes, distribution and sale of agricultural commodities and products that are made from these commodities. (Davis, Goldberg 1957)

A newer definition is focused on the situation at the turn of the millennium. This definition covers the influence of genetic and biological research in pre-production stages and explains the agribusiness as a chain of subsectors, which are interconnected by direct and indirect conjunctions. (Sonka, Hudson 1999 in Bečvářová, 2005a)

Another definition explains the agribusiness as a “chain sector”. The sectors are directly or indirectly involved in the production, distribution and transportation of food, chemicals, fibre and pharmaceuticals. The links of the agribusiness chain may include (Ricketts et al., 2009):

- Agricultural primary production (unprocessed commodities)
- Manufacturing (processing of commodities into the value-added products)
- Supplies of inputs for the primary and tertiary sector
- Wholesalers and retailers provisions of value-added products or unprocessed commodities
- Educational, financial and technical services for all sectors

The theoretical and methodological definition of agribusiness reflects changes in business environment, which are based on the identification and characteristics of the activities and interactions related to agricultural production. This is not only within companies but also links with upstream and downstream activities and entities typically making use of the processes of agricultural commodities to produce a final product such

as food or other non-food products. Agribusiness represents a “cut” through the entire spectrum of each sector within the economy, which are directly or indirectly involved in the production process of food distribution or other products with agricultural origin to final consumers. (Lechanová, Bečvářová, 2006)

The diagram below showcases the contemporary agribusiness, the influences in decision-making of agricultural producers in commodity verticals and its basic links to one another:

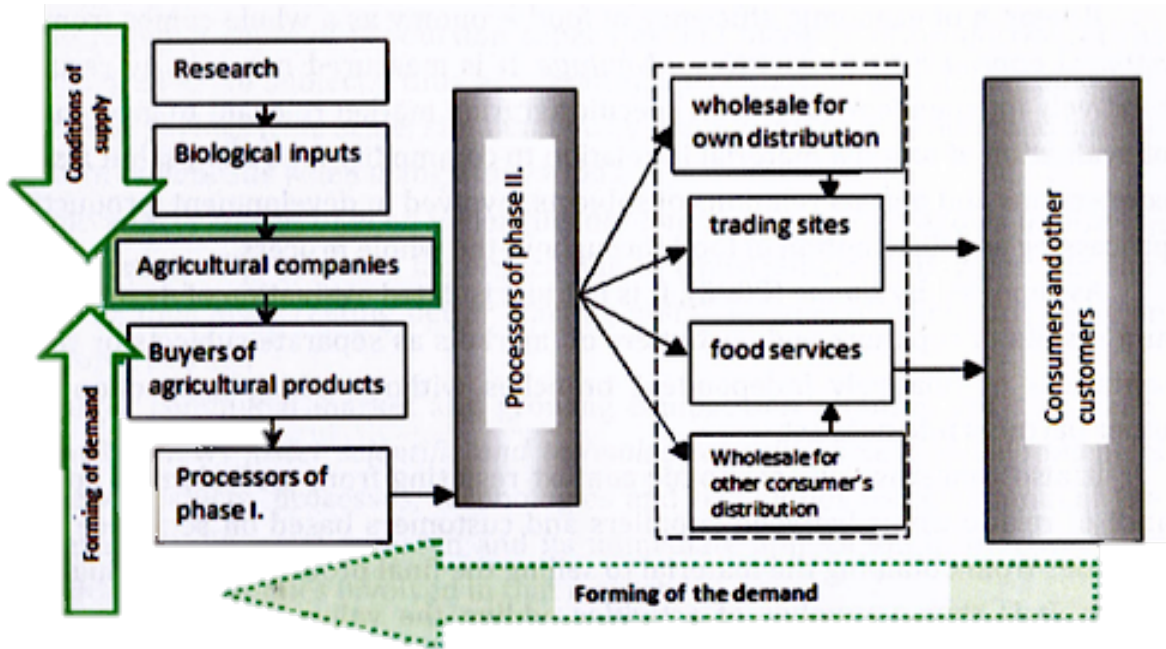


Figure 1: The Current Form of Agribusiness

Source: Bečvářová et al. (2013a)

In the agribusiness activities, the characteristics above in figure 1, involved approximately 50% of the working population in the world, 50% of the world assets that are involved in agribusiness and this represents more than 50% of the world consumer expenditures. Even though the distinguished shares and the agribusiness organization in developed and developing countries are recognized in the total figures, it cannot be agreed on the argument that the importance of this complex in economically developed countries is decreasing. (Goldberg, 1998 in Bečvářová, 2005)

Changes in the traditional agriculture were caused by various factors. Those factors moved the traditional type of agriculture to the more active one, predominantly in terms

of integration processes in the agribusiness. The factors can be characterized such as (Bečvářová, 2005b):

- **World market globalization:** this mostly influences growth performance in a positive way (increasing market size, raising productivity, increasing outside competition, more rapid flow of new products, processes and research outputs)
- **Value added products:** this involves the usage of technological innovation, product specialization, increasing functionality
- **Improvement of efficiency and risk treatment:** this is the reduction of costs by various methods such as more precise usage of inputs and measurements on yield, profitability, transaction costs and negotiation costs
- **Competencies of people to understand new trends:** this factor involves competencies such as: to expect and accept changes, to classify and describe strategies for agribusiness companies and for agriculture as a whole, and to be able to do quantitative and qualitative analyses

3.1.2 The Shaping of the Current Agribusiness

The whole of agriculture was transformed to the new economic model. Globalization and integration processes have changed the structure, as well as the interrelationships at the global food market. These have transformed an economic environment for productivity of agriculture in a significant way (Bečvářová, 2005b).

The current economy showing the many different sectors of today involve the industrialization of production, technological improvements in production processes, development in the use of information technology, marketing and the entirely new distribution systems. These processes accelerated predominantly in agribusiness at the end of the 20th century and it became an integral part of the economy involved in the final output - food production. (Bečvářová, 2005c)

The agricultural sector has been acknowledged as a part of the bigger unit – food economy. Its part was recognized within the context of the food supply chain, but this view of the food economy is not sufficient at the present time. The new concept of the food economy is distinguished by its comprehensive nature, as it is at the centre of key worldwide societal interests. (Bunte, Dagevos, 2009)

The important factor in this new age of the food economy, is determining the quantity and quality of agricultural products and price conditions at markets, which focuses on demand. Demand has an increasing important effect on the entire system of production, processing and distribution of agricultural products. (Bečvářová, 2005c)

The new dimensions of agriculture require more cohesion among the various policies involved. This current form of agriculture is far beyond the traditional type of agriculture and trade policies. (Bunte, Dagevos, 2009)

The modern demand-oriented commodity chain of the current agribusiness is more challenging. The high awareness and the knowledge of how to use the obtained information are the key factors for the success of all particular links of this chain. The critical success factors for all agricultural enterprises within the current agribusiness are based on elements of the new knowledge-based economy. (Bečvářová, 2005c)

A comparison of the characteristics of both models such as the traditional supply-oriented model and the modern demand-oriented model is described below (Bečvářová et al., 2013a):

Table 1: Changes in the Concept of Agriculture Derived from Supply- and Demand-Oriented Models

Characteristics	Traditional Concept Supply-oriented model	Current Concept Demand-oriented model
Approach to agriculture	Agriculture is agricultural production	Agriculture as a part of food production
Outcome characteristics	Commodity as final product	Commodity as a material
Production structure	Main typical crops and products	Demand/supplied crops and products
Determining factor of production	Production conditions, land, capital	Demands of the customers
Base of competitive advantage	Soil quality, technology, structures	People, knowledge, strategy, organization
Choice of production orientation	Universal according to accessibility of production factors and inputs	Specialization on one specific/demand product
Relation to the property	Ownership of activities	Control of activities
Critical premise of success	Capita in monetary and natural form	Knowledge and information
Relation to workforce	Workforce is cost and part of investment	Workforce is investment and part of costs
Type of trade	Sale of the product and transmits service	Sale of the service and transfer of the product
Market characteristics	Impersonal relation/open markets	Personal contacts based on contracts
Type of relation to suppliers and customers	Mostly adversive	Specific, friendly
Purchase of inputs	Large amount of possible suppliers	Purchase usually from one source
Own production of inputs	Very strong tendency	Purchase of suppliers
Relation to the price of product supply	Clear pressure on increasing the price	Preference to decrease the costs
Crucial risk	Risk of collapse of the market (price)	Risk of collapse of the relationships
Position in the system	Independency	Interaction with partners
Business characteristics	Stability	Change, flexibility
Knowledge conditioning the success	Technical	Economic an communicative
Approach towards agriculture	Experiential, based on tradition	Learning and innovative
Relation to natural resources	Exploitation and utilization	Use and protection
Production philosophy	Production of the goods and waste disposal	Production of goods, and utilization of waste.

Source: Author's work based on data from Bečvářová et al. (2013a)

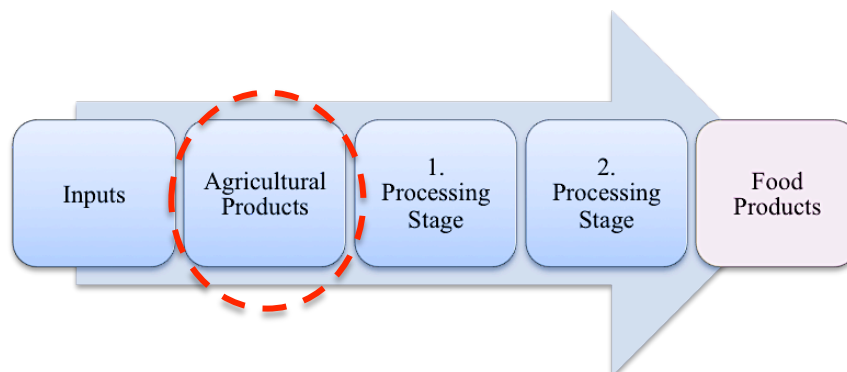


Figure 2: Supply-Oriented Commodity Chain

Source: Author's work based on data from Bečvářová et al. (2013a)

As can be seen in figure 2 the supply-oriented model is characterized by the product flow from producer to the final stage of processing. The most critical position within this model is focused on the production phase, which gives the agricultural primary production the most important role of this commodity chain. The conduct of the whole process of food production and supply growth was defined by the primary production. Individual links related to this model are seen as entities that are finalizing agricultural production into the final food products.

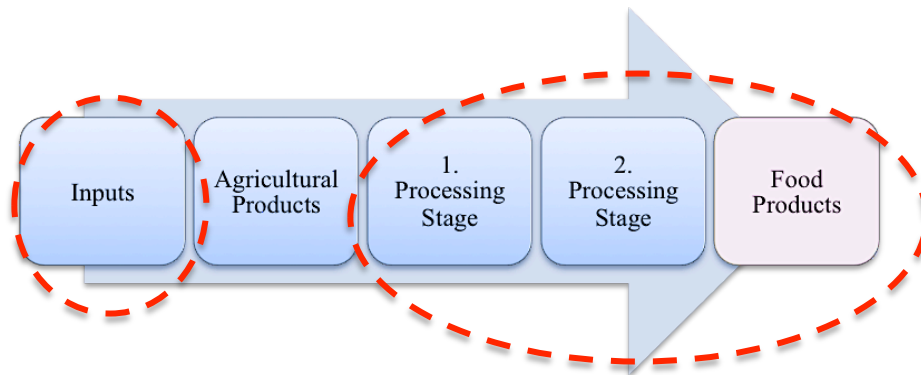


Figure 3: Demand-Oriented Commodity Chain

Source: Author's work based on data from Bečvářová et al. (2013a)

As mentioned earlier the present situation in developed countries is rather different. The demand-oriented model, shown in figure 3, characterizes the most current agriculture. In this model the main emphasis is put on the demand, which affects the quantity, quality, cost-effective but also the cost market conditions that significantly affect the whole system of production, distribution and processing of agricultural products (Bečvářová, 2005a). The most significant and critical links of this commodity chain are in the final three stages. They are marked as stages of processing, which are completed by the final food products stage.

2. The Influence of Globalization on the Agrarian Sector

3.1.3 The Concept of Globalization

The first appearance of the term globalization can be noted back to the 1940`s, although this term became more used and recognized in 1990`s. This is due to the fact that it captured the growing interdependence and human interaction on the planet (Steger, 2013). Nowadays there are many different definitions of globalization. Each of these definitions agree that it is a long process of rapprochement and interests of people all over the planet at all levels of social life (Rolny, Lacina, 2004). It is a cultural, political and economical process. This process has a global character and affects the development and existence of civilization.

Globalization is according to International Monetary Fund (IMF) described as an increasing mutual economic dependency of countries on a global scale, which is a consequence of growing amounts and type of international transactions of goods, the flow of international funds, faster and wider spreading of technologies and services. (Bečvářová et al., 2013a)

Globalization was explained by the Organization for Economic Co-operation and Development (OECD) as a process that increases dependency of markets and production of different countries owing to dynamic trade of goods and services, moving of capital and technologies. (Ibid)

These definitions are not comprehensive. They cover only economic aspects but not cultural, social or political aspects.

There are at least five extensive conceptions that might be distinguished. Emphases of those definitions are significantly different but these definitions are in certain ways connected and to some extent they are even overlapping. Those five conceptions are defined as (Scholte, 2005):

- **First conception** has viewed globalization as a process of internationalization. By this perspective is described the international relations between countries. Globalization defines a growth of cross-border exchange and interdependence.
- **Second conception** has equated globalization with liberalization. It describes a process of eliminating state-imposed restrictions in terms of movements

between countries with the purpose of creating a “borderless”, “open” world economy. Evidence of this conception can be seen in the worldwide reduction and in some cases the elimination of regulatory trade barriers, foreign-exchange restrictions, capital controls and in some cases visas.

- **Third usage** has associated globalization with universalization. The term is taken as a process of spreading various objects and experiences to people worldwide. This process could be shown in globalizing of automobiles, Asian restaurants, cattle farming, decolonization and many other factors.
- **A fourth usage** has defined globalization as westernization or modernization, predominantly in the American way. Globalization in this way could be described as modern imperialism. Another description of the fourth usage was compared to the European colonization in the developing countries (Khor, 1995 in Scholte, 2005).
- **A fifth conception** has identified globalization as respatialization. In this meaning globalization demands a reconfiguration of social geography with increased transplanetary interdependencies amongst people. This conception also describes the contemporary globalization with a predisposition towards deterritorialization.

All these conceptions are looking at globalization from the different perspectives. In spite of some overlaps between them, their understanding of this problem is very different from each other.

3.1.4 The Position of Agriculture in the Globalized World

Globalization in agricultural sector is mainly manifested by the creation of the global market and global food production. The whole economic environment has changed due to globalization. These changes in the economic environment need an objective view on definition of the role of agriculture and its broadened development within the economy in this globalized world (Bečvářová et al., 2013b). The widening influence of globalization is obvious on relevant markets. Further consequences and impacts of globalization processes that are connected with other industries and activities are less transparent. These include activities, which can be directly or indirectly linked to production processes, food distribution or other services in agricultural sector. The basic industry of

agriculture has become part of a much wider economic segment over the past 10 years. This wider segment includes pre-production phases and a big variety of subjects and activities in processing, agricultural products completion and distribution. (Ibid)

Among the three main processes of globalization, which influenced the forming of agricultural market, particularly in the European business environment, belong mainly to these three following facts (Ricketts, 2008 in Tamáš, Bečvářová, 2013):

- **The formation of the European Community and its Common Agricultural Policy**
- **The collapse of the Eastern bloc and former SSR**
- **The raising of living standards in developing countries with a growth of import of agricultural commodities**

Although for more than two centuries, liberal economists consistently support the idea of free trade between nations as the best direction of trade policy, but even in this case there is not a unitary perspective. There are a number of arguments that prove that the domestic industry must be to some extent protected from a foreign competition. The unregulated trade can be a real threat. (Tamáš, Bečvářová, 2013)

Agriculture during the globalized era becomes a part of the significantly wider economy segment. It does not work individualistically but it is involved in countless interactions with other sectors of world and also national economy, thus it works as part of a broader structure of mutually linked industries in the framework of agribusiness. (Bečvářová et al., 2013b)

3.1.5 The Agrarian Context of Global Issues

Global issues and their categorization are associated with a certain development degree of world economy. The creation of global issues requires the existence of interdependence on a global scale; the economic dimension seems to be the most dominant. It should be emphasized that among the major determining links between the global issues of this world also belong the agrarian links. The role and importance of agrarian sector and agricultural economics for resolving of global issues of modern and future population can be defined by categorization of interconnected global issues such as (Svatoš, 2009):

- **Demographic problem** such as population dynamics, demographic transition, balance between population and resources
- **Food problem** such as asymmetry in food production, food consumption growth
- **Raw materials and Energy problem** such as reserves, exploitation and consumption of raw material and energy
- **Ecological problem** such as deforestation, biodiversity, desertification, waste, water, soil and air pollution
- **Socio-economic backwardness of developing countries** such as low economic performance with high population dynamics, inappropriate structure of the economy
- **Reorganizing of international economic relations** such as resolving the situation of indebtedness of developing countries, change in the system of international economic relations
- **Problem of social, humanitarian and cultural future of human beings** such as existence of absolute poverty, spreading of epidemics, international migration
- **Problem of world arms control and disarmament (War and Peace)** such as development in developing, transitive and developed countries, international terrorism and its financial framework

3.1.6 The Specifics of Agriculture and its Role in Developing Countries

Exploitation of poor developing countries only as a source of cheap raw materials has a negative impact on them, as it destroys their natural resources that are important for their livelihood (Worldwatch-Institute, 2010 in Tamáš, Bečvářová, 2013).

Markets of these countries become an outlet place for discount food surplus from the US and EU and reserves of these countries rapidly decrease. The Third World countries are becoming more and more dependent on foreign supplies of food and this has a negative effect on their domestic agriculture. Small farmers are being immersed in more commercialized agri-food systems at the national and even global level (Von Braun et al., 2008). Developing countries try to cope with the negative consequences of free trade and thus they attempt to attract foreign investors by favourable conditions such as low cost of wages and low or almost no environmental regulations. All these aspects cause the

reduction of production costs and also income of the wage labor in developed countries and could also cause an economic recession in the future. (Tamáš, Bečvářová, 2013)

3.1.7 The Socio-Economic Structure of Agriculture

It was estimated that there are more than 570 million farms in the world. China on its own characterized 35 %, India 24 %, Sub-Saharan Africa represented 9 % and 7 % of the 570 million farms were found in Europe and Central Asia. About 3 % of the world’s farms were situated in the Middle East and North Africa. Latin America and the Caribbean farms represented only 4 % of the farm holdings in 2011 (figure 4).

Most of the farm holdings of the 570 million could be found in lower (36 %) or upper middle-income countries (47 %), this was predominantly caused because of the classification, where India was belonging to the former and China the latter group (figure 4). There were 13 % of farms located in low-income countries and farms in high-income countries characterized 4 % of the farms worldwide in 2011. (Lowder et al., 2014)

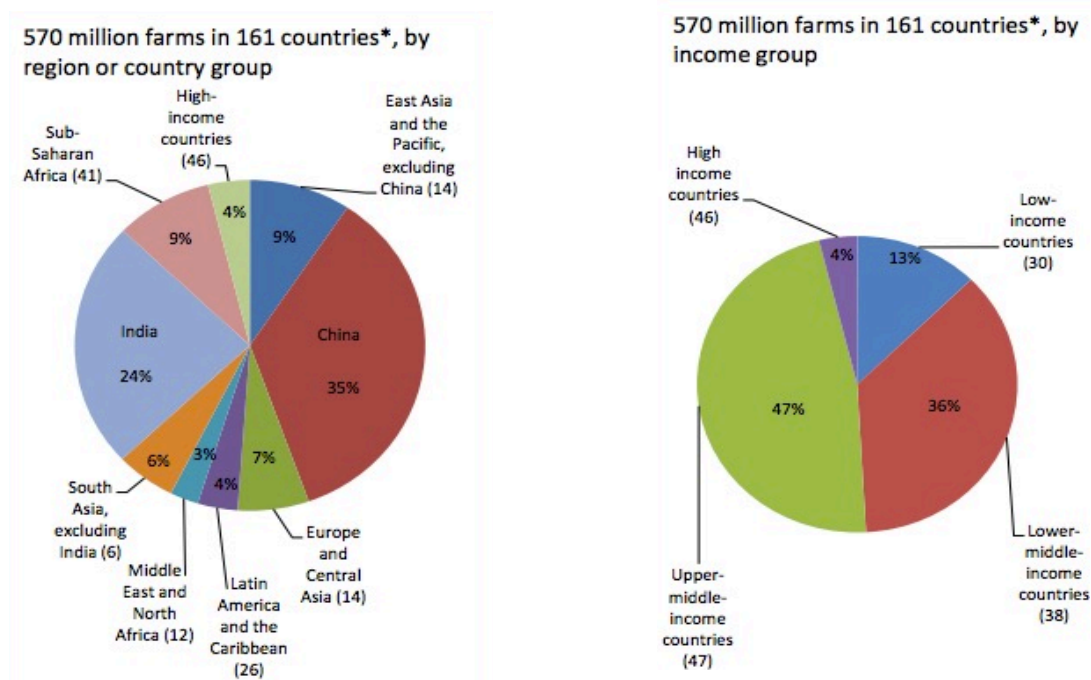


Figure 4: Share of Farms Worldwide (country groups¹) in 2011

Source: Lowder et al. (2014)

¹ “Country regional and income groupings are the same as those used by the World Bank (2011). * Only 161 of the 167 countries with observations are classified by the World Bank groupings” (Lowder et al., 2014). See the list of the income country groups and the numbers of agricultural holdings (by country and in the given census year) in the **Annex 1**.

It is estimated that from the 570 million farms in the world, it was probably 85 % of small holding farmers who operated on less than two hectares (Nagayets, 2005). The majority of these farmers lived in Asia (87 %), while Africa was home to another 8 %, and Europe to roughly 4 % in 2004 (figure 5).

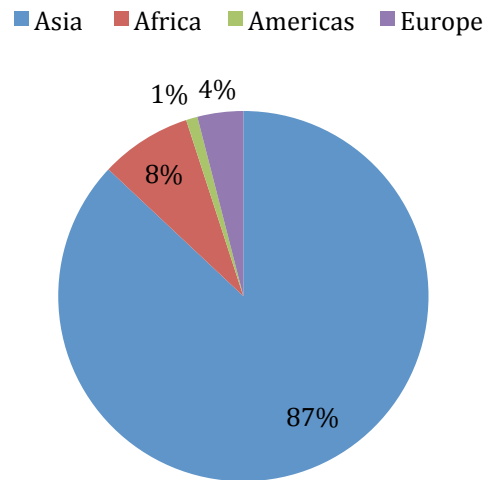


Figure 5: Regional Distribution of Small Holders in 2004

Source: Author's work based on data from Nagayets (2005)

The changes of the current globalized age, namely: growth of population, urbanization or market liberalization can be significantly recognized in the socio-economic structure of agriculture. All these changes made a big impact on farming and therefore, farming became more market-oriented and more competitive. These movements placed pressure on farmers to develop deeper management skills and capabilities in order to survive with the continuously changing farming environment. Farmers, who run their business for profit, need assistance from those working at various levels in agricultural extension in order to become better managers. (Kahan, 2013)

There are different types of socio-economic enterprises in the structure of farmers. In general these structures can be divided into three basic groups such as (Bečvářová, Zdráhal, 2013c):

- **Profit-oriented agricultural enterprises** with a higher market share in the total production

- **Family farms** where the greater part of production goes for the market and the rest has the subsistence nature, the performance of these enterprises is clearly focused on profit, but also contains some elements of consumer motivation – the livelihood of family
- **Subsistence farming of individuals**, when the crucial part of the production is produced for family use, minimal part is for the market, the main source of income comes from non-agricultural activities. These are characteristics we use for complementary farmers; their production has a partial impact on the supply of some commodities such as eggs, fruits, vegetables and so on.

The differences in socio-economic structures are reflected in various behaviours and specific criteria of decision making of enterprises in primary agricultural production. It is clear from the given division of structures that focus on profit does not have to be the only concern and might not be the key factor in business conduct. (Ibid)

Small-scale farmers and appropriate strategies

There are different types of small-scale farmers and economies. Tables 2 and 3 show a typology, which characterize the differences in profitability of smallholders within the agricultural sector. There is a division of smallholders divided into subsistence farmers without profit potential; subsistence farmers with profit potential, and commercialized smallholder farmers. The table also points out the different stages of economic transformation such as agriculture-based (most countries in Africa south of the Sahara), transforming (mainly in East and South Asia), and transformed economies (mainly in Eastern Europe and Latin America).

Subsistence holders with profit potential can be characterized as farmers with soft constraints to land size and agricultural production. They usually have limited access to markets and information, limited financial capital, inadequate access to infrastructure and also reduced access to smallholder friendly technologies.

Subsistence holders without profit potential are defined as farmers with higher soft constraints, but still face a few hard constraints with regards to land size and agricultural production. These farmers usually live in remote areas with high population density, low quality soil, low rainfall and high temperatures.

The differences in strategies within the various stages of economic transformation for subsistence holders with and without potential are defined in table 2.

Table 2: Small-Scale Farmers with/without Profit Potential and Appropriate Strategies

TYPE OF FARM	STRATEGIES		
	Agriculture-based	Transforming	Transformed
Subsistence farms with profit potential	<ul style="list-style-type: none"> • Productive social safety nets • Investment in infrastructure, agricultural research and extension, and smallholder-friendly and climate-smart technologies • Access to innovative financial services 	<ul style="list-style-type: none"> • Flexible arrangements for land transfer • Risk reduction and management tools • Access to market information (e.g., ICTs) • Pro-smallholder, nutrition-sensitive value chains • Social safety nets and improved access to housing, education, and health services for rural migrants • Vertical and horizontal coordination to meet safety, quality, and quantity standards • Enhanced role of farmers' organizations, particularly for women farmers 	<ul style="list-style-type: none"> • High-value production • Reduced trade restrictions and subsidies • Flexible arrangements for land transfer • Efficiency- and quality enhanced production systems • Vertical and horizontal coordination to meet safety, quality, and quantity standards
Subsistence farms without profit potential	<ul style="list-style-type: none"> • Social safety nets • Nutrition-focused crop production for own consumption • Education and training for nonfarm employment • Migration to urban centres and other agriculture areas with greater profit potential 	<ul style="list-style-type: none"> • Social safety nets • Improved access to housing, education, and health service for rural migrants • Education and training for nonfarm employment • Flexible arrangements for land transfer 	

Source: Author's work based on data from Fan et al. (2013)

Commercial smallholders can be characterized as farmers with soft-constraints, limited access to capital, insurance, and other risk reduction tools. The strategies within the various stages of economic transformation for commercial smallholder farms are defined in table 3.

Table 3: Commercial Smallholder Farms and Appropriate Strategies

TYPE OF FARM	STRATEGIES		
	Agriculture-based	Transforming	Transformed
Commercial smallholder farms	<ul style="list-style-type: none"> • Vertical and horizontal market coordination to meet safety, quality, and quantity standards • Smallholder-focused, climate-smart, and nutrition-enhancing technologies • Investment in infrastructure, agricultural R&D, and extension 	<ul style="list-style-type: none"> • High-value and nutrition sensitive food chains • Flexible arrangements for land transfer • Links to urban and global markets • Vertical and horizontal market coordination • Enhanced role of farmers' organizations, particularly for women farmers 	<ul style="list-style-type: none"> • High-value crops • Flexible arrangements for land transfer • Clear regulatory frameworks and intellectual property rights to link private sector with smallholders

Source: Author's work based on data from Fan et al. (2013)

3.1.8 The Duality of the Farm Structure

The changes in the world's economy have also caused changes in farming, which have wide implications for extension workers. Changes, such as market liberalization, demographic changes, urbanization, information technology, climate change, income change and the global financial crises, are all affecting small-scale farms in the world. All those farmers increasingly have to make important decisions about the nature of their farming activities. Especially small-scale farmers, which are focused on production for family livelihood, they have to meet the requirements to become more entrepreneurial and market-oriented and turn their farms into businesses in this globalized age. (Kahan, 2013)

The structure of agriculture has changed even in Europe during the 1980s. There were significant changes in favour of large farms. The decline of small businesses (up to five ha) was not as noticeable as the decline in agricultural medium-sized businesses, which were often on the verge of bankruptcy. On the other hand, several large farms created most of the output for the economy. The European Common Agricultural Policy has largely contributed to the creation of so-called '**Dual Farm Structure**', where the large farms have accustomed to high incomes from European prices and focused its activities on the production of the most supported commodities. Small farms would not be able to survive without high European prices and support from the Common Agricultural Policy. (Tamáš et al., 2010)

Smallholder farmers in developing countries play a significant role in meeting the future food demands of the rapidly growing urbanized population. Small-scale farmers are not a homogeneous group that should be supported at all costs, in other words some of the farmers have the potential to take part in moneymaking commercial activities in agriculture. Nevertheless, other small holders should be supported in leaving the agricultural sector and seeking non-agricultural positions. (Fan et al., 2013)

Considering the efficiency of small-scale farms, they typically use their own household labour, and thus the managing costs are low and more effective. Self-provisioning saves costs of marketing. On the other hand, large-scale farmers have lower costs in terms of businesses with the outside world such as in obtaining inputs, marketing produce, and getting access to credit. (Hazell et al., 2007)

However, in the matter of equity and poverty reduction, small holders are preferred to large holders. Small-scale farmers are usually operated by poor people who use a great deal of labor that is from their own families or from their equivalently poor or poorer neighbourhoods. Furthermore, the small-farm families tend to spend their incomes on locally produced products and services, thus supporting the rural non-farm economy and the creation of additional jobs. (Ibid)

There are more severe challenges for small-scale farmers than for large farms, as they need more than technical solutions to production questions. They have to gain information about markets, finances, and farm management and develop their capability as entrepreneurs. To have the knowledge and skills to manage competitive and profitable farming, including managing inputs, managing production and managing marketing, is decisive for all farmers. In order to support `business farmers` extension workers need to gain this same knowledge and skills. (Kahan, 2013)

There is about half a billion farms that are smaller than two hectares, and these farms are still decreasing in their sizes in many countries as seen in figure 6. (Hazell et al., 2007)

Growing rural population, urban growth that is not labor demanding, formal and informal barriers to rural-urban migration, and distortionary land policies cause the remaining decline of small holders. In the estimation, small farms produce around four-fifths of the developing world's food. (FAO 2011 in Fan et al., 2013)

Furthermore, small farms are home to nearly two-thirds of the world's three billion rural population, the majority of people living in absolute poverty, and half of malnourished people worldwide (IFPRI 2005 in Fan et al., 2013).

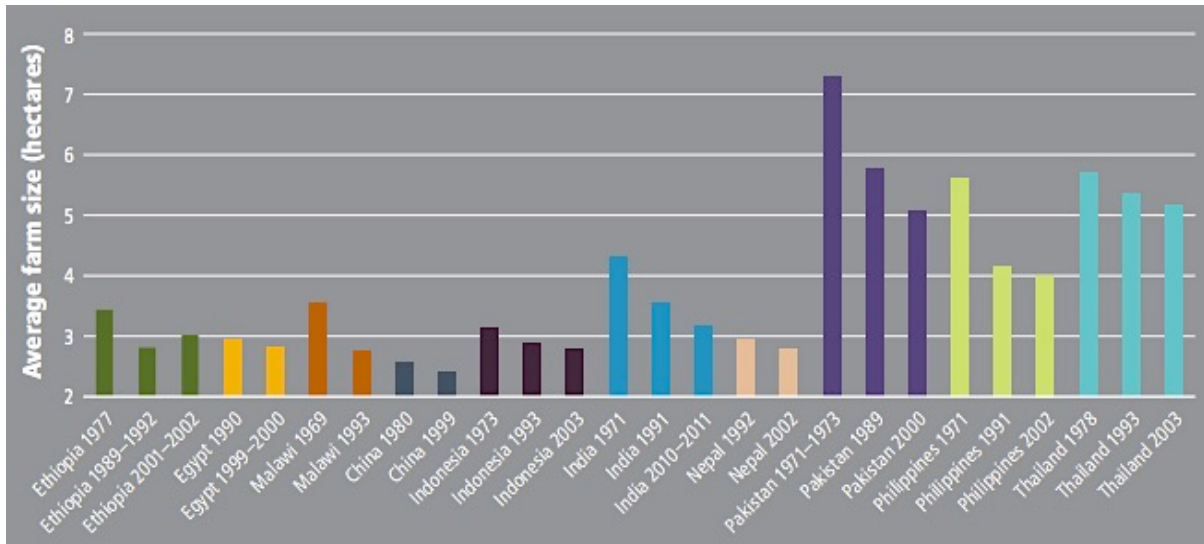


Figure 6: Tendencies in Farm Size in Selected Developing Countries

Source: Fan et al. (2013)

3. The Historical Context of the South African Agricultural Development

South African agricultural history has a very special character; due to the fact the history was deeply influenced by its unique endowment of human and natural resources. This formed the environment within which the institutions, ideologies and individuals shaped the precise outcomes. In contrast with other countries that usually possessed only one or two of those described features, South Africa was the only country where all of those features were present together and this combination brought the power there. (Feinstein, 2005)

People have lived in today's South Africa more than one hundred thousand years. The oldest people of the region are named the San people, which came during the last Ice Age, probably around twenty thousand years ago. The other nation, called KhoiKhoi, migrated to South Africa, most likely from Botswana, approximately two thousand years ago. Xhosa, Zulu and other Bantu speaking nations probably originated from Congo and came during the fifth century C.E. (Bailey and Trujillo, 2008)

Indigenous inhabitants of South Africa were involved in the activities such as collecting, hunting, herding, cultivating and cattle keeping, and also they were mostly reliant on subsistence farming (Van Zyl et al., 1990). Farming was firstly developed in South Africa between 2000 and 4000 years ago and it is originated from today's Cameroon and Nigeria. (New History, 2010) If it is considered the population size during that time, the agricultural activities were sustainable. (Van Zyl et al., 1990)

3.1.9 The Colonial Conquest and its Impact on the Agricultural Sector

The South African historical context is really broad, but there are certain things, which shaped the agriculture more significantly than others. The first influences can be seen in the 17th century, where white settlers of South Africa, took over through colonialism, where they appropriated more than 90 % of the land under the Natives Land Act of 1913 (Ntsebeza and Hall, 2007). This involved confining the local people to reserves in the remaining marginal shares of land, where a large number of rural inhabitants were forced to leave the rural areas for urban areas or farms in order to get a job (Ibid).

The first arrival of European colonialists, landed at Table Bay in South Africa in 1652, came in the form of a small Dutch party under the command of Jan van Riebeeck in 1652. These European colonialists drove out the majority of the indigenous South African people, namely the Khoi, the San (the Bushmen) and the Bantu language-speaking inhabitants from their land. (Manby, 2001)

The Dutch settlement started with an establishment of a refreshment station that was created by the Dutch East India Company at the Cape of Good Hope in 1652 in order to supply ships on the trade route between Europe to Asia. The Dutch colonial era, which lasted from the 17th century till the mid of the 19th century, brought changes such as (Bernstein, 1996):

- The significant growth and development of commercial farming (commodities such as wine, wheat and cattle) and a mercantile economy with substantial property-owners and burghers at the top position of the class structure. This led to cheap labor from the bottom of the structure, whom were the survivors of the indigenous Khoisan people and also slaves imported from the Dutch East Indies;

- The fast establishment of formal institutions and informal structure of white supremacy;
- The increase of Dutch (i.e. Afrikaner) settlements.

British colonialism and expansion started in the 19th century, including the rule of the Cape from 1806 and settlement in the Eastern Cape and eastern seaside (Natal). There were lots of wars between British colonists and various African chiefdoms and these wars opened up lots of land to white settlers by the 1880s. There were few reserves created among the white farms for Africans who offered help the white colonists in the wars. Although a lot of Africans had no other option than to live on farms of white owners as permanent workers. (Manby, 2001)

British colonialists started to form capitalist farming in the Western and Eastern Cape and also Natal. Commercial capitalism existed at some areas around the ports of Cape Town, Port Elizabeth and Durban as well. A network of migrant merchants began to gradually initiate all people in the region into commodification. (Bernstein, 1996)

3.1.10 Agriculture during the Mineral Revolution and the Union in 1810 to 1948

The diamonds discovery in 1866 and gold discovery in 1886 initiated a great immigration of white people into South Africa (Van Zyl et al., 1990). Prior to the discovery of such minerals, South Africa was a rather backward economy, which was fully dependent on agricultural sector, even though most of the parts lacked the sufficient rainfall and other necessary requirements for successful agriculture. (Ntsebeza and Hall, 2007) However, this significant discovery together with a better transport eased the process of opening up potential marketplaces for agricultural commodities locally and also overseas, which simultaneously made imports more competitive. There was also a legislation introduced in 1883 to protect wheat farmers from cheaper imports. Prices of agricultural commodities had escalated and the food production started to be inadequate and large amounts of agricultural commodities began to be imported at the end of the 19th of century. (Van Zyl et al., 1990) The mineral revolution shaped the route of capitalist development the most (Bernstein, 1996).

As the discovery of minerals caused major economic transformations, and also political restructuring, this all led to the outbreak of the Anglo-Boer war in 1899. (Manby, 2001)

The British settlers victory in the war initiated the establishment of the Union of South Africa in 1910, which was formed by two British colonies (the Cape and Natal) with the defeated Boer (Dutch colonies) republics (Transvaal and the Orange Free State). A new legislation was introduced in the following years. A significant agricultural change came in the form of a Land Bank. This institution was formed under its own legislation in 1912 and it was created from elements of similar institutions that had existed in the four territories. A year later, the first of the land acts – The Natives Land Act was promulgated. This land act brought the prohibition of land ownership by black people, but it also started sharecropping and labor tenancy. This form of agricultural strategy led the sector for almost next seven decades. It was progressively providing the support to white people in the commercial farming and decreasing opportunities for black people on the farms. This all caused the dual type of agricultural economy in South Africa that lasts until the present time. (Anderson and Masters A, 2009)

Between 1910 and 1935, 87 acts were approved that permitted the government to assist farmers (Minaar, 1990 in Anderson and Masters A, 2009). The Natives Land Act, 1913 was the most fundamental act in material terms. It introduced the definitive division of the land in South Africa between areas for white and black permanent residence and settlement (the proportion 92 % and 8 % respectively). (Bernstein, 1996)

The Co-operative Societies Act followed the Natives Land Act in 1922 and it aspired to secure an input supply and marketing services for farmers through legislation that preferred co-operatives by limiting their tax liability and was aimed to ensure an “obligatory cooperation” in order to enable them to manage free riding. (Anderson and Masters A, 2009)

The Natives Land Act, 1913 had an increasing impact in terms of strengthening the pressure on subsistence and reproduction in the African “reserves”. A series of government commissions informed of serious landlessness, overcrowding, soil erosion, the creation of desert conditions and mass starvation in the reserves at the beginning of 1930s. (Bernstein, 1996)

According to estimates, the government spent 112 million British pounds on agriculture between 1910 and 1936 and also 11 million British pounds on export subsidies between 1931 and 1937 (De Kiewiet 1942 in Anderson and Masters A, 2009).

Under a marketing law, 70 % of agricultural outputs were controlled until 1996. The Marketing Act of 1937 approved various types of marketing structures for different agricultural commodities. Within these marketing plans it included monopoly buying, control over agro-processing, single channel exports and quantitative controls over imports. (Anderson and Masters A, 2009)

The South African Agricultural Union (SAAU) organized white agriculture and its basic elements, particularly the Transvaal Agricultural Union (TAU), shaped a powerful political lobby. (Manby, 2001)

The wheat, sugar, maize, dairy, wine and tobacco production has expanded greatly under this heavy protection. Farming is South African traditional occupation and it still sustains three-fifths of the population. (Anderson and Masters A, 2009)

3.1.11 Agriculture during the Apartheid Regime

The National Party was in power from 1948 until 1994. South Africa, in the second half of the 20th century, was under the apartheid regime. This regime was not static or monolithic, as there were many differences and changes in the content. There were also modifications in the implementation and ways of resistance of this policy over the time. (Worden, 2012)

The first decade of governing by the National Party was the racial discrimination extended in legislation. The partial breakdown of segregation that was during the Second World War was upturned and legislative discrimination was even strengthened. (ibid)

During the 1970`s, South Africa went through a stage of quick economic growth, which was also noticeable in the high gold prices and solid agricultural growth. (Anderson and Masters A, 2009)

The division of income had a fundamental significance during the apartheid regime, but evidently the income was divided extremely unequally. In the early 1970s, the richest 20 % of the South African citizens had 75 % of the country`s wealth in their ownership. (Ross, 2008)

In mid-1970`s, South Africa was adversely affected by the oil crisis, which had a negative impact on its economic growth during 1970s and early 1980s (Anderson and Masters A, 2009). The segregation formed by apartheid became greater during the 1970`s and 1980`s, as unemployment increased rapidly. The mechanization of agriculture got

weaker in the number of workers for full time. The requirements for full time workers declined from 105 000 in 1968 to just more than 40 000 in 1981. (Ross, 2008)

Highly supported farm prices and direct government transfers to farmers enhanced agricultural growth in the late 1980`s. Market liberalization and the instability before and right after the elections in 1994, as well as an enormous drought in the early 1990`s, had an unpleasant impact on the growth of the agricultural sector and its opportunities. However, the situation of the agricultural sector has slightly improved after the fall of the apartheid regime. It was mainly caused by the democratic change, weakening exchange rate and also higher commodity prices and export earnings. (Anderson and Masters A, 2009)

3.1.12 The Post-Apartheid Era

Apartheid regime has been built on contradiction between separatist development and dependence upon black labor. This regime also undermined small-scale farmers in South Africa. (Fine, 1998)

The end of the white minority rule over South Africa, has left the structure of racial disproportion intact, mainly in areas such as access to health, education, income, land holding and welfare services. These disproportions had to be improved by the new government in order to make a radical social and economic change in the country. (Lahiff, 2000)

Since the fall of the apartheid, the government has been trying to put efforts into making the land more available for historically underprivileged groups through various land restitutions and redistributions. (Moseley, 2007)

Land restitutions aim to give back land or at least cash payment to their rightful owners that were dispossessed after the adoption of the Natives Land Act in 1913. These land redistribution programs are focused on providing government grants to help rural societies of colour to obtain land when they cannot benefit from land restitutions. The second program is known as Land Redistribution for Agriculture and Development (LRAD). The African National Congress (ANC) government also boosts the participation of non-white population in commercial agriculture. As an example, they encourage non-white inhabitants to contribute in decision-making on commercial farming and also trying to push supermarkets to buy products from farms that are owned by non-whites or shared

with white people. (Ibid) Agricultural development also relies on encouragement and support of small-scale farmers, who play an important role in the economy of the country.

The difference between mostly white commercial farms and mostly black subsistence farms could not be more significant than what it currently is. Commercial type of agriculture makes 90 % of the total value of agriculture. However, the majority of South African people are employed on the black subsistence types of farms. (Nagle, 1998)

The most significant policy plans were taken after the end of the minority rule in 1990's. These policies contained land reforms, institutional restructurings and the promulgations of new legislation that included the Marketing of Agricultural Products Act and the Water Act, as well as the trade policy reforms and even labor market policy reform. All these changes were made within the framework of broader macroeconomic policy reform. (Anderson and Masters A, 2009)

4. Characteristics of the Wool Commodity

3.1.13 Sheep Breeds Worldwide

Sheep (lat. *Ovis aries*) are characterized as ruminant mammals. Sheep are defined as one of the initial animals that were domesticated and a large number of sources agree that they have originated from mouflon (McClure et al 2003). It is complicated to say the exact number of sheep breeds in the world because developing countries usually do not have any reliable statistical data or registries of sheep breeds.

Sheep breeds' selection for wool type, flocking instinct and other economically significant characters (McClure et al 2003) have esteemed more than a one thousand distinct sheep breeds in the world (Schoenian, 2014). As a result of modern breeding systems, there are an increasing number of hybrid and synthetic breeds, which are the outcome of a crossing of two and more recognized sheep breeds (Oklahoma State University, 2015).

Sheep that were domesticated are usually produced for their wool, milk or meat. Breeds of sheep can be usually divided into these categories: **long wool**, **medium wool**, **fine wool** and **hair** or also **meat breed**. **Long wool** breeds produce meat and wool of abnormal length, which is used for rugs or coarse textiles (McClure et al 2003). **Medium**

wool breeds produce wool (medium or long), nevertheless these breeds are mostly raised for their meat qualities. **Fine wool breeds** are recognized for their longevity and strong flocking nature. Most sheep of this breed are identified as Merino. They produce wool with a very small fibre diameter (Schoenian, 2014). **Hair - sheep breed** is used mainly for meat production (McClure et al 2003). Lots of sheep breeds have also a dual purpose as they can be produced for meat and/or wool. There is high number of distinct sheep breeds in the world, and therefore it is almost impossible to distinguish all of them.

3.1.14 Sheep Breeds and the Sheep Supply Chain in South Africa

There are many sheep breeds found in South Africa. Sheep farming has an important place in South African agriculture. It makes big contributions in respect of meat, dairy products and wool/animal fibre. There are probably around twenty recognized sheep breeds in South Africa (Department of Agriculture South Africa, 2008) such as Afrino, Damara, Dormer, Dorper, Ile de France, SA Mutton Merino, Dohne Merino, Merino Landsheep, Van Rooy, Black Headed Persian sheep and so on (Stackyard, 2015).

The distribution, description and characterization of six major breeds in South Africa, namely the Merino, Dorper, South African Mutton Merino, Dohne Merino, Dormer and the Black-headed Persian sheep, is shown in table 4.

Table 4: Largely Distributed Sheep Breeds in South Africa

Sheep Breed	Distribution	Description	Uses
Merino	Throughout the whole country	<ul style="list-style-type: none"> White-woolled sheep with good-quality fine wool A good conformation Originally from Spain, in South Africa from 1789 	<ul style="list-style-type: none"> Predominantly for wool production, also used for meat
Dorper	Western, Northern, Eastern Cape, Free State, North West, Gauteng, Mpumalanga and Northern Province	<ul style="list-style-type: none"> Big, sturdily built mutton sheep, it has black head and white body that is covered by wool and hair Fertile and extremely hardy breed Good mothering qualities and large quantities of milk Lambs ready for slaughtering at 4 months age Easily adaptable to different climates and feeding conditions 	<ul style="list-style-type: none"> Predominantly for production of slaughter lamb under extensive veld conditions Rams suitable for cross-breeding programmes Great demand for the skins (good quality leather)
South African Mutton Merino	Free State, North West, Gauteng, Mpumalanga	<ul style="list-style-type: none"> Descendant of the German Mutton Merino Big sheep for a dual-purpose, it has a good conformation and meat properties White wool of high-quality Very mobile and adaptable to different climates and veld conditions Good growth ability of lambs 	<ul style="list-style-type: none"> Wool and meat production Significance in development of other breeds such as the Dormer and Dohne Merino Rams appropriate for cross-breeding High Adaptability
Dohne Merino	Eastern Cape, Free State, Mpumalanga, South - western Cape, Gauteng	<ul style="list-style-type: none"> Hornless Great adaptability to the pastures and climate of the sour grass-veld areas Great reproduction properties Dual-purpose breed 	<ul style="list-style-type: none"> Fine meat conformation High-quality fine to medium Merino wool
Dormer	Western Cape	<ul style="list-style-type: none"> Hornless Mainly in the winter rainfall areas Sheep with a smooth body and white wool Fine meat conformation Very fertile Lambs grow very rapidly Inbred resistance to the Muellerius lungworm 	<ul style="list-style-type: none"> Exclusively for meat Rams can be used in crossbreeding programmes in order to improve production of meat Great feed conversion rate of lambs
Black-headed Persian	Northern Cape, Western Cape	<ul style="list-style-type: none"> Slaughter sheep with a black head and white body, fat-tailed Dewlap with striking crescent-shape Body with hair No wool Highly fertile Adapts easily It lives well under dry and extensive conditions 	<ul style="list-style-type: none"> This breed was used to breed the Dorper breed Popularity of the fat tale among some consumers Skin used for high-grade, thin leather gloves
Karakul	Northern Cape	<ul style="list-style-type: none"> Medium-sized Wool is mixture of coarse and fine fibres (varying in colours) Wide, fat tail that stores fat Head long and narrow Most rams have horns and the females are hornless Long ears always pointing downward and slightly forward 	<ul style="list-style-type: none"> Meat (very lean) Milk - cheese The wool of adult sheep - used in making carpets and other heavy fabrics Light weight, high volume, strong fiber fleece Superior carpet yarn Pelts

Source: Author's work based on data from Department of Agriculture South Africa (2008) and Grootfontein (2014)

The sheep supply chain in South Africa is illustrated in figure 7. Market channel of this chain begins with the primary producers (farmers), who produce sheep and lamb. Sheep farmers in South Africa are predominantly focused on the production of wool and mutton/lamb meat. Sheep, which have been sheared for about five or six years, are usually sold after this period directly to feedlots (small amounts) or abattoirs. The other option is selling the sheep through auctions. Live animals (lambs and sheep) can be imported by farmers, feedlots or the abattoirs.

Wholesalers, retailers and butcheries distribute meat from abattoirs. Some of the meat is also processed or exported. Processors, retailers and wholesalers also managed the import of the meat. Mainly abattoirs do exports. The whole market channel is completed by the stages that are going directly to consumers.

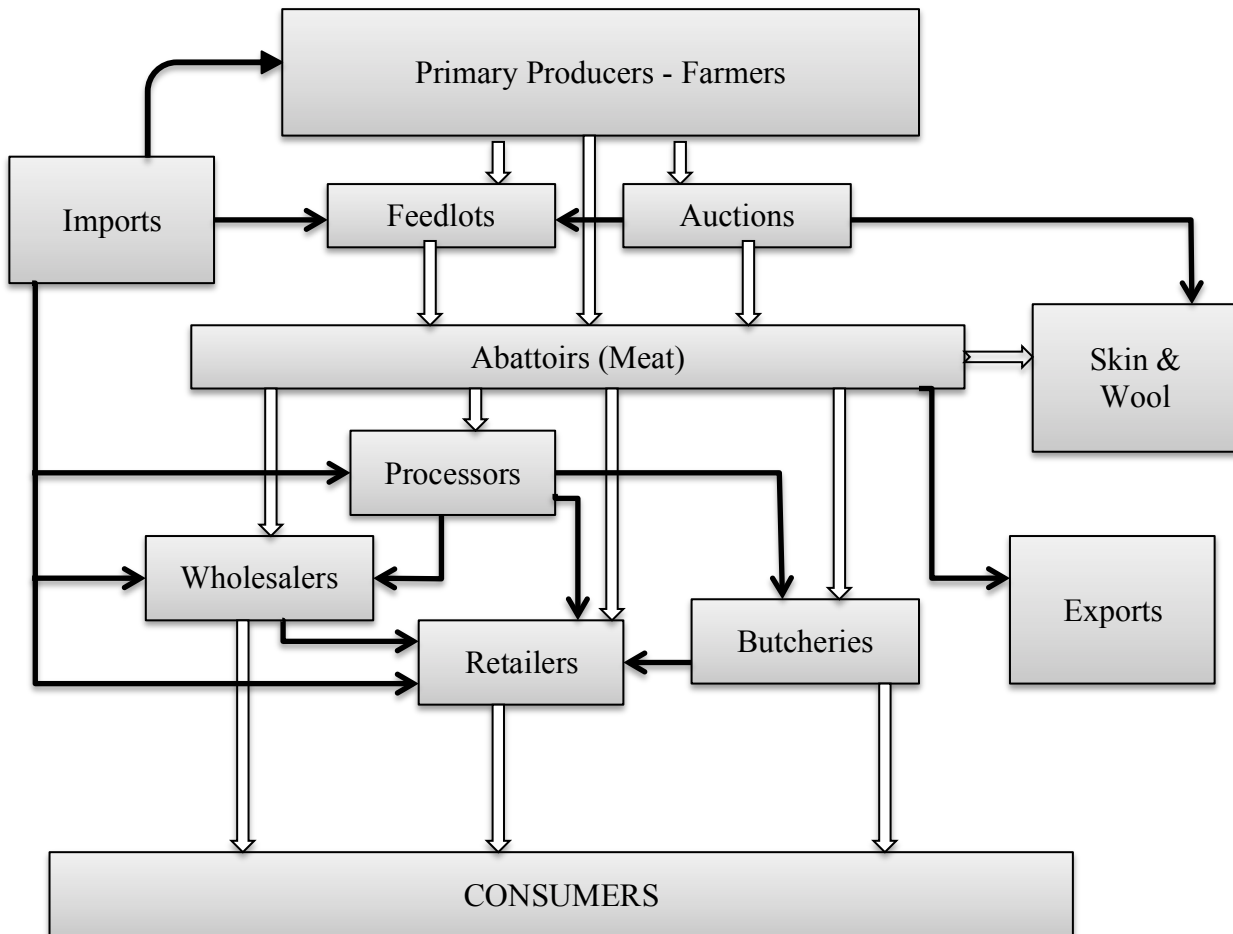


Figure 7: Sheep Supply Chain in South Africa

Source: Author's work based on data from Department: Agriculture, Forestry And Fisheries (2013)

3.1.15 Common Types of Wool

Generally, wool is a fiber produced from the specific skin cells (i.e. follicles) of predominantly sheep. Wool is distinguished from hair or fur by several qualities such as: a different texture, elasticity and it is crimped. (DAFF, 2014)

“**Greasy wool**” comes directly from the sheep; therefore it still contains some dirt, dead skin, sweat excess, vegetable matter and high quantity of valuable lanolin. Raw wool must be scoured and cleaned through different techniques to be use for commercial purposes. This semi-greasy wool is usually processed into yarn and subsequently knitted into predominantly mittens or sweaters, which are water-resistant. (Ibid)

There are five main wool categories into it is wool classified, after the shearing process, such as: fleece, broken, pieces, bellies, and locks. The last four categories are sold separately as pressed wool packs. Wool classing is a technique, which determines a quality of fleeces. (Ibid)

The most common types of wool, which are used especially in the textile industries, are from sheep, goats, rabbits and alpacas (Eversox, 2015). These types of wool differ in their properties and each type of wool suits more specific purposes than others.

Figure 8 indicates the different varieties of wool along with the description of their properties and usages.

The quality of wool is generally specified by the length, crimp, yield, colour, staple strength and diameter of fibers. Stronger and softer textiles are produced from finer and longer fabrics. The scarcity and diameter of the fiber and the properties, mentioned earlier, are crucial for a determination of the market price of wool. Merino wool is typically 3 - 5 inches long and it is very fine type (DAFF, 2014). Merino hoggets produce the most valuable and finest wool. Sheep for meat produce typically more coarse wool, which has fibres from 1.5 to 6 inches in length. (Eversox, 2015 and DAFF, 2014)

There is different grading of wool, which is based on the wool measurements, specifically measurement of diameters in microns. This grading depends on the breed or purpose of the wool, thus it might be various. An example of another wool grading, along with figure 8, may be (DAFF, 2014):

- < 24.5 Fine Wool
- 24.5 – 31.4 Medium Wool
- 31.5 – 35.4 Fine cross bred Wool
- 35.5 < Coarse cross bred Wool

Clothing made from the wool, is usually more expensive than clothing made from other textiles, such as cotton, acrylic and polyester, due to the cost of the wool production. Nevertheless, the wool has unique properties, for which most of the costumers are well worth paying extra over cheaper similar textiles (i.e. cotton, acrylic, polyester and so on). (Eversox, 2015)

The unique properties of wool fibers include: **a high absorption property** (up to 30% of their weight in moisture without feeling any dampness), **anti-microbial and odor resistant properties** and **excellent insulation properties** (Ibid).

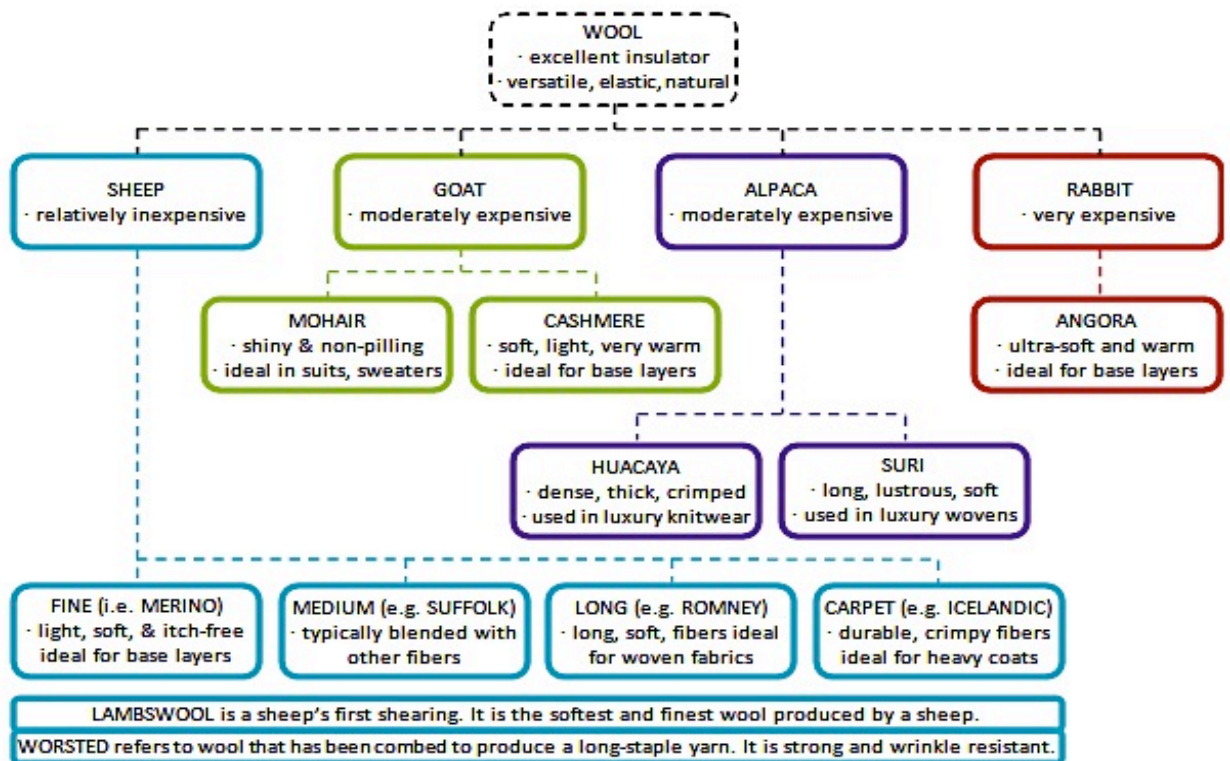


Figure 8: A Breakdown of the Different Varieties of Wool in the World

Source: EVERSOX (2015)

4 Analytical Work

5. The Agricultural Sector in South Africa

4.1.1 The Position of Agriculture in the South African Economy

Geography and Land Cover

The Republic of South Africa is located on the southern tip of the African continent. It has shared borders with Namibia, Botswana, Zimbabwe and Mozambique in the north, in the west it is Atlantic Ocean and in the south and east is Indian Ocean. Excluding Lesotho and Swaziland, the total land is 1 213 090 square km (The World Bank, 2015). The country is divided into nine provinces: The Eastern Cape, The Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, The Northern Cape, North West and The Western Cape as seen in figure 9.



Figure 9: South Africa, showing its neighbours, the boundaries of its nine provinces and the location of some significant cities

Source: Arroukatchee (2012)

As mentioned earlier in the chapter - The Duality of the Farm Structure, South Africa is an example of the dual form of agriculture. On the one side there are well-developed commercial farmers and on the other side there are also more subsistence-based farms in the deep rural areas.

South Africa is one-eighth the size of the United States; it covers more than 1.2 million square kilometres of land. There are seven different climatic regions that can be

defined from the Mediterranean to subtropical to semi-desert areas. (SouthAfrica.info, 2012)

Apart from the various climate regions there is also a huge biodiversity and more than three thousand kilometre long coastline with eight commercial ports (ibid). This all favours the cultivation of a highly diverse range of commodities such as citrus, subtropical fruits, grain, livestock, wool, cut flowers, game and so on.

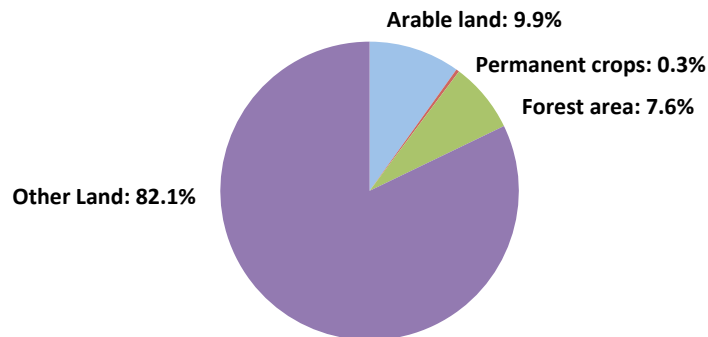


Figure 10: Land use in South Africa, 2012

Source: Author's work based on data from FAO STAT in Open Data for South Africa (2015a)

As stated earlier, South Africa covers more than 1.2 million square kilometres of land and only about 120 thousand square kilometres of this can be used as arable land, more than 92 thousand square kilometres is for forest area and slightly above four thousand square kilometres is used for permanent crops (FAO STAT, 2015b).

Figure 10 shows these numbers in percentage representation during 2012. As seen in the figure, only 0.3 % of South Africa's total land could be used for permanent crop production, 7.6 % is forest, 9.9 % is high-potential arable land and 82.1 % was created by other land in 2012.

The greatest limitation is the availability of water; there are irregular and unreliable rainfalls. Approximately 1.3 million hectares of the total land are under irrigation system, and around 50 % of water in the country is used for the agricultural sector (SouthAfrica.info, 2012).

The land cover in South Africa is also visible in annex 2. It can be seen that the largest part of South Africa is covered by savannah; the second largest part is covered by

Nama Karoo, which is vast, arid region with low shrub vegetation. The third biggest part is covered by grassland.

Table 5: Evolution of Land Use in South Africa in the period of 1990-2000 and 2000-2012

	Area (1000 ha)		Annual Growth (%)	
	1990-2000	2000-2012	1990-2000	2000-2012
Land area	121,309.00	121,309.00	0.00	0.00
Arable land	13,441.91	12,961.38	0.77	-1.03
Permanent crops	332.73	392.54	2.31	0.92
Forest area	9,241.00	9,241.00	0.00	0.00

Source: Author's work based on data from FAO STAT in Open Data for South Africa (2015a)

Table 5 shows the evolution of land in South Africa during two time periods, 1990-2000 and 2000-2012. The land area remained the same during these two time periods, although the area of arable land declined due to the anthropogenic and climate factors and also due to the growing urbanization. Permanent crops slightly increased and forest areas remained the same. Annual growth decreased in permanent crops and in arable land, due to the factors described earlier.

Demography

South African population is very ethnically and culturally diverse. There is mainly young population with wide range of customs, religions, languages and so on. In 2014 there were over 53 million people in South Africa. The total population is still growing very fast, as seen in table 6. The population increased by nearly nine million people from 1999 to 2014. Consequently, with the growth of the total population, there was also a growth of the total labor force in South Africa. The South African labor force rose by four million in the period of 1999–2014. The fast growth of the labor force also worsened the overall unemployment situation in South Africa.

Table 6: Evolution of Population and Labor Force in South Africa in the period of 1999 - 2014

	1999	2004	2009	2014
Total population (in millions)	44.20	47.55	50.89	53.14
Total labor force (in millions)	15.62	17.16	18.57	19.58
Rural population (in % out of total)	43.59	41.21	38.91	36.68
Labor force (in agriculture in % out of total)	9.64	8.04	6.67	5.55
Females in agrarian sector (in %)	30.94	30.67	30.35	29.53

Source: Author's work based on data from FAO STAT (2015a)

Agricultural sector still remains very important for the employment situation in the country. Labor force in agriculture in South Africa decreased quite rapidly in the period of 1999 – 2014 as seen in the table. Lots of workers are leaving the agricultural sector for other sectors such as manufacturing and services. In table 6 can be seen that the workers in the agricultural sector are predominantly men.

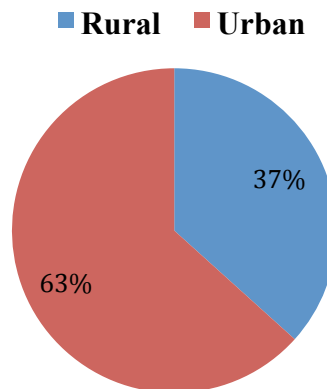


Figure 11: Percentage of Rural and Urban Population in South Africa, 2014

Source: Author's work based on data from FAO STAT (2015a)

The rural and urban population in South Africa in 2014 is indicated in figure 11. The rural population during the given year accounted only 36.68 % and the urban population represented 63.32 %. The rural population is continuously decreasing in South Africa as seen in table 6. More than two thirds of South African people live in urban areas. The share of those living in the rural areas dropped from 43.49 % in 1999 to 36.68 % in 2014. The main causes of urbanization might be: **the higher economic growth and concentration of economic activities in urban areas**. These aspects attract lots of people from rural areas to move to urban areas in order to find a job there.

Economic overview

South Africa's GDP has expanded quite rapidly since the fall of the apartheid regime in 1994. Nevertheless, in recent years, as illustrated in figure 12, the South African government was not successful in addressing structural problems such as increasing inequalities between rich and poor population, high unemployment rate, high rate of corruption, high crime rates, low skilled workers and worsening infrastructure.

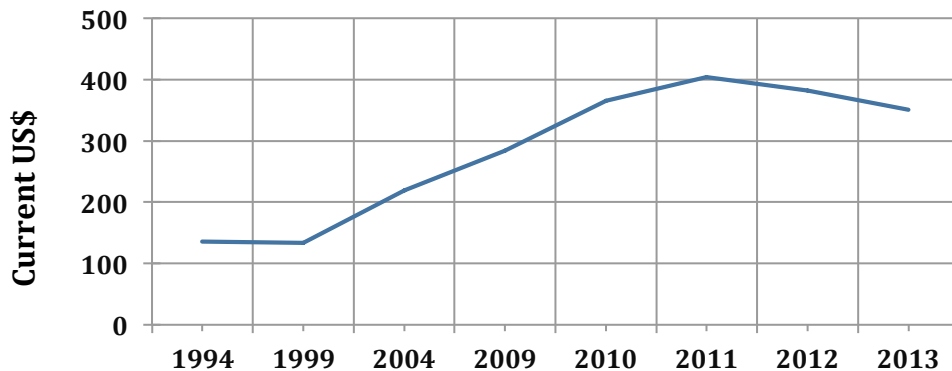


Figure 12: GDP in South Africa (in billion US\$)

Source: Author's work based on data from The World Bank in Open Data for South Africa (2015b)

Together with the insufficient programs of governments, South Africa dropped into a recession in 2008, because of the global economic crises. South African growth is relatively sluggish and overall below the African average, as seen in figure 12.

Primarily the agricultural sector contributed to the gross domestic product (GDP) about **two per cent** in 2013. As seen in figure 13, the share of agriculture in the total

GDP was 4.17 % in 1993, 3.77 % in 1998, 3.43 % in 2003, but when the economic crises hit the country, the number dropped to 2.99 % in 2008, 2.59 % in 2010, 2.52 % in 2012 and 2.39 % in 2013. This means that the South African economy is maturing and moving more towards to the other sectors.

However, farming still remains crucial for the economy. It was estimated that approximately 8.5 million people are directly or indirectly reliant on agriculture in terms of their incomes and employment positions. The sector's importance is significant because of its potential to create jobs, and it also plays a key role in the New Growth Path plan that was built by the government in order to create five million new jobs by 2020. Plans include programmes to uphold commercially oriented small-scale farmers. Support is also offered to smallholders on land gained through land reform. (SouthAfrica.info, 2012)

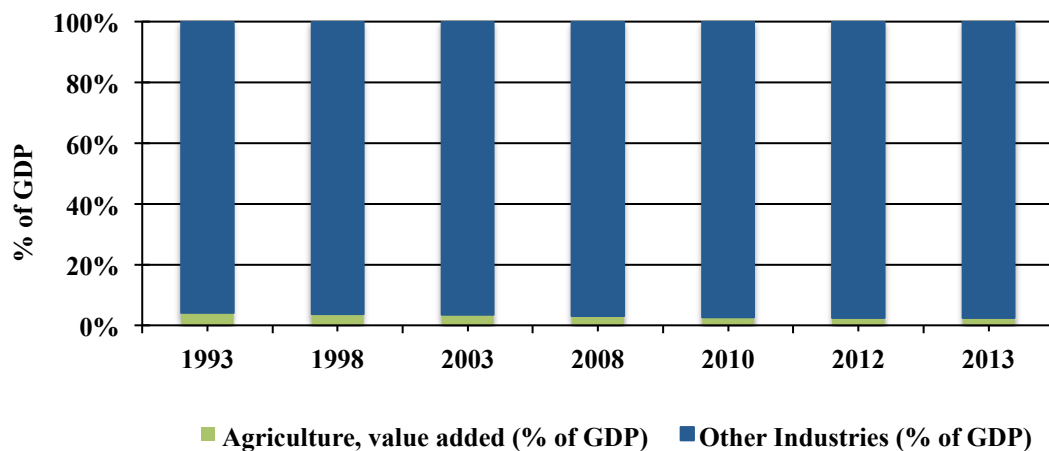


Figure 13: Share of Agriculture, value added in total GDP

Source: Author's work based on data from The World Bank in Open Data for South Africa (2015b)

The share of the agricultural sector in the total GDP of South Africa has changed from the year 1994 till 2013, as described in figure 14. The share of agriculture in the total GDP dropped from 5 % in 1994 to 2 % in 2013. The biggest share in the total GDP had the third sector of the economy such as sector of services, which contributed by 60 % in 1994 and this contribution rose to 68 % in 2013. The second sector of the economy such as industrial sector contributed by 35 % share in 1994 and by 30 % share in the total GDP in 2013.

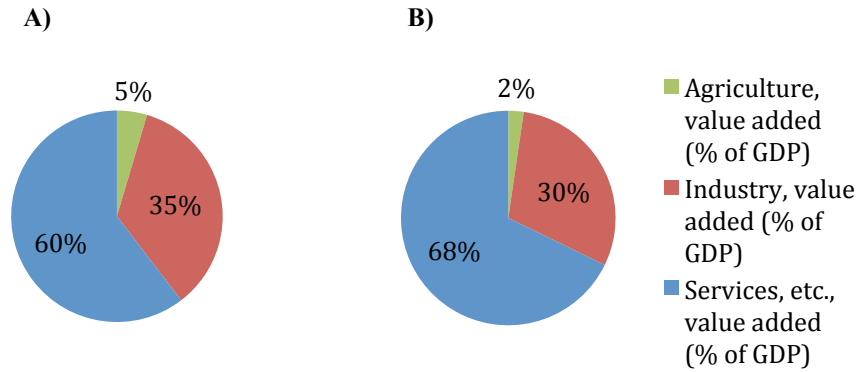


Figure 14: The Difference in Share of Agriculture, Industry and Services in South Africa in 1994 (A) and 2013 (B)

Source: Author's work based on data from The World Bank (2015)

4.1.2 The Agricultural Production in South Africa

Farming Regions

South Africa is divided into different farming regions according to soil type, vegetation, climate conditions or practises in farming.

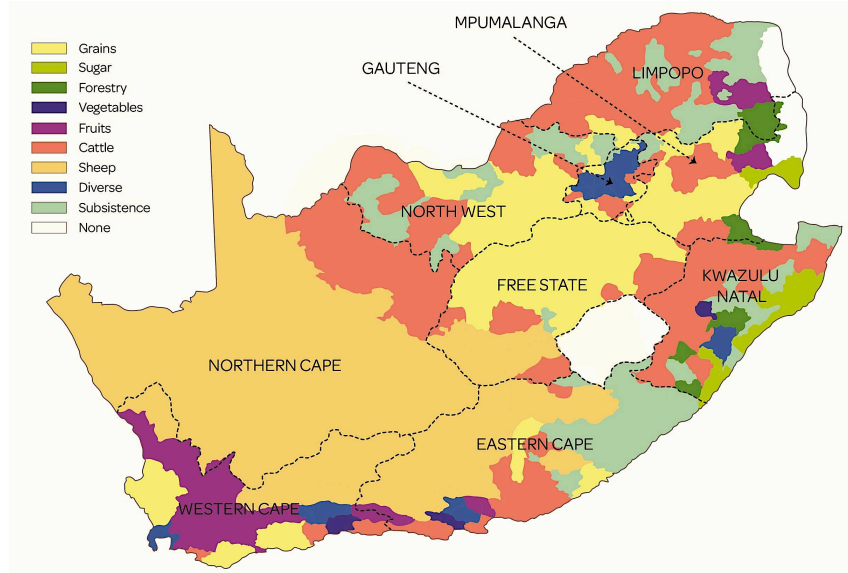


Figure 15: Agricultural Regions in South Africa

Source: Based on data from FAO, adapted by Sadia Chowdhury in Cieplak, 2013

As seen in figure 15, agricultural regions range from mixed farming and intensive crop production to sheep farming and cattle ranching.

The grain industry is one of the biggest in South Africa. The largest farm areas are planted with wheat, maize, sunflowers, and sugarcane. Maize is the largest produced crop. South Africa is the main maize producer in the Southern African Development Community (SADC). It is produced predominantly in the North West province, the Free State, the Mpumalanga Highveld and the KwaZulu-Natal Midlands. Wheat is produced in the areas of the Western Cape and the eastern parts of the Free State and barley is produced mostly on the southern coastal plains of the Western Cape. There are also plantations of sunflower seeds, groundnuts, sorghum and lucerne. (SAinfo reporter, 2008)

Sugar is also a very important commodity for South Africa. Sugarcane is produced in the northern part of the Eastern Cape through the coastal belt of the KwaZulu Natal Province to the Mpumalanga. Fruits such as grapes, citrus, avocados, mangoes, bananas, litchis, guavas and so on, are grown mostly in the Western Cape, in the Eastern Cape and also in Mpumalanga and Limpopo. Vegetables such as potatoes, tomatoes, onions and cabbage are grown mainly in Mpumalanga, Limpopo, Eastern, Western and Northern Cape.

Livestock is the largest agricultural sector in South Africa (SAinfo reporter, 2008). Cattle ranches are found predominantly in the Eastern and Northern Cape, Limpopo and KwaZulu Natal province. Sheep farms are found mainly in the Northern, Eastern and Western Cape and Free State.

The Division of Agricultural Activities by Province

Within South Africa, the highest percentage of agricultural households that reported livestock ownership was located in the Eastern Cape province (30.1 %) in 2011, whilst the highest number of agricultural households involved in poultry production was in the KwaZulu-Natal province (27.5 %), as seen in figure 16. The figure further indicates that the KwaZulu-Natal province also had the highest number of agricultural households engaged in vegetable production (30.3 %) in the given year. The highest number of agricultural households in 2011 that reported production of other crops was in Limpopo (24.5 %).

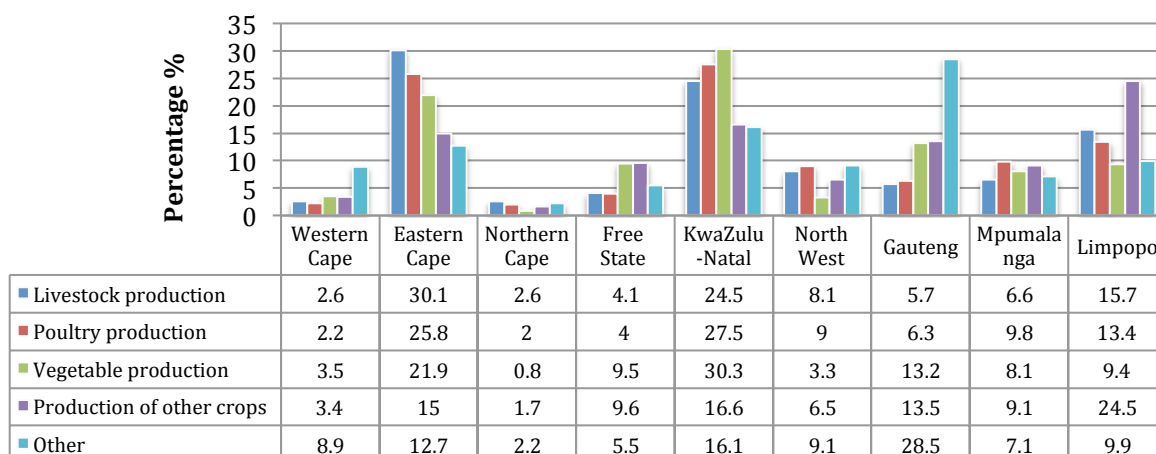


Figure 16: Distribution of Agricultural Households Involved in Specific Activity by Province, 2011

Source: Author's work based on data from Statistics South Africa (2012)

The Structure of the Crop and Livestock Commodity Production

Over the years, the structure of the South African agricultural production has changed quite significantly in the production of some particular commodities. However, in overall, the production has been fluctuating, in some years it was stagnant whilst in some years it was either at an increasing rate or at a decreasing rate.

Over the past 20 years, the agricultural sector has shifted towards the large-scale intensive farming and also South Africa has started to produce more high-value products and crops such as deciduous fruits.

In table 7, there were chosen nine crop commodities, which are highly produced and have a significant position in the South African agricultural sector. The production of these chosen crop commodities was compared in the year 1993 and 2013 in order to show the percentage changes after the twenty years.

As described in the table, the positive production growth was seen in almost all crop commodities in 2013 in comparison to the year 1993. The negative growth was seen only in wheat and apricots commodities, whose production declined by 5.28 % and 4.65 % respectively.

The biggest positive growth change (98.59 %), which table 7 depicts, was in the production of the potatoes commodity. Nowadays, potato industry is one of the important food providers in the country. Another significant positive production growth was seen in

the sugar cane commodity, specifically 60.08 %. Sugar cane has always been an important part of the South African production. Sugar cane industry thanks to its structure and earnings makes a great contribution to the national economy as well.

Sunflower seed had the third highest positive growth rate (59.17 %) in 2013 in comparison to the year 1993.

Other important South African crop commodities such as grapes, apples, tomatoes and maize, in which South Africa is one of the biggest exporters in the world, also had a positive production growth in the comparison between 1993 and 2013, as characterized in the table.

Table 7: The Production of Chosen Crop Commodities in Tonnes (in 1993 and 2013)

Commodity	1993	2013	Change (%)
Sugar cane	11244400	18000000	60.08
Maize	9997000	12486000	24.90
Potatoes	1134000	2252000	98.59
Wheat	1983770	1879000	-5.28
Grapes	1246000	1850000	48.48
Apples	589037	811523	37.77
Tomatoes	416202	566180	36.03
Sunflower seed	349944	557000	59.17
Apricots	56676	54040	-4.65

Source: Author's work based on data from FAO STAT (2015b)

The annual production (1993–2013) of crop commodities, which had the highest positive production growth in 2013 in comparison to 1993, is shown in figure 17. As seen in the figure, in general, the biggest production in thousands of tonnes showed the sugar cane commodity, followed by potatoes and sunflower seed respectively over the twenty-year timeline. The top production of the sugar cane commodity attained a peak at around 24 million of tonnes in 2000. The peak production of the potatoes commodity was attained at around 2.3 million of tonnes in 2013 and the sunflower seed commodity reached its peak at around 1.2 million of tonnes in 1999.

Figure 18 depicts the fluctuations of the chosen crop commodities between 1993 and 2013 and it is expressed by the fixed base method with a base year 1993. As seen in figure 18, the most significant fluctuations in comparison to the base year 1993 were seen

in the production of the sunflower seed commodity, especially in 1996, the most obvious growth in 1999, further in 2002, followed by a slight drop in comparison to the base year 1993 in 2007 and following years the values were continuing above the value of the given base year. Other two chosen commodities had not such significant value fluctuations to the base year as the sunflower seed commodity, nevertheless both of them stayed above the value of the base year 1993.

Generally, figure 18 depicts that the chosen crop commodities showed a positive growth (apart of the year 2007 for the sunflower seed commodity) in comparison to the base year 1993.

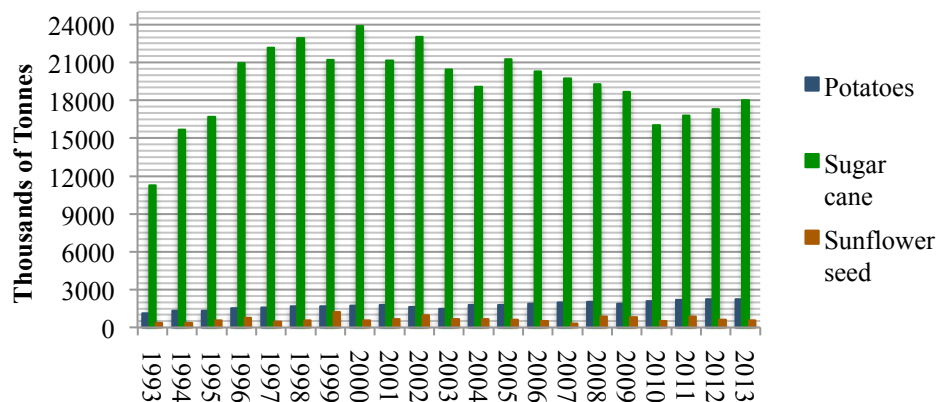


Figure 17: The Evolution of the Chosen Crop Commodities Production over a twenty-year timeline (1993–2013)

Source: Author’s work based on data from FAO STAT (2015b)

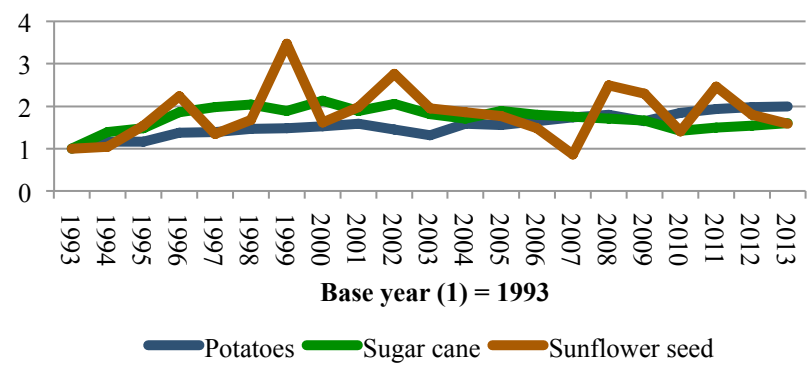


Figure 18: The Evolution of the Chosen Crop Commodities Production Expressed by Fixed Base Method over a twenty-year timeline (1993–2013)

Source: Author’s work based on data from FAO STAT (2015b)

The position of the key commodities in 2012 in terms of their production structure, scope and monetary value is illustrated in figure 19. These commodities provide either plant or animal outputs in the primary production process, which creates a strategic framework for South African agrarian sector.

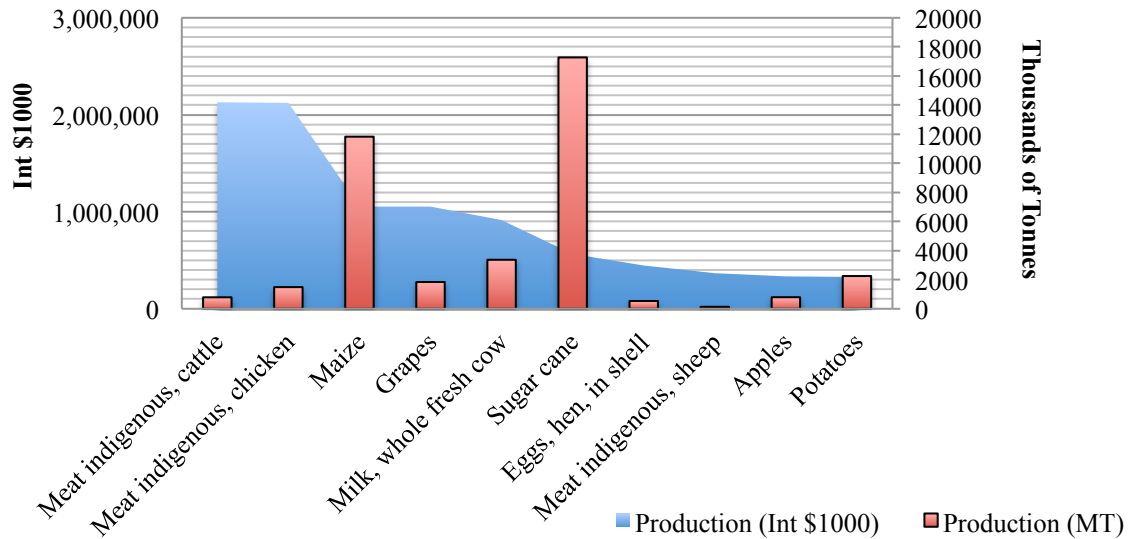


Figure 19: Top Agricultural Commodities Production in South Africa, 2012

Source: Author's work based on data from FAO STAT (2015b)

On the top of the production value commodities in South Africa were livestock commodities such as meat indigenous of cattle and chicken. On the top of the production quantity commodities were sugar cane and maize, as illustrated in figure 19. Livestock commodities were placed in the 8th (meat indigenous, chicken) and 10th place (meat indigenous, cattle) within the production quantity commodities in 2012. Milk (whole fresh cow) was in the 3rd place within the top 10 commodities in the production quantity in 2011, but in the 5th place within the top commodities in the production value. Grapes were also highly produced commodity in South Africa, as shown in figure 19, in the given year. This commodity was in the 5th place in the production quantity commodities and in the 4th place amongst the production value commodities.

Table 8 indicates five chosen livestock commodities, which have a significant production and position in South African agriculture. Livestock is the largest agricultural sector in the country. The production of these chosen livestock commodities was shown

on a comparison of the year 1993 and 2013 in order to point out the percentage changes after the twenty years.

Table 8: The Production of Chosen Livestock Commodities in Tonnes (in 1993 and 2013)

	1993	2013	Change (%)
Meat indigenous, cattle	654187	796141	21.70
Meat indigenous, chicken	526395	1497026	184.39
Meat indigenous, goat	34106	32281	-5.35
Meat indigenous, pig	119600	210770	76.23
Meat indigenous, sheep	114000	135080	18.49

Source: Author's work based on data from FAO STAT (2015b)

As seen in table 8, the positive production growth was observed in almost all crop commodities in 2013 in comparison to the year 1993. The negative growth had only goat indigenous meat, whose production declined by 5.35 %.

The biggest positive growth change (184.39 %), which is indicated in table 8, was seen in the production of the chicken indigenous meat. The poultry industry is a major contributor to the country's economy, and thus it has a special position in the agricultural sector in South Africa. Another positive growth change (76.23 %) in 2013 in comparison to 1993 was observed in the indigenous meat of pig. The pork industry in South Africa is also rather large in terms of the overall agricultural sector there. The pork indigenous meat production was followed by cattle indigenous meat production with a positive growth of 21.70 % and further followed by the production of the sheep indigenous meat, which increased by 18.49 % in 2013 in comparison to 1993.

The annual production (1993 - 2013) of the three livestock commodities, which had the biggest positive growth in 2013 in comparison to 1993, is seen in figure 20. As seen in the figure, in general, the biggest production in thousands of tonnes showed chicken indigenous meat, followed by cattle indigenous meat and pig indigenous meat respectively over the twenty-year timeline. The top production of the chicken meat attained a peak at around 1.5 million of tonnes in 2013. The peak production of the cattle meat was attained at around 820 thousand of tonnes in 2010 and the pig meat reached its peak at around 313 thousand of tonnes in 2009.

Figure 21 illustrates the fluctuations of the chosen livestock commodities between 1993 and 2013 and it is expressed by the fixed base method with a base year 1993. As figure 21 indicates, the most positive values in comparison to the base year 1993 were seen in the production of the chicken indigenous meat, the values positively increased especially in last 10 years of the given timeline. The indigenous meat of cattle had negative values compared to the base year 1993 until 2005 and in the following years its values stayed slightly above the base year's value. The pig indigenous meat had values slightly above and under in comparison to 1993 until 2006. After 2006 the values of the pig meat were only positive and the peak increased compared to the base year of the pig indigenous meat production was reached in 2009.

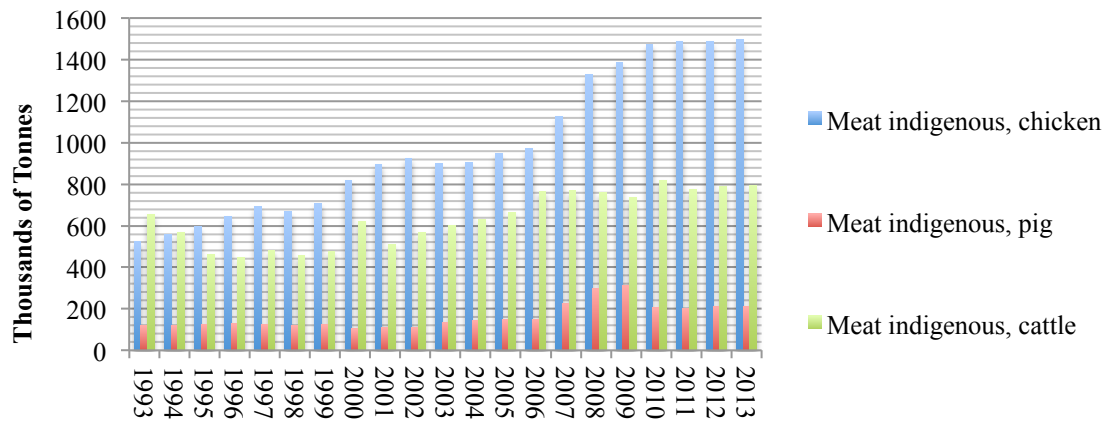


Figure 20: The Evolution of the Chosen Livestock Commodities Production over a twenty-year timeline (1993–2013)

Source: Author's work based on data from FAO STAT (2015b)

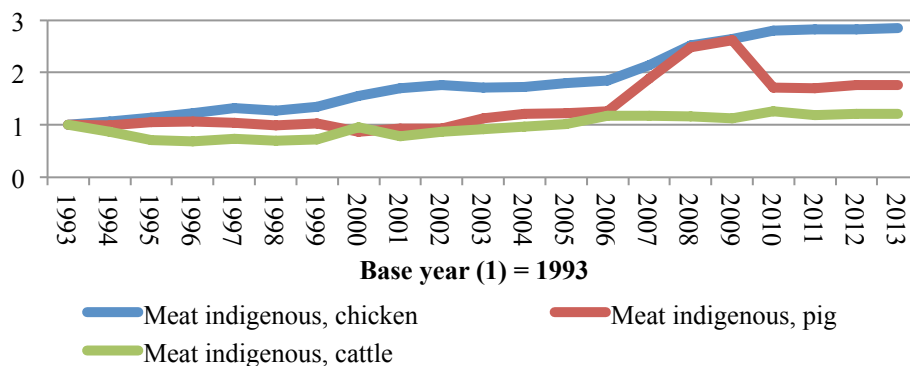


Figure 21: The Evolution of the Chosen Livestock Commodities Production Expressed by Fixed Base Method over a twenty-year timeline (1993–2013)

Source: Author's work based on data from FAO STAT (2015b)

4.1.3 The International Trade in Agriculture

Exports

The trade liberalisation after the South Africa's political reforms, which began in the 1990s, caused a deeper integration of South African economy into the global economic system. South Africa also aims to create a supporting a sustainable and prosperous agricultural sector with a positive environment for international trade in order to contribute towards growth, employment and income of all contributors in this important sector.

As seen in figure 22, the biggest partner country for the exports of the South African agricultural products was the Netherlands (16 %) in 2014, followed by China (14 %) and the United Kingdom (14 %). Other important export partners were from Africa, namely Zimbabwe (13 %) and Mozambique (12 %), which were followed by other countries such as Japan (7 %), Hong Kong (6 %), Angola (6 %) and lastly Zambia (6 %) in 2014.

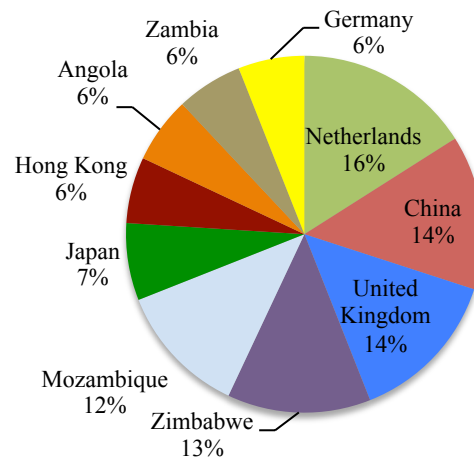


Figure 22: The Percentage of the Main Countries for the South African Export of the Agricultural Commodities in 2014

Source: Author's work based on data from Department of Agriculture, Forestry and Fisheries (2015)

In 2011, the largest exported commodity, as illustrated in figure 23, was maize. South Africa is placed amongst the top 10 exporters of maize in the world. Wine commodity was positioned in the 2nd place in 2011 within the most exported commodities in South Africa. Other most exported commodities in 2011 were fruits such as oranges, grapes and apples.

In terms of the most unit value (\$/tonne) commodities as described in figure 23, the top commodity was **wool (greasy)**² in 2011. This commodity is going to be further analysed in the following chapter of the thesis.

In the 2nd place was nuts nes³ commodity, in the 3rd position food prep nes⁴ commodity, further was in the 4th place wine, followed by grapes, fruit prep nes⁵, pears, apples, oranges and with the lowest unit value (\$/tonne) within the top ten commodities in South African exports, was placed maize commodity. The top three partners for export value in 2011 were Netherlands, United Kingdom and Zimbabwe (FAO STAT, 2015b).

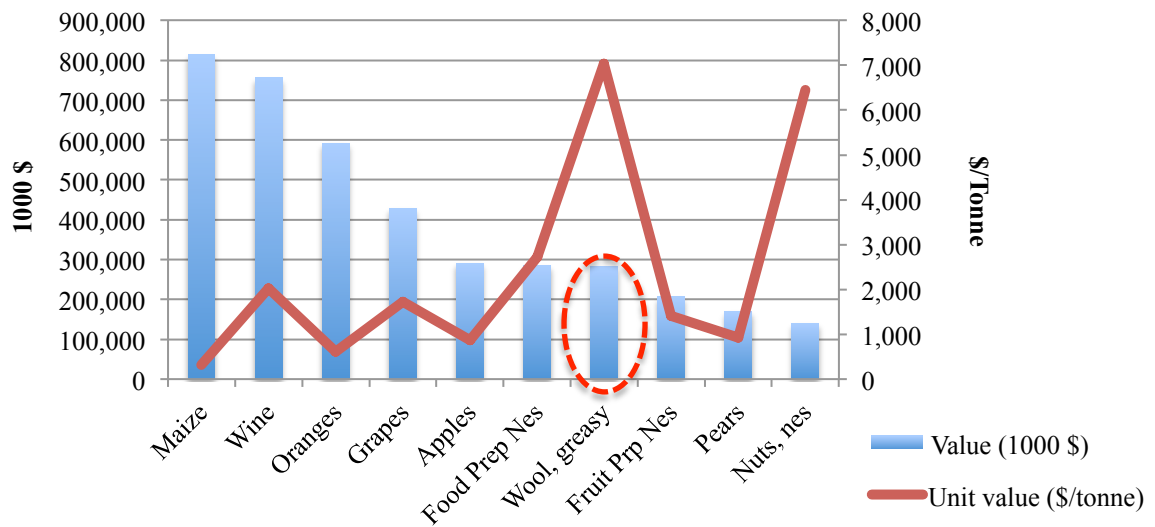


Figure 23: Top Exports of Agricultural Commodities in South Africa, 2011

Source: Author's work based on data from FAO STAT (2015b)

² Wool, greasy (FAO STAT, 2015b): a natural fiber taken from sheep or lambs. Includes fleece-washed, shorn and pulled wool (from slaughtered animals), but does not include carded or combed wool.

³ Nuts, nes (FAO STAT, 2015b): including inter alia: pecan nut (*Carya illinoensis*); butter or swarri nut (*Caryocar nuciferum*); pili nut, Java almond, Chinese olives (*Canarium spp.*); paradise or sapucaia nut (*Lecythis zabucajo*); Queensland, macadamia nut (*Macadamia ternifolia*); pignolia nut (*Pinus pinea*). Other nuts that are not identified separately because of their minor relevance at the international level. Because of their limited local importance, some countries report nuts under this heading that are classified individually by FAO.

⁴ Food Prep Nes (FAO STAT, 2015b): Including both crop and livestock products. Inter alia: homogenized composite food preparations; soups and broths; ketchup and other sauces; mixed condiments and seasonings; vinegar and substitutes; yeast and baking powders; stuffed pasta, whether or not cooked; couscous; and protein concentrates. Including turtle eggs and birds' nests.

⁵ Fruit Prep Nes (FAO STAT, 2015b): fruit, nuts and peel, including frozen, prepared or preserved, jam, paste, marmalade, pure and cooked fruits, other than those listed separately.

Imports

The top ten imported commodities into South Africa in 2011 are described in figure 24. As seen in the figure, the most imported commodity was **wheat**. On the contrary, the commodity with the lowest unit value (\$/tonne) was also wheat. Other most imported commodities were palm oil, soybean oil and alcoholic beverages (bever dist. al.)⁶.

Alcoholic beverages (Bever. Dist. Alc.) were in the first place amongst the top 10 commodities in unit value (\$/tonne). Rubber, tobacco and food prep nes commodities followed alcoholic beverages within the top high unit value (\$/tonne) commodities.

The top three partners for an import value in USD were Argentina, Brazil and United States of America in 2011 (FAO STAT, 2015b). Generally, other important South African importer partners are China, Germany, the United Kingdom and the Netherlands.

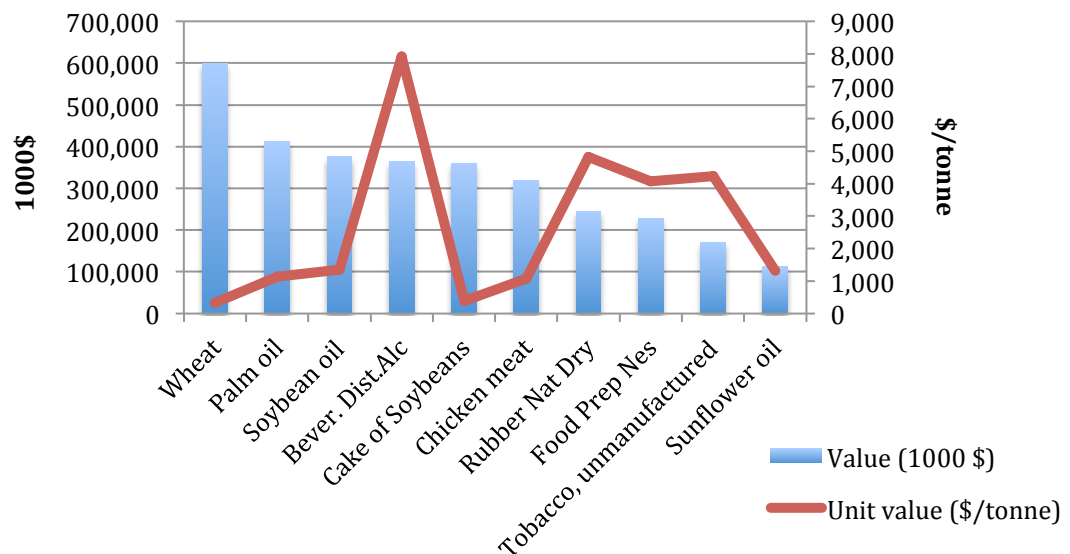


Figure 24: Top Imports of Agricultural Commodities in South Africa, 2011

Source: Author's work based on data from FAO STAT (2015b)

⁶ Bever. Dist. Al. (FAO STAT, 2015b): includes undenatured ethyl alcohol (strength by volume < 80%); spirits, liqueurs and other spirituous beverages and preparations.

6. The World Wool Market

An important branch of agriculture, which provides healthy food with high-protein and valuable raw materials for a number of industries, is livestock. Sheep farming is one of the major livestock industries, producing raw materials such as wool and meat. Sheep farms are predominantly in countries with large pastures.

4.1.4 The Main Production Centres

The sheep density across the whole world is seen in figure 25. The highest sheep density is found in Australia and New Zealand. South Africa has relatively high sheep density together with Nigeria and Sudan. Other countries in Africa, North or Latin America (apart from Uruguay and Argentina) have rather low sheep density. In South Africa, the highest number of sheep per square kilometre is located in the eastern part of the country.

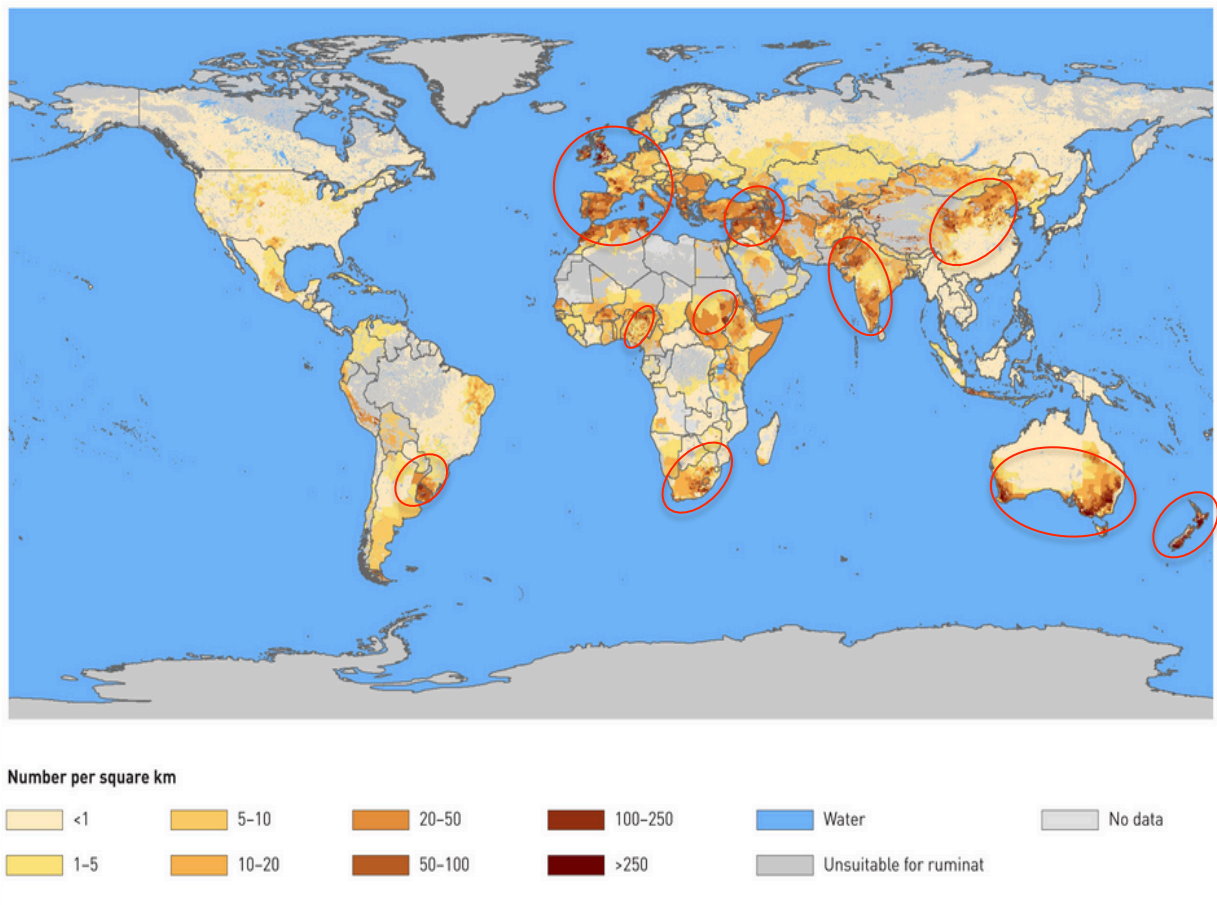


Figure 25: Sheep Density Map, 2005

Source: FAO (2014)

Table 9: Top 10 Countries with the Highest Number of Sheep, 2013

Country	Number of head
China	185,000,000
Australia	75,547,846
India	75,500,000
Sudan	52,500,000
Iran	50,220,000
Nigeria	39,000,000
New Zealand	30,786,761
United Kingdom	32,856,000
Pakistan	28,800,000
Turkey	27,425,233
Total	1,172,833,190

Source: Author’s work based on data from FAO STAT (2015b)

There are more than 1 billion sheep worldwide. Sheep production is decreasing in some countries and increasing in others, as seen in table 9, country with the highest number of sheep in 2013 was China, followed by Australia and India.

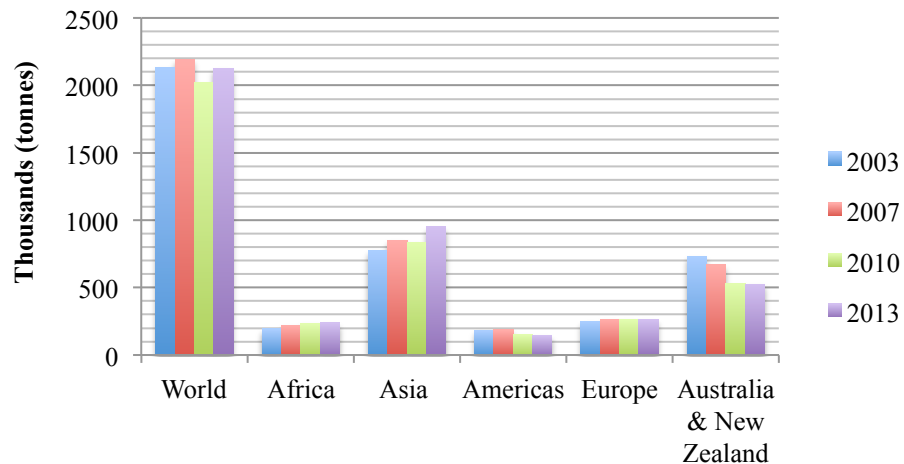


Figure 26: World Wool (greasy) Production by Regions

Source: Author’s work based on data from FAO STAT (2015b)

The world wool production quantity has not changed radically over a ten-year timeline. As figure 26 shows, a slight drop can be seen in 2010, during the time of global financial crises. The countries, which contributed to the world production the most, were situated in Asia. The biggest Asian wool producer was China. The wool production in in Asia, especially in China was followed by Australia and New Zealand. These countries

are known for their high production and quality wool. After Australia and New Zealand, there were countries in Europe, Africa, and lastly Americas that highly contributed to the world wool production. The biggest wool producer in Europe was the United Kingdom. In Africa there were two countries, namely Morocco and South Africa and so as in Americas, specifically Argentina and Uruguay.

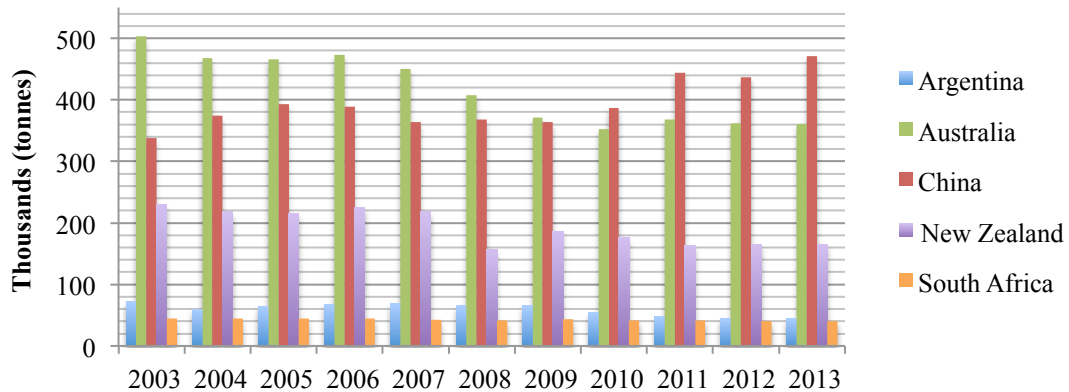


Figure 27: The Evolution of Wool (greasy) Production in the Major Producing Countries over a ten-year timeline (2003 – 2013)

Source: Author’s work based on data from FAO STAT (2015b)

In figure 27 is seen the evolution of wool production in the major producing countries in the time period 2003 - 2013. It is visible that Chinese production has grown rapidly from 2003 to 2013. It was mainly because of Chinese economic growth and deepening position of China as the ‘hub’ of the global textile industry. A slight decline is seen in 2007, which was a result of a lower sheep population (Ministry of Textiles Government of India, 2010).

Australia is widely recognized for its high-quality wool production and knowledge about wool. Sheep have been a big part of its history. Australian wool production has dropped substantially in the past years. The decline was mainly caused by a shift to a greater emphasis on sheep production in other regions such as Asia. Drought or dry seasonal conditions in several years since 2000 and a retreat from sheep and wool production in other regions, due to the wild dog predation, were reasons of the decline as well (Pattinson et al., 2015).

New Zealand is also a very important world wool producer. Sheep have a long history in this region too, and the New Zealand wool sector experienced many ups and downs. New Zealand's decline over the period of time 2003 - 2013 was not as significant as in Australia, but the wool industry noticeably weakened throughout the years. When sheep numbers have declined, so has overall wool production (ANZ Bank New Zealand Limited, 2013).

Argentina and South Africa did not show any large or sudden declines. Their wool production has constantly and slightly weakened from the year 2003 to the year 2012. An exception was South African wool production in 2009, which was higher than in 2007 and 2008. The wool production in 2013 remained the same as in 2012 in both countries.

Figure 28 shows the producer prices of wool (greasy) in absolute prices (USD/tonne) in the period of 2002 and 2013. The chosen countries in the figure are the major producers of the wool commodity in the world. As seen in the figure, the highest producer prices were seen particularly in South Africa and China. Producer prices in South Africa attained its peak at around 12196 USD per tonne in 2011. The producer prices in China reached its peak at approximately 8394 USD per tonne in 2013, Australia at around 6862 USD per tonne in 2012 as well as New Zealand at approximately 4078 USD per tonne in 2012 and Argentina attained its peak in producer prices at around 3574 USD per tonne in 2012.

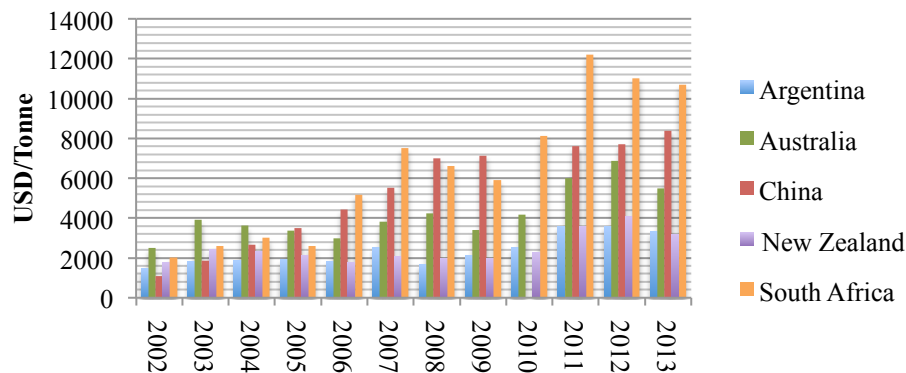


Figure 28: The Evolution of the Wool (greasy) Producer Prices Expressed in the Absolute Prices between 2002 and 2013

Source: Author's work based on data from FAO STAT (2015b)

Figure 29 illustrates the evolution and fluctuations of the wool (greasy) producer prices between 2002 and 2013, which are expressed by fixed base method with a base

year 2002. As seen in figure 29, the most significant fluctuations in comparison to the base year 2002 were seen in the producer prices of wool (greasy) in China, especially in 2008 and 2013. Another significant change in comparison to the base year 2002 were observed in the case of the South African producer prices, which were above the producer prices of the given base year all the years in the given period. Other three given countries were either slightly above the producer prices in the base year 2002 or slightly under until 2010. However, their producer prices increased more significantly in the last three years of the timeline, when compared to the base year.

Generally, figure 29 depicts that the producer prices of the given wool producing countries showed predominantly a positive growth in comparison to the base year 2002.

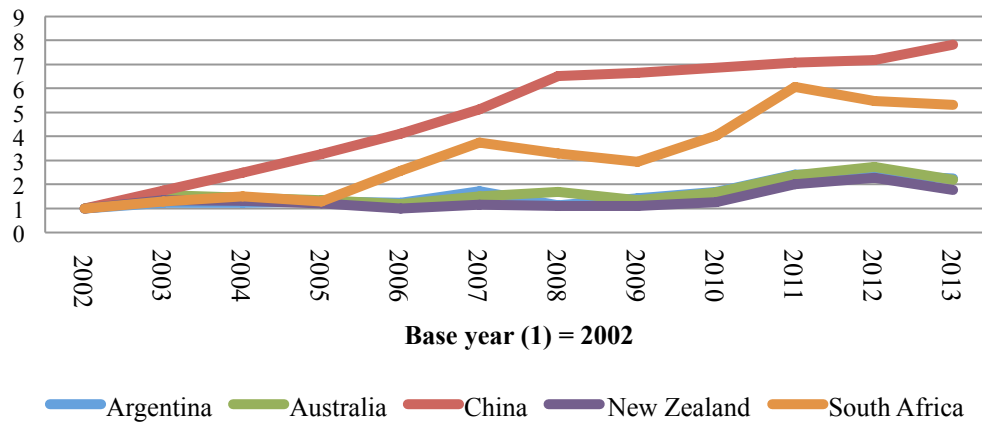


Figure 29: The Evolution of the Wool (greasy) Producer Prices Expressed in Fixed Base Method between 2002 and 2013

Source: Author’s work based on data from FAO STAT (2015b)

Figure 30 also defines the evolution of the wool producer prices in the major wool producing countries. Nonetheless, these prices are expressed by chain base method, which compares the value of the given year to the value of the previous year, thus there is clearly defined the growth or the decline in the producer prices year by year.

As shown in the figure, the biggest annual growth in the producer prices of wool (greasy) was observed in South Africa in 2006. On the contrary, the biggest decline was seen in the case of Argentina in 2008. China experienced the biggest growth in the producer prices in comparison to the previous year in 2003, and the producer prices

stayed quite stable in the latest year of the given timeline. The producer prices of New Zealand and Australia were fluctuating in comparison to previous years too, although not that significantly as in South Africa.

Various market forces such as the exchange rate, the higher demand for the commodity, the competitor prices, the quality of the wool clip, environmentally friendly wool and so on, all of these forces cause the fluctuations in the prices of wool (greasy).

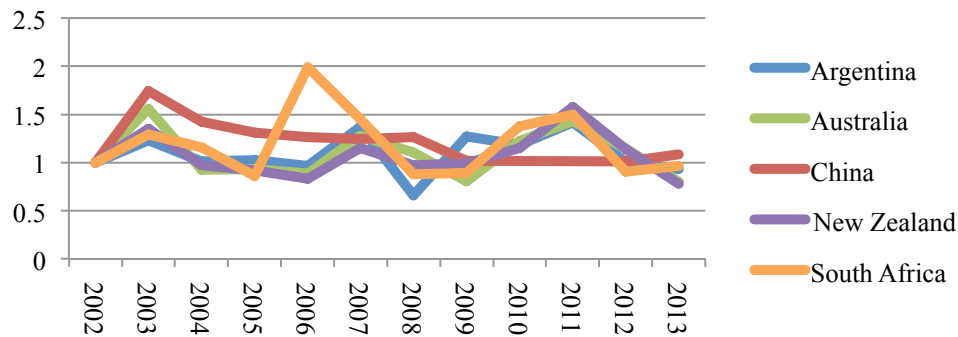


Figure 30: The Evolution of World Wool (greasy) Producer Prices Expressed in Chain Base Method between 2002 and 2013

Source: Author’s work based on data from FAO STAT (2015b)

4.1.5 The International Wool Trade

The Main Import Destinations

The import wool regions are usually found in Asia and Europe, as seen in figure 31. Australia, New Zealand, Americas and Africa regions have had a negligible wool import, usually in hundreds (Australia & New Zealand and Africa) or few thousands of tonnes (Americas and Africa). Figure 31 also indicates that the world wool import declined in the years 2009 and 2012 in comparison to the years 2002 and 2006. On the other side, in figure 31 is seen that the Asian wool import has grown from the year 2002 and stayed relatively on the same numbers throughout the years 2006, 2009 and 2012. The European wool import dropped quite significantly in 2009, which could have been connected to the global financial crises. However, the European import has boosted in 2012 again.

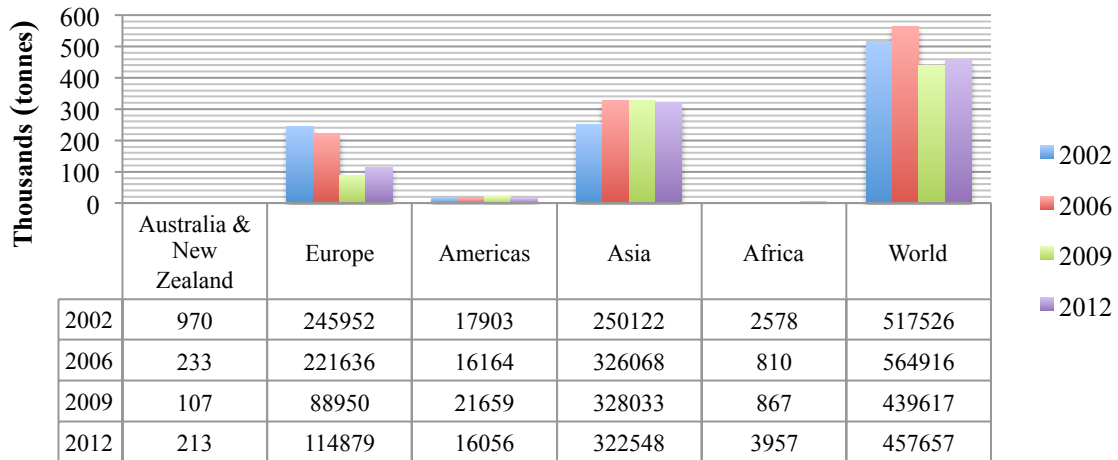


Figure 31: World Wool (greasy) Import by Regions

Source: Author's work based on data from FAO STAT (2015b)

In figure 32 are seen the major importers of wool. The biggest world wool importer was China in 2011, with the highest import 279 961 tonnes. Chinese wool import was hundred times higher than in any other country in the world. Other big wool importers in the given time period were: Germany with the highest import 48 745 tonnes in 2006, Italy at 64 459 tonnes in 2002, India with import 46 754 tonnes in 2012 and Czech Republic with the highest import 44 718 tonnes in 2004. In comparison to these top five import countries, South Africa has had a very little wool import during the period 2002 - 2012. The highest wool import in South Africa was 1090 tonnes in 2002.

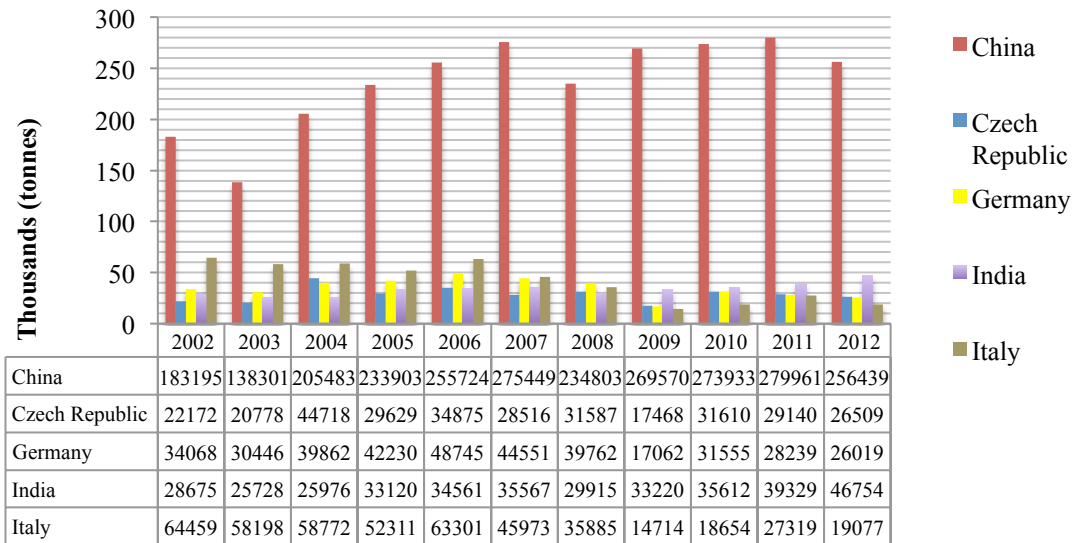


Figure 32: Top 5 World Wool (greasy) Importers over a ten-year timeline (2002 -2012)

Source: Author's work based on data from FAO STAT (2015b)

The Main Export Countries

The wool export according to world regions is illustrated in figure 33. The biggest wool exporting countries were Australia and New Zealand. As it is seen in figure 33, the export declined over the six years, from 427 971 tonnes of wool in 2006 to 350 948 in 2012. Other important wool exporting countries are found in Europe. In contrast with Australia and New Zealand, the European wool export has increased during the given years. A smaller import has been experienced in Americas, Asia and in Africa. The export from African countries has gradually increased unlike Americas or Asian region. The worldwide wool export was the highest 653 526 tonnes in 2006, as shown in figure 33, and the lowest 552 729 tonnes in 2002.

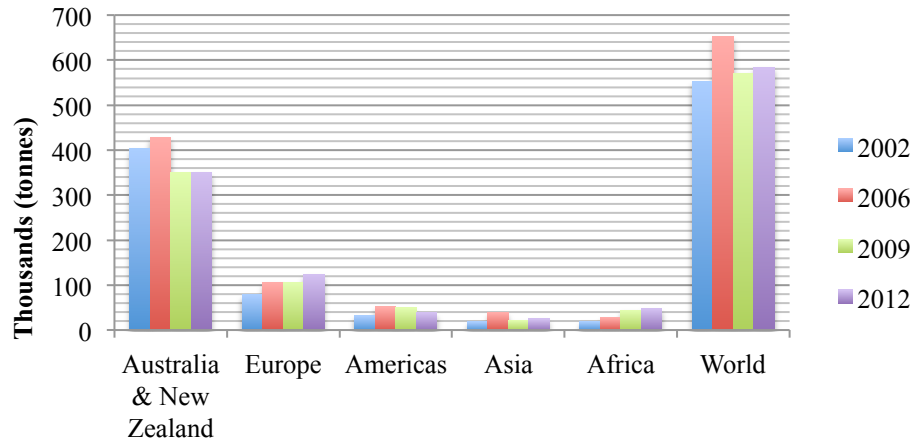


Figure 33: World Wool (greasy) Export by Regions

Source: Author's work based on data from FAO STAT (2015b)

The top five wool exporters in the world are visible in figure 34. The biggest exporter of wool commodity was evidently Australia. This country had the highest numbers of exported tonnes of wool (greasy). In the second place was for a long time New Zealand, nevertheless, during the years 2011 and 2012 it was displaced by South Africa. Other two countries with significant wool exports were found in Europe, namely Germany and Spain.

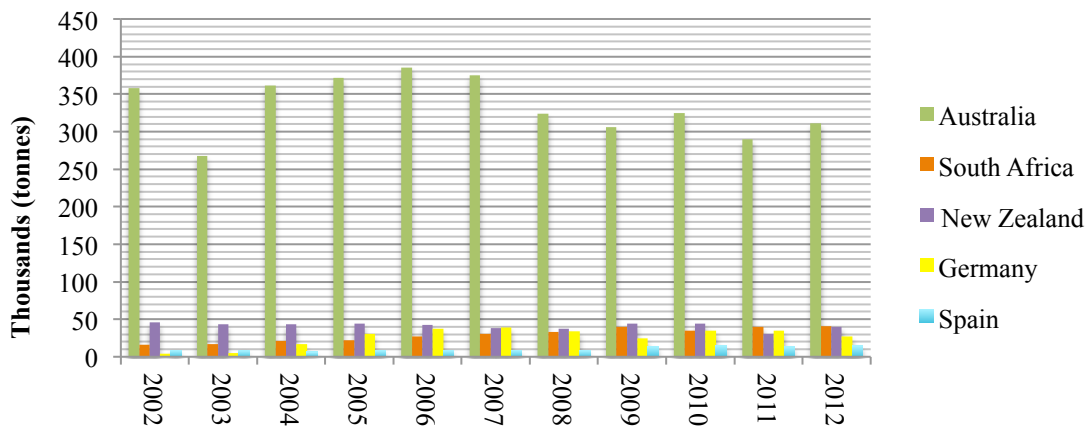


Figure 34: Top 5 World Wool (greasy) Exporters over a ten-year timeline (2002 - 2012)

Source: Author's work based on data from FAO STAT (2015b)

7. The South African Wool Market

Wool sheep farming has been an important part of South African agricultural history. The wool industry is one of the oldest South African agricultural industries. The first Merino sheep was transported to the Cape shores of South Africa in 18th century. British colonialists introduced the wool industry on a commercial basis in South Africa during the period from 1806 to 1910. Nevertheless, the industry started to spread throughout the country very fast. It has been a key element to the development of rural economies as well as to the establishment of many rural towns in most of the provinces in South Africa. The wool industry plays a key role as an earner of overseas exchange for the country, as well. The term “**Cape Wool**” is internationally acknowledged trade term, associated to South African wool. Wool is an important commodity, which highly contributes towards successful rural development and creation of jobs. (NWGA, 2014 and Sneeuberg, 2011)

The South African wool industry is predominantly distinguished by production of apparel wool. The wool type, usually produced in South Africa, is mainly **Merino wool**. Other types of wool, which are produced and marketed in a limited amount there, are **coloured and coarse types**. Back in the South African history, wool produced in neighbouring countries, namely Namibia and Lesotho, was taken as a part of production in South Africa. Wool production is found in most parts of South Africa. Nonetheless, this production is under different conditions in those various parts of the country, such as extensive, semi-extensive or intensive conditions. More than half of the wool production during 2013/2014 came from two South African provinces, specifically the Eastern Cape Province and the Free State Province. Other two provinces, which contributed about 20% and 13% respectively to the overall wool production during 2013/2014, were the Western Cape and the Northern Cape provinces. (DAFF, 2014)

The South African wool industry offers high quality wool products, high standard preparation and classing of greasy wool and its reputation is based on uniformity, softness and other qualities of the wool. Also, wool products are environmentally sound and like that, they fulfil the requirements of the textile industries. (Ibid)

There are various sheep breeds in South Africa, as mentioned earlier in the literature part of the thesis. Nevertheless, the wool sheep are predominantly composed of Merino and Karakula sheep. Merino sheep represent approximately 74 % of the total number of

wool sheep in South Africa. The time period between August and June of the following year is the production season of wool. Each sheep is shaved twice during the production season. (Ibid)

4.1.6 The Description of the Wool Supply Chain

All the links of the wool commodity chain in South Africa are illustrated in figure 35. The chain starts with the **wool producers**, who either directly sell the raw commodity to **the wool buyers and traders** for export or it is sold through **wool brokers**. If the wool buyers and traders do not sell the raw commodity for export, the raw wool goes through a manufacturing process, which starts with topmakers and ends with consumers. **Topmakers** make a wool top, which is a semi-processed product produced from raw wool through the following techniques: scouring, combing and sorting. They can either sell the semi-processed wool for export or it can continue the process of the commodity chain, to spinners and weavers. **Spinners and weavers** provide fabrics and yarns for export or to **clothing manufacturers**, who sell their processed commodity (i.e. clothes) and then to **retailers**, who deliver the clothes to the final link of the wool chain (i.e. **consumers**).

The scouring and combing industry in South Africa has capabilities to process a large amount of the annual greasy wool production. The wool is exported in greasy or in a semi-greasy form. The early stage wool processors are located in Durban and Port Elizabeth. The South African mills also provide scouring, combing and carbonizing services on a mission basis to any costumer that is trading on the local market with raw wool. These mills are allied with a major local trading topmaker or a house. (Cape Wool in DAFF, 2014)

The Wool Industry Forum of South Africa provides a platform for all producers, breed societies, sheering contractors, farm labourers, wool brokers, traders and primary processors to discuss on industry opportunities, issues and risks (DAFF, 2014).

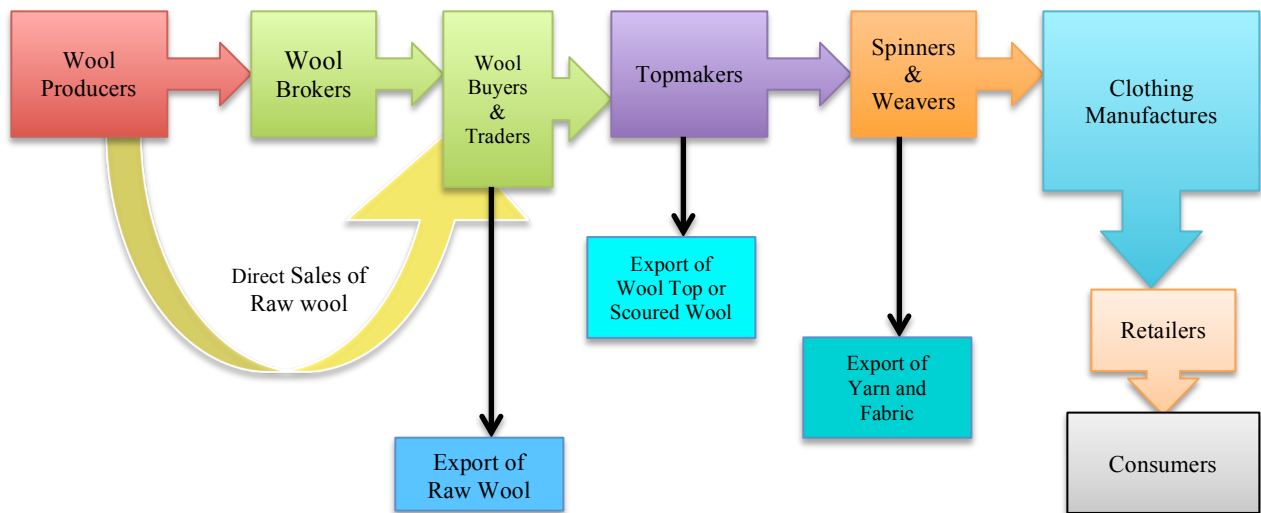


Figure 35: Wool Commodity Chain in South Africa

Source: Author's work based on data from Cape Wools in DAFF (2014)

The Main Trade Channels

The single market channel ended in South Africa in 1993, which brought the liberalization of the South African wool industry. The Wool Board had the first regulatory function in the industry. In 1997 the Wool Industry Forum overtook this regulatory function and is also combined with the Wool Trust that manages all the funds in the industry. The South African wool industry is organized at very high level, mainly because of the major organizations in the country, namely the Wool Industry Forum, Cape Wools SA and the National Wool Growers Association (NWGA). (DAFF, 2001)

From August to June, there are weekly wool auctions. Approximately 90 % of all greasy wool in South Africa is sold and traded at the weekly wool auctions and the other 10 % is traded by private treaty. The price of wool in auctions is defined by a set of variables, such as: the Australian wool market on a particular day, the specific demand for various wool types at different times, fluctuations of exchange rates, quantity offered for sale at auctions, the economic situations in wool-consuming countries and the time and extent of commitments in contracts by South African buyers for delivery to clients. For that reason, there are usually considerable volatilities in prices during and between auctions. (Department of Agriculture, Forestry and Fisheries, 2014)

South African Wool Exchange is the coordinator of wool auctions in South Africa. These auctions are localized in Port Elizabeth and happen once a week during the wool-selling season (i.e. from August to June). Nevertheless, the wool producers have an option to send their wool to one of the three ports closer to their location, namely Port Elizabeth, Durban or Cape Town. The major wool brokers in South Africa include Cape Mohair and Wool (CMW) and BKB Pty Ltd. These wool brokers simplify sales of wool at auctions. (DAFF, 2014)

Wool producers have an alternative option to the auction system, and that is selling their wool directly to small wool buyers, namely Van Lill Wool Buyers, Saunders and Lanata, who export wool directly or they sell it on separately organized auctions (Ibid).

Lempriere SA, New England Wool SA, G. Modiano SA, H Dawson Sons & Co, Standard Wool SA, Stucken & Co., Segard Masurel SA, Chargeurs Wool SA are the main wool buyers in South Africa which specialize in the export of greasy and semi – processed wool. CMW Operations. G. Modiano SA, it is a South African wool buyer specializes in the export of only greasy wool. (Ibid)

Figure 36 shows the scheme of the trade channels for wool in South Africa. As shown in the figure, the wool market starts at farm level. At this level sheep of small-scale farmers are sheared and classed either at communal shearing sheds, which are not always in reach of small-scale producers, or small-scale farmers can shear sheep at their farms and sell the wool to the closest traders. After the shearing and classing process of the sheep, the wool is classed and baled, which can be done directly by farmers, who are trained in wool shearing and classing, or by contractors. When this process is complete, the wool usually goes to another market level, to brokers. The brokers negotiate a price with farmers directly at the shearing sheds. Therefore, the brokers are responsible for all additional costs connected to the transport of the wool to auctions. As the figure indicates, the brokers usually sell the wool through auctions and in fewer cases by private treaty. Wool bales from each producer are placed in individual lots at auctions. From these lots, samples are taken and sent to a laboratory to test the quality of the wool. Afterwards, on the day of the auction, all the lots are displayed so the buyers can view it. The buyers are either buyers for domestic use or buyers for export (i.e. international

companies). The lots are auctioned individually and the price is usually reached according to the quality, demand and other variables, which mentioned earlier.

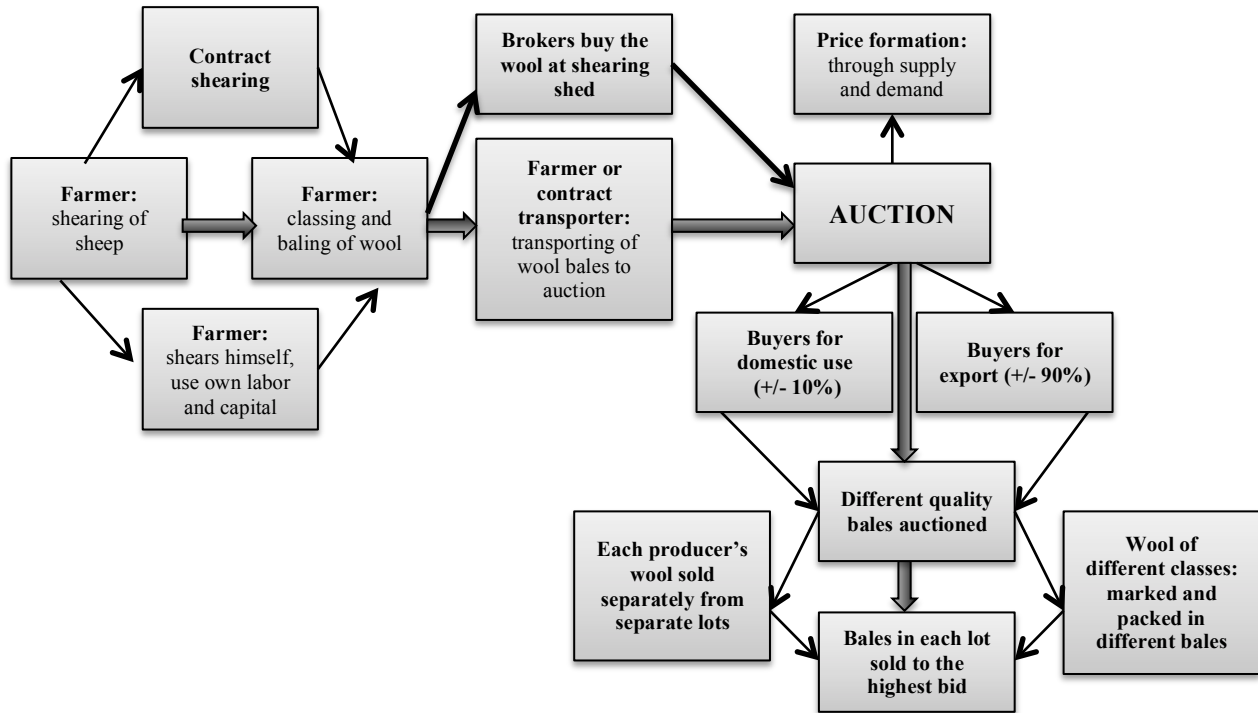


Figure 36: Scheme of Trade Channels for Wool

Source: Author’s work based on data from DAFF (2001)

The share of wool buyers in the South African market in the period of the marketing season 2013 and 2014 is seen in figure 37. The figure depicts that Lempriere led the domestic market with 39 % of the local sales, followed by Standard Wool SA with 37 %, G Modiano was at 17 % of the purchases, Chargeurs Wool with 3 %, and with the lowest percentage of the purchases were Stucken & Company and Segard Masurel SA both at 2 %. CMW Operations, New England Wool SA and H Dawson Son & Company have not made any purchases during the wool-marketing season 2013/2014.

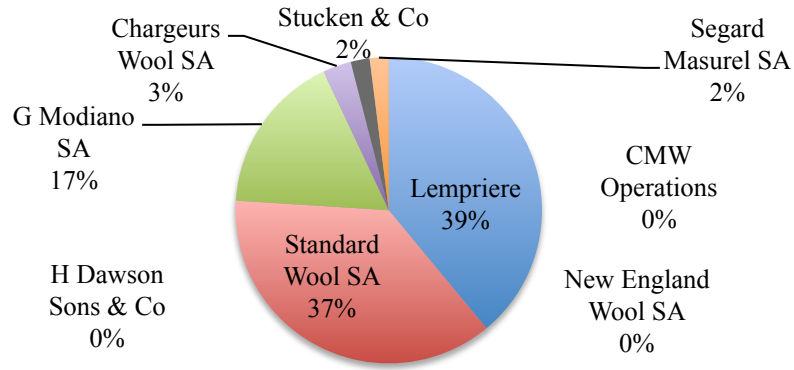


Figure 37: Share of Wool Buyers in the South African Market in 2013/2014 marketing season

Source: Author’s work based on data from Cape Wools in DAFF (2014)

4.1.7 Sheep Numbers and the Wool Production

In recent years, the number of sheep in the South Africa has been increasing. The latest data about the number of sheep in South Africa in 2013 reached 25 million.

Figure 38 indicates the number of sheep in South Africa over a ten-year timeline 2003 – 2013. The figure further shows that the number of sheep in South Africa attained a peak in 2003 at approximately 25.8 million, while the lowest number of sheep was reported in 2011 at approximately 24.3 million.

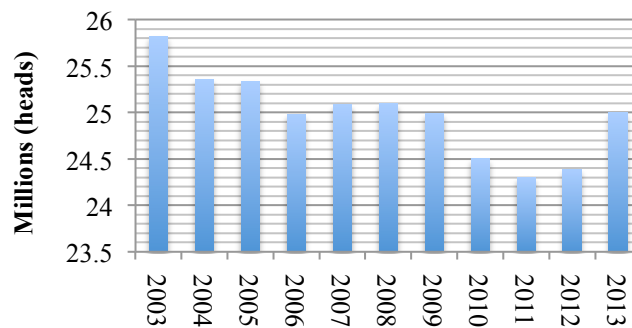


Figure 38: Number of Sheep in South Africa over a ten-year timeline (2003 - 2013)

Source: Author’s work based on data from FAO STAT (2015b)

Figure 39 depicts the South African wool production over the period of 2003–2013. The figure further shows that the first four years of the ten-year timeline were quite stable and the production was the highest during these four years at approximately 44 thousand tonnes of wool. These four years were followed by a big decline in 2007 and 2008 to

about 42 thousand tonnes of wool. Nevertheless, it also indicates that there was a significant increase in the wool production in 2009 to more than 43 thousand tonnes of wool, but also another decrease in the past four years with the lowest wool production in 2012 and 2013 at around 40 thousand tonnes.

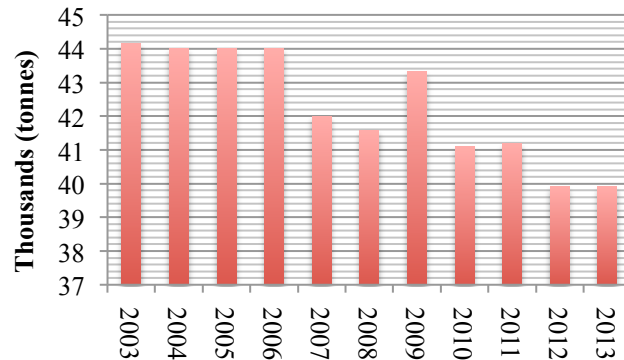


Figure 39: South African Wool (greasy) Production over a ten-year timeline (2003 - 2013)

Source: Author’s work based on data from FAO STAT (2015b)

Figure 40 represents the wool production in South Africa by provinces in the period of 2013 – 2014. As the figure further indicates, nearly 90 % of the wool production is produced in four South African provinces, specifically Eastern Cape with the highest percentage of 34 %, Free State with 23 %, Western Cape with 20 % and Northern Cape with 13 % of the total wool production in South Africa. Other provinces with less production were Mpumalanga at 6 %, Kwa-Zulu Natal with 2 %, North West and Gauteng with 1 % and Limpopo at 0 % during the wool season 2013/2014.

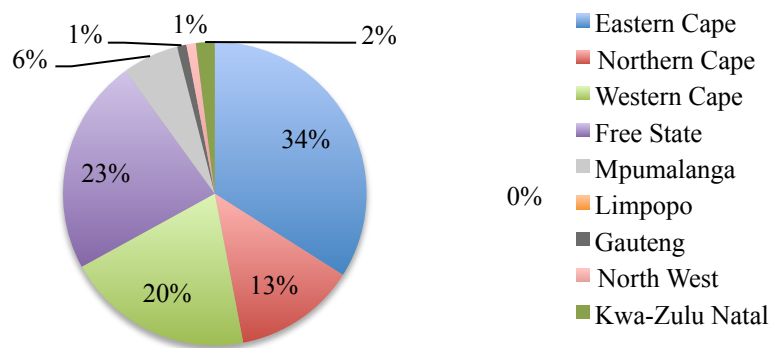


Figure 40: Wool Production by Provinces in 2013 - 2014

Source: Author’s work based on data from Economic Analysis & Statistics, DAFF & Cape Wools SA in DAFF (2014)

4.1.8 The International Trade

Exports

Wool has an important position in the South African economy. It is a significant earner of foreign exchange for South Africa, as South African wool is largely an export commodity. More than 90 % of the total wool production is shipped abroad in either greasy or semi-processed form as scoured wool and wool tops. A big advantage for easier exports is the location of South African ports, which are placed conveniently on one of the main shipping lanes between East and West. (DAFF, 2014 and Department of Agriculture, Forestry and Fisheries, 2014)

There are high-density dumps at all three ports, which are used for compressing of bales into a third of their original size, thanks to this result it is possible to pack 96 bales into a six m² sea container (DAFF, 2001). An average weight of one bale mass is usually 150 kg (DAFF, 2014).

The South African greasy wool-exporting sector meets all the requirements in designing processing blends for clients all over the world because of its high quality and experience. The wool-spinning industry in South Africa also offers high quality materials and it is modern and technologically sophisticated. These qualities provide materials, which meet the strictest requirements of the textile-processing industry. (DAFF, 2001)

Most of the wool production in South Africa is exported through members of the South African Wool and Mohair Buyers Association (SAWAMBA) (DAFF, 2014).

Figure 41 depicts the top export destinations of South African wool over a ten-year timeline 2002 - 2012.

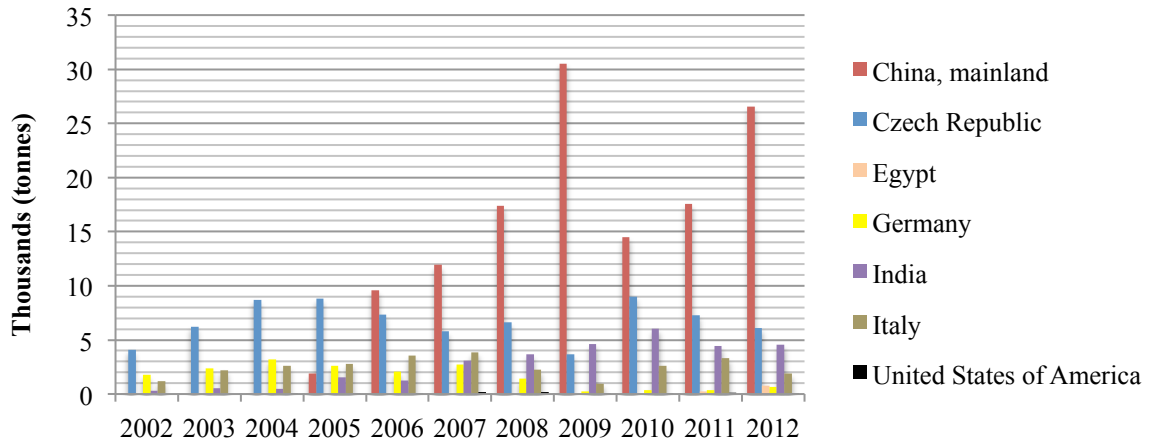


Figure 41: The Top Export Destinations of South African Wool (greasy) over a ten-year timeline (2002-2012)

Source: Author's work based on data from FAO STAT (2015b)

As seen in the figure, the largest part of the South African wool was exported to the Asian market during the time period under review. It can be seen further that the South African wool exports to Asia, specifically to China, began to increase in 2005 at an export quantity of 1876 tonnes. The figure also depicts that there was a continuous growth of wool exports from South Africa to China from 2005 till a peak was reached in 2009 at an export quantity of approximately 30542 tonnes.

Figure 41 further indicates that the largest export destination of South African wool in Europe was the Czech Republic, followed by Italy and Germany during the ten-year period 2002 - 2012. As seen in the figure, the export of South African wool to the Czech Republic attained a peak in 2004 and 2005 at an export quantity of around 8677 and 8793 tonnes respectively. Nonetheless, there was a consistent decline between 2006 and 2009, at approximately 3653 tonnes in 2009. In 2010, there was attained another peak of South African wool export to the Czech Republic at around 9 011 tonnes.

The South African wool export to Italy reached a peak in 2007 at around 3862 tonnes, followed by a constant decline in 2008 and 2009 at approximately 2229 tonnes and 968 tonnes respectively. In 2010 and 2011, there was another growth of South African wool export to Italy at around 2604 tonnes and 3304 tonnes respectively. In 2012, the South African wool export to Italy dropped again to around 1914 tonnes.

The South African wool export to Germany attained a peak in 2004 at approximately 3201 tonnes, followed by a decline in 2005 and 2006 at around 2 589 tonnes and 2095 tonnes respectively. Another peak was reached in 2007 at around 2 742 tonnes, followed by a continuous decline.

Another significant export of South African wool to the Asian continent was to India. Exports of wool from South Africa to India attained a peak in 2010 at approximately 6027 tonnes, followed by a decline in 2011 and 2012.

Exports of wool from South Africa to Egypt attained a peak in 2012 at around 786 tonnes.

South African wool export to the United States of America over the ten-year period 2002 - 2012 was not as significant as in the other countries mentioned above.

Figure 42 shows the main export destinations of South African wool by the percentage of market share in the wool-marketing season of 2013. Nevertheless, there was a slight decline in 2010 at an export quantity of about 14506 tonnes. Exports of wool from South Africa to China increased again in 2011 with a continuous growth in 2012.

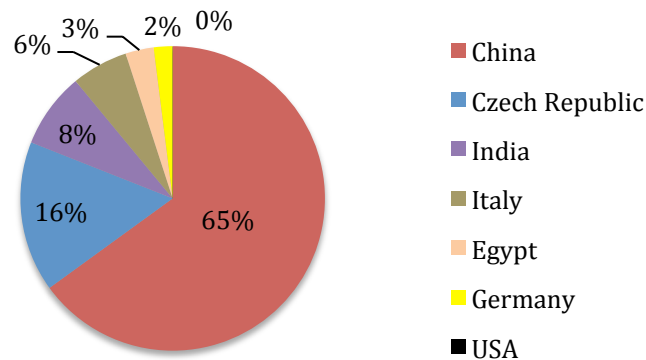


Figure 42: The Main Export Destinations for South African Wool in 2013

Source: Author’s work based on data from Quantec EasyData in DAFF (2014)

During the wool-marketing season 2013, South Africa exported at approximately 4558 tonnes of greasy wool all over the world (DAFF, 2014). As seen in the figure, the biggest export market for South African wool was China with 65 % of the market share, further the Czech Republic was accounting 16 % of the market share, followed by India

at 8%, Italy at 6 % of the market share, Egypt with 3% and Germany with 2 %. United States had only minor export of wool from South Africa, specifically 0.2 %.

China and the Czech Republic usually import greasy form of wool, unlike Italy that prefers import of wool tops from South Africa (ibid).

Export tariffs that different import partner countries applied to wool (not carded or combed) coming from South Africa in 2013 are defined in annex 3. Annex 3 further shows that South Africa as an exporter of wool could export to lots of countries, particularly countries in the European Union, duty free during 2013. Nevertheless, countries such as China, Argentina and India apply high tariffs varying from 5 % (India) to 38 % (China) to wool exports that are coming from South Africa.

Annex 5 indicates growth in the wool demand (wool not carded or combed), which was exported by South Africa in 2013. The annex shows that China and the Czech Republic were the biggest markets for South African wool exports in 2013. It also depicts that Italy and Germany were increasing at a rate that is larger than their imports from the rest of the world in the period of 2009 – 2013. It further can be seen that South African exports for wool to Italy, Germany and China were increasing faster than world's exports and South African exports for wool to Japan, United States of America and India were declining, whilst world wool exports were increasing.

Annex 6 shows the prospects for market change for wool (not carded or combed) exported by South Africa in 2013. It further indicates that China was the largest marketplace for South African wool in 2013. It also shows that South Africa could expand its wool market, especially to small and attractive markets, which can be found in Germany, Italy and Spain.

Imports

The largest part of wool imports in South Africa is processed and exported together with South African wool. There was an average import of 165.92 tonnes of wool during the wool-marketing season 2013 (DAFF, 2014).

Figure 43 indicates the major wool importers into South Africa over a ten-year timeline 2002 - 2012. The figure further illustrates that the biggest wool importer in South Africa is evidently Australia. Between the years 2002 and 2012, imports of wool

from Australia to South Africa attained a peak in 2002 at around 923 tonnes. This was followed by a constant decline and it reached a peak again in 2006 at approximately 285 tonnes. Between the years 2007, 2008 and 2009, there were significant fluctuations in the wool imports from Australia to South Africa and in 2010 and 2011 there was no wool import. However, the wool import from Australia increased again in 2012 at around 41 tonnes.

Another significant wool importer in South Africa was New Zealand during the years 2002 and 2012. Imports of wool from New Zealand to South Africa attained peaks in 2002 and 2006 at around 105 and 174 tonnes respectively. As seen in the figure, there was no wool import from New Zealand to South Africa during the years 2005, 2007, 2009, 2011 and 2012.

The figure further illustrates that there were minor imports of wool into South Africa from countries such as United Kingdom, the United States of America and Kenya during the time period under review. The United Kingdom imported wool into South Africa during the years 2003 and 2012 at approximately 56 and 24 tonnes respectively. The United States of America imported wool into South Africa during the years 2002 and 2003 at around 14 and 39 tonnes respectively and Kenya imported wool into South Africa during the years 2002, 2003 and 2004 at about 33, 52 and 52 tonnes respectively.

Imports tariffs that South Africa applied to imports of wool (not carded or combed) that were coming from various countries worldwide in 2013 are shown in annex 4. Annex 4 defines that South Africa did not apply any tariff to different countries in the world, which were exporting greasy wool into South Africa during the 2013.

Annex 7 indicates the competitiveness of suppliers to South Africa for wool imports (wool not carded or combed) in 2013. It further shows that Uruguay and Australia were the most competitive wool suppliers to South Africa in 2013. South African wool imports from the United States of America declined so as from the United Kingdom. The wool imports from Australia and Uruguay increased in 2013.

Annex 8 demonstrates prospects for diversification of suppliers for imported wool (not carded or combed) by South Africa in 2013. It further shows that the United Kingdom, New Zealand and Australia were the largest wool suppliers into South Africa in 2013. It also depicts that South Africa could expand its markets of imported wool, and

thus could use some small and attractive markets, especially in Uruguay. New Zealand and the United Kingdom had a great share in South African wool imports in 2013.

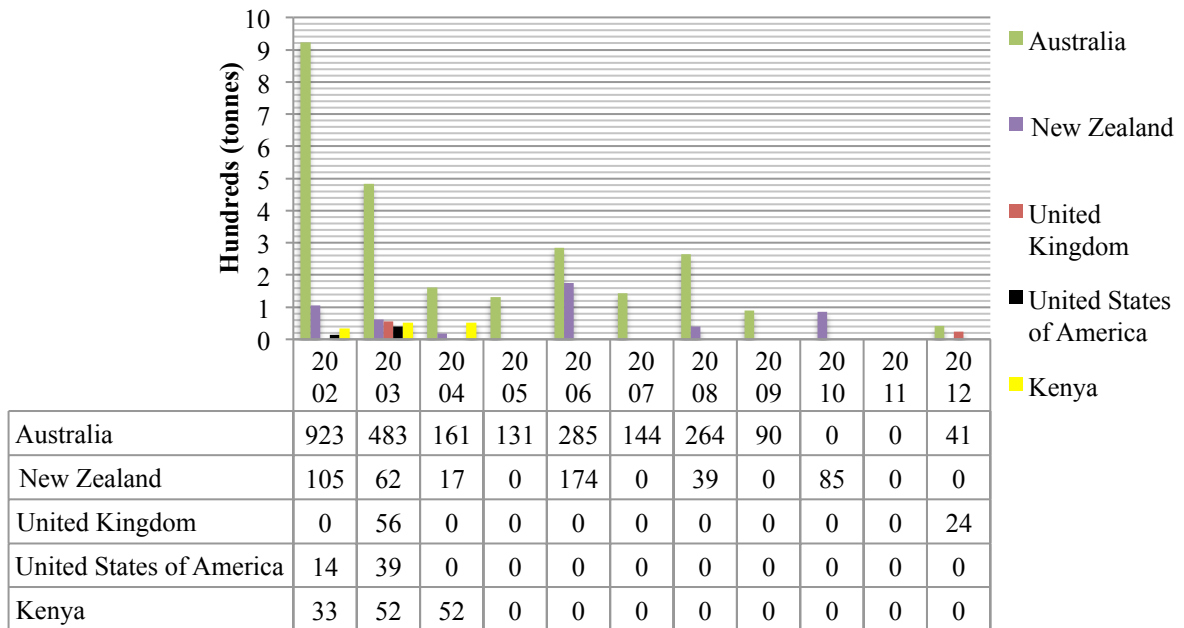


Figure 43: The Top Wool (greasy) Importers to South Africa over a ten-year timeline (2002 - 2012)

Source: Author’s work based on data from FAO STAT (2015b)

International Wool Trade South Africa <-> Czech Republic

The Czech Republic has been the second biggest importer of the South African wool after China, as mentioned earlier.

Figure 44 indicates the value of imported wool (greasy) from South Africa into the Czech Republic in Czech crowns in the period of 2000 - 2014. The Czech Statistical Office registers wool commodity under the commodity classification for foreign trade statistics. This classification use the harmonised commodity description and coding system, which divides commodities into chapters identified as HS2 (2-digit numerical codes). These 2-digit codes are further broken down into headings described as HS4 (4-digit numerical codes), which are further split into sub-headings called HS6 (6-digit numerical codes). There is also the combined nomenclature with 8-digits numerical codes that specifies the commodities into the absolute details. (ČSÚ, 2015)

According to the Czech Statistical Office, the wool commodity code (HS2) is under the number 51. This code is defined as ‘Wool, fine or coarse animal hair; horsehair yarn

and woven fabric' and it is characterized as the general basic code for wool in the Czech Republic. The code 51 can be further divided into many sub-codes (up to 8-digit codes), as was mentioned earlier. The 4-digit codes (HS4) can be defined such as 5101 'Wool, not carded or combed', 5102 'Fine or coarse animal hair, not carded or combed', 5103 'Waste of wool/fine/coarse anim hair, incl yarn waste, excl garnettd stk', 5104 'Garneted stock of wool or of fine or coarse animal hair', 5105 'Wool & fine or coarse animal hair, carded or combed', 5106 'Yarn of carded wool, not put up for retail sale', 5107 'Yarn of combed wool, not put up for retail sale', 5108 'Yarn of fine animal hair, not put up for retail sale', 5109 'Yarn of wool or of fine animal hair, put up for retail sale', 5110 'Yarn of coarse animal hair or of horsehair', 5111 'Woven fabrics of carded wool or of carded fine animal hair', 5112 'Woven fabrics of combed wool or of combed fine animal hair' and 5113 'Woven fabrics of coarse animal hair or of horsehair' and all of these 4-digits codes can be further divided into more detailed specifications of the wool commodity.

The specific code, which was used for the following figure 44, was classified under the basic wool code 51 (HS2), as characterized earlier. The 51 code was further divided into the sub-codes 5101 (HS4) (description stated earlier), followed by 510111 (HS6) 'Greasy shorn wool, not carded or combed' and lastly specified in the combined nomenclature under the 8-digit numerical code 51011100 (KN8) 'Greasy shorn wool, incl. fleece-washed wool, neither carded nor combed'. This defined type is the most imported type of wool from South Africa into the Czech Republic.

As seen in figure 44, the value of the wool import from South Africa to the Czech Republic increased quite rapidly from the beginning of the analysed period, which was from 2000 to 2014. The Czech Republic imported wool from South Africa in the value of 40 247 CZK in 2000. The peak of the imported wool value from South Africa was attained in 2011, as the Czech Republic imported wool in the value of 1 030 973 CZK. Since 2011, the value of imported wool from South Africa has decreased. The figure illustrates that the value of imported wool from South Africa into the Czech Republic was 728 572 CZK in the last year of the analysed period, specifically in 2014.

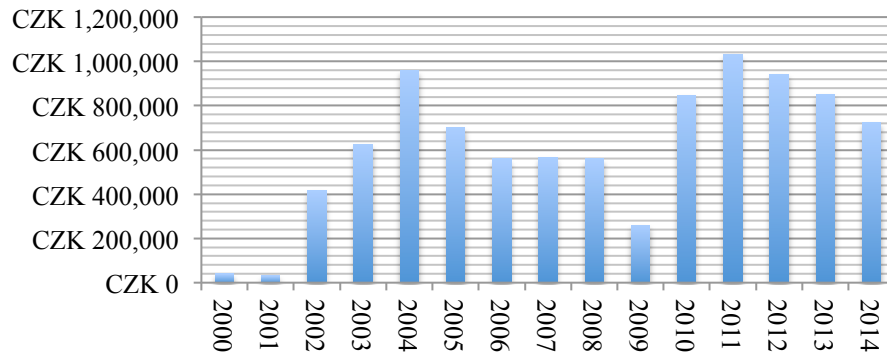


Figure 44: South African Wool (greasy) Import into the Czech Republic in CZK over a fourteen-year timeline (2000–2014)

Source: Author's work based on data from ČSÚ (2015)

5 Discussion

The overall role and task of agriculture has changed over the time. In the recent globalized age, agriculture is viewed as a multifunctional conception with significance in sustainable development.

Globalization and integration processes have considerably changed the structure of agriculture as well, and their impact is seen in relevant markets. Developing countries started to be more dependent on the global supplies and their own domestic agricultural production was negatively disturbed, which also subsequently influenced their overall economic situation. The global issues of the modern age might be significantly seen even in the socioeconomic structure of agriculture. These huge changes made a great influence on farming that became more market/profit-oriented and competitive.

The duality of the farm structure, which is usually in favour to commercial farms that generating larger profit, is a common phenomenon in the globalized world that characterised lots of agricultural sectors in developing countries. South Africa is one of those countries with the dual model of the agricultural economy, where both well-developed commercial farms and more subsistence farmers exist in the rural areas.

As was specified in this diploma thesis, South African agriculture has undergone lots of changes over the past few decades. Nevertheless, there are specific things, which shaped agriculture of this country more significantly than others. The first big agricultural influence came in the 17th century with the first Dutch colonialists, who brought changes such as the growth and development of commercial farming (commodities such as wine, wheat and cattle) and mercantilism. Another milestone in the history of South African agriculture was the British colonialism, which began in the 19th century. British colonialist gained lots of land from Africans thanks to their war victories during the 1880s and also started with the commercial capitalism and commodification.

Another great historical momentous was the discovery of diamonds in 1866 and gold in 1886, which eased the process of opening up the potential markets for agricultural commodities locally as well as internationally. In 1910, the Union of South Africa was established, and also the first Land Bank was opened. The first of the land acts, The Natives Land Act, was promulgated in 1913. This land act prohibited the land ownership of black people as well as brought sharecropping and labor tenancy, which deepened the

dual structure of South African agriculture lasting until recent times. Between 1910 and 1935, 87 acts were accepted and initiated that government controlled 70 % of the agricultural outputs until 1996.

The apartheid regime (1948–1994) caused huge inequalities between South African people. In the early 1970s, the richest 20 % of the population owned 75 % of the national wealth. This regime hugely undermined the small-scale farmers in South Africa.

South African GDP has grown rapidly since the end of apartheid in 1994. Nevertheless, nowadays its progress is relatively sluggish and below the African average. The agricultural sector contributed to the GDP about 2 % in 2013, which is in comparison to the 1994 (5 %) a big decline and it means that South Africa is moving towards the other sectors of the economy. The biggest share in the total GDP had the third sector of the economy, which increased from 64 % in 1994 to 68 % in 2013.

Even though the labor force in agriculture decreased quite significantly between 1994 (9.64 % from the total labor share) and 2014 (5.55 %), the agricultural sector is still a vital part of the economy in South Africa, especially in the matter of finding an employment for rapidly growing population. The South African population increased by 9 million people from 1999 to 2014 and thus simultaneously the labor force increased as well, specifically by 4 million people in the period of 1999–2014.

South African government implemented the New Growth Path Plan in order to create 5 million jobs by 2020. This plan includes programmes to support and raise the black small-scale and subsistence farmers, because the commercial type of agriculture accounts 90 % of the total value of agriculture in South Africa, although the majority of South Africans work on the black subsistence or small-scale types of farms.

Despite the great agricultural limitations in South Africa such as irregular and unreliable rainfall and decreasing high potential arable land, which created only 9.9 % of the total land (more than 1.2 million km²) in 2012. Farming regions in South Africa varied from mixed farming and intensive crop production to sheep farming and cattle ranching. The livestock is the largest agricultural sector in the country and the grain industry is the biggest from the crop agricultural production. The production of crop commodities, namely potatoes (98.59 %), sugar cane (60.08 %) and sunflower seed (59.17 %) experienced the biggest percentage growth in the period of 1993–2013. The

biggest production in tonnes in 2013 had the sugar cane commodity (18 million) followed by maize (about 12.5 million). The sugar cane industry together with the maize industry makes a great contribution to the national economy. The top production commodities in the monetary value are livestock commodities, specifically the indigenous meat of cattle and chicken. The biggest development during the period of 1993–2013 experienced the meat indigenous of chicken, which percentage growth was 184.39% in 2013 in comparison to 1993.

After the trade liberalisation in 1990s, South Africa started to be deeply integrated into the global economic system. South African biggest agricultural export partner was the Netherlands in 2014 and the country's largest exported commodity was maize and wine in 2011. The most unit value commodity (\$/tonne) was the wool (greasy) in 2011. The biggest agricultural importer to South Africa was Argentina in 2011 and the most imported commodity into South Africa was wheat in the same year.

The other parts of the thesis were concentrated on the analyses of the wool commodity and the wool industry. The world wool production has not changed radically over a ten-year timeline (2003–2013). The biggest producer of wool was Australia, China and New Zealand during 2003 and 2013. South Africa is one of the major producers of wool as well, and its agricultural producer prices are the highest on the wool market from 2010. In 2011, the wool (greasy) prices in South Africa attained its peak at 12 196 USD and the annual growth of the wool (greasy) producer prices in South Africa was also the highest from all the major wool producers worldwide.

The main import destinations of wool are predominantly in Asia and Europe. The biggest wool importer in 2011 was China with 279 961 tonnes, which was hundred times higher than any other import in other countries in the world. Other big importers of wool in the period of 2002-2012 were Germany, Italy, India and the Czech Republic, which had the highest import in 2004 (44 718 tonnes). The biggest wool exporter in the world is evidently Australia and in the second place was for a long time the New Zealand. However, in the recent years New Zealand was displaced by South Africa. Australian and New Zealand's exports declined between 2002 and 2012, unlike to the European and African exports that increased.

The wool industry in South Africa is one of the oldest agricultural industries in the country, introduced during the British colonial era. It has been a key element to the development of rural economies and establishment of many rural towns in most of the provinces in the country. More than half of the wool production comes from two South African provinces, namely Eastern Cape and the Free State Province. In 2013/2014 wool marketing season, the Eastern Cape province contributed by 34 % to the overall wool production and the Free State province by 23 %.

The wool sheep in South Africa are predominantly composed of Merino (74%) and Karakula sheep, but there are lots of other sheep breeds in the country. South African wool has a really great reputation in the world because of its high quality. The period between August and June of the following year is the production season of the wool commodity in South Africa.

The South African wool production declined in the period 2003–2013. In 2013, the wool production was at around 40 thousand tonnes. The wool commodity has an important position in the South African economy, as it is an important earner of foreign exchange for South Africa. The reason is mainly because South African wool is largely exported commodity, more than 90 % of the total production is sold abroad at the weekly auctions in South Africa.

The South African wool industry is organized at a very high level and that is primarily due to the major organizations such as Wool Industry Forum, which has the regulatory function in the industry, Cape Wools SA and the National Wool Growers Association.

The top export destinations of South African Wool are mostly in Asia and Europe. During 2002 and 2012, the top export destinations were China and the Czech Republic. The export to the Czech Republic was at the highest point at 8 793 tonnes in 2005. In 2013, South Africa exported at around 4558 tonnes of wool (greasy) worldwide, 65% of this export was exported to China and 16% to the Czech Republic.

The import of wool to South Africa is indeed minor. The top importer of wool into South Africa was Australia in the period of 2002-2012. The overall wool import into South Africa was at approximately 65 hundred tonnes in 2012.

6 Conclusion

The diploma thesis focused on the development of South African agriculture with a greater emphasis on the wool industry. The analytical part concentrated on the position of the agricultural sector in South Africa within the national economy, the current commodity production in South Africa with its international trade flows and the last part analyzed the wool market in the world with a deeper focus on the South African wool market and the entire wool industry in the country.

Agriculture in South Africa has experienced lots of structural changes over the past few decades. The position of the agricultural sector within the national economy, which expanded quite rapidly since the fall of the apartheid regime, declined in the terms of the contribution to the gross domestic product from 5 % in 1993 to 2 % in 2013. The number of people working in the agricultural sector decreases as well. The labor force in agriculture created about 5 % out of the total South African labor force in 2014. Data about the commodity production indicated that over the past 20 years, the agricultural sector in South Africa has shifted towards the large-scale intensive farming and also started to produce more high-value products.

The South African commodity structure dominates the livestock sector, especially the cattle and poultry meat that showed an enormous growth in 20 years. The most important commodities from the crop production are maize and sugar cane. Production of these commodities makes a great contribution to the national economy and their production is still positively increasing. Other important commodities are potatoes, whose production increased radically over the last 20 years, another significant commodity is wheat, but its growth slightly declined in the recent years and grapes commodity, which shows a positive growth.

South African international trade with agricultural commodities and the overall integration of South Africa into the global economic system have significantly developed since the 1990s after the trade liberalization. The Netherlands, China and the United Kingdom are characterized as the top export partners for South African agricultural products. The largest exported commodities from South Africa are maize, wine and deciduous fruits. The largest imported commodities into South Africa are wheat, palm

and soybean oil and alcoholic beverages. The major importers into South Africa are the Netherlands, the United Kingdom, China and the United States of America.

The analysis of the wool commodity in the world indicated that the main wool production centres are located in Australia, China, New Zealand, Argentina and South Africa. South Africa shows the highest producer prices on the wool (greasy) market from 2010. The major importers of wool are found in Asia and Europe, specifically in China with the largest imports, Germany, India, the Czech Republic and Italy. The biggest wool exporter in the world is evidently Australia, followed by New Zealand, South Africa, Germany and Spain.

The analyses of the South African wool commodity and the wool industry concluded, that the South African wool production has declined. The Eastern Cape and the Free State province are the major wool production areas within South Africa and the Merino sheep dominates the wool sheep composition in the country. The South African international trade with the wool commodity is characterized by a large export of the overall wool production, more than 90 % out of the total production is exported. The main export destinations are China and the Czech Republic. The import of wool into South Africa is negligible.

Wool industry in South Africa has a long tradition and it has been a key element to the development of rural economies, as well as to the establishment of many rural towns. South African wool has a great reputation in the world and only competes with the best wool producers in the world. The wool industry is organized at a very high level by prosperous and expanding organizations. The wool commodity has an important position within the South African economy due to the significance it has as a big earner of foreign exchange for the country, as well as a great creator of jobs. The wool commodity has a huge potential to support and stimulate the rural development in South Africa even today.

7 References

Literature

ANDERSON, Kym and William A MASTERS. *Distortions to agricultural incentives in Africa*. Washington, D.C.: World Bank, c2009, xxx, 618 p.

BAILEY, Rayna and Trujillo, L. *Immigration and migration*. New York: Facts On File, c2008, x, 325 p. ISBN 0816071063.

BEČVÁŘOVÁ, V. *Podstata a ekonomické souvislosti formování agrobiznisu*. 1. vyd. Brno: Mendelova zemědělská a lesnická univerzita, 2005a. 68 s. ISBN 80-7157-911-4.

BEČVÁŘOVÁ, V. *Agribusiness – the Scope as well as the Opportunity for Contemporary Agriculture*. In. *Agricultural Economics*, Vol. 51, 2005b (7), pp. 285-292. ISSN 0139-570X.

BEČVÁŘOVÁ, V. *Agrobiznis mění koncepci i kritéria úspěchu zemědělských podniků*. Agrární perspektivy XIV – Znalostní ekonomika. Praha: ČZU, 2005c, s. 48–52. ISBN 80-213-1372-2.

BEČVÁŘOVÁ, V., TAMÁŠ, V. and ZDRÁHAL, I. *Agribusiness in Regional Development*. 1. vyd. Brno: Mendel University in Brno, 2013a. 132 s. ISBN 978-80-7375-845-5.

BEČVÁŘOVÁ, V., TAMÁŠ, V., DUDOVÁ, B. and ZDRÁHAL, I. *Integration Processes in Agrarian Industry*. Brno: Mendel University in Brno, 2013b. 140 s. ISBN 978-80-7375-802-8.

BEČVÁŘOVÁ, Věra and Ivo ZDRÁHAL. *Agricultural Policy and Trade*. Brno: Mendel University in Brno, 2013c. 140 s. ISBN 978-80-7375-824-0.

BERNSTEIN, Henry. *The agrarian question in South Africa*. Portland, OR: Frank Cass, 1996, 304 p. ISBN 07-146-4292-4.

BOHÁČKOVÁ, I. and BROŽOVÁ, I. *Ekonomika agrárního sektoru*. 1. vyd. V Praze: Česká zemědělská univerzita, Provozně ekonomická fakulta, 2010. 122 s. ISBN 978-80-2132026-0.

BRYCESON, Kim P. *'E' issues for agribusiness the 'what', 'why', 'how'*. Wallingford, UK: CABI Pub, 2006. ISBN 978-184-5931-353.

BUNTE, Frank and J DAGEVOS. *The food economy: global issues and challenges*. Wageningen: Wageningen Academic Publishers, 2009, 191 p. ISBN 9789086861095.

DAVIS, John H. a GOLDBERG, Rey A. *A Concept of Agribusiness*. Boston: Harvard University, 1957. 14, 136 s.

FAN, Shenggen, J BRZESKA, Michiel KEYZER and Alex HALSEMA. *From subsistence to profit: transforming smallholder farms*. Food policy report, Washington, DC, 2013, 22 pages. ISBN 0896295583.

FEINSTEIN, C. *An economic history of South Africa: conquest, discrimination, and development*. New York: Cambridge University Press, 2005, xxiii, 302 p. ISBN 0521616417.

FINE, Ben. *Labour market theory: a constructive reassessment*. New York: Routledge, 1998, xi, 306 p. ISBN 0415166764.

HAZELL, P. *The future of small farms for poverty reduction and growth*. Washington, D.C.: International Food Policy Research Institute, c2007, ix, 38 p. ISBN 9780896297647.

KAHAN, David. *Market-oriented farming: an overview*. Rome: Food and Agriculture Organization of the United Nations, 2013. ISBN 9789251075395.

LAHIFF, Edward. *An apartheid oasis?: agriculture and rural livelihoods in Venda*. Portland, OR: Frank Cass, c2000, xiv, 299 p. ISBN 0714651370.

LECHANOVÁ, I. and BEČVÁŘOVÁ, V. *Možnosti využití analýzy cenové transmise pro posouzení vlivu tržní síly v potravinových vertikálách*. 1. vyd. Brno: MSD, 2006. 80 s. ISBN 80-86633-70-5.

LOWDER, S.K., SKOET, J. and SINGH, S. 2014. *What do we really know about the number and distribution of farms and family farms worldwide?* Background paper for The State of Food and Agriculture 2014. ESA Working Paper No. 14-02. Rome, FAO.

MANBY, Bronwen. *Unequal protection: the state response to violent crime on South African farms*. New York: Human Rights Watch, c2001, 242 p. ISBN 1564322637.

NAGLE, Garrett. *Development and Underdevelopment*. Walton-on-Thames: Nelson Thornes, 1998. ISBN 9780174900207.

NORTON, G W. and ALWANG, J. *Introduction to Economics of Agricultural Development*. New York: McGraw-Hill, 1993. 404 s. ISBN 0-07-047922-4.

NTSEBEZA, Lungisile a Ruth HALL. *The land question in South Africa: the challenge of transformation and redistribution*. Cape Town: HSRC Press, 2007, viii, 256 p. ISBN 0796921636.

RICKETTS, Cliff, Kristina RICKETTS and Cliff RICKETTS. *Agribusiness: fundamentals and applications*. 2nd ed. Clifton Park, N.Y.: Delmar Cengage Learning, c2009, xxxii, 568 p. ISBN 14-180-3231-X.

ROLNÝ, Ivo and Lubor LACINA. *Globalizace - etika - ekonomika*. 2. rozš. vyd. Ve Věrovanech: Jan Piszkiwicz, 2004, 298 s. ISBN 808676804x.

ROSS, Robert. *A Concise History of South Africa*. 2nd ed. New York: Cambridge University Press, 2008, xx, 251 p. Cambridge concise histories. ISBN 0521720265.

SCHOLTE, Jan Aart. *Globalization: a critical introduction*. 2nd ed. New York: Palgrave Macmillan, 2005, xxv, 492 p.

STEGER, Manfred B. *Globalization: a very short introduction*. xviii, 151 pages. ISBN 0199662665.

SVATOŠ, M. a kol. *Ekonomika agrárního sektoru : (vybraná témata)*. 1. vyd. V Praze: Česká zemědělská univerzita, Provozně ekonomická fakulta, 2009. 170 s. ISBN 978-80-213-1846-5.

TAMÁŠ, Vojtěch and Věra BEČVÁŘOVÁ. *Trh jatečných prasat a vepřového masa v současném agrobyznysu*. 1. vyd. Brno: Mendelova univerzita v Brně, 2013, 150 s. ISBN 978-80-7375-689-5.

VON BRAUN, Joachim, Eugenio DÍAZ-BONILLA and Per PINSTRUP-ANDERSEN. *Globalization of food, and agriculture, and the poor*. Washington D.C.: International Food Policy Research Institute, 2008, xiv, 370 p. ISBN 0195695283.

WORDEN, Nigel. *The making of modern South Africa: conquest, apartheid, democracy*. 5th ed. Hoboken, N.J.: John Wiley & Sons Inc., 2012, xx, 204 p.

Online Resources

ANZ Bank New Zealand Limited. New Zealand Economics ANZ Agri Focus. *A Yarn of Wool* [online]. 2013 [cit. 2015-07-28]. Available from: <https://www.anz.co.nz/resources/9/6/962134b2-8e3a-4056-a872-39197991a95c/ANZ-AgriFocus-20130403.pdf?MOD=AJPERES>.

Arroukatchee. *Peuples et villes en Afrique du Sud: Provinces et administration* [online]. 2012 [cit. 2015-04-02]. Available from: <http://www.arroukatchee.fr/infos.afrique-du-sud/population-afrique-du-sud.htm>.

Cieplak, Piotr. 2013. *Shunting hectares: Land reform in South Africa*. Africa Research Institute: understanding Africa today [online]. [cit. 2015-05-08]. Available from: <http://www.africaresearchinstitute.org/blog/shunting-hectares-land-reform-in-south-africa-by-piotr-cieplak/>.

DAFF - Department of Agriculture, Forestry and Fisheries, Republic of South Africa. *A Profile of The South African Wool Market Value Chain: 2014* [online]. Arcadia, 2014 [cit. 2015-08-05]. Available from: <http://www.nda.agric.za/doaDev/sideMenu/Marketing/Annual%20Publications/Commodity%20Profiles/INDUSTRIAL%20PRODUCTS/WOOL%20MARKET%20VALUE%20CHAIN%20PROFILE%202014.pdf>.

DAFF - Department of Agriculture, Forestry and Fisheries, Republic of South Africa. *Wool Marketing: Section one* [online]. 2001 [cit. 2015-08-19]. Paper no.8 Wool and Mohair. Available from: <http://www.nda.agric.za/docs/GenPub/8WoolMohair.pdf>.

Department: Agriculture, Forestry And Fisheries. *A Profile of The South African Mutton Market Value Chain* [online]. Arcadia, 2013 [cit. 2015-05-27]. Available from: <http://www.nda.agric.za/doaDev/sideMenu/Marketing/Annual%20Publications/Commodity%20Profiles/Livestock/Mutton%20Market%20Value%20Chain%20Profile%202013.pdf>.

Department of Agriculture South Africa. *Sheep Breeds* [online]. Pretoria, 2008 [cit. 2015-05-19]. Available from: http://www.nda.agric.za/docs/Infopaks/Sheep_breeds.pdf

Department of Agriculture, Forestry and Fisheries. *Trends in the Agricultural Sector* [online]. 2014 [cit. 2015-08-17]. ISSN 1025-5028. Available from: <http://www.nda.agric.za/docs/statsinfo/Trends13.pdf>.

Department of Agriculture, Forestry and Fisheries. *International Trade* [online]. 2015 [cit. 2015-08-17]. Available from: <http://www.daff.gov.za/daffweb3/Branches/Economic-Development-Trade-Marketing/International-Trade>

EVERSOX. *Common Types of Wool Used in Clothing* [online]. 2015 [cit. 2015-08-07]. Available from: <http://www.eversox.com/common-types-of-wool-used-in-clothing/>.

FAO. Livestock densities: Global Livestock Densities (census data) [online]. 2014 [cit. 2015-05-22]. Available from: http://www.fao.org/ag/againfo/resources/en/glw/Density_maps/sheep_census-2005.jpg.

FAO. *National Land Use Systems: Land use systems of South Africa* [online]. 2010 [cit. 2015-04-04]. Available from: http://www.fao.org/nr/lada/images/stories/National%20LUS/LUS_SA.jpg.

FAO STAT. *South Africa: Economic Indicators* [online]. 2015a [cit. 2015-04-04]. Available from: http://faostat.fao.org/CountryProfiles/Country_Profile/Direct.aspx?lang=en&area=202.

Grootfontein. Agricultural Development Institute. *South African Sheep Breeds: Karakul* [online]. Middelburg, 2014 [cit. 2015-08-05]. Available from: <http://gadi.agric.za/InfoPacks/2014019%20South%20African%20Sheep%20breeds%20-%20Karakul.pdf>.

Kumo, Wolassa Lawisso, Jan Rieländer and Babatunde Omilola. *South Africa 2014. African Economic Outlook* [online]. 2014 [cit. 2015-04-08]. Available from: http://www.africaneconomicoutlook.org/fileadmin/uploads/aeo/2014/PDF/CN_Long_EN/Afrique_du_Sud_EN.pdf.

Mcclure, Kenneth, Hasan Yetim and Francisco Crespo. Encyclopaedia of Life Support System: Agricultural Sciences. *Sheep Production* [online]. 2003, (1) [cit. 2015-05-19]. Available from: <http://www.eolss.net/Sample-Chapters/C10/E5-24-03-03.pdf>.

Ministry of Textiles Government of India. *Wool: Section V Report* [online]. 2010 [cit. 2015-07-28]. Available from: http://texmin.nic.in/policy/Fibre_Policy_Sub_%20Groups_Report_dir_mg_d_20100608_5.pdf.

Moseley, W. G. *Neoliberal Agricultural Policy Versus Agrarian Justice: Farm Workers And Land Redistribution In South African's Western Cape Province*. South African Geographical Journal [online]. 2007, vol. 89, issue 1, s. 4-13 [cit. 2015-03-29]. DOI: 10.1080/03736245.2007.9713867. Available from: <http://www.tandfonline.com/doi/abs/10.1080/03736245.2007.9713867>.

Nagayets, Oksana. *Small Farms: Current Status And Key Trends: Information Brief*. International Food Policy Research Institute (Ifpri) [Online]. 2005 [Cit. 2015-03-18]. Available from: <http://www.ifpri.org/sites/default/files/pubs/events/seminars/2005/smallfarms/sfbgpaper.pdf>.

New History: The South African History Source. *The Origin of Farming in South Africa* [online]. 2010 [cit. 2015-03-21]. Dostupné z: <http://newhistory.co.za/part-1-chapter-1-origin-of-farming-in-south-africa/>.

NWGA - National Woolgrowers' Association of SA. *Production Advisory Services For Wool Sheep Producers In South Africa: Tender: Cape Wools SA* [online]. 2014 [cit. 2015-08-05]. Available from: http://www.nwga.co.za/images/downloads/Business_plan_2013%202014.pdf.

Oklahoma State University. *Sheep Breeds*. Breeds of Livestock, Department of Animal Science [online]. Oklahoma, 2015 [cit. 2015-05-19]. Available from: <http://www.ansi.okstate.edu/breeds/sheep>.

Open Data for South Africa. South Africa FAO STAT. *Land use and Agricultural Inputs* [online]. African Development Bank Group, 2015a [cit. 2015-04-03]. Available from: <http://southafrica.opendataforafrica.org/utnakid/south-africa-fao-stat-land-use-and-agricultural-inputs>.

Open Data for South Africa. South Africa FAO STAT. *Economic Indicators* [online]. African Development Bank Group, 2015b [cit. 2015-04-03]. Available from: <http://southafrica.opendataforafrica.org/nuplbpe/south-africa-fao-stat-economic-indicators>.

Pattinson, Russell, Chris Wilcox, Scott Williams and Kimbal Curtis. NSW Department of Primary Industries. *NSW Wool Industry & Future Opportunities* [online]. 2015 [cit. 2015-07-28]. ISBN 978-1-74256-716-7. Available from: http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0004/543523/Final-Report-NSW-Wool-Industry-and-Future-Opportunities.pdf.

SAinfo reporter. *South Africa's farming sectors*. In: SouthAfrica.info [online]. 2008 [cit. 2015-05-08]. Available from: <http://www.southafrica.info/business/economy/sectors/542547.htm#livestock>.

Schoenian, Susan. Counting Sheep: Sheep Breeds. Sheep101.info [online]. 2014 [cit. 2015-05-19]. Dostupné z: <http://www.sheep101.info/sheeptypes.html>.

SouthAfrica.info. Brand South Africa's information gateway to South Africa. *South African agriculture* [online]. 2012 [cit. 2015-04-03]. Available from: <http://www.southafrica.info/business/economy/sectors/agricultural-sector.htm#.VRsIhIHLfp5>.

Statistics South Africa. *Census 2011*. [online] Statistics South Africa, Pretoria, 2012. [cit. 2015-05-12]. Available from: <http://www.statssa.gov.za/publications/P03014/P030142011.pdf>.

Stackyard. *South Africa*. Stackyard: Agriculture on the web [online]. 2015 [cit. 2015-05-19]. Available from: <http://www.stackyard.com/pedigree/html/sasheep.html>.

Sneeuberg. *A Premium Product For the International Markets* [online]. 2011 [cit. 2015-08-17]. Available from: <http://www.sneeuberg.co.za/sneeuberg-wool-factory/sa-wool-industry.html>.

Tamáš, Vojtěch, Joanna Górká, Magdalena Osińska and Józef Stawicki. *Problem of the dual structure of farms in European transition economies*. Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis [online]. 2010, vol. 58, issue 6, s. 121-135 [cit. 2015-03-13]. DOI: 10.1007/978-3-642-57497-9_8.

Van Zyl, J., C. Csaki, T. Dams A D. Metzger. Iaae/Agrecona Interconference Symposium. *Agricultural restructuring in Southern Africa* [online]. Swakopmund: International Association of Agricultural Economists, 1990 [cit. 2015-05-03]. ISBN 99916/30/10/4. Available from: <http://ageconsearch.umn.edu/bitstream/183581/2/IAAE-SYMPOSIA-073.pdf>.

Online Databases

Český Statistický Úřad (Czech Statistical Office). ČSÚ [online]. ©Český statistický úřad 2015. Available from: <https://www.czso.cz/>

Food And Agriculture Organization Of The United Nations. Statistics Division. FAOSTAT [online]. © FAO 2015b. Available from: <http://faostat3.fao.org/home/E>.

The World Bank. World Bank DataBank [online]. © 2015 The World Bank Group. Available from: <http://databank.worldbank.org/data/home.aspx>.

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Annex 1: Estimate of Number of Agricultural Holdings, by Country and in the Given Census Year

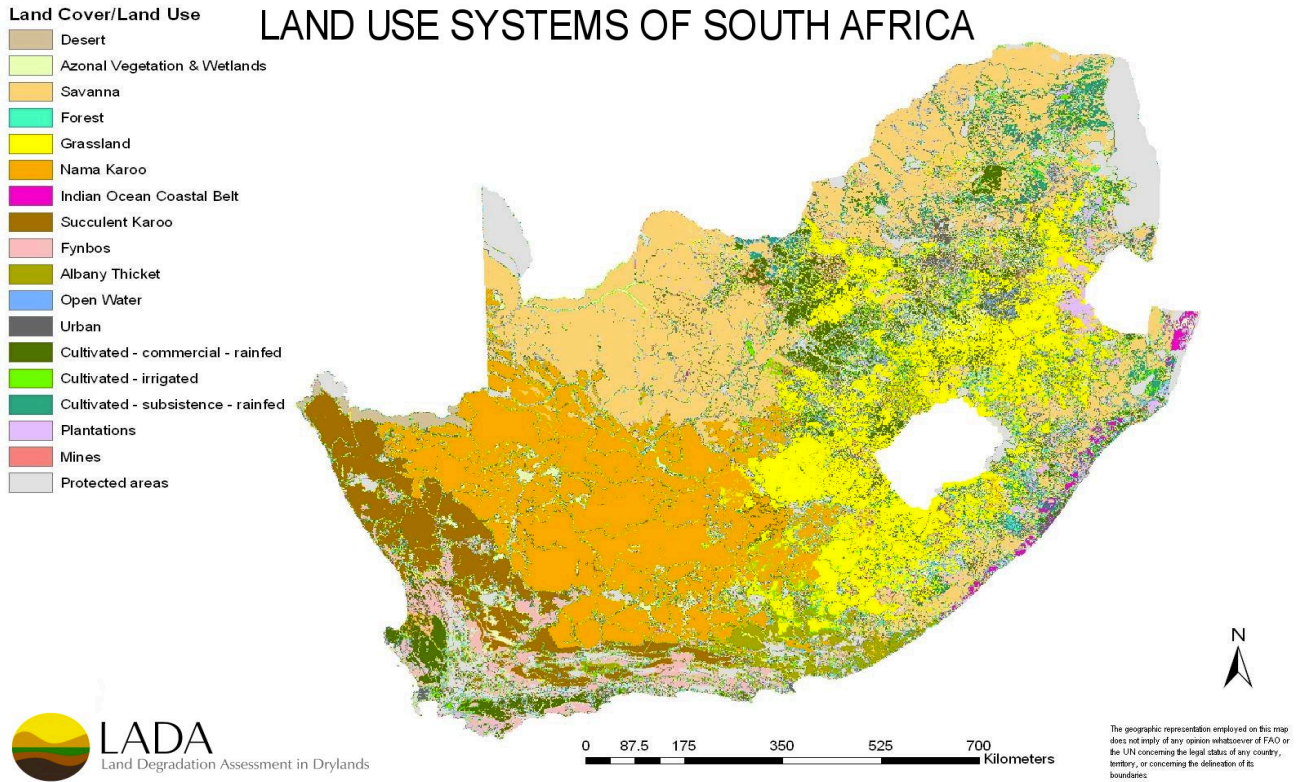
Country/ Territory	Census Year	Total Number of Holdings	Source	Region/ country group	Income group
167 country total		569,599,680			
Afghanistan	2002	3,044,670	1	South Asia	Low-income
Albania	2012	324,013	2	Europe and Central Asia	Upper-middle-income
Algeria	2001	1,023,799	1	Middle East and North Africa	Upper-middle-income
American Samoa	2003	7,094	1	East Asia and the Pacific	Upper-middle-income
Andorra	..	..	..	High-income country	High-income
Angola	1970	1,067,230	3	Sub-Saharan Africa	Upper-middle-income
Antigua*	1980	4,654	3	Latin America and the Caribbean	Upper-middle-income
Argentina	2008	276,581	4	Latin America and the Caribbean	Upper-middle-income
Armenia	..	..	..	Europe and Central Asia	Lower-middle-income
Australia	2001	140,516	1	High-income country	High-income
Austria	1999-2000	199,470	1	High-income country	High-income
Azerbaijan	2004-2005	1,287,385	1	Europe and Central Asia	Upper-middle-income
Bahamas	1994	1,760	3	High-income country	High-income
Bahrain	1980	806	3	High-income country	High-income
Bangladesh	2008	15,183,183	5	South Asia	Low-income
Barbados	1989	17,178	3	High-income country	High-income
Belarus	..	..	..	Europe and Central Asia	Upper-middle-income
Belgium	2010	42,854	6	High-income country	High-income
Belize	1980	11,011	3	Latin America and the Caribbean	Lower-middle-income
Benin	1990	408,020	3	Sub-Saharan Africa	Low-income
Bhutan	2009	61,578	7	South Asia	Lower-middle-income
Bolivia (Plurinational State of)	..	..	..	Latin America and the Caribbean	Lower-middle-income
Bosnia and Herzegovina	..	..	..	Europe and Central Asia	Upper-middle-income
Botswana	2004	51,264	1	Sub-Saharan Africa	Upper-middle-income
Brazil	2006	5,175,489	8	Latin America and the Caribbean	Upper-middle-income
Brunei Darussalam	1960	6,306	3	High-income country	High-income
Bulgaria	2010	370,490	9	Europe and Central Asia	Upper-middle-income
Burkina Faso	1993	886,638	3	Sub-Saharan Africa	Low-income
Burundi	..	..	..	Sub-Saharan Africa	Low-income
Cabo Verde	2004	44,506	1	Sub-Saharan Africa	Lower-middle-income
Cambodia	..	..	..	East Asia and the Pacific	Low-income
Cameroon	1970	925,895	3	Sub-Saharan Africa	Lower-middle-income
Canada	2001	246,923	1	High-income country	High-income
Central African Republic	1980	303,901	3	Sub-Saharan Africa	Low-income
Chad	1970	366,475	3	Sub-Saharan Africa	Low-income
Chile	2007	301,254	10	Latin America and the Caribbean	Upper-middle-income
China	2006	200,555,000	11	East Asia and the Pacific	Upper-middle-income
Colombia	2001	2,021,895	1	Latin America and the Caribbean	Upper-middle-income
Comoros	2004	52,464	1	Sub-Saharan Africa	Low-income
Congo	1980	143,235	3	Sub-Saharan Africa	Lower-middle-income
Cook Islands	2000	1,721	1	unclassified	unclassified
Costa Rica	1970	81,562	3	Latin America and the Caribbean	Upper-middle-income
Côte d'Ivoire	2001	1,117,667	1	Sub-Saharan Africa	Lower-middle-income
Croatia	2003	449,896	1	High-income country	High-income
Cuba	..	..	..	Latin America and the Caribbean	Upper-middle-income
Cyprus	2010	38,859	12	High-income country	High-income
Czech Republic	2010	22,864	13	High-income country	High-income
Democratic People's Republic of Korea	..	..	..	East Asia and the Pacific	Low-income
Democratic Republic of the Congo	1990	4,479,600	3	Sub-Saharan Africa	Low-income
Denmark	1999-2000	57,830	1	High-income country	High-income
Djibouti	1995	1,135	3	Middle East and North Africa	Lower-middle-income
Dominica	1995	9,026	3	Latin America and the Caribbean	Upper-middle-income
Dominican Republic	1970	304,820	3	Latin America and the Caribbean	Upper-middle-income
Ecuador	1999-2000	842,882	1	Latin America and the Caribbean	Upper-middle-income
Egypt	1999-2000	4,541,884	1	Middle East and North Africa	Lower-middle-income
El Salvador	2008	397,433	14	Latin America and the Caribbean	Lower-middle-income
Equatorial Guinea	..	..	..	High-income country	High-income
Eritrea	..	..	..	Sub-Saharan Africa	Low-income
Estonia	2001	83,808	1	High-income country	High-income
Ethiopia	2001-2002	10,758,597	1	Sub-Saharan Africa	Low-income
Fiji	2009	65,033	15	East Asia and the Pacific	Lower-middle-income
Finland	2010	63,874	16	High-income country	High-income
France	1999-2000	663,810	1	High-income country	High-income
French Guiana	2010	5,983	17	unclassified	unclassified
Gabon	1970	71,074	3	Sub-Saharan Africa	Upper-middle-income
Gambia	2001-2002	69,140	1	Sub-Saharan Africa	Low-income
Georgia	2003-2004	729,542	1	Europe and Central Asia	Lower-middle-income
Germany	1999-2000	471,960	1	High-income country	High-income

Country/ Territory	Census Year	Total Number of Holdings	Source	Region/ country group	Income group
Ghana	1980	1,849,800	3	Sub-Saharan Africa	Lower-middle-income
Greece	1999-2000	817,060	1	High-income country	High-income
Greenland	..	..	..	High-income country	High-income
Grenada	1995	18,277	3	Latin America and the Caribbean	Upper-middle-income
Guadeloupe	2010	7,852	18	unclassified	unclassified
Guam	2007	104	19	High-income country	High-income
Guatemala	2003	830,684	1	Latin America and the Caribbean	Lower-middle-income
Guinea	2000-2001	840,454	1	Sub-Saharan Africa	Low-income
Guinea-Bissau	1988	84,221	3	Sub-Saharan Africa	Low-income
Guyana	..	..	..	Latin America and the Caribbean	Lower-middle-income
Haiti	2008	1,018,951	20	Latin America and the Caribbean	Low-income
Honduras	1993	325,750	3	Latin America and the Caribbean	Lower-middle-income
Hungary	2000	966,916	1	High-income country	High-income
Iceland	..	..	..	High-income country	High-income
India	2011	137,757,000	21	South Asia	Lower-middle-income
Indonesia	2003	24,868,675	1	East Asia and the Pacific	Lower-middle-income
Iran (Islamic Republic of)	2003	4,332,423	1	Middle East and North Africa	Upper-middle-income
Iraq	1970	591,178	3	Middle East and North Africa	Lower-middle-income
Ireland	2000	141,530	1	High-income country	High-income
Israel	..	..	..	High-income country	High-income
Italy	2000	2,590,674	1	High-income country	High-income
Jamaica	2007	228,683	22	Latin America and the Caribbean	Upper-middle-income
Japan	2000	3,120,215	1	High-income country	High-income
Jordan	2007	80,152	23	Middle East and North Africa	Upper-middle-income
Kazakhstan	..	..	..	Europe and Central Asia	Upper-middle-income
Kenya	1980	2,750,013	3	Sub-Saharan Africa	Low-income
Kiribati	..	..	..	East Asia and the Pacific	Lower-middle-income
Kuwait	..	..	..	High-income country	High-income
Kyrgyzstan	2002	1,130,855	1	Europe and Central Asia	Low-income
Lao People's Democratic Republic	2010-2011	783,000	24	East Asia and the Pacific	Lower-middle-income
Latvia	2001	180,263	1	Europe and Central Asia	Upper-middle-income
Lebanon	1998	194,829	1	Middle East and North Africa	Upper-middle-income
Lesotho	1999-2000	337,795	1	Sub-Saharan Africa	Lower-middle-income
Liberia	1970	121,745	3	Sub-Saharan Africa	Low-income
Libya	1987	175,528	3	Middle East and North Africa	Upper-middle-income
Lithuania	2003	610,543	1	Europe and Central Asia	Upper-middle-income
Luxembourg	1999-2000	2,810	1	High-income country	High-income
Madagascar	2004-2005	2,428,492	1	Sub-Saharan Africa	Low-income
Malawi	2006-2007	2,665,565	25	Sub-Saharan Africa	Low-income
Malaysia	2005	526,265	1	East Asia and the Pacific	Upper-middle-income
Maldives	..	..	..	South Asia	Upper-middle-income
Mali	2004-2005	805,194	1	Sub-Saharan Africa	Low-income
Malta	2010	125,29	26	High-income country	High-income
Marshall Islands	..	..	..	East Asia and the Pacific	Lower-middle-income
Martinique	2010	3307	27	unclassified	unclassified
Mauritania	1980	99,644	3	Sub-Saharan Africa	Low-income
Mauritius	..	..	..	Sub-Saharan Africa	Upper-middle-income
Mexico	2007	5,548,845	28	Latin America and the Caribbean	Upper-middle-income
Micronesia (Federated States of)	..	..	..	East Asia and the Pacific	Lower-middle-income
Monaco	..	..	..	High-income country	High-income
Mongolia	2000	250,000	1	East Asia and the Pacific	Lower-middle-income
Montenegro	2010	48,824	29	Europe and Central Asia	Upper-middle-income
Morocco	1996	1,496,349	1	Middle East and North Africa	Lower-middle-income
Mozambique	1999-2000	3,064,715	1	Sub-Saharan Africa	Low-income
Myanmar	2010	5,426,083	30	East Asia and the Pacific	Low-income
Namibia	1996-1997	102,357	1	Sub-Saharan Africa	Upper-middle-income
Nauru	..	..	..	unclassified	unclassified
Nepal	2002	3,364,139	1	South Asia	Low-income
Netherlands	1999-2000	101,550	1	High-income country	High-income
New Caledonia	2002	5,574	1	High-income country	High-income
New Zealand	2002	70,000	1	High-income country	High-income
Nicaragua	2011	268,527	31	Latin America and the Caribbean	Lower-middle-income
Niger	1980	669,332	3	Sub-Saharan Africa	Low-income
Nigeria	1960	308,000	3	Sub-Saharan Africa	Lower-middle-income
Niue	2009	429	32	unclassified	unclassified
Northern Mariana Islands	2007	256	33	High-income country	High-income
Norway	1999	70,740	1	High-income country	High-income

Country/ Territory	Census Year	Total Number of Holdings	Source	Region/ country group	Income group
Oman	..	..		High-income country	High-income
Pakistan	2000	6,620,224	1	South Asia	Lower-middle-income
Palau	1990	300	3	East Asia and the Pacific	Upper-middle-income
Panama	2011	248,560	34	Latin America and the Caribbean	Upper-middle-income
Papua New Guinea	..	..		East Asia and the Pacific	Lower-middle-income
Paraguay	2008	289,649	35	Latin America and the Caribbean	Lower-middle-income
Peru	2012	2,292,772	36	Latin America and the Caribbean	Upper-middle-income
Philippines	2002	4,822,739	1	East Asia and the Pacific	Lower-middle-income
Poland	2002	2,933,000	1	High-income country	High-income
Portugal	1999	415,969	1	High-income country	High-income
Puerto Rico	2002	17,659	1	High-income country	High-income
Qatar	2000-2001	3,553	1	High-income country	High-income
Republic of Korea	2000	3,269,527	1	High-income country	High-income
Republic of Moldova	2011	902,463	37	Europe and Central Asia	Lower-middle-income
Réunion	2010	7,623	38	unclassified	unclassified
Romania	2002	4,484,893	1	Europe and Central Asia	Upper-middle-income
Russian Federation	2006	23,224,000	39	Europe and Central Asia	Upper-middle-income
Rwanda	2007-2008	1,674,687	40	Sub-Saharan Africa	Low-income
Saint Kitts and Nevis	2000	3,066	1	High-income country	High-income
Saint Lucia	2007	9,149	41	Latin America and the Caribbean	Upper-middle-income
Saint Vincent and the Grenadines	2000	7,380	1	Latin America and the Caribbean	Upper-middle-income
Samoa	2009	15,793	42	East Asia and the Pacific	Lower-middle-income
San Marino	..	..		High-income country	High-income
Sao Tome and Principe	1990	13,882	3	Sub-Saharan Africa	Lower-middle-income
Saudi Arabia	1999	242,267	1	High-income country	High-income
Senegal	1998-1999	437,037	1	Sub-Saharan Africa	Lower-middle-income
Serbia	2002	779,000	1	Europe and Central Asia	Upper-middle-income
Seychelles	2002	4,685	1	Sub-Saharan Africa	Upper-middle-income
Sierra Leone	1980	223,265	3	Sub-Saharan Africa	Low-income
Singapore	1970	15,741	3	High-income country	High-income
Slovakia	2001	71,000	1	High-income country	High-income
Slovenia	2010	74,646	43	High-income country	High-income
Solomon Islands	..	..		East Asia and the Pacific	Lower-middle-income
Somalia	..	..		Sub-Saharan Africa	Low-income
South Africa	2000	1,093,000	1	Sub-Saharan Africa	Upper-middle-income
Spain	1999	1,764,456	1	High-income country	High-income
Sri Lanka	2002	3,264,678	1	South Asia	Lower-middle-income
Sudan (former)	..	..		Sub-Saharan Africa	Lower-middle-income
Suriname	1980	22,103	3	Latin America and the Caribbean	Upper-middle-income
Swaziland	1990	73,745	3	Sub-Saharan Africa	Lower-middle-income
Sweden	1999-2000	81,410	1	High-income country	High-income
Switzerland	1990	108,296	3	High-income country	High-income
Syrian Arab Republic	1980	485,691	3	Middle East and North Africa	Lower-middle-income
Tajikistan	..	..		Europe and Central Asia	Low-income
Thailand	2003	5,792,519	1	East Asia and the Pacific	Upper-middle-income
The former Yugoslav Republic of Macedonia	2007	192,675	44	Europe and Central Asia	Upper-middle-income
Timor-Leste	..	..		East Asia and the Pacific	Lower-middle-income
Togo	1996	429,534	1	Sub-Saharan Africa	Low-income
Tonga	2001	10,941	1	East Asia and the Pacific	Lower-middle-income
Trinidad and Tobago	2004	19,111	1	High-income country	High-income
Tunisia	2004	515,850	1	Middle East and North Africa	Upper-middle-income
Turkey	2001	3,076,649	1	Europe and Central Asia	Upper-middle-income
Turkmenistan	..	..		Europe and Central Asia	Lower-middle-income
Tuvalu	..	..		East Asia and the Pacific	Upper-middle-income
Uganda	2002	3,833,485	1	Sub-Saharan Africa	Low-income
Ukraine	..	..		Europe and Central Asia	Lower-middle-income
United Arab Emirates	..	..		High-income country	High-income
United Kingdom	1999-2000	233,250	1	High-income country	High-income
United Republic of Tanzania	2002-2003	4,901,837	1	Sub-Saharan Africa	Low-income
United States of America	2007	2,204,792	45	High-income country	High-income
Uruguay	2011	44,890	46	Latin America and the Caribbean	Upper-middle-income
Uzbekistan	..	..		Europe and Central Asia	Lower-middle-income
Vanuatu	1993	22,000	47	East Asia and the Pacific	Lower-middle-income
Venezuela (Bolivarian Republic of)	2007-2008	424,256	48	Latin America and the Caribbean	Upper-middle-income
Viet Nam	2001	10,689,753	1	East Asia and the Pacific	Lower-middle-income
Virgin Islands, United States	2007	219	49	High-income country	High-income
Yemen	2002	1,488,406	1	Middle East and North Africa	Lower-middle-income
Zambia	2000	1,305,783	1	Sub-Saharan Africa	Lower-middle-income
Zimbabwe	1960	437,589	3	Sub-Saharan Africa	Low-income

Source: Source: Lowder et al. (2014)

Annex 2: Land Use Systems of South Africa



Source: FAO (2010)

Annex 3: Export Tariffs of Wool

Country	Product Description	Trade Regime Description	Applied Tariffs.	Total Ad Valorem Equivalent Tariff
India	Greasy wool, incl. fleece-washed wool, neither carded nor combed (excl. shorn wool)	MFN duties (Applied)	5.00%	5.00%
Belgium	Greasy wool, incl. fleece-washed wool, neither carded nor combed (excl. shorn wool)	MFN duties (Applied)	0.00%	0.00%
Czech Republic	Greasy wool, incl. fleece-washed wool, neither carded nor combed (excl. shorn wool)	MFN duties (Applied)	0.00%	0.00%
Germany	Greasy wool, incl. fleece-washed wool, neither carded nor combed (excl. shorn wool)	MFN duties (Applied)	0.00%	0.00%
Spain	Greasy wool, incl. fleece-washed wool, neither carded nor combed (excl. shorn wool)	MFN duties (Applied)	0.00%	0.00%
France	Wool, not carded or combed: greasy, including fleece-washed wool: shorn wool	MFN duties (Applied)	0.00%	0.00%
United Kingdom	Greasy wool, incl. fleece-washed wool, neither carded nor combed (excl. shorn wool)	MFN duties (Applied)	0.00%	0.00%
Country	Product Description	Trade Regime Description	Applied Tariffs.	Total Ad Valorem Equivalent Tariff
Portugal	Greasy wool, incl. fleece-washed wool, neither carded nor combed (excl. shorn wool)	MFN duties (Applied)	0.00%	0.00%
USA	Greasy wool, incl. fleece-washed wool, neither carded nor combed (excl. shorn wool)	MFN duties (Applied)	0.00%	0.00%
Argentina	Greasy wool, incl. fleece-washed wool, neither carded nor combed (excl. shorn wool)	MFN duties (Applied)	8.00%	8.00%
Uruguay	Greasy wool, incl. fleece-washed wool, neither carded nor combed (excl. shorn wool)	MFN duties (Applied)	0.00%	0.00%
China	Greasy wool, incl. fleece-washed wool, neither carded nor combed (excl. shorn wool)	MFN duties (Applied)	38.00%	38.00%
Korea Republic	Greasy wool, incl. fleece-washed wool, neither carded nor combed (excl. shorn wool)	MFN duties (Applied)	0.00%	0.00%

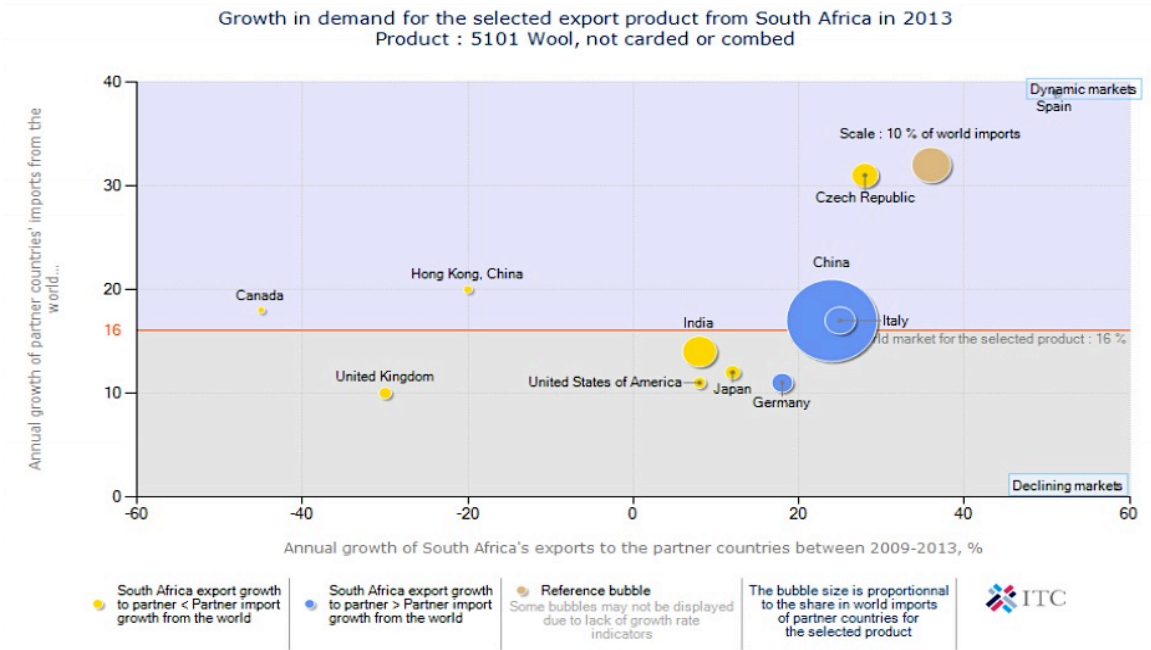
Source: ITC (Mac Map) in DAFF (2014)

Annex 4: Import Tariffs of Wool

Country	Product Description	Trade Regime Description.	Applied Tariffs.	Total Ad Valorem Equivalent Tariff
France	Greasy wool, incl. fleece-washed wool, neither carded nor combed	MFN duties (Applied)	0.00%	0.00%
Brazil	Greasy wool, incl. fleece-washed wool, neither carded nor combed	MFN duties (Applied)	0.00%	0.00%
Argentina	Greasy wool, incl. fleece-washed wool, neither carded nor combed	MFN duties (Applied)	0.00%	0.00%
Uruguay	Greasy wool, incl. fleece-washed wool, neither carded nor combed	MFN duties (Applied)	0.00%	0.00%
United States of America	Greasy wool, incl. fleece-washed wool, neither carded nor combed	MFN duties (Applied)	0.00%	0.00%
Canada	Greasy wool, incl. fleece-washed wool, neither carded nor combed	MFN duties (Applied)	0.00%	0.00%
Malawi	Greasy wool, incl. fleece-washed wool, neither carded nor combed	MFN duties (Applied)	0.00%	0.00%
Zimbabwe	Greasy wool, incl. fleece-washed wool, neither carded nor combed	MFN duties (Applied)	0.00%	0.00%
Zambia	Greasy wool, incl. fleece-washed wool, neither carded nor combed	MFN duties (Applied)	0.00%	0.00%
Country	Product Description	Trade Regime Description.	Applied Tariffs.	Total Ad Valorem Equivalent Tariff
Australia	Greasy wool, incl. fleece-washed wool, neither carded nor combed	MFN duties (Applied)	0.00%	0.00%
New Zealand	Greasy wool, incl. fleece-washed wool, neither carded nor combed	MFN duties (Applied)	0.00%	0.00%
Italy	Greasy wool, incl. fleece-washed wool, neither carded nor combed	MFN duties (Applied)	0.00%	0.00%
Netherlands	Greasy wool, incl. fleece-washed wool, neither carded nor combed	MFN duties (Applied)	0.00%	0.00%
Germany	Greasy wool, incl. fleece-washed wool, neither carded nor combed	MFN duties (Applied)	0.00%	0.00%
Switzerland	Greasy wool, incl. fleece-washed wool, neither carded nor combed	MFN duties (Applied)	0.00%	0.00%
Spain	Greasy wool, incl. fleece-washed wool, neither carded nor combed	MFN duties (Applied)	0.00%	0.00%

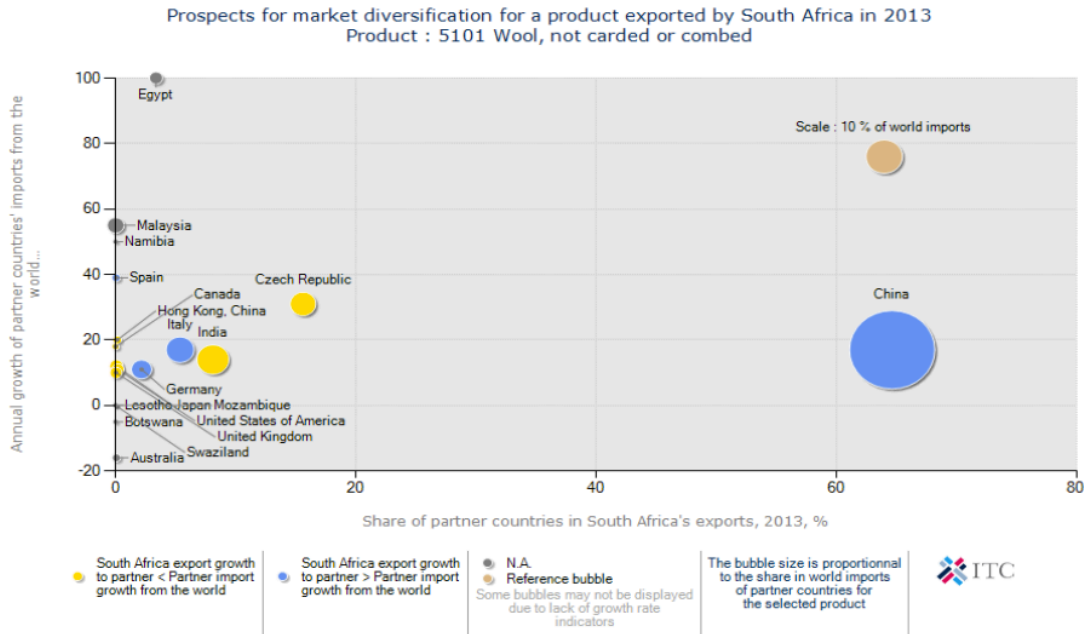
Source: ITC (Mac Map) in DAFF (2014)

Annex 5: Growth in Demand for the Selected Export Product from South Africa in 2013



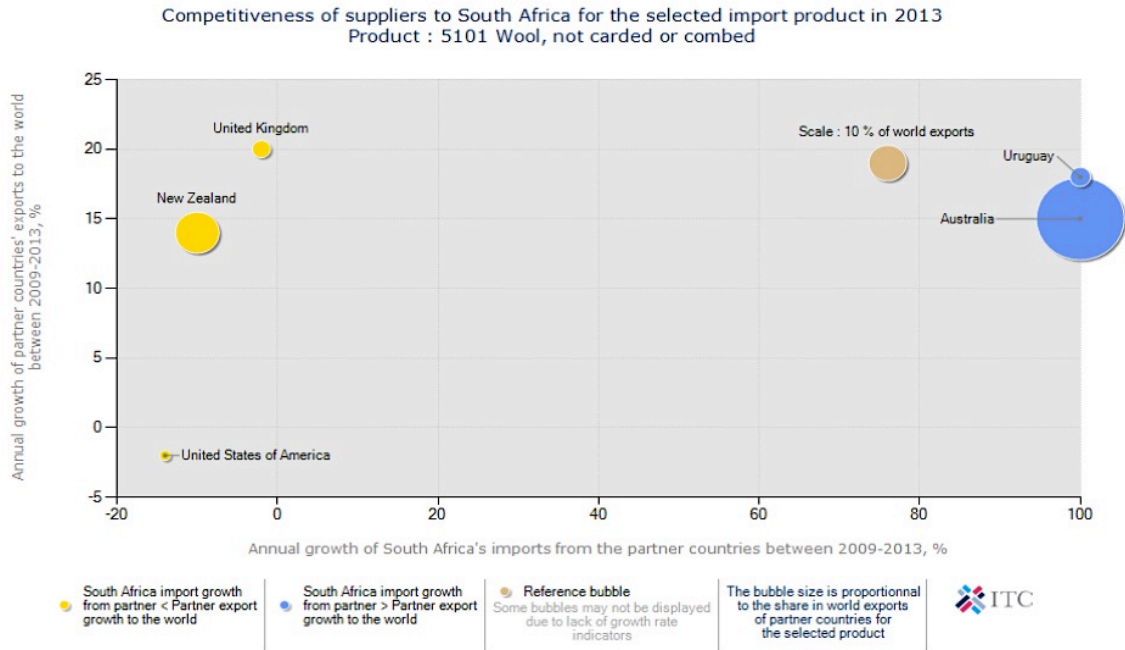
Source: ITC (Mac Map) in DAFF (2014)

Annex 6: Prospects for Market Diversification for a product Exported by South Africa in 2013



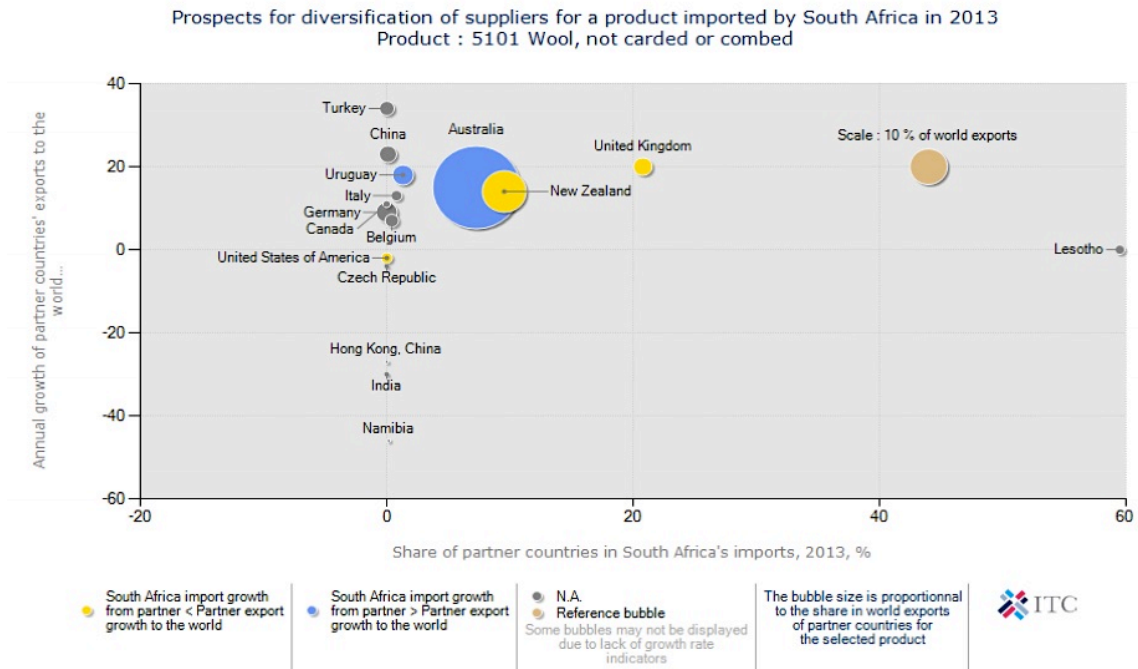
Source: ITC (Mac Map) in DAFF (2014)

Annex 7: Competitiveness of Suppliers to South Africa for the Selected Import Product in 2013



Source: ITC (Mac Map) in DAFF (2014)

Annex 8: Prospects for Diversification of Suppliers for a Product Imported by South Africa in 2013



Source: ITC (Mac Map) in DAFF (2014)