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Faculty of Economics and Management

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Diploma Thesis

Global cotton trade – Case study of cotton trade of Uzbekistan

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Global cotton trade – Case study of cotton trade of Uzbekistan

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Objectives of thesis

The diploma thesis is concentrated on global cotton trade, especially on cotton trade of Uzbekistan. The thesis aims to describe analyze and evaluate the implications of cotton production and global cotton trade. The thesis consists of theoretical and practical part. The theoretical part primarily belongs to production and consumption of cotton. Moreover, the trade of cotton around the world and its role to the world economy, international organizations in the cotton market and major cotton exporter and importer countries are described on the thesis.
On the practical part attention is paid to the trade balance of Uzbekistan and cotton trade in Uzbekistan. The role of sub-actors and the status of Uzbekistan in Chinese and Russian markets and how revealed comparative advantage of Uzbek cotton was changed between last 10 years.
Another important issue to explain how the changes in the global market are reflected in Uzbekistan and their economical and environmental consequences.

Methodology

The research analyzes and evaluates implications of cotton production and global cotton trade. The analysis concerns the spatial structure, interrelationships, the principles, causes and consequences of the globalization of cotton trade. The Global Production Networks (GPN) theory, based on the global value chains (GVC) and the global commodity chains (GCC), is used to achieve these goals.

Moreover, Uzbek cotton trade and comparative advantage of Uzbek cotton in Russian and Chinese markets is analyzed and the analysis is constructed on a basis of Balassa Index (or Revealed Comparative Advantage). During the analysis, it is identified the trade balance and foreign trade turnover of Uzbekistan, the cotton market competitiveness, the share and role of cotton export in GDP. Export volume of Uzbek cotton is analyzed through time series between 2009 and 2019 years.

The proposed extent of the thesis

70 – 90 pages

Keywords

Cotton, GDP, Global, Export, Trade, Uzbekistan

Recommended information sources

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Declaration

I declare that I have worked on my diploma thesis titled "Global Cotton Trade - Case study of cotton trade of Uzbekistan" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on 24th of March 2021 _____

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I would like to thank to my supervisor **Ing. Pavel Kotyza Ph.D.**, Department of Economics, Czech University of Life Science, Prague for his stimulation, inspiration astute guidance, valuable suggestion, sagacious advice's and whole hearted supervision to me during the practical orientation period.

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Global cotton trade – Case study of cotton trade of Uzbekistan

Abstract

The diploma thesis is concentrated on global cotton trade, especially on cotton trade of Uzbekistan. The Thesis aims to describe, analyze and evaluate the implications of cotton production and global cotton trade. The thesis consists of theoretical and practical part. The theoretical part primarily belongs to a cotton production and consumption of cotton. Moreover, the trade of cotton around of the world and its role to the world economy, international organizations in the cotton market and major cotton exporter and importer countries were described on the thesis.

On the practical part of the work based on, based on the global value chains (GVC) and the global commodity chains (GCC), the globalization of cotton trade in Central Asia, the situation in Uzbekistan is discussed, as all the main characteristics of globalization of trade in the region are evident and several circumstances (the impact of cotton on the economy and environment) the most striking and best captured data. Furthermore, more attention is paid to cotton production and export, the status of Uzbekistan in the world market and it's role in the global cotton trade. For this research, the trade balance and foreign trade turnover of Uzbekistan are studied within selected periods. Moreover, the export of cotton to main consumers, such as Russia and China are analyzed using the method of Balassa index. The comparative advantage of uzbek cotton in Chinese and Russian markets are investigated within the selected periods. Therefore, it is considered the share of Uzbek cotton export in Russian and Chinese markets, and its influences on the economy of Uzbekistan.

Keywords: Cotton, GDP, export, foreign, global, interrelationship, import, market, organisation, trade, Uzbekistan.

Globální bavlněný obchod - případová studie obchodu bavlny Uzbekistánu

Abstrakt

Diplomová práce se soustředí na celosvětový obchod s bavlnou, zejména na bavlněný obchod s Uzbekistánem. Cílem práce je popsat, analyzovat a hodnotit důsledky produkce bavlny a celosvětového obchodu s bavlnou. Práce se skládá z teoretické a praktické části. Teoretická část patří především produkci bavlny a spotřebě bavlny. Na základě této práce byl navíc popsán obchod s bavlnou na celém světě a její role pro světovou ekonomiku, mezinárodní organizace na trhu s bavlnou a významné vývozce bavlny a dovážející země.

Na praktické části práce založené na globálních hodnotových řetězcích (GVC) a globálních komoditních řetězcích (GCC), globalizaci obchodu s bavlnou ve střední Asii, se diskutuje o situaci v Uzbekistánu, neboť všechny hlavní rysy globalizace obchod v regionu je zjevný a několik okolností (dopad bavlny na ekonomiku a životní prostředí) nejnápadnější a nejlépe zachycený údaje. Navíc se věnuje více pozornosti produkci a vývozu bavlny, postavení Uzbekistánu na světovém trhu a jeho úloha v celosvětovém obchodě s bavlnou. Pro tento výzkum jsou obchodní bilance a obrat Uzbekistánu v rámci vybraných období studovány. Kromě toho se vývoz bavlny pro hlavní spotřebitele, jako je Rusko a Čína, analyzuje pomocí metody indexu Balassa. Komparativní výhoda uzbecké bavlny na čínských a ruských trzích je prošetřena ve zvolených obdobích. Proto je považován za podíl uzbeckého vývozu bavlny na ruských a čínských trzích a jeho vliv na ekonomiku Uzbekistánu.

Klíčová slova: Bavlna, HDP, export, zahraniční, globální, vzájemný vztah, dovoz, trh, organizace, obchod, Uzbekistán.

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Contents

Abbreviations

ATC	Agreement on Textiles and Clothing
BI	Balassa Index
CIS	Commonwealth of Independent States (Formerly the USSR)
EEC	European Economic Community
EU	Eurpean Union
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GPN	Global Production Networks
GCC	Global Commodity Chains
FAO	Food and Agriculture Organisation
ICAC	International Cotton Advisory Committee
MFA	Multifiber Arrangement
PTA	Preferential Trade Agreements
RCA	Revealed Comparative Advantage
WTO	World Trade Organisation
UNCTAD	The United Nations Conference Trade and Development
UZB	Uzbekistan
USDA	United States Department of Agriculture
USSR	Union of Soviet Socialist Republics

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Introduction

Cotton is one of the most important crops worldwide. planted for centuries and consumed by almost half of the world's population. It is mostly used in the clothing industry because of its beneficial and valuable features. The textile and clothing trade are an important part of the world economy and many countries depend on this sector to generate foreign exchange earnings and jobs. Materials made of this bast are moisture-absorbent have a good fabric and are well-known for their long durability. Cotton plays an essential role in developing countries, which are achieving still more essence in the global economy. Natural conditions are valuable aspects of cotton cultivation. Millions of people around the world consume cotton commodity. Production processing, transportation and trade of cotton are broadly established all over the world. The volume of international trade with cotton has an expanding development. Moreover, it is vital to notice to the improvement of the world cotton market.

Uzbekistan is one of the top leader countries in the export cotton. It is worth to say that geography of supplies is increasing in recent years, particularly in South Asia and South-East where dramatically increasing interest in cooperation with Uzbekistan and growing up textile industry. Cotton is a needful fiber yield of Uzbekistan which plays a high role in the economy of country by supplying the export and domestic demands. In terms of employment, farm revenue and export profit. it contributes to both industry and agriculture development. This case study considers the trade of Uzbek cotton, particularly its production and export including determinants which play a main role in the volume of export.

Cotton complex occupies a central place in the economy of the Republic of Uzbekistan. Reforms implemented by the government in the cotton industry were the most important element of the planned development of the country and its transition to a market economy. The main products of the complex cotton fiber - are globally competitive technical products. Revenues from its sale on the international market are important items of foreign exchange earnings in the budget of the Republic of Uzbekistan.

Objectives and methodology

Objectives

This thesis aims to describe. analyze and evaluate the implications of cotton production and global cotton trade. The analysis concerns the spatial structure, the interrelationships, the principles, causes and consequences of the globalization of cotton trade. The diploma thesis has two main intentions. The first is to interpret the functioning of the liberalized cotton and cotton trade to identify the main actors who influence it. The second objective is to explains changes production of cotton commodity chain aftermath of the USSR, the role of Uzbekistan in the global cotton trade, economic and environmental impacts of cotton production and export to the economy of Uzbekistan and importance of cotton in Chinese and Russian markets.

The Chapter 3 describes, the history and the main context of cotton growing in the world, the spatial structure of cotton growing and trade. Attention is paid to the flows of raw materials, and finances to places where cotton is further processed and other products are produced, especially the textile and clothing industry. Also, it shows that the role of regulatory mechanisms and institutions in the commodity chain - international organizations.

This is followed by Chapter 4, which discusses the development of Uzbek cotton during Soviet times and after the collapse of the USSR and the current structure of the cotton commodity chain in Uzbekistan, including cotton business and export directions to the consuming countries and the environmental consequences of intensive cotton growing in Uzbekistan. Attention is paid among other things, to the case of Aral Sea.

The fifth chapter deals with the trade balance of Uzbekistan. In this part. It is analyzed foreign trade turnover of Uzbekistan more detailed, such as export and import of the country and the share and role of cotton export in GDP.

The Conclusion summarizes the findings and answers the questions in the introductory parts of the thesis.

Methodology

The Global Production Networks (GPN) theory, based on the global value chains (GVC) and the global commodity chains (GCC), is used to achieve these goals. These theories seek to understand the motives and way of dealing with multinational companies and other actors directly or indirectly involved in or influencing the production, and trying to clarify how the division of economic activities in terms of value added is structured globally. As the main one the publication was published by the Theory of Regional Development by Blažek J. and Uhlíř D. (2011). The GPN Theory uses this work to explain the flow of cotton and cotton products and to clarify the social and institutional context of host economies in Uzbekistan and main characteristics of globalization of trade. The findings of global ties are subsequently applied to a case study of Uzbekistan. The local cotton trade is analyzed in connection with the global market where Uzbek cotton is traded.

Furthermore, it is used revealed comparative advantage index to measure the competitiveness of cotton. Balassa (1965) proposed the original measure of Revealed Comparative Advantage (RCA) for analysis of countries' specialization in international trade. Several studies focused on the investigation of export competitiveness through Revealed Comparative Advantage indices. However, Balassa index (BI) as a measure of RCA has not escaped criticism from numerous researchers. Some researchers suggested solutions of RCA asymmetry issue by using the logarithm of BI (Vollrath, 1991). According to the recommendation of (Laursen, 2015), using a symmetric version of the RCA, as called the symmetric Revealed Comparative Advantages index.

Although the Balasa index's weaknesses indicated above it extensively used to analyse the country's Revealed Comparative Advantages and its export competitiveness. For instance, The competitiveness of the Egyptian agricultural export in the EU market was analyzed by Torayeh (2013), Utkulu and Seymen (2004) examined the trade speciality and competitiveness of Turkey's export to the EU. Thus, it is also used Balassa index (BI) for measure the competitiveness of Uzbekistan's cotton exports which stated as follows:

$$RCA_{d,i} = \frac{X_{d,i}}{X_d} \Big/ \frac{X_{w,i}}{X_w}$$

Where (**d)** is the country under study, (**w)** is the set of all exporting countries, (**i)** refers to a specific industry and (**X)** are the exports.

The cotton has a revealed comparative advantage if $RCA_{d,i}>1$. If $RCA_{d,i}$ is less than 1, we accomplish that the country has a comparative disadvantage in this product. It is used trade data of UNCOMTRADE database. It is used Harmonized System classification data at 2 and 4 – digit levels. The cotton commodites, such as 52-cotton, 5205-cotton yarn, 5208-5209-Woven fabrics, and HS 63 – Textiles are selected for the research.

Unfortunately, because there is not Uzbekistan's exports in this database, it is used mirror statistics in the analysis of Uzbekistan cotton exports to China and Russian markets. The analysis includes itself the period 2009-2019. Because of much enough and exact database, great global economic changes and upgrades, such as financial crisis which started in 2009 and important economic modifications in Uzbekistan history between these periods, the research investigates cotton product with the highest share in Uzbekistan's export to China and Russia between 2009 and 2019.

3. Literature Review

3.1. Cotton production

Cotton has grown in more than 70 countries and is one of the world's most important products. The cotton is usually used in the clothing industry due to its advantageous features. Materials made of this bast are moisture-absorbent. have a good fabric and are well-known for their long durability. People continue to purchase large amounts of cotton products as they prefer cotton's bright and comfortable qualities. Cotton oil is a vegetable oil and a sponge cake that is commonly used in the tissue. Cotton provides high quality protein and feed for animal feed; Cotton plays an important role in the economies of many developing countries of Africa. Latin America and Asia. With this. millions of people work in agriculture and work in related

industries and clothing in foreign exchange. Direct foreign exchange benefits can be obtained by direct export of cotton (Rizzakov, 1994).

A great deal of the increase in world production occurred in the USA. Peoples' Republic of China and Uzbekistan (one of the countries in the former Soviet Union). These three countries produce about two thirds of the world's cotton. Spectacular increases in production also occurred in Southern Africa. Pakistan and Australia. Over the past twenty years, several countries. notably in South East Asia. have introduced programs to encourage cotton production in order to reduce reliance on imports to supply the needs of their rapidly expanding textile industries. While these countries are never likely to become major cotton producers, if they achieve even partial independent. it will influence world trade in raw cotton. The governments of most cotton producing countries are heavily involved in cotton production and marketing because of its multi sectoral role in the economy and its socio-economic and strategic importance (Gillham, 1995).

Government interferences effect domestic production, the domestic textile industry, the international cotton and textile markets. Arguments for their explanation contain economies of scale, logistical barriers, quality control and environmental concerns. Some of the arguments have technical or economic justification while others do not. However, while cottonseed is a valuable source of protein and vegetable oil. cotton is grown mainly to supply the raw material needs of the textile industry, an industry that relies on frequently of supply and quality. Thereby, studies of cotton production policy and economics should be completed by understanding of their influence on the markets for cotton lint. yarn and textiles (Djalolov, 2007).

3.1.1. History of cotton production.

The recounting of the origin and domestication of cotton is particularly fascinating because the word "cotton" simultaneously refers to four species in the genus Gossypium (Malvaceae) that were domesticated independently for the same purpose. Gossypium hirsutum. the species that currently dominates world cotton cultivation and provides over 90 percent of the annual cotton crop. has spread from its original home in Mesoamerica to over forty countries (Niles and Feaster, 1984).

The history of cotton starts with the evolution of the genus about 1 – 2 million years ago. During the ensuing millennia. this original entity radiated into several geographic centres of diversity including Australia. Arabia. Africa and Mesoamerica. These two old world cotton species. G. arboreum and G. herbaceum. arose from the African-Arabian gene pool. and two species. G. barbadense and G. hirsutum. evolved in the New World. Within their distinct. nonoverlapping geographical areas. each species independently attracted the attention of four different groups of early domesticators (Niles and Feaster, 1984).

The origins of cotton production and cultivate go back to prehistoric times. The first indication of cotton use was found in Pakistan and India. approximately 6.000 B.C. There are some facts by Scienfists that cotton was first grown in the Indus delta. Cotton was already grown throughout the warmer regions in America and Asia until the end of the 16th century. An afresh discovered species was made known to Africa coming to 18th century and far ahead spread to Eastern countries. such as Pakistan, India and China (Seelanan et al., 1997).

The Industrial Revolution in the history of cotton production brought the invention of the spinning machine in 1738 and cotton gin in 1793. These inventions ensured a great enhancement to cotton manufacture. primarily in England. Manchester was one of the main cities of England and it attained the nickname "cotton polis" because of the developed cotton industry (Gillham, 1995).

The leading cotton fiber provider for the cotton industry of Europe. was considered India until the mid of the 19th century. Europeans began to trade straight with Asia in 15th century. After 1500. Indian cottons occupied new markets, mainly in Europe and The Americas, and made inroads into the habits of consumers nearly everywhere in the world. In 17th and 18th centuries the position of the European trading companies in the Indian Ocean developed. The long hand of Europe was visible in the control of both production and consumption markets (Riello, 2009).

Later, cotton had become the mainstay of the southern North American economy. At that time in America, cotton production was deeply based on slavery work. American cotton was stronger and had longer fibers comparing to other species. Because of the higher quality of American cotton and its cheaper price. European textile manufacturers were interested on it and began buying cotton from American plantations. Nowadays, China is one of the largest cotton producer country in the world. Approximately 2000 years ago, cotton was made known to this country.

Coming to the end of 1970, the Chinese Government took measures to boost cotton production by subsidizing inputs and offering procurement funds. As a result, cotton production increased from 10 million bales in 1979 to about 29 million bales in 1984 (1 bale = 500 lbs or 217.7 kg).

In the late 19th and early 20th centuries, one-third of total irrigated land in Central Asia was devoted to cotton production. Cotton was grown on the more fertile soils, whereas cereal cultivation occurred on less fertile soils. Starting in the 1860s, tsarist Russia penetrated Central Asia because of its favourable climatic conditions and geographic location. As part of the "Great Game" between the British and Russian Empires (Spoor, 1993), railroads were constructed between main cities and commercial centres in Central Asia and Russia. This construction inaugurated an era of regional specialization. and the small independent states covering modern Uzbekistan—the Kokand and Khiva khanates and the Bukhara Emirate—were forced to become the main suppliers of cotton to Russia. To increase cotton yields and improve its quality to meet the requirements of the Russian textile industry, G. Gipsitum varieties were imported from Central America (Rudenko, 2008).

3.1.2 Growing cotton fiber (Cotton growth)

Cotton is grown over 60 countries in the world. Cotton plant growth and development is a unique and complex process. There are some main factors which influence to grow healthy cotton. such as. climate. soils. land. water and nutrition managements. Cotton is a perennial shrub with tropical origins that is produced in an annual row crop environment. The growth cycle of the various cotton species varies in length. but the sequence of fruit production remains the same. Current commercial cultivars generally need more than 150 days above 15^0 C to produce a crop. become inactive at temperatures below 15^0 C and are killed by freezing temperatures. All processes leading to square. blossom and boll initiation. and maturation are temperature dependent. Cool nights are beneficial during the fruiting period. but extremes in temperature (high or low) can result in delayed growth and aborted fruiting sites. At least 500 mm of rainfall or irrigation is required to produce a cotton crop. When the boll has opened. exposure of cotton lint to the environment causes weathering and the fibers can become stained. spotted dark and dull. Cotton lint yields and fiber quality are also impacted by the amount and

quality of the solar radiation. The lint yield reduction resulting from low light situations is primarily due to fewer bolls being produced on the plants. Not only is lint production reduced under low light conditions. but the fiber produced is often of inferior quality. Wind also stress the cotton plant enough to reduce yield. although some wind may be beneficial in very hot humid conditions. Most wind damage to cotton plants. High winds can cause blowing sand that can literally cut the young plants off at the soil. surface reducing the overall stand. Environmental factors not only impact the growth of the cotton plant, but also, that of pests and beneficial organisms during the growing season. (Abdullayev, 2007)

Cotton needs a soil with excellent water holding capacity and aeration and good drainage as it cannot withstand excessive moisture and water logging. The major soil groups for cotton cultivation are red sandy loams, alluvial soils and black soils. Important soil physical conditions are drainage, soil texture and depth of ground water table. Soils may be different in terms of chemical conditions. The soil chemical environment determines the composition of the soil solution within which the roots live and function and this has a direct impact on plant nutrition.

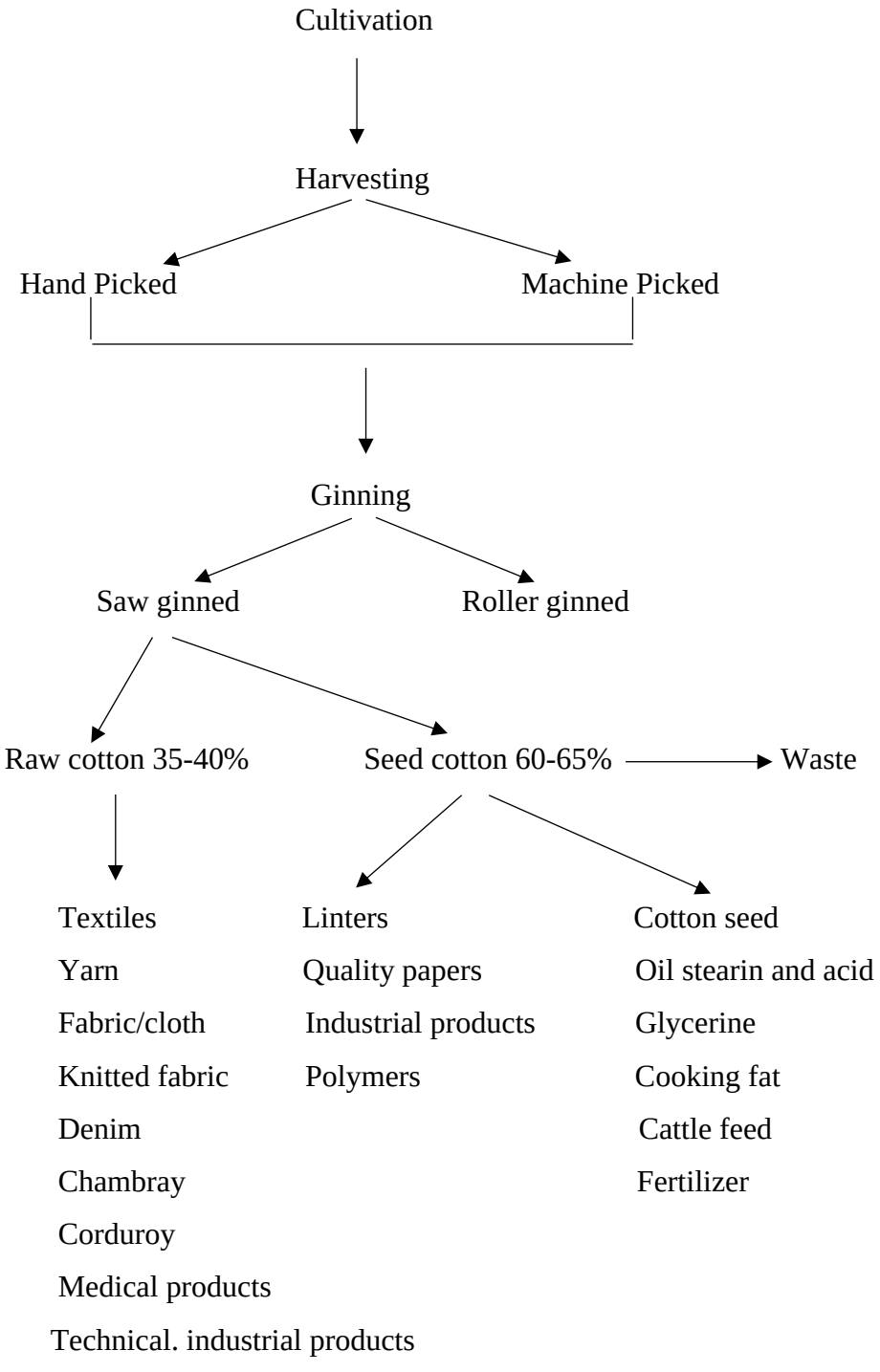
Tillage is the agricultural preparation of the soil by cultivating, ripping or turning it. It has been used as a method to bury crop residue to assist in disease and weed control. The sustained use of conventional tillage with crop monocultures has degraded soils around the world. Vegetative growth continues well into reproductive development. Excessive vegetative growth produces several undesirable traits in cotton. For instance, shade in the lower canopy may decrease fiber maturity of bolls in that portion of the plant. A further 65% comes from irrigated cotton. including extra-long staple. Dry, warm climates are the best for irrigated cotton. The use of irrigation grew dramatically in the 20th century: canal capacity and pumping stations have increased capacity and now are operated throughout the year. Irrigated cotton is obviously more expensive to grow, but ‘it usually results in higher yields, more regular harvests, a higher quality of fibre and requires a shorter ripening period’ (Riello, 2009).

3.1.3 Harvesting and processing cotton

Cotton can either be picked by hand or by machines. Manual picking is slow but better preserves fiber characteristics of cotton. Boll opening is the first action on the fiber which pushes fibers from the place where they were embedded for weeks before being exposed to the external conditions. The boll opening action is gentle and thus has no effect on the fiber quality. However, a longer stay of the open bolls in the field may change the colour and make the fibers shrink. Thus, affecting the three most important fiber characters, such as, micronaire, strength and length. Such an effect cannot be eliminated as all bolls do not open at the same time and some open bolls must stay in the field for days and sometime even weeks. In the case of hand picking, it is possible to pick open bolls at frequent intervals and weather effects on the fiber, after bolls have opened can be minimized (Verheye, 2010).

Picture No.1

Processing cotton



Source: Agarwal, 2007

About 30% of world production is harvested by machines, either a picker or a stripper. Cotton picking machines have spindles that pick the seed cotton from the burrs that are attached to plants' stems. Doffers then remove the seed cotton from the spindles and knock the seed cotton into the conveying system. Conventional cotton stripping machines use rollers equipped with alternating bats and brushes to knock the open bolls from the plants into a conveyor. A second kind of stripper harvester uses a broadcast attachment that looks like a grain header on a combine (Mohanty, 2006).

Harvesting in some countries, like Australia, US and Israel are 100% mechanically. The manual method is slowly but more quality. All harvesting systems use air to convey and elevate the seed cotton into a storage bin referred to as a basket. Once the basket is full, the stored seed cotton is dumped into a boll buggy, trailer or module builder. After harvest, most of the cotton is now pressed into modules in the field for storage. These modules are then transported to the cotton gin for removal of seed and trash (Verheye, 2010).

3.2 Globalization of world trade with cotton

3.2.1 World cotton trade

Cotton is a widespread. strategically important plant that is grown in 52 countries around the world. It is a high cost industrial plant with high direct and indirect use in various fields. Consequently, it makes a significant contribution to the development of the region or country in terms of employment and adds to the overall economy of value added (Carl et al., 2016). Cotton, the main type of consumption of natural fibers, is grown in different parts of the world. About 85% of cotton cultivation occurs in the northern hemisphere and land accounts for nearby 2.5% of the world's cultivated land. Cotton's share in the global textile fiber market is around 36%. China, India, Pakistan and Turkey, followed by cotton textile imports, remain major economies (Gardette, 2018).

The textile and clothing trade are an important part of the world economy and many countries rely heavily on this sector to generate foreign exchange earnings and jobs. About 6% of the world's total exports are in the textile and clothing trade. In 2001, it was worth $ 342 billion;

The clothing trade accounted for 60% of the total. It is especially important for international cotton trade, as 30% of the world's cotton fiber consumption crosses international borders before China's textile plants are consumed, USA, India and Pakistan. Together, these four make up about 60 percent of world production and consumption. The next three largest consuming countries are Turkey, Brazil, and Mexico, all of which produce cotton but are often large importers nonetheless (Pan Mohanty, Welch, et al., 2006). Cotton is mostly a Northern Hemisphere crop, but about 10 percent of the world's output comes from south of the equator—primarily Brazil and Australia. Developed countries account for more than 40 percent of global consumer end-use of cotton, but only about 22 percent of the industrial use of raw fiber. Thus, about 20 percent of world cotton end-use is exported from developing countries to other developed countries. Both production of cotton and its export patterns are distorted very considerably by subsidies to both as well as by tariffs on cotton, textiles and clothing imports. Cotton usage, on the other hand, is distributed across countries roughly in proportion to their volumes of textile production (Agarwal, 2007).

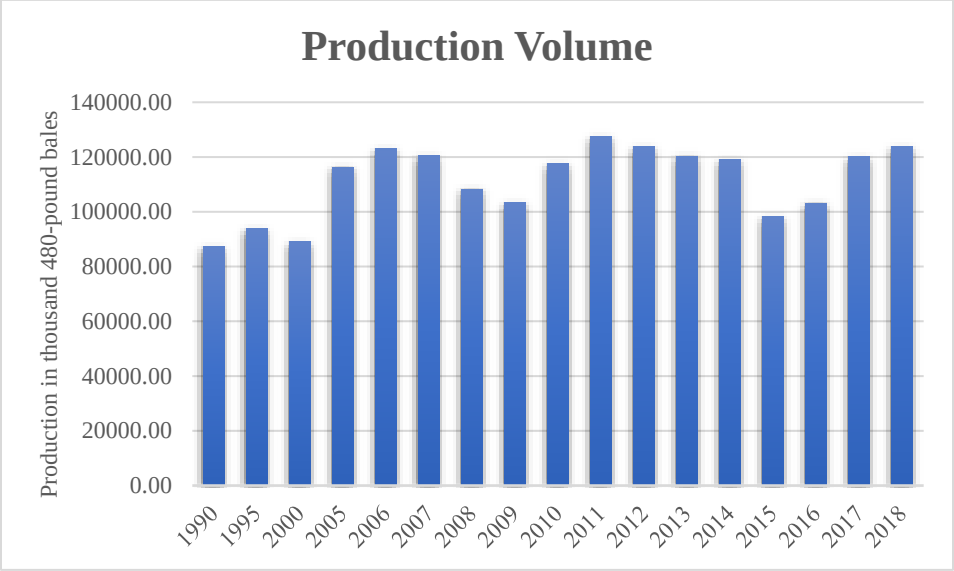
3.2.2 Spatial structure of cotton trade

There are a lot more actors in GPN than just multinational companies and their suppliers. According to Blažek and Uhlíř (2011), the country is undoubtedly a key actor who, among other things, defines the legislative environment. This is evident in today's cotton trade in authoritative countries, such as China or Uzbekistan. The setting of national and international standards (Djanibekov et al, 2010), also plays a major role, so Chapter 3 deals not only with global data on cotton production on a global scale but also with sub-indices in the producing countries, because the states have decisively determined their decisions and different agricultural policy global flows in cotton trade during the 20th century and have a significant impact on the present. In 2012, cotton was grown at over 350.000 km² and in the 2011/2012 marketing year global production reached 26.1 million tons worth more than $ 20 billion (FAS USDA, 2013). Since the early 1960s, world production has more than doubled, thanks to an increase in average yields of 300 kg / ha to 640 kg / ha (World Bank 2012). In the commodity chain of cotton, there has been a significant upgrading to more orderly levels over the past decades. Upgrading defines

(Djanibekov et al, 2010), as an increase in the added value of products. Respectively, such as the production of more sophisticated goods with higher unit pricing (product upgrading), the application of more efficient production methods (process upgrading), or as an increase in the role of knowledge in company activities or the development of functions with higher added value. Other options for the future are genetically modified varieties (GMOs) of cotton that began to be introduced at the end of the 1990s. Technological improvements in processing are further developed – e.g from lower quality cotton. it is now possible to produce high quality products (World Bank, 2004).

Global cotton production volume from 1990 to 2018 (1000 bales)*

Figure No.1



Source: Statista, 2018

As it os shown on the Figure No.1, in the early 1991s, total world cotton production was around 80 million 480-pound bales and has risen to more than 123 million 480-pound bales coming to 2018.

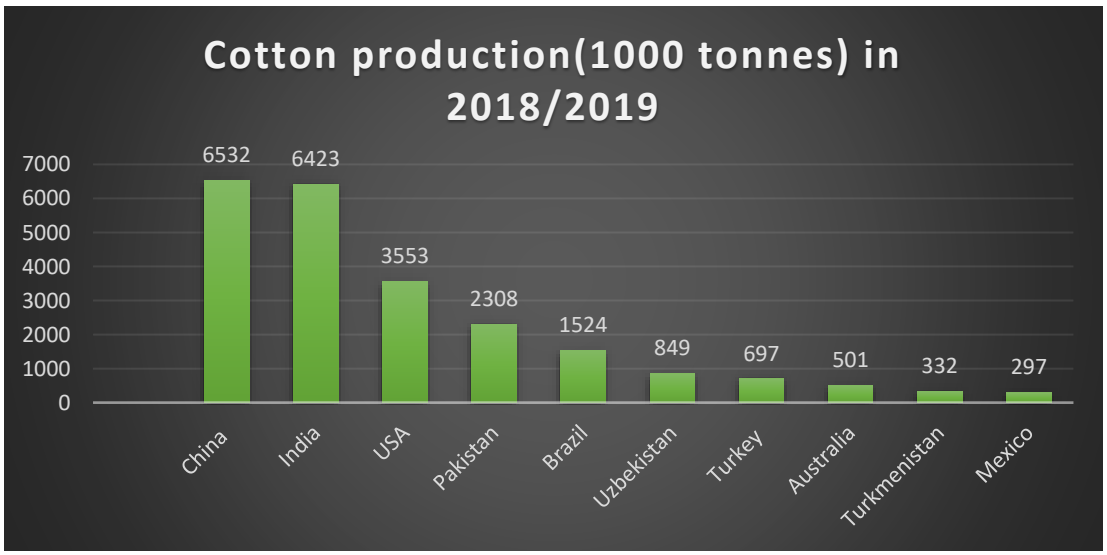
(1 Bale = 217.7 kg = 480 pounds). The largest producers in 1991 were China and the US - both countries produced about 2,5 million tonnes in the 1991/92 agricultural year. However, China

soon began to become a major producer and India's position has grown since the mid-1991s. with annual production of over 5 million tonnes. In general, after 2000, the position of large producers (including Pakistan and Brazil) strengthened, subsidizing their cotton while limiting customs imports from other countries. They did so also because of the sharp decline in world market prices for cotton after 2000. This decline was detrimental to developing countries, for example, in the West and Central Africa region, where production costs exceeded the cotton feed-in price (World Bank, 2004).

China, India and USA are considered the top three countries in production of cotton. Measuring these countries production in thousand metric tons. China produced about 6,532 thousand tons and India produced 6,423 thousand tons of cotton in 2017. The indicator of USA shows 3.553 thousand tons cotton production. China is the largest cotton country where almost 100.000 farmers grow cotton. There are 7,500 textile companies that produce cotton fabrics worth 73 billion dollars in China. Reproduction requires moderate precipitation. Pesticides and fertilizers are widely used to protect plants from pests (Statista, 2018).

World's biggest cotton producers

Figure No.2



Source: FAOSTAT, 2019

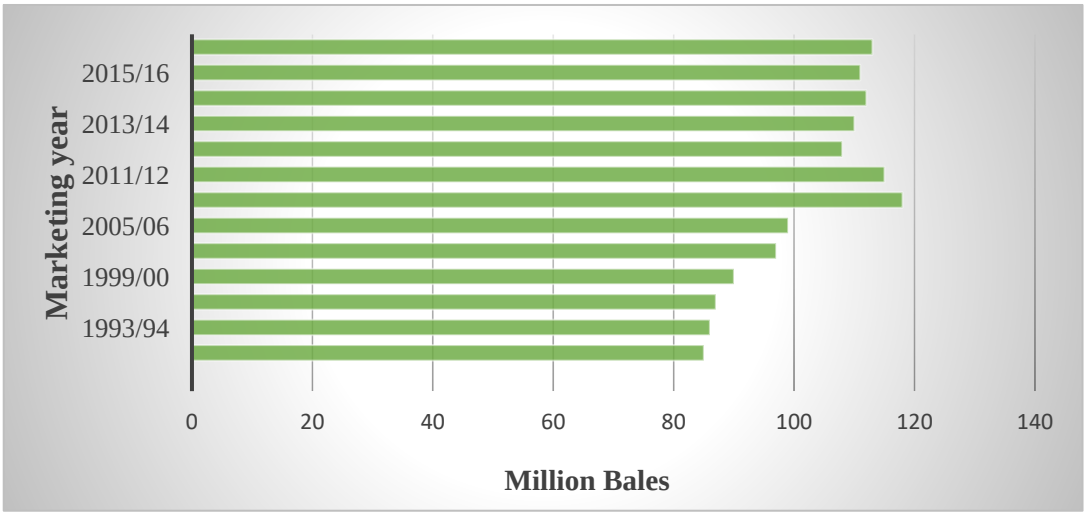
As it ishown on figure 2, India is the second biggest cotton producer in the world. India produces around 6,423 tons of cotton a year. This large industry is associated with a favorable climate in the northern part of the country. The best temperature in India is 25-35 degrees Celsius. Modern machinery is being processed in a great quantity to meet the quality requirements. USA is in the third position of prducing and harvesting cotton using its modern machines. Arizona, Texas, California, Mississipi and Florida are main cotton producing States in America. In these regions, the favorable climate increases cotton production. The picking up cotton is implemented by new technologies and machines without any damage the plant. (Faostat, 2019).

3.2.3 Import and consumption of cotton in the world.

Cotton consumption is closely related to the textile industry's scope and level of development in the country of production. World consumption of cotton significantly increased between 1991 and 2019.

World consumption of cotton in the period of 1991 and 2019

Figure No.3



Source: USDA Economic research service World Agricultural supply and demand estimates reports 2017 and Cotlook A-index.

The consumption in 1990 consisted of about 80 million bales. Coming to 2017 year, this indicator showed almost 120 million bales.We can say different factors which affected to the growth of the consumption, such as demand for cotton products. development of textile industries and others (Figure No.3).

In the spatial arrangement of the textile industry, two types of textile industrial areas can be identified:

1) Old textile regions - regions with a long tradition of production – especially, Western Europe and the USA. The textile industry in these areas has undergone, as a rule, a strong restructuring that has led to a reduction in employment and changes in production technologies. Businesses that focus primarily on production with higher added value – e.g. special fabrics - metallized. refractory and others (Roche, 2014) dominate here.

2) New textile areas - emergence in industrially younger areas with later industrialization and cheap labour, which is characteristic mainly for Southeast Asia and in recent years also for some African countries. Production focuses mainly on volume (Utkulu and Seymen, 2004).

As it is described on the table, the world cotton market practiced dramatic developments between 2009 and 2019. All major cotton importers's import value increased from 2007 till 2012. Adverse weather, stock changes, lower demand in global market and policy uncertainty all contributed to the dramatic decline. Global cotton imports decreased for the third consecutive season. The most important region of consumption is currently the region of Eastern and Southeast Asia, headed by China, (which only employs in the textile industry itself 2 million legal workers. Other major consumption countries are Bangladesh, Vietnam, Turkey, Indonesia, Thailand, India, and others (Dicken, 2007). Increases in imports by Bangladesh, Turkey and Viet Nam were insufficient to offset the 12% decline in China's import demand from 2014, as their new cotton support policy narrowed the price gap between domestic and imported cotton. (Table No.1).

Development the value of cotton imports in selected countries in the period (Mln.US $)

Table No.1

	Year	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	Development in 2019 compare to 2009 (%)
Countries													
China		7 718	7 444	6 180	10 619	14 730	18 681	17 229	12 756	10 254	7 743	8 614	1.1
Bangladesh		1 595	3 612	3 075	4 820	6 692	5 921	6 095	7 150	7 982	8 014	8 051	5.0
Vietnam		1 116	1 542	1 498	2 054	2 726	2 367	2 871	3 205	3 398	3 376	4 055	3.6
Turkey		2 829	2 331	2 098	3 385	3 608	2 377	2 989	3 022	2 264	2 297	2 995	1.1

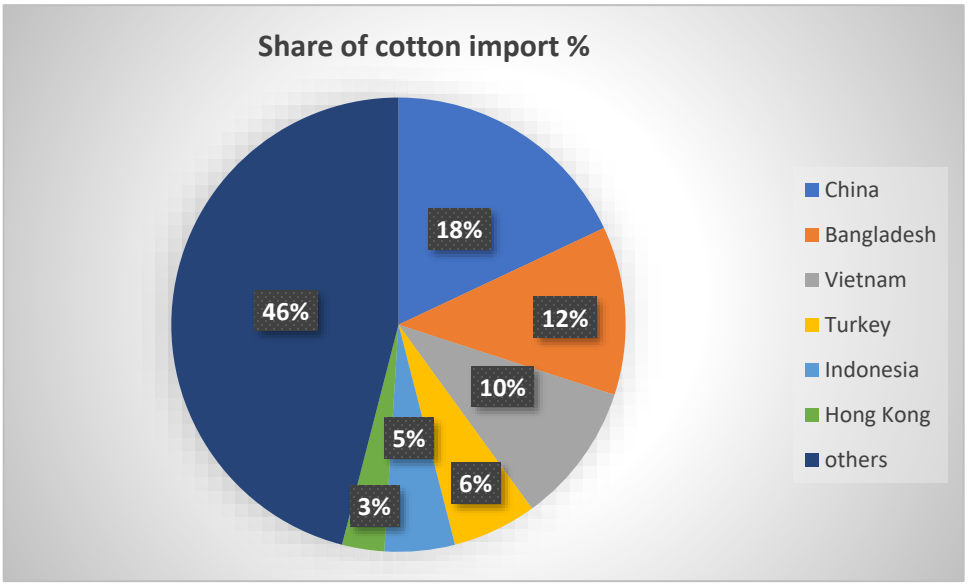
Source: UN Comtrade, 2019

In 2018, worldwide purchases of imported cotton reached 54,8 billion dollars. As a result, the value of cotton imported to all importing countries has fallen by an average of -2,4% since 2014, when the value of cotton purchases reached $ 56,1 billion. In contrast, global cotton imports increased by 11% from 2009 to 2019. Asian countries bought about two-thirds (66,8%) of world cotton imports. A smaller percentage of the global total was imported to Europe (14,5%), Africa (8,5%), Latin America (6%), but also, to the Caribbean, North America (3,9%) and Oceania (0,2%), excluding Mexico, especially Australia and New Zealand (OECD/FAO, 2018).

As it is shown on the pie chart, China is the biggest importer with (18%) of the world, Bangladesh (12%), Viet Nam (10%), Turkey (6%) and most other Asian countries play an important role in importing of cotton on the world (UN Comtrade, 2019).

Share of the most important importers of the cotton volume on the world market in 2018 year

Figure No.4



Source: UN Comtrade, 2019

Imports are closely related to the country's consumption requirements. Cotton is mainly imported by states with extensive textile and clothing production. Changes in the geographical

distribution of clothing production over the past 50 years certainly did not happen at random (Djalolov, 2007). There have been manufacturers of luxury specialty brands, such as Giorgio Armani, Versace or Diesel - this originally small company is an example of positive upgrading in the latest developments in Italian manufacturing districts, where Diesel was able to build a reputation and business network (Josling, 2010). The importance of the EU on the world cotton market has been declining for a long time. However, The European Union continues with a strong support for EU-wide farming and direct payments to farmers have even increased, which is becoming a target of criticism on the global market (Agri trade, 2012).

Between 2009 and 2019, Austria has seen the largest increase in consumption among the main consumer countries, while other leaders have not seen slow growth.

In terms of value, the UK ($ 74 billion) led the market. France second place Germany followed. The countries with the highest cotton waste per capita in 2018 are Austria (970 kg per 1000 people), Sweden (882 kg per 1000 people) and Italy (836 kg per 1000 people).

Between 2007 and 2018, Austria was the largest growth in cotton waste per capita, while other leaders showed moderate growth (Agri trade, 2018).

The distribution of garment production on a global scale is related to the response to very specific incentives linked to the international system of tariffs and import quotas and was influenced by the conditions in individual countries - transport infrastructure, wages and other production labour cost flexibility, the existence of free trade zones, tax relief, distances to raw material suppliers and purchasers of goods, the absence of trade unions and others (World Bank, 2015).

Many of these conditions are met by large importers of cotton such as China or India. As mentioned above, since the 1990s, other countries with cheap and flexible labour and emerging clothing industries such as Indonesia, Taiwan or Thailand. Economic growth here was based on the integration of national economies into GPN and significant upgrading. This integration and upgrading have been targeted and long-term supported by South East Asian governments (Blazek, 2011).

3.2.4 Cotton exports to the world

Global cotton trade is likely to follow the continuing transformation of the world textile industry which started some years ago, mostly motivated by cotton support prices, increasing labor costs and incentives to get added value in the cotton supply chain.

Development the value of cotton exports in selected countries in the period 2009-2019 (Mln US $)

Table No.2

	Year	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	Development in 2019 compare to 2009 (%)
Countries													
China		9 359	10 690	9 600	13 066	15 497	14 838	17 546	16 304	15 798	14 965	15 061	1.61
USA		6 371	6643	4 924	7 544	11 067	8 284	7 636	6 521	5 873	5 694	7 635	1.20
India		4 408	4 548	3 194	6 889	7 795	8 568	11 293	8 883	7 470	6 262	6 917	1.57
Uzbekistan		2 135	2 546	1 968	2 980	3 102	3 395	3 685	3 265	3 002	2 863	3 369	1.58

Source: UN Comtrade 2019

In the last years, there has been a tendency to slightly replace raw cotton trade with man-made fibers and trade of cotton yarn.

As it is described on the Table No.2, the main cotton exporter countries are China, USA, India and Uzbekistan. According to the indicators, the value of the cotton export was developed between 2009 and 2019.

The most important exporters of cotton in the marketing year 2009 - 2019

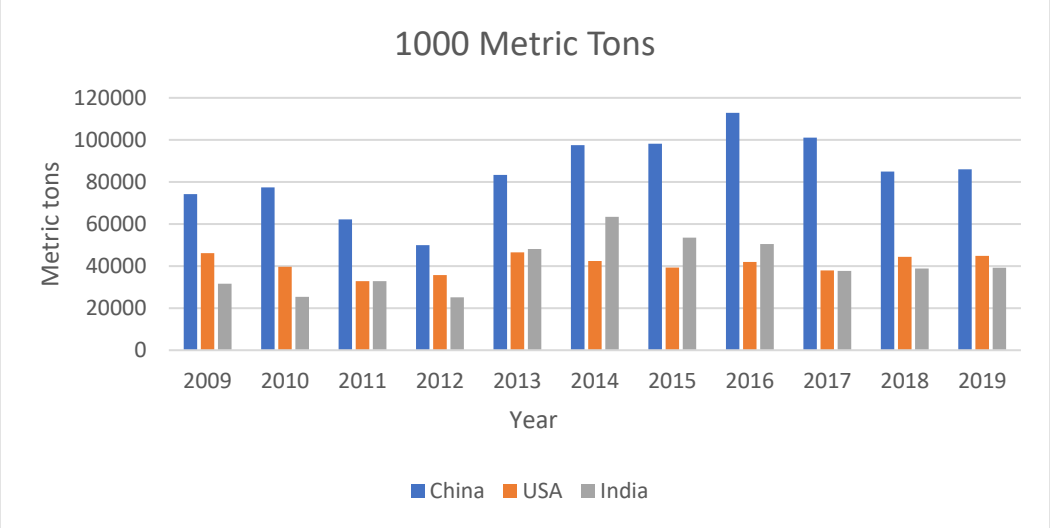
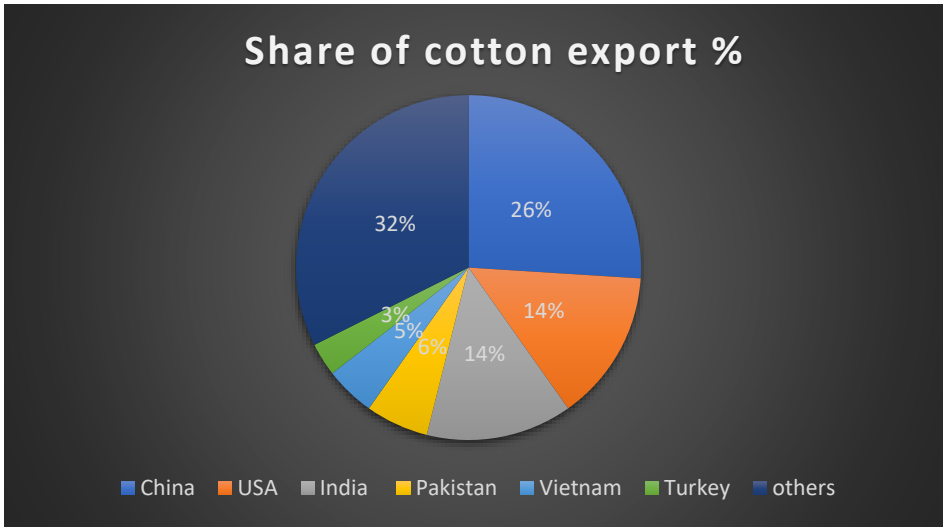


Figure No.5

Source: UN Comtrade, 2019

Share of the most important exporters of the cotton volume on the world market in 2019 year

Figure No.6



Source: UN Comtrade 2019

Global sales from cotton exports by country in 2018 totaled US$59,2 billion. Overall, the value of cotton exports decreased by an average -7.8% for all exporting countries since 2014 when cotton shipments were valued at $64,2 billion. Year over year, cotton shipments appreciated by 4,3% from 2017 to 2018. From a continental perspective, Asian suppliers generate the highest portion of worldwide cotton exports at almost two-thirds (64.5%) of the global total. Sources in North America account for 14.8% trailed by suppliers in Europe at 10,3%. Smaller percentages come from Latin America (3,7%) excluding Mexico but including the Caribbean. Africa (3,5%) then Oceania (3%) mainly Australia. For research purposes. the two-digit Harmonized Tariff System code prefix for cotton is HS 52. This broad classification includes raw cotton, cotton yarn, thread and woven fabrics. Among the top exporters. four cotton exporters realized gains since 2014 namely: Vietnam (up 80.,1%). United States (up 28,5%). Brazil (up 14,9%) and Uzbekistan (up 1,4%). Those countries that posted declines in their exported cotton sales were led by: Hong Kong

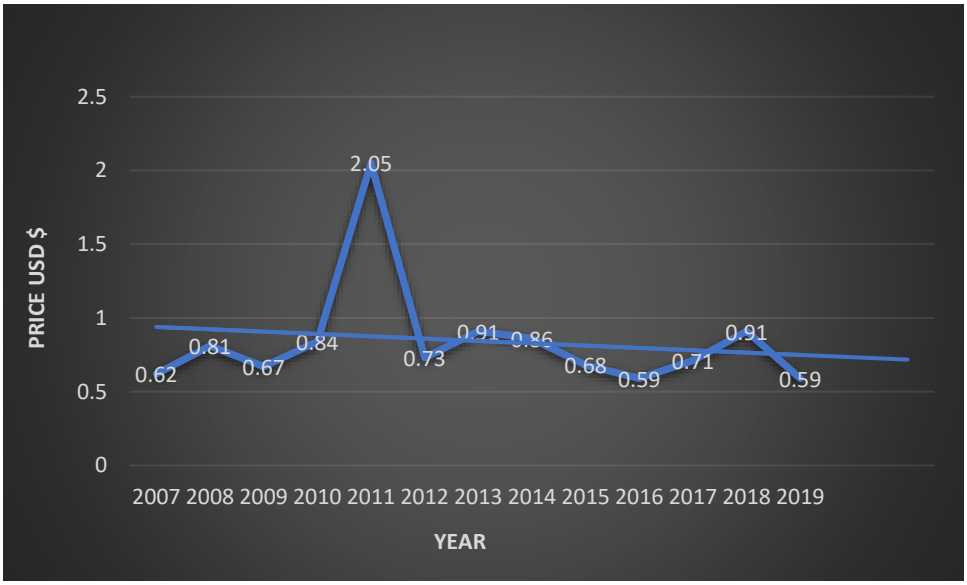
(down -47,2%). Thailand (down -27,9%). Pakistan (down -26%). Germany (down -24,4%) and Spain (down -23,6%) (UN Comtrade, 2019).

3.2.5 Cotton prices development

In the 19th and 20th centuries, cotton prices and sporadic periods of stagnation are declining, for reasons that cause large agricultural farmers - a reduction in production costs due to technological processes, a decline in demand and artificial arms competition. During 2010, the price of cotton increased, mainly due to speculative stock market purchases and massive imports into China, which imported over two million tonnes of cotton in the 2009/10 season. The rise in cotton prices resulted in higher prices of clothing and other cotton products; the price of man-made fabrics has also increased; it is cotton in the textile industry often changed or combined (World Bank, 2010).

Global price of cotton between 2009 - 2019 (in U.S. cents per kilo)

Figure No.7



Source: Statista, 2019

As the figure No.7 shows, cotton prices changed significantly over by years. The price per kilo cotton was 0,62$ in 2007, and this indicator was increased till 2011. The highest point of the cotton price was in 2011, with the amount of $2,05 per kilo cotton. And the cotton price was decreased dramatically in 2012. After that, there were significant changes in prices till 2017. Currently, global cotton price has weakened coming to 2019 (Statista, 2019).

3.3 Structure of links in the global cotton production network

An important benefit of the GPN theory is the emphasis on the role of history. development of the production organization. Therefore, the following section analyzes how past relationships within a given organizational structure of production influence its current and future development. With this concept, GPN theories work under the term "path dependency", for example, dependence on previous developments in the (Coe, 2004).

3.3.1 Development of Regulated Trade in Cotton

The beginnings of the regulation of cotton trade can be traced back to the period after the Second World War. especially during the 1970s, when international trade agreements with multinational producers (Utkulu and Seymen (2004) started to be implemented by multinational organizations. At the beginning of international trade regulation, a General Agreement on Tariffs and Trade (GATT) was established, which was negotiated in 1947 following the first UN economic performance. Within the framework of the GATT, several multilateral negotiation rounds took place, in which the cotton trade was mainly influenced by the so-called Uruguay Round in 1986-1994 and whose most important result was the establishment of the World Trade Organization (WTO). The WTO was formally established by the Marrakech Treaty on April 15, 1994, which came into force on January 1, 1995 (MFA, 2008). The main objective was to achieve free trade in agricultural products and then to complete full liberalization in international trade. These opinions were mainly supported by large exporters of agricultural crops (including cotton) such as the USA, Australia, Brazil, Argentina and others. Against this background the countries of the then EEC (since 1992 are associated in the successor EU), where a relatively

strong protectionist agricultural policy prevails, and many economically advanced countries still subsidize the prices of their agricultural products (Rakhmatullayev, 2010). State support for agriculture seeks to protect traditions. to ensure domestic consumption and to support domestic growers, for example, through direct payments to farmers. export support and import duties (Pries, 2005). In addition to the EU, its agriculture provides a great deal of support, for example, Japan and the US trade policy is very noticeable in the cotton trade. This approach by developed countries reduces commodity prices on the world market, which can hurt export-oriented economies in third world countries. At present, some developing countries benefit from certain advantages and concessions on the international market.

3.3.2 Agreement on Fibers - MFA

The interests of strong players in the cotton, textiles and clothing industry in the 1970s were reflected in the establishment of the Multifiber Arrangement (MFA), which came into force in 1974. As a result of the MFA, the US, Canada and the countries EEC import quotas for textile and clothing products from developing countries (WTO, 2013). MFA criticism claims that this was primarily about trying to protect manufacturers from Europe and the US from competition from emerging countries. The MFA was extended four times after four years in 1977; the last agreement expired in 1995 (Dicken, 2007).

However, the established quotas did not apply to trade between developed countries (WTO, 2013). On the other hand. it is estimated that the MFA received work between 25-30 million people in Third World countries (WTO, 2013). Part of the MFA has been some relief for some economically backward states. EEC has introduced significantly lower duties for the undeveloped countries of South Asia – Bangladesh, Sri Lanka, Nepal or Maldives, which has led to massive growth in textile and clothing production in these countries (Chowdhury, 2009). Other sources, however, have a different view: once the limit has been reached in one country, it is not necessary to move the garment elsewhere; at the same time, the economic structure of those developing countries that almost exclusively devoted to textile production was distorted.

MFA Transformation in 1995-2004

As noted above, MFA has favored traditional large producers such as India or Pakistan. On the other hand, these countries had to reduce exports. but the cotton produced was more consumed on the domestic market and the textile industry grew significantly in India and Pakistan (Chowdhury, 2009). These countries have also diversified their exports to more countries, and many Indian companies have moved their production to cheaper labor to encourage further economic growth in Southeast Asian countries (Chowdhury, 2009). However, due to the ongoing changes in global cotton trade, the need to transform the current Fiber Agreements has arisen, even during the Uruguay round (1986-1994), it was decided to establish the WTO and transfer fiber trade under the newly emerging Transitional Agreement on Textiles and Clothing (ATC), which entered into force on 1 January 1995 (Chowdhury, 2009). In principle, it was a ten-year plan for gradual liberalization of trade in textile fibers, textiles and clothing (Djalolov, 2007). The removal of quantitative restrictions was divided into three periods: January 1995 - December 1997, January 1998 - December 2001 and January 2002 - December 2004 (Djalolov, 2007). The ATC Agreement laid down the framework rules for trade in fiber, textiles and clothing products and, among other things, set up the Textiles Monitoring Body (TMB) to supervise ATC compliance (WTO, 2013).

3.3.3 Cotton market after MFA and ATC expiration

It was speculated that the South East and South Asian countries, headed by Bangladesh, whose textile production could eliminate cheap Chinese competition (Chowdhury, 2009), are expected to suffer most after the ATC expires. Although labor costs in Bangladesh and China are comparable, more advanced countries (China, India) have better infrastructure. In the first weeks of 2005, China's export of textile products grew rapidly, prompting the US and the EU to meet demands for WTO restrictions on Chinese textile exports. Finally, the EU agreed to reduce China's export growth to 10% per year, with the US regulating quotas at 7,5%. In November 2005, approximately 80 million pieces of clothing from China were seized in EU ports and, after several days of negotiations in Beijing, representatives of both sides agreed to

compromise. China has undertaken not to export more goods by the end of 2005 and to transfer part of the detained goods to the export quota for 2006. It can be said that the EU's readiness towards China is related to the obvious build-up of economic links between the two regions after 2000 and the emergence of bilateral agreements not only on trade, but also, on industry, science and climate (Djalolov, 2007).

Also, in the period 2007-2010, the export of the textile industry in Bangladesh, Sri Lanka and other countries in the region grew by 3-7% (Chowdhury, 2009). The volume of Indian exports of textile products increased by USD 2 billion during the first year after ATC expiration and a year-on-year increase of 11,5%. In Pakistan, on the other hand, there was a slight decrease in the same period. Later, there was a surge in competition after Vietnam entered the WTO in January 2007, which at the same time began gradually to abolish restrictions on China. In addition, since January 2009, China has gained free access to EU and US markets, South and Southeast Asian countries have thus had to diversify their exports more or become more specialized in certain textile products (Chowdhury, 2009).

3.3.4 Institutions regulating global cotton trade

Cotton trade is subject to regulation by international institutions. multinational organizations and growers' associations. The GPN theory attaches great importance to the institutional and social context of the host economy, or to the regions where the individual phases of production are located (Hess and Yeung, 2006). The GPN Theory examines the activities of international as well as non-governmental non-profit organizations whose activities are manifested on a global and local level (Blažek and Uhlíř, 2011). An important role is played by the International Cotton Advisory Committee (ICAC), in addition to the World Trade Organization (WTO), which, since its inception in Washington in 1939, has been associating the governments of cotton and cotton producing countries. ICAC defends the interests of cotton producers, publishes information and studies on cotton and organizes annual meetings of member countries. There are producer groups in the producer countries (see below) who are internationally associated in the Committee for International Cooperative Cotton Associations (CICCA). CICCA has been operating since 1976 and allows for regular meetings and discussion

of representatives of the world's most important growers' associations (CICCA, 2013). A similar task among textile product manufacturers is carried out by the International Textile Manufacturers Federation (ITMF), which cooperates with organizations in the cotton production chain and as a "spokesperson for the world textiles industry", issues opinions on key trade issues, defending the interests of textile groups. At the same time, it serves as a statistical center for data collection, information, and deals with the development of the textile industry in the world.

It also acts as an intermediary between actors in the textile industry chain, producer governments and non-governmental organizations (IMTF, 2013). Important associations at the regional level include, for example, the African Cotton Association (ACA) or the Association of Producers of Cotton Africains (APROCA); the interests of rather national economies in individual African countries are defended by the "Cameroon Producers Coton du Cameroun". CotonTchad (in Chad), Sofitex from Burkina Faso, Sotoco in Togo, and "Sonapra" in Benin. In the EU countries, for example, the International Cotton Association (ICA) is in the UK; in France, the "Francoise Cotonnière - AFCOT" is one of the most important associations. There is a large network of associations in the developed cotton trade chain in the US – for example: The Cotton Council of America (CCI), Cotton Council International (CCI) and others.

Cotton trade also takes place on stock exchanges, which are one of the fundamentals of the capital market. Prices of cotton and cotton products are usually negotiated at crop markets specializing, inter alia, in the cotton trade. The most important crops are in New York, Bombay or Bremen (Bloomberg Businessweek, 2013). The Uzbek Commodity Exchange (UZEX) in Tashkent (Bloomberg Businessweek, 2013) is also booming.

3.3.5 Initiatives to mitigate the negative impacts of cotton and clothing trade

According to (Bilal, 2016), various non-governmental civic associations have a huge influence on consumer behavior and mediation in the behavior of manufacturers in some sectors, especially in the clothing and food industry. For goods traded under Fair Trade principles, there is a large guarantee that child labor and other forced labor were not exploited in the production, the peasants receive a relatively higher wage for which they enjoy themselves and their families, and the agricultural and production methods used are, as far as possible. friendly to people and

the environment. Fair Trade is also striving for long-term, stable and most direct business relationships between manufacturers and retailers (Djanibekov et al, 2010). The growing demand for garments made under socially acceptable conditions has resulted in the creation of standards for independent cotton certification, which could help expand the range of "fairtrade" cotton clothing, as FAIRTRADE certification enables the distribution of "fairtrade" products to the regular retail network. Some Fair-Trade manufacturers provide the entire manufacturing process of clothing from primary raw materials to exported ready-made clothing such as the Indian cooperative Maikaal, which was around the year 2007 the largest producer of certified bio-cotton in the world where team members harvested over 3,000 tonnes of raw cotton per year (Fairtrade, 2016).

Photo: Fair trade logo.
Source: Fairtrade Foundation, 2016

The most common type of initiative to improve manufacturing conditions in the clothing industry is consumer-targeted campaigns organized by non-governmental associations. The main idea is to provide consumers with information on the conditions of production and trade in the conventional clothing industry, Informed consumers can then better exercise their purchasing power and exert pressure on responsible institutions and businesses. The main culprits of the unacceptable production conditions of the consumer campaign are the contracting authorities. for example: the clothing companies that order the garment manufacturing and determine the conditions under which the contract will take place - delivery date, price, material, final product appearance. Nonprofit organizations the production conditions of their suppliers and take steps to remedy them. For practical reasons, campaigns focus mainly on well-known

brand companies that are easily identifiable for consumers and which to some extent indicate the direction the clothing industry is going through (Fairtrade, 2016). In recent years, the development of information technology has provided new opportunities for non-governmental organizations and much more power. based on the easier dissemination of information in consumer campaigns (Bilal, 2016). An example of consumer campaigns in Europe is the Clean Clothes Campaign (CCC). American Sweatshop Watch or the Canadian Maquila Solidarity Network. The means by which they achieve their objectives are like each other - the publication of information materials, the organization of public debates, seminars and demonstrations, the organization of media campaigns and signing events. The question is to what extent the pressure of consumer campaigns can affect transnational chains. The partial successes of these campaigns demonstrate changes in the activities of companies such as Nike. The Gap, Tommy Hilfiger, H & M and many others. The massive protests they have been campaigning for since the 1990s have led to the introduction of so-called ethical codes or documents that regulate the relationship of the firm with its suppliers in developing countries. Ethical codes speak of banning forced labor, paying at least minimum wages and observing labor law (Fairtrade, 2016).

Since 2007, major manufacturers led by Marks and Spencer, H&M, C&A, Tesco or Walmart have begun to turn away from Uzbek cotton and have voiced their disapproval of forced child labor (Nadzimov, 2010). The global cotton trade is an example of purchasing a managed network dominated by large customers such as the Tesco and Wal-Mart chains. (Gereffi, 2002) distinguishes the production networks dominated by the producers and the purchase of a controlled network. often found in sectors such as food. tourism or the clothing industry. Large customers such as H & M and Marks and Spencer, whose management is in developed Western countries (Sweden and the UK) can also influence the early chains in the chain, such as producers in Uzbekistan, within the framework of vertical links in the interconnected network. Fighting these companies has resulted in changes in the commodity chain. and later Uzbek cotton has begun to boycott other multinational chains. with the boycott not ending until the state-run child labor is eradicated. This issue was also addressed in the United Nations and European Parliament and independent observers saw only a minimum of children in the harvest in 2012, on the social impacts of cotton growing in Uzbekistan on the other hand, "voluntary" ethical codes and massive company campaigns (including Uzbek cotton boycotts) are often a

promotional trick that creates a firm image rather than an effective tool to improve working conditions. Typically, they are formulated too broadly, or apply only to the main contractor and do not treat the work conditions of its other subcontractors (Fairtrade, 2013).

3.3.6 Commodity chain of cotton trade

The GPN / GVC theory convincingly demonstrates that companies cannot be regarded as individual autonomous units but rather as actors who are tied together not only to other actors and the environment in the region in which they operate but also to actors from the regions very distant (Blazek, 2010). In the era of globalization of trade, the roles of actors became obscure and their overall deconcentrating within the commodity chain. Following the disappearance of the ATC, or the modified Fiber Agreements (MFA), the ratios changed after January 1, 2005, and the cotton trade was liberalized. The GPN cotton trade is very complex, while the commodity travels through a network of actors before the final products reach the customer. For a better understanding of the commodity chain, first it is described the standard procedure for cotton processing.

The first phase of the commodity chain described above (cultivation, harvesting or initial processing in mills) takes place in the production countries. These are often export-oriented developing countries. On the other hand. in some developed countries, all actors in the chain can operate on the territory of the same state, for example, in the US, the first step is to harvest cotton bunches (picking) or whole snaps (snapping) (Utkulu and Seymen, 2004). In some countries, they are harvested almost exclusively by hand (e.g. in Benin, Egypt and in Uzbekistan), other machines harvesting (USA, EU countries, Australia and others). Manual harvesting is cheaper, more variable, ensures higher yields and quality of cotton, but the efficiency is very low (Hobhouse, 2004). Initial processing of cotton means separation of fiber and seed in ginning machines. After discarding, the cotton is cleaned and combed to remove dirt and debris from organic matter. The weight of ginned cotton decreases by 50 to 75% (Hobhouse, 2004). Subsequent industrial processing can take place directly in the country of cotton production, but more often (a) in places with a relatively cheaper workforce; or (b) better infrastructure (both China meets in particular). Cotton is packed in parcels and barks (a standard

figure weighing 170 kg in the statistics) and is sold by cotton companies that buy it on cotton exchanges usually held in large ports - for example in New York or China. The cotton and cotton trade ends with a chain of raw and pretreated cotton. and the following fall into the textiles and clothing industry.

In the GPN textile and clothing industry, several suppliers and subcontractors come from often very remote regions of the world who are engaged in sub-activities. After the supply of the raw material or its purchase, for example, on the stock exchange. the next stage of textile processing becomes spinning - manual or machine. Yarn emerges as the raw material for knitting and weaving (UNCTAD, 2011).

Utkulu and Seymen (2004) gives an example of the Lee Cooper brand, which was sewn in Bulgaria before being bought in the UK, fabric printed in China, dyed in France, woven in Taiwan, threads for weaving made in Turkey and cotton made in southern Kazakhstan. A similar sequence, however inefficient and costly for transport costs, is very common within the GPN cotton products.

Cotton price reached to the highest point coming to 2011. The price for per kg cotton was $155 at that time. The global cotton trade in 2011 was dominated by 10 private companies - Paul Reinhart / Dunavant, Cargill Cotton, Louis Dreyfus, Weil Brothers and Stern, Plexus and others Together, they dominate more than 60% of the international market and somehow operate in all major producer countries. Some of these companies perform more activities within the commodity chain (raw material or fiber trade, mill operation., marketing), which can facilitate their operation on the global market. Some focus only on sub-tasks (e.g. trade or mills) (UNCTAD, 2011).

The most important cotton trading companies in 2011

Table No.3

Company	Country	World market share Sales %
Paul Reinhart	Switzerland/USA	22 (after merger with Dunavant S.A.)
Cargill Cotton	Great Britain/USA	9
Louis Dreyfus	Belgium	8
Ecom Agroindustrial	Switzerland	4
Plexus Cotton	Great Britain	2
Devcot S.A.	France	1
Sicle Cotton	Switzerland	<1
Weil Brothers and Stern	Great Britain	<1
ICT Co. Limited	Great Britain	<1
Daewoo Textile	South Korea	<1

Source: World Bank, 2012

Cotton companies can be divided by country of activity or by country where the management structures are located. Sometimes it is the same place, for example, at the Cargill Cotton Group, which is based in Memphis. Tennessee, where it manages the cotton production network beginning with the harvest in US production areas. But Cargill Cotton also operates in various GPN articles in many countries around the world (including Great Britain, Zimbabwe or Tanzania) (World Bank, 2012). Country-by-country breakdown is therefore not very relevant, as large corporations are expanding their activities around the world. Another traditional concern, Louis Dreyfus, manages its production network from the Benelux countries, but is also involved in agricultural trade, for example, in the US and in developing countries (UNCTAD, 2012). By 2011, the importance of other companies has grown, and among the most important companies (trading over 200 million tons of cotton a year) were Namoi Cotton Cooperativ, Weil Cotton and Queensland Cotton Corporation, mainly trading in Australian cotton; as well as companies with predominantly US capital Cargill Cotton, Volcot based in Arizona Phoenix or

Calcot of Californian Bakersfield, Japanese Toyo Cotton also performs well on the US market. However, this company focuses primarily on supplying cotton mills. spinning manufactories and cotton traders in Japan and South East Asia (UNCTAD, 2012).

Among the largest players in the Indian market are companies with predominantly domestic capital: C.A. Galiakotwala & Co. Kotak & Co., and Gill & Co, China's state-owned Chinatex, founded in 1951 under the name "Chinese National Company for Import and Export of Textiles" (Roche, 2014), plays a very important role in China. This Beijing-based company governs China's cotton and artificial (mainly acrylic) fiber trade and is one of the largest exporters of clothing. It operates over 30 subsidiaries located in China and overseas and owns 40 garment factories. Chinatex trades with textiles, raw material, spun fiber, fabrics and knitted fabrics. A similar structure – i.e. the dominating state-owned firm managing the early phase of the chain is very characteristic for developing countries. The production network in Chad is run by the afore mentioned “Société cotonnière du Tchad”, Zimbabwe has a leading role in Zimbabwe's Cotton Company, African states also have a strong influence on foreign affairs in their territory. In former French West Africa, the market is open to French companies such as Devcot and Geocoton, and Cargill Cotton (UNCTAD, 2011) operates in Zimbabwe. Even in Central Asia, foreign companies can enter the commodity chain, but it depends mainly on the state to what extent it allows foreign companies to operate in the country. As Uhlíř (2011) report, the support policy, based on knowledge of the real needs of the state and the domestic economy, can greatly change the position within the given GPN. With a certain degree of simplification, two extreme types of firms can be distinguished in each national economy. The first type is represented by companies (usually domestic) who are relatively self-producers of a given product, eventually producing raw material and responsible for its initial or subsequent processing, initial or further processing (Blažek, 2010). For example, in Uzbekistan there is a cotton trade in the hands of state-owned companies that have all cotton exports to the countries where further processing and manufactory production of cotton products takes place (Nadzimov, 2010) - the Uzbek cotton trade deals with a separate chapter. According (Josling, 2010), the very concept of a network or chain implies a high interdependence among the actors. Given the strong interdependence of government with export companies, authoritarian regimes can more easily apply their interests than countries with more liberal market economies. Yeung (2006) state that due to the

interdependence of the actors in the chain, the supplier or intermediary can exert a significant pressure on the buyer, and therefore, strong firms can be easily vulnerable. On the other hand, cotton processing does not require too sophisticated know-how, and, in the case of disadvantageous conditions, the supplier may change the multinational supplier. The second extreme type is the companies that deal with partial processing for a global customer (Coe, 2004). In this category, within the GPN cotton trade, we can include textile factories, where raw cotton is imported. As mentioned above, this trend has been particularly evident since the 1990s in the textile and clothing industry. A large proportion of European and American clothing companies have used the chances of moving part of their production to regions with low wage costs and a lack of environmental and labor legislation (Gereffi, 2002). Perhaps the localization of these "cheaper locations" has widened in South and South-East Asia, and other major activities are taking place in the region - for example, During the global economic crisis of 2007-2010, there was no weakening of the GPN / GVC, but rather its strengthening as a stable structure of the world economy (Blažek and Uhlíř 2011). Although the view disfavors certain players in the GPN network, the example of the cotton commodity chain shows that the regions currently have a good chance of developing, especially if the resources available to the region (sophisticated agriculture capable of high production. cheap labor.etc.), meet the needs of multinational corporations.

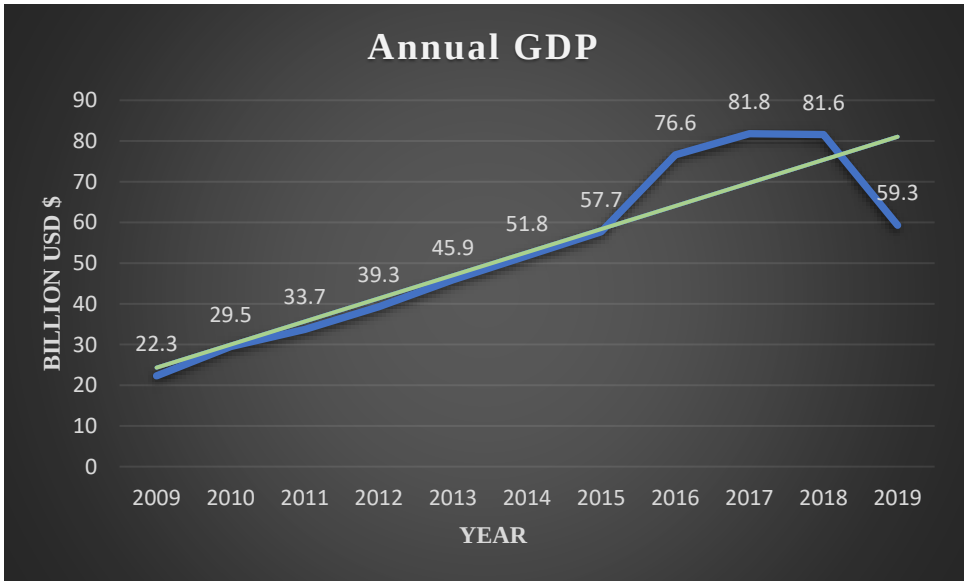
4. Practical Part An overview of the economy of Uzbekistan

4.1. Trade Balance of Uzbekistan

In recent years, the economy of Uzbekistan has been actively developing and showing high results of stable growth. The size of the country's GDP, according to 2019, was more than 59 billion dollars. The figure No.8 shows that, compared to 2009, in 2019 GDP grew from $22,3 billion to $59,2 billion. Between these periods, the highest point of growth was in 2015 and 2016 years with more than $81 billion. From an economic point of view, Uzbekistan can be called an industry-oriented country, which is engaged in various fields of activity. Important areas are agriculture, transportation, trade, construction and services. There are a lot of minerals on the territory, there are significant deposits of oil and natural gas, precious stones and metals, tungsten, coal and radioactive uranium.

GDP of Uzbekistan between 2009 – 2019

Figure No.8



Source: Stat.uz, 2019

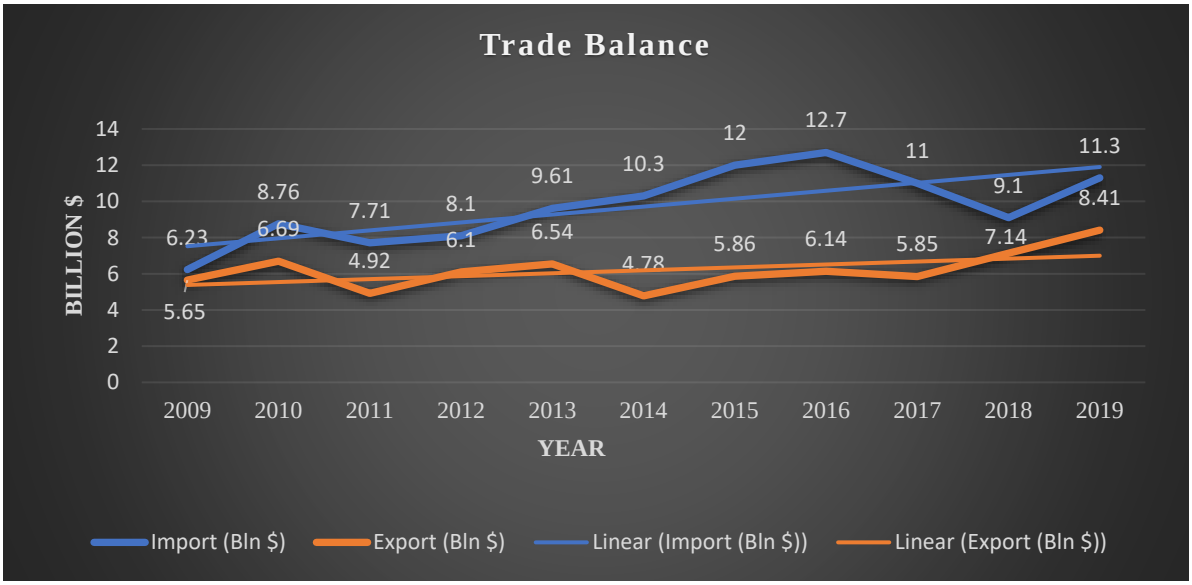
That is why the mining industry is booming, and metallurgy has reached a new level of development. The main partners in foreign trade are Russia, China and Kazakhstan. Only in the Russian Federation at least 30% of the total state turnover is exported annually. It is worth noting

that even though between 2013 and 2016, the country's budget was in surplus, coming to 2019 there was a slight deficit and GDP growth slowed slightly. However, Uzbekistan has great opportunities and resources to develop its economy and many reforms are being held nowadays in Uzbekistan. If the country's GDP growth advances at the same pace, then soon, Uzbekistan will be able to become one of the leading states in its region (Stat.uz, 2020).

The trade balance for Uzbekistan and other countries is calculated as the difference between the imports and exports of services and goods, as percent of GDP. The World Bank affords data for Uzbekistan from 2009 to 2019. As a result of analyze of Trade Balance, it shows that import value is greater than export value. However, Export of the country has been increasing in last years. In ten years, the value of export grew more than twice. The import value had the same result till 2014, but later that indicator decreased significantly (as seen in Figure No. 9).

Trade Balance of Uzbekistan between 2009 and 2019

Figure No.9



Source: Stat.uz, 2019

Uzbekistan is consistently running trade surplus. The main exports are oil, natural gas, cotton, gold, and others. And its imports are food and metal, chemical products, machines and equipment. With the collapse of the Soviet Union, interconnected production and trade between

Member States were dismantled, links between countries were disrupted and this led to serious economic consequences in newly created post-Soviet states. As the main trade partners, it is considered China, Russia, Kazakhstan, Turkey, Korea, Germany and Ukraine. In the early 1990s, the transformation transition to the market economy began. Structural reforms mainly focused on the transformation of large collective cooperatives in state ownership into smaller private farms. Similar developments occurred in the post-Soviet countries. In the period 1995-2000, agricultural production was quite successfully transformed, and Uzbekistan, benefiting from developed cotton, boosted its current economic growth (Stat.uz, 2019).

4.2. Foreign trade turnover

According to the Table No., foreign trade turnover of the Republic of Uzbekistan consisted of USD 15,720 million. From this amount, export was USD 8991,5 and import was USD 6728,1. Coming to 2008, this indicator was increased by 25 percent. The volume of export grew significantly till 2011 and from 2012, it shows little bit decrease on export. As of 2017, Uzbekistan had a negative trade balance of $2,84B in net imports. As compared to their trade balance in 1995 when they had a positive trade balance of $8,3M in net exports.
In 2016, Foreign trade of the country reached to USD 24309,4 million. compared to the last year – 97,6 percent. which includes USD 8461,5 million (88,5 pecent) with the CIS countries. USD 15847,9 million (103,1 percent) with other countries. The volume of exports was about USD 12178,6 million. that of imports – USD 12130,7 million. Comparing with 2000, the foreign trade turnover in 2016 developed by 3,8 times. The share in foreign trade of the CIS countries was 34,9 percent, other countries 65,3 percent. If the volume of exports in 2000 was USD 3264,6 million. then in 2016 it was amounted USD 12178,8 million. and the growth rate rose 3,7 times. In 2016, the share of the CIS countries in total exports was 36,3 percent. other countries – 63,7 percent. In 2000, the volume of imports was USD 2947,5 million and in 2016 it grew to USD 121130,7 million and the rate of the increase was 4,1 times. In 2016, the share of the CIS countries in total imports was 33,4 percent, other countries – 66,6 percent (Stat.uz,2019).

Foreign Trade Turnover between 2009 and 2019

Table No.4

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
MLN $												
Foreign trade turnover	15720	21197	21210	22199	26366	26416.1	28269.6	27530	24924.2	24232.2	26566.1	33429.9
Export	8991.5	11493	11771	13023	15021	13599.6	14322.7	13545.7	12507.6	12094.6	12553.7	13990.7
Import	6728.1	9704	9438.3	9175.8	11345	12816.5	13946.9	13984.3	12416.6	12137.6	14012.4	19439.2
Trade balance	**1608.2**	**1789.3**	**2333**	**3847.6**	**3676.7**	**783.1**	**375.8**	**-438.6**	**91**	**-43**	**-1458.7**	**-5448.5**
Including:												
with CIS countries	7679.1	8659.5	8010.4	9369.2	11346	12731.8	11921.5	12092.6	9548.9	8388.1	9084.6	12144.4
Export	4273	3926.6	3921.3	5647.7	6720.1	7703.4	6644.7	6772.5	5230.3	4338.3	4080.1	5003.1
Import	3406.1	4732.9	4089.1	3721.5	4625.6	5028.4	5276.8	5320.1	4318.6	4049.8	5004.5	7141.3
Trade balance	**866.9**	**-806.3**	**-167.8**	**1926.2**	**2094.5**	**2675**	**1367.9**	**1452.4**	**911.7**	**288.5**	**-924.4**	**-2138.2**
with other countries	8040.5	12538	13199	12830	15020	13684.3	16348.1	15437.4	15375.3	15844.1	17481.5	21285.5
Export	4718.5	7566.7	7850	7375.7	8301.2	5896.2	7678	6773.2	7277.3	7756.3	8473.6	8987.6
Import	3322	4971.1	5349.2	4545.3	6719	7788.1	8670.1	8664.2	8098	8087.8	9007.9	12297.9
Trade balance	**1396.5**	**2595.6**	**2500.8**	**1921.4**	**1582.2**	**-1891.9**	**-992.1**	**-1891**	**-820.7**	**-331.5**	**-534.3**	**-3310.3**

Source: Stat.uz

In 2019, Uzbekistan carried out foreign trade operations with 175 countries around the world and reached a positive balance with 86 countries. In recent years, due to the diversification of the industrial structure. the export structure of the republic has changed and exports of almost all goods and services have increased. It should be noted that, compared to previous years, exports of finished products are higher than exports of raw materials. Especially in the export structure, the share of cotton fibers in 2000 was 27% and it was 5% in 2019. The share of food exports increased from 5,3% to 5,8%; Chemicals and products developed from 2,7% to 6,8%; Energy and petroleum products – from 10,2 to 14,3%; Services range between 13,6% and 26,2%, while other products range between 30,4% and 34%. Among the CIS countries, the main foreign trade partners are Russia and Kazakhstan. among other countries – China, Turkey, Afghanistan, Iran and the Republic of Korea. Nowadays, about 2000 types of goods and services are exported to more than 165 countries (including countries in Europe, CIS, Asia, North and South America, Africa and Australia). Since 2000, the number of export partner countries has enlarged to 30 (Stat uz, 2019).

4.3. Share of Agriculture in GDP

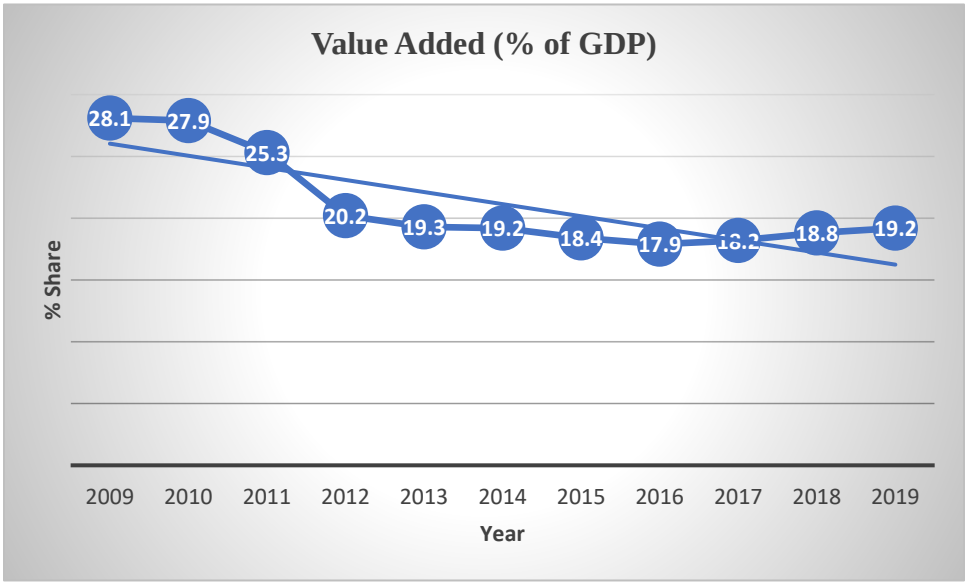
The share of agricultural income product is about 1/4 of the state's GDP. Since ancient times, one of the most important types of employment in the country has been the cultivation of cotton and it accounts for more than 18% of the total number of goods exported abroad. Due to the climatic conditions in Uzbekistan. it is not possible to grow grain in enough quantities, so, most of the domestic demand is offset by imports. Horticulture is common, as well as the cultivation of fruits that are exported not as a fresh product, but as dried fruits. It is worth noting that a significant growth in the country's economy was associated with large external revenues. Foreign investments made it possible to renew huge production assets, as a result of which active oil production began. the pharmaceutical industry began to develop, and geological exploration was carried out regularly, making it possible to discover new deposits of certain minerals.

As shown on the graph (Figure No.10), agricultural sector was dominating in the sphere of real production. However, because of implementation of structural reforms after 2008, the share of agricultural sector in GDP decreased from 28% to 18%. But, after 2015, the share of the

agriculture started to develop again. The government hopes to increase agricultural productivity through the adoption of new technologies, and to further develop processing and packaging capabilities to add value to domestic and export products. The Government plans to develop the country's textile sector, improve the value added chain and hence process more of its own raw cotton into intermediary or consumer goods for export (World Bank, 2017).

Share of Agriculture in GDP of Uzbekistan

Figure No.10



Source: World Bank, 2019

The importance of agriculture in the economy of Uzbekistan and other countries is measured as the value added of the agricultural sector as percent of GDP. Agriculture includes forestry, hunting, and fishing, as well as the cultivation of crops and livestock production. Cotton and grain are the country's principal crops. Uzbekistan has huge opportunities, offering a potential for a considerable economic development. Among the other sectors, agriculture plays a specific role in economic development because of its significant share in total employment and GDP. The aim of this paper is to analyze main sectoral changes in GDP (agricultural, industrial and services sector) that occurred during last two decades, and to investigate the relationship

between GDP and agricultural growth in relation to the value added in agriculture. The special attention is devoted to the position of agricultural sector that may positive influence to support economic development and food security in the region. Agriculture still dominates in terms of employment (World Bank, 2019).

4.4. Employment in Agriculture

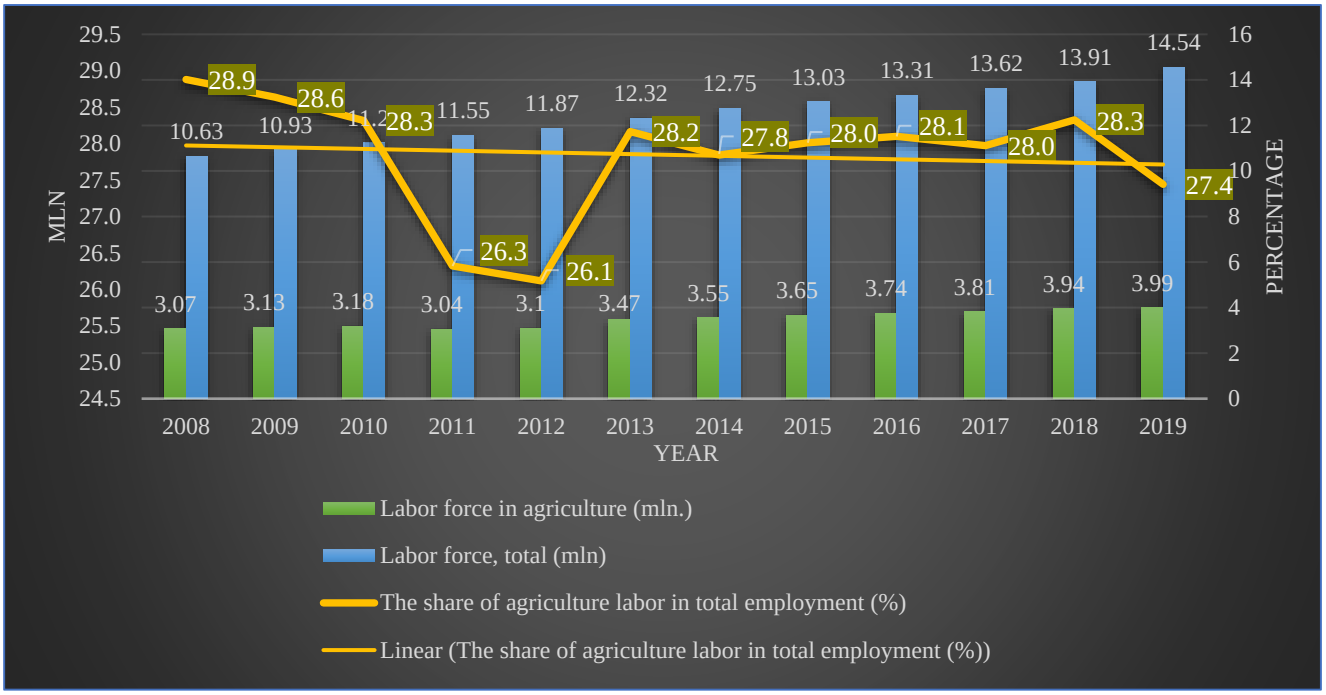
Uzbekistan is implementing transformational reforms, moving from a state-driven development model to a private sector-led economy, and agriculture is playing a critical role. In 2019, agriculture accounted for 17% of gross domestic product, 15% of export revenues, and over one-third of employment. The country's horticulture sub-sector is an especially important source of all-season employment in rural areas and provides a significant number of jobs for women. Moreover, horticultural crops generate significantly higher revenues for farmers than wheat and cotton. Fruit and vegetable production accounts for as much as 50% of the value of crop output and over 35% of agriculture export value (Stat.uz, 2019).

The government of Uzbekistan attempts to play an active role in development of agriculture. Additionally, the Government intents to develop the textile sector of the country and for this purpose, it will process more of its own raw cotton into intermediary or consumer goods in order to export. In the near future, there will be allocated around $1 billion for the modernization of the textile industry till 2020. It is estimated that it will lead to an increase in the volume of local processing of cotton from the current 44 percent to 70 percent in 2020, and as a result, the textile products will go up from $800 million to $1,5 billion (Stat.uz, 2019).

The World Bank is helping Uzbekistan to reach a wide range of development goals by supporting 16 projects worth US$ 2 billion. These projects support mostly agriculture and water resources management, rural development, water supply and sanitation (World Bank, 2019).

Agriculture labor force in Uzbekistan

Figure No.11



Source: World Bank, 2019, Committee of Statistics of Uzbekistan 2019

As Figure No.11 presents that labor force in Uzbekistan is slightly growing. Agricultural employment kept steady about 29% till 2009, however the share of employment in agriculture was declined significantly from 29% to 26% in 2010. The next 5 years after 2010, show almost steady trend the share of employment in agriculture. And the number of employments in agricultural sphere was around 3,13 million people. Coming to 2017, this number increased until 3,99 million. Quickly rise of rural population influenced to the growth of agricultural labor force (Committee of Statistics of Uzbekistan, 2019).

Up to 1991, agriculture in Uzbekistan. as in all other Soviet republics, was organized in a dual system, in which large-scale collective and state farms coexisted in a symbiotic relationship with quasi-private individual farming on subsidiary household plots. The process of transition to a market economy that began in independent Uzbekistan after 1992 led to the creation of

three types of farms: the traditional household plots were renamed dehkan (or *dehqon*) farms the large-scale collective and former state farms were reclassified as *shirkats* (agricultural production cooperatives) or other corporate forms (joint-stock societies, limited liability companies. partnerships). More than 67,800 farms currently operate in the country. Their activities are regulated by the Law of the Republic of Uzbekistan "On the farm" and the Presidential Decree "On measures of further improving the organization of activities and development of farming in Uzbekistan. In 2019, Uzbekistan developed more than 17,500 farms which are doing cotton production and created over 250 thousand new jobs. The largest number of farms are established in Tashkent, Jizzakh, Namangan, Samarkand, Kashkadarya, Ferghana, Andijan regions and Karakalpakstan. (Stat uz, 2019).

Real help for the farmers was the introduction of the system of preferential crediting of agricultural projects and expanding service networks in rural areas through the supply of fuel and lubricants. biological and chemical fertilizers. plant protection products. seeds and others.

Stable growth of the agricultural sector is marked in the country since the late 90s., constituting an annual 6-7%. The volume of agricultural products has been increased by more than twice for 24 years. (Stat uz, 2019).

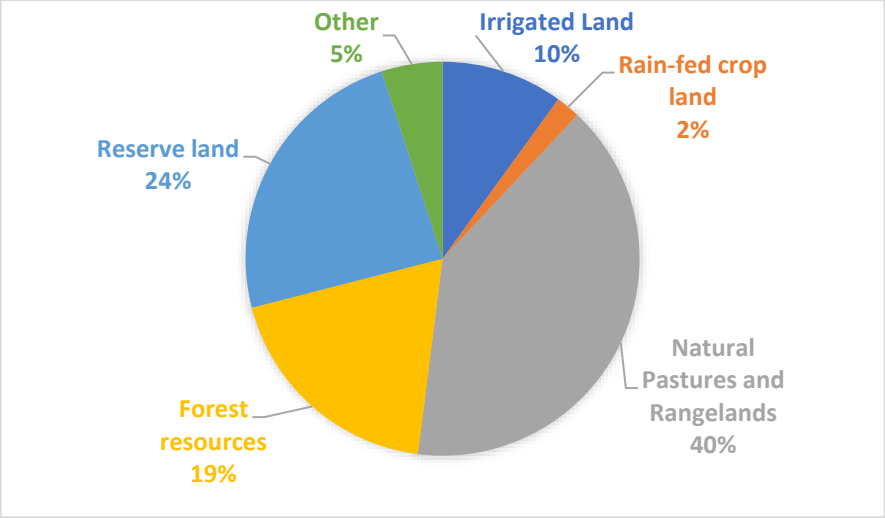
5. Uzbekistan and Global trade with cotton

5.1. Cotton growing in Uzbekistan

The state also intervenes in agriculture through subsidies. Previously, cotton was one of the most cherished crops in the USSR, but after 1991, subsidies have been decreasing over time, just like the use of fertilizers in agriculture. Current research has shown that soil loading through fertilizers, spraying, salting and overfishing as a remnant of the Soviet agricultural system is rather counterproductive and extensive intensive land use is not indispensable for enough production. The area used for intense cotton cultivation could theoretically be reduced by half and subsequently increase the intensity of cultivation in areas that are most suitable for doing so. Experts say the proceeds would be the same as today (Rudenková. Lamers and Groteová 2009).

Land usage in Uzbekistan in 2018/19

Figure No.12



Resource: Stat.uz 2019

Land use in Uzbekistan (Figure No.12) is closely related to the climate of this Central Asian country. In Uzbekistan, irrigated land usage consists of 10%, forest resources are 19% and most part of the land is related to natural pastures and rangelands with 40%. Moreover, Uzbekistan's almost 24% of land is reserved land. Most of the state has an arid climate, with annual precipitation ranges between 100-200 mm. Most falls fall in winter and spring. The least precipitation occurs from July to September, which represents a significant obstacle to the growth of crops grown. The most widely grown crops are cotton and wheat, crops very demanding for regular water supply (World Bank 2019).

Top cotton producing areas

Picture No.2

Source: Stat.uz, 2018

The picture No.2 shows that top cotton producing areas are mainly the south part of Uzbekistan.The regions, such as Kashkadarya, Surkhandarya, Bukhara and Navoi have better climate for cotton growing. The climate is warmer than other regions here. The local climate is continental with hot summers and long dry winters. Summer temperatures often exceed 40 ° C. while the average temperature in winter often falls below -20 ° C and the minimum is around -40 ° C (Stat.uz, 2018).

Distribution of cotton acreage and harvest for 2007 - 2019

Table No.5

	2007		2012		2019	
	Acreage planted	Raw cotton produced	Acreage planted	Raw cotton produced	Acreage planted	Raw cotton produced
	Total (thousands of hectares)	Total (thousands of hectares)	Total (thousands of hectares)	Total (thousands of hectares)	Total (thousands of hectares)	Total (thousands of hectares)
Republic of Karakalpakstan	100	185	94.7	180	93.8	190
Andijan	107	310	99.6	283	93.1	266
Bukhara	115.4	360	109.6	342	109.2	342
Jizzakh	106.4	234	101.8	224	101	229
Kashkadarya	164	426	160.4	417	160.2	417
Navoi	39.4	110	35	101	35.8	100
Namangan	94.2	261	86	238	82.3	230
Samarkand	103.4	248	99	238	91.3	223
Surkhandarya	123	345	119	335	119.4	331
Syrdarya	115.3	248	110.2	239	110.3	243
Tashkent	108	275	100.2	255	91.3	237
Fergana	115	323	103	290	99.6	280
Khorezm	100	275	93	257	93.8	258
Total for the country	**1391.1**	**3600**	**1311.5**	**3399**	**1281.1**	**3346**

Source: Cabinet of Ministers of the Republic of Uzbekistan Resolution №4, 2019

Between 2009 and 2019, cotton production was most closely shared by administrative regions in the South. Relatively most of the cotton is harvested in the Kashkadarya area in southern Uzbekistan (annually more than 400,000 tons), where there is traditional extensive irrigation farming around the Kashkadarya River, and in the southernmost region of the state (in the Surkhandarya region) cotton production was very significant approximately 335,000 tons. Intensive irrigation also makes it possible to grow in regions where a very dry climate prevails. These include the large areas of Navoi and the Autonomous Republic of Karakalpakstan, on which the remaining area of Aral Lake is situated. Cotton is most successful on fertile soils in the northeast of the state, where the mild climate of fertile Fergana basin allows intensive agriculture. Fergana ranks third among the production regions of Uzbekistan in 2009/2019. fourth in the neighboring Andijan region. The driest climate in Uzbekistan prevails in the west of the state in the Karakalpakstan region and in the mountain region. There is an extensive network of irrigation farming in this semi-abandoned region and cotton and wheat are intensively grown here. Growers from the Chorus area produce approximately 7-8% of Uzbek cotton and 4-5% of all Uzbek wheat annually.

Soviet direct planning has been instrumental in developing agriculture. In the 1950s, when Uzbekistan was part of the Union of Soviet Socialist Republics. Soviet planners came up with the idea of losing the shortage of cotton and foreign currency from export (Synek, 2011). The USSR had virtually no other source of cotton, and planners focused on exploiting the traditional potential of Central Asia for cotton. Cotton requires warm and humid environments - making wilderness areas around the Amudarya and Syrdarya rivers and building monumental networks of irrigation canals. To a reasonable extent irrigation agriculture has been a natural part already in the times of the ancient civilization of Horseman, but the massive range of modern watering networks was completely unprecedented (Rizzakov, 1994).

Territorial breakdown of Uzbekistan and share of Regions in the total annual harvest in 2019

Table No.6

Regions	Plant Area (1000 ha)	Production Target (1000 tons)	Actual Production (1000 tons)
Karakalpakstan	95	190	215.4
Andijan	100	266	291.8
Bukhara	109	342	345.6
Djizakh	116.6	229	230.9
Kashkadarya	160.5	417	417.7
Navoi	100.9	100	110.1
Namangan	87	230	230.7
Samarkand	99.3	223	231.7
Surkhandarya	1196	335	338.6
Syrdarya	110.7	243	247.7
Tashkent	100.2	237	241.2
Ferghana	109	280	282.1
Khorezm	93.8	258	259.9
Country total:	**2478**	**3350**	**3444.2**

Resource: Stat.uz, 2019

According to the Table No.6, the production target of cotton was 3 350 000 tons in 2018, but actual production was more than target with an amount of 3 444 000 tons. Comparing to previous years, the volume of production was increased significantly. Long-term intensive cotton production and the related expansion of irrigation systems have contributed to the development of the Uzbek industry. Under Soviet governments, cotton production has spurred the development of several associated industries, including the construction of irrigation networks, the production of inorganic fertilizers, chemical spraying. Manufacturers of factories

and manufactories for processing raw cotton and to a lesser extent, factories producing final textile products have also developed. The Uzbek industry recovered from bankruptcy and, after 2007, has developed significantly - largely due to the rise in fossil fuels and metalworking. The structure of Uzbek exports in 2010 included mainly: products of the energy and mining industry (especially natural gas and petroleum products) 24.8%, cotton 11.3%, other agricultural crops (especially vegetables and fruits) 9.7%. color and railway ores 6.8%. machinery and equipment 5.5% (primarily passenger cars) and chemical production 5.1% (World Bank, 2019).

5.2. Changes in the orientation of Uzbek agriculture

Cotton production declined considerably in the early 1990s, which was related to the disordered sociopolitical conditions in the early years after the emergence of an independent state. Uzbekistan has also had to deal with a drastically outdated system of irrigation channels, outdated mechanization and ever-deteriorating soil quality. Since 1991, raw cotton yields have stagnated. There are various reasons for this, which are related mainly to the deterioration of the environment and the permanently unsustainable practices in agriculture, the degradation and salinization of the soil as a result of over-intensive cultivation has been a major obstacle. On the other hand, the technology and sophisticated cultivation practices introduced by the Soviet Union have persisted and Uzbekistan has been able to participate in the world market since 1991 as one of the most important exporters of cotton. This has been true since the early 1990s with Uzbekistan's role as one of the world's largest exporters. For the reasons, cotton production has declined already in the 1980s. At the same time with the boom of cotton and the downstream clothing industry in China and with the steadily high production of the US in the 1990s, the position of independent Uzbekistan fell on the world cotton market (Ramos et al., 2017).

Uzbek cotton was quite successful, and production stabilized. A further significant drop was seen in the period 2006-2008, when the world market, was booming by the growing exports of new large producers, especially Brazil and Australia. There was also a reduction in yields due to the unsustainable management of degraded land, and the government encouraged more wheat cultivation that has lower environmental requirements and above all, leads to securing the

country's food sovereignty. Uzbekistan also benefited from the growing industry, so, the importance of cotton exports has decreased relatively (World Bank 2019).

In the early 1990s. the Uzbek government realized the dangers of a single crop and increased crops (Golovanov 1992). The Uzbek government was aware of the strategic importance of this crop to stabilize the country's food base and targeted the proportion of cotton on the land area from 41% in 1991 to 29% today for wheat and other crops (Ramos et al., 2017). In 2011, wheat per cotton was the second most widely grown crop, and the Uzbek annual production of this cereal is around 6 million tonnes (Gonzalez et al., 2015).

Cotton exports largely depend on Uzbek exports and "white gold" is an important source of national revenue. For this reason, cotton and wheat production are still subject to strict state supervision and strict regulations (Ramos et al., 2017). The main trends in the agricultural policy of the Uzbek state in the post-Soviet era can be summarized in several points: 1) Redistribution of land to individual families of growers in order to prevent conflicts resulting from social inequalities. 2) Increase in wheat production in order to ensure the living of the population. 3) Improvement and refinement of the existing quota system cotton and wheat production. 4) Changes in the system of state subsidies. 5) Disintegration of large agricultural cooperatives. which concentrated most of the production during the USSR (Abdullayev et al. 2009).

The most prominent of the remains of Soviet centralization policy is the quota system. So, (Siradjiddinov, 2001) and others point out that the partial aims of the new quota policy after 1991 were to increase agricultural productivity, self-sufficiency to ensure basic food for Uzbek people to stimulate employment in rural areas, increase agricultural exports and reduce imports.

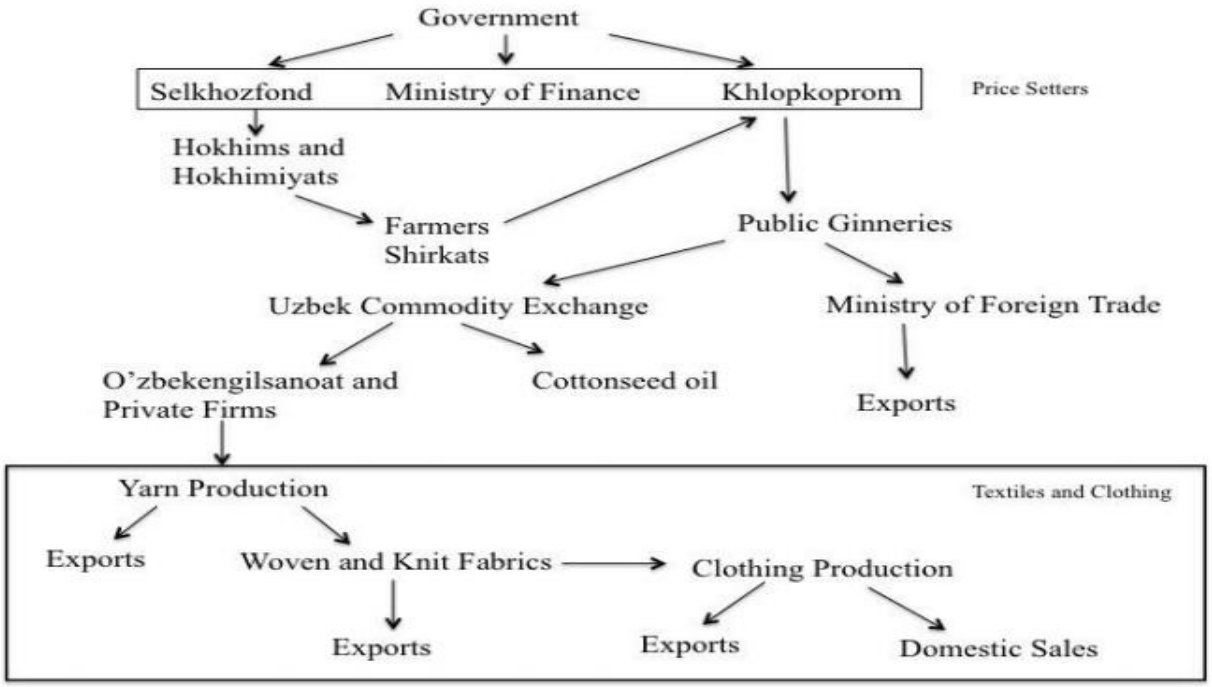
5.3. Uzbekistan and global trade with cotton

Uzbekistan is one of the largest exporters of cotton in the world. Central Asia occupies 16% of the world cotton trade, and Uzbekistan is a major producer and exporter of countries of the former Soviet Union. Every year about 3,5 million tons of cotton raw and 1-1,2 million tons of cotton fiber are allocated in Uzbekistan. The main customers of Uzbek cotton are China, Russia, Turkey, Bangladesh, South Korea, and Iran. Since 2009, Uzbekistan concluded contracts at the fairs held in the amount of about 7 million tons of cotton fiber. In 2019, about a thousand companies from 40 countries of the world made contracts with Uzbekistan. Cotton fiber consumption in the country increased from 15% to 40%. Uzbekistan counted for 26% of world exports in the 1970s and 1980s. Recent weather disputes and issues with neighbour countries (Tadjikistan, Afganistan and Kirgizistan) over irrigation supplies suggest that, even with a return to mechanization, Uzbekistan's current maximum production potential might be lower than previous years. Nevertheless, Uzbekistan's ability for sustainable production, a review of the country's economic and agricultural policies demonstrates important government interference that currently delay cotton production, reducing output (UNCTAD, 2019).

The aim of this subchapter is to approximate the structure of the commodity chain of cotton in Uzbekistan. including actors engaged in trade in cotton and export of commodities abroad. This string is quite specific due to strong state control at all levels. The production chain starts with farmers producing raw cotton. Farm owners' hand over 95% of the harvest for processing in the mills and typically retain 5% for their own use. According to data from 2009, 11% of the harvested cotton went to textile plants. while the remaining 84% were directly exported abroad (Rudenková. Lamers and Groteová 2009). However, after 2009, domestic consumption in Uzbekistan grew and only 60-70% of harvested cotton (USDA 2012) was exported in 2011/12. Mills acquire raw cotton from growers and separate cotton fiber from it. The fiber travels from smaller parts to textile manufactories; most are exported. For example, in the Khoresm area. exports of cotton abroad accounted for almost 90%. while only 10% were used locally - in textile factories and manufactories. However, the system of mills in the area of Khoresm has been declining for a long time. In 2009, the mills worked only at 70% of their capacity and processed 300 thousand tons of cotton while handling 420 thousand tons of raw cotton.

Structure of Uzbekistan's Cotton Chain

Picture No.3



Source: UNCTAD, 2019

Before 1991, all articles in the cotton commodity chain were under strict control of the state. In Soviet times, however, Uzbekistan's Soviet Union mostly produced only raw cotton processed by Russian mills or exported to Eastern European countries under barter arrangements (i.e. exchange for other goods). After the collapse of the USSR, exports to Western countries grew in exchange for foreign currencies. The Uzbekistan mill was run by UzPhaktaSanoat in 2001, as a result of demonopolization and privatization reforms to ensure the operation of cotton mills (Rudenková, Lamers and Groteová 2009). The UzPakhtaSanoat merger with Uzkhlopkoprom (which owns a 51% stake) was originally part of the Foreign Ministry. All activities related to ginning of cotton in mills today fall under Uzkhlopkoprom / UzPakhta-sanoitish - UKP. This organization is primarily responsible for ginning, sorting, storage, payments to growers and inputs. The UKP also owns all mills and storage facilities (World Bank 2004). However, it has never been disclosed to whom the 49% stake in the UKP belongs. Human

rights organizations conclude that they are the political allies of President Karimov and their relatives (Nadzimov 2010).

Uzbek farmers must sell their cotton to UKP, which owns a network of cotton mills. Another key element of the chain is the three state export companies, which are responsible for contracts with traders organize transport, collect payments for export transactions and pay the UKP. In Uzbekistan, cotton exports are almost exclusively in the hands of these state-owned companies, which provide all cotton exports to countries where further processing and manufactory production of cotton products takes place (Gulyaev, 2016).

State trading companies focusing on the export of Uzbek cotton and the prevailing export direction

Picture No. 4

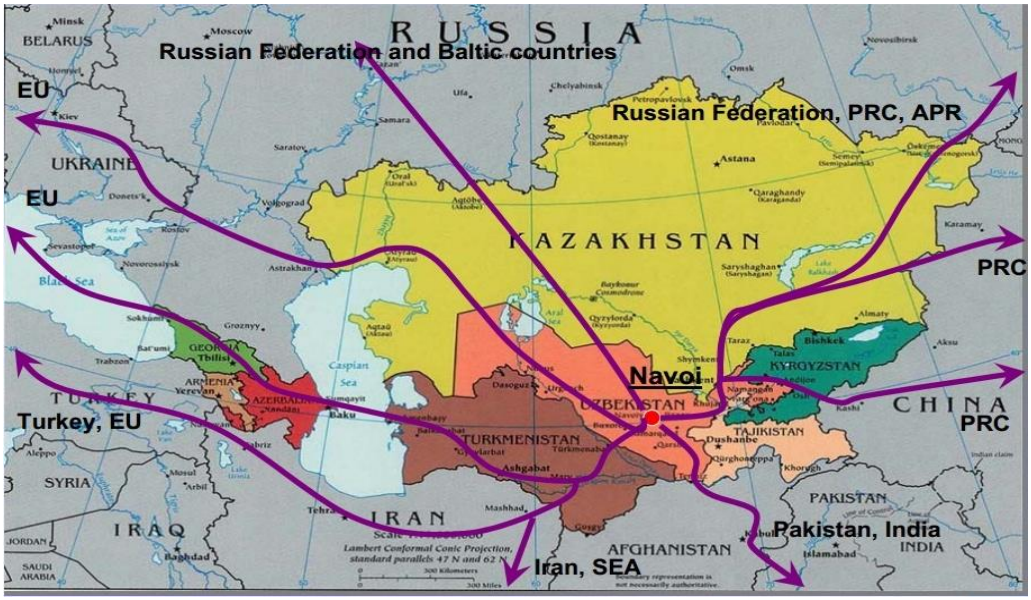
Source: Gulyaev, 2016

Uzinterimpex was founded in 1991 and has since its inception under the Uzbek Ministry of Foreign and Economic Affairs. It has specialized terminals where cotton is bundled, then stored (annual inventory of unused stocks is around 100.000 tons) and then exported mainly to South Asia (Uzinterimpex, 2013). Uzinterimpex also participates in the trade in pre-processed cotton, trades in finished products already produced in Uzbekistan and exports vegetables, fruits, construction materials and other Uzbek industrial products (Uzinterimpex, 2013). Uzinterimpex is currently engaged in export and import transactions, consultations, and acts as an intermediary in the global network. According to Djalolov (2007), the very concept of a network or chain

implies a high interdependence among the actors. Given the strong interdependence of Uzbek government with export companies. Uzbekistan can more easily exercise its interests than those with more liberal market economies. Uzinterimpex today is one of the largest state-owned companies in the country - annual turnover of around $1 billion, and exports over 2010-12 exceed 330.000 tonnes of cotton per year. The lately established company with the name of "Uzpakhtasanoateksport" is responsible for receiving and processing raw cotton and exports of cotton fiber (Uzinterimpex, 2013).

Transport corridors of Uzbek cotton export

Picture No.5



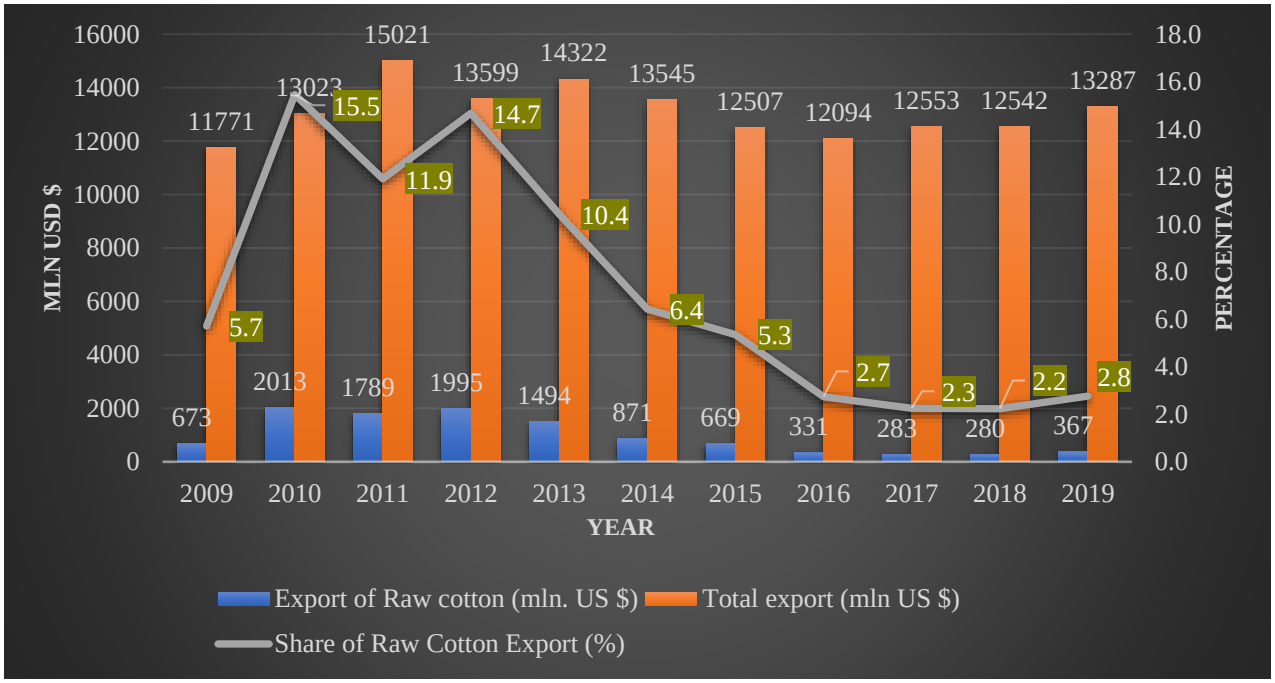
Source: Stat.uz, 2018

From picture No.5 can be seen that there are currently five major transit routes for export from Uzbekistan. Since 1996, a route has been established as a major export route via Turkmenistan and Iran to the port of Bandar Abbas in the Gulf, mainly due to the opening of the Northwestern Railway Corridor in Iran. From this port, cotton can be transported to China within two weeks, China is exported through Kazakhstan and transshipped at the Drujba railway terminal on the border of Kazakhstan and China. Another transport direction is oriented to European ports - mainly to the Baltic Sea (Latvian Riga) and to the Black Sea (the Ukrainian port of Iljicevsk). Through the territory of Turkmenistan, cotton is heading through the

Transcaucasian corridor to the Georgian ports of Poti and Batumi and to Turkish Hopes. From here, cotton travels not only to Turkey, where textiles have grown significantly over the last two decades, but also, to Western Europe (Italy, Spain and France) (Stat.uz, 2018).

Export of Raw cotton between 2009 and 2019

Figure No.13



Source: Stat.uz, 2019

As the figure No.13 describes, export of raw cotton declined from 2009 till 2019. The share of raw cotton export was around 20% of total export of the country. As the result of significantly decline within 10 years, this indicator shows about 2%. The highest point of the export was in 2010, about $2 billion. This trend started to decrease slowly in the next years. Coming to 2019, export value of the raw cotton concluded around $283 million. There were several reasons of the decrease, such as, government policy, development of reprocessing in Uzbekistan, irrigation issues and climate change. According to the Table No.7, export of cotton yarn increased while raw cotton export was decreasing. In 2009, the export value of cotton yarn was $354 million and consisted of 3,9% of total export. The highest point of the export value concluded coming

to 2014, with the amount of $1061 million. After that export fell slightly and consisted 7,1% of the total export. Above changes shows that Uzbekistan is shortening to export of raw cotton in order to reprocess it. Many countries, such as, China, Turkey, Russia are investing to Uzbekistan to develop of reprocessing raw cotton and textile industry (Stat.uz, 2019).

5.4. Upgrading in Uzbek cotton

After independence, Uzbek agriculture underwent profound structural changes, and agricultural production declined significantly in 1996, Subsequently, however, several reforms have been put into practice at the forefront of a more efficient system of land distribution. In the commodity chain of cotton, especially after 2000, there was a rather significant upgrading to more orderly levels. Uzbekistan has progressively increased its export potential, thanks to the inflow of foreign investment, and is constantly expanding its export range in favor of higher added value products to the detriment of exports of raw materials and semi-finished products (MFA, 2012). In cotton industry, in recent years, there has been mainly functional and procedural upgrading, which has resulted in the introduction of innovations and new cultivation technologies, the reconstruction of irrigation systems, the construction of new water channel pumps, relief measures to improve soil condition and reduce salinization. There was also a general modernization of the ginning machines in cotton mills. Product upgrading was reflected in the research of the possibilities of new and development of existing varieties and the ongoing implementation of more gentle cultivation practices (Nadzimov 2010).

The upgrading of the Uzbek economy was also evident in the industry, where goods with higher added value are mainly machinery products produced by joint ventures with foreign capital participation, for example, automobiles or electrical appliances, as well as textile production. The government is still taking new measures in tax and foreign exchange policies to increase entrepreneurs' incentives to increase exports (FairTradeDates, 2019).

Modernized refining machines in Uzbek cotton mills

Picture No.6

Source: FairTradeDates 2019

The Uzbek cotton trade has shifted considerably towards a market-oriented structure since the barter agreements in Soviet times and in the early 1990s. Cotton industry, however, remains under strong state control. The growers are subject to considerable demands on the part of the state. Peasants must deliver their harvest at one of the approximately 120 collection points in the Uzbekistan territory, and receive, on average, a maximum of one third of the world market price for their cotton. The exchange rate is not fixed, it is often manipulated, and the inputs are secured at prices that do not match the market.

5.5. Environmental consequences of cotton growing

The aim of the environmental impact section is to analyze how intensive cotton cultivation has affected the environment in today's Uzbekistan. The aim is also to describe the accompanying phenomena and impacts of irrigation agriculture on the territory of Uzbekistan; Identify other issues that are related to cotton production and threaten the environment; and to describe the impact of Uzbek cotton on ecological disaster in the Aral Lake area.

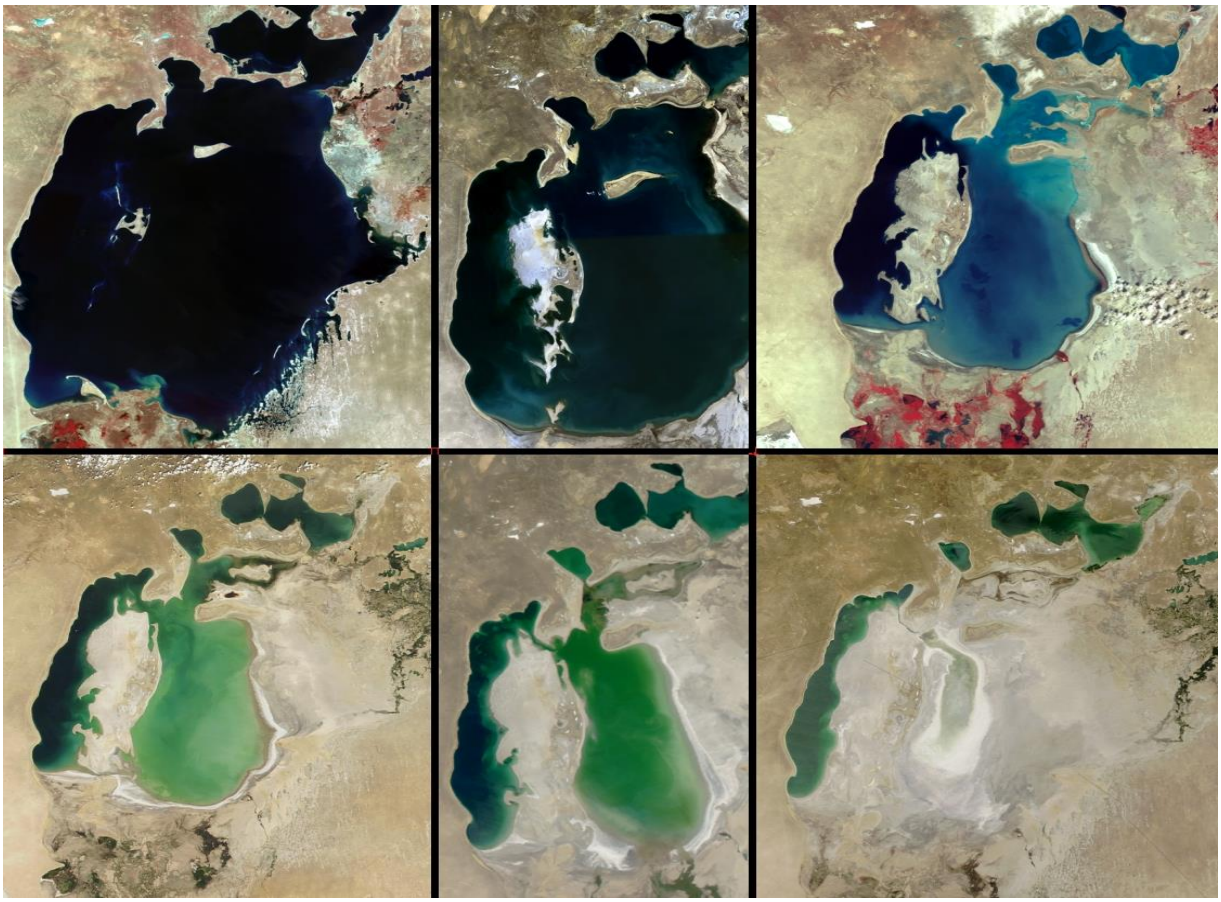
The promotion of monoculture cotton growing in Uzbekistan and the associated intensive irrigation have led to an increase in water use. Extensive arid and semi-arid areas were concentrated in intensive irrigation agriculture. In the countries of the world where large irrigations are used, water losses are often caused - for example, due to poor condition, age and disturbances (e.g.: in pumping stations) in the water supply network - these problems have been struggling with Uzbekistan after 1991. The most famous and most dramatic example of the impact of intensive cotton growing in Central Asia is the reduction of Aral Lake (Kandiyoti, 2013).

Negative impacts can also be caused by excessive use of chemicals. To improve the soil quality, often depleted by annual planting of a single crop, artificial fertilizers are used. To speed up ripening and harvesting, so-called defoliants, leaves to remove leaves are used. Desiccants are also used to dry the mesh and speed up the opening of ripening capsules. The presence of multinational corporations and competition among states to preserve comparative advantages leads to the erosion of standards in the area of environmental standards (Franz et al. 2010).

The threat of insufficient water, the quality of which has declined in the past few decades of Amudarya and Syrdarya, has some positive consequences. For example, Uzbekistan must think more about the issue of water management, and this represents a major change over the long-term period of non-rational waste that has already taken place in the Soviet era. (Kandiyoti, 2013).

The shrinking of Aral Sea in 1973 and 2009 years

Picture No.7



Source: Kandiyoti, 2013.

As it is described on the Picture No.7, Aral Sea was shrinked year by year because of climate change, unplanned and incorrectly usage. Coming to nowadays, it is totally dried. Uzbekistan is a landlocked, relatively low-income, and significantly rural nation that inherited a complex economic legacy from decades as a member of the former Soviet Union. Its economic institutions emphasize centralized control of the economy and the appropriation of rents from natural resources for industrialization and for the benefit of the governing elite. Relations with neighbouring countries—all former members of the Soviet Union—are complex partly because of shared resources, such as the Amu Darya and Syrdarya rivers. These circumstances are not

expected to change in the immediate future and Uzbekistan's cotton sector likely will grow slowly under a relatively high tax burden.

Shifts in Uzbekistan's cotton policy have exacerbated shifts in world cotton markets since 2000. In the middle of the last decade—when world cotton prices reached record lows relative to other commodities—Uzbekistan reduced the economic burden on its cotton producers. resulting in higher yields. output. and exports and driving world cotton prices even lower. Then. as world cotton markets tightened and prices rose to new peaks. Uzbekistan cut cotton output and exports. partly through increased taxation. adding upward pressure on world prices.

USDA's long run baseline estimates for Central Asia indicate that cotton production and exports likely will increase slowly over the next 10 years. and the region's share of world output is expected to decrease. The slow pace of economic reform in Uzbekistan. which accounts for two-thirds of Central Asia's cotton output. will remain a key factor driving the modest outlook for cotton in the region. The high level of net taxation illustrated here suggests that significant output gains could be achieved under alternative policies.

6. Research and discussion

6.1. Revealed comparative advantage of cotton and cotton based on products

As Russia and China are the main cotton importer countries from Uzbekistan, Balassa index (Bl) is used to examine competitevness of Uzbekistan's cotton export which expressed as belows:

$$RCA_{d,i} = \frac{X_{d,i}}{X_d} \Big/ \frac{X_{w,i}}{X_w}$$

Where (**d)** is the country under study (Uzbekistan), (**w)** is the set of all exporting countries, (**i)** refers to a specific industry (Cotton) and (**X)** are the exports.

The cotton has a revealed comparative advantage if $RCA_{d,i}>1$. If $RCA_{d,i}$ is less than 1, we accomplish that the country has a comparative disadvantage in this product. It is used trade data of UNCOMTRADE database and mirror statistics of Uzbek cotton export. The analysis spreads over the period 2009 – 2019. It is used Harmonized System classification data at 2 and 4 – digit levels. The cotton commodites, such as 52- cotton, 5205-cotton yarn, 5208-5209- woven fabrics, and 63– textiles are selected for the research.

Moreover, it is analyzed the share of the cotton export in comparision of total exports in Russian and Chinese markets. For measure the Uzbek cotton share, the total cotton import of Russia (China) is considered as 100% and import from Uzbekistan is found out calculating in comparison of 100% of total import.

Analysis of Revealed Comparative Advantage of Uzbekistan (HS 52) Cotton Export

Table No.7

Year	Total Global export (thous. $)	Total Global Cotton Export (thous. $)	Total Export of Uzbekistan (thous. $)	Total Cotton Export of Uzbekistan (thous. $)	RCA
2009	$12,125,531,477	$41,115,081	$5,687,846	$853,268	44
2010	$11,034,668,805	$55,925,420	$6,726,100	$1,579,670	51
2011	$18,048,805,702	$68,459,867	$7,040,377	$1,443,661	54
2012	$16,876,861,480	$65,417,507	$5,843,289	$1,448,168	64
2013	$18,314,650,376	$130,661,723	$14,522,552	$2,396,071	23
2014	$18,608,094,914	$63,914,735	$6,484,249	$955,986	43
2015	$16,272,543,471	$54,054,815	$6,444,892	$1,136,511	53
2016	$15,797,755,544	$51,213,745	$7,612,472	$797,449	32
2017	$17,367,809,563	$55,939,048	$8,678,730	$905,365	32
2018	$19,071,267,474	$58,172,461	$9,344,595	$973,575	34
2019	$18,249,793,709	$54,447,396	$11,884,397	$1,138,987	32

Source: UN Comtrade 2019 and author's analyze

The table No.7 describes that RCA of Uzbek cotton export between 2009 and 2019 years. In 2009, cotton represented 0.34% of world trade with exports related to goods $41 billion. Of this total, Uzbekistan exported about $853 thousand , and since Uzbekistan's total exports for that year were nearly $6 billion , exported accounted for 15% of Uzbekistan's exports. Because 15/0.34=44, Uzbekistan exported 44 times its fair share of cotton exports and Uzbekistan had a high revealed comparative advantage in cotton in 2009. The growth continued till 2012 with 64, but afterwards RCA decreased significantly. Due to some internal and external factors, RCA indicator was changed going up and down during last ten years. And coming to 2019, it reached to 32. Compared to 2009, RCA of Uzbek cotton was decreased by 12, however, in general Uzbekistan still kept comparative advantage in cotton exports in 2019.

Analysis of Revealed Comparative Advantage of Uzbekistan in Cotton Commodities (Yarn, Fabrics, Textiles) Export

Table No.8

HS Commodity Code	Commodity	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
5205	Cotton Yarn	0.017	0.018	0.014	0.013	0.028	0.011	0.013	0.018	0.015	0.013	0.016
5208-5209	Woven Fabrics	0.22	0.26	0.18	0.20	0.42	0.24	0.34	0.33	0.32	0.30	0.41
63	Textiles	1.8	2.1	2.1	2.3	2.7	2.2	2.6	1.9	2.8	3.1	3.2

Source: UN Comtrade and Author's analyzes

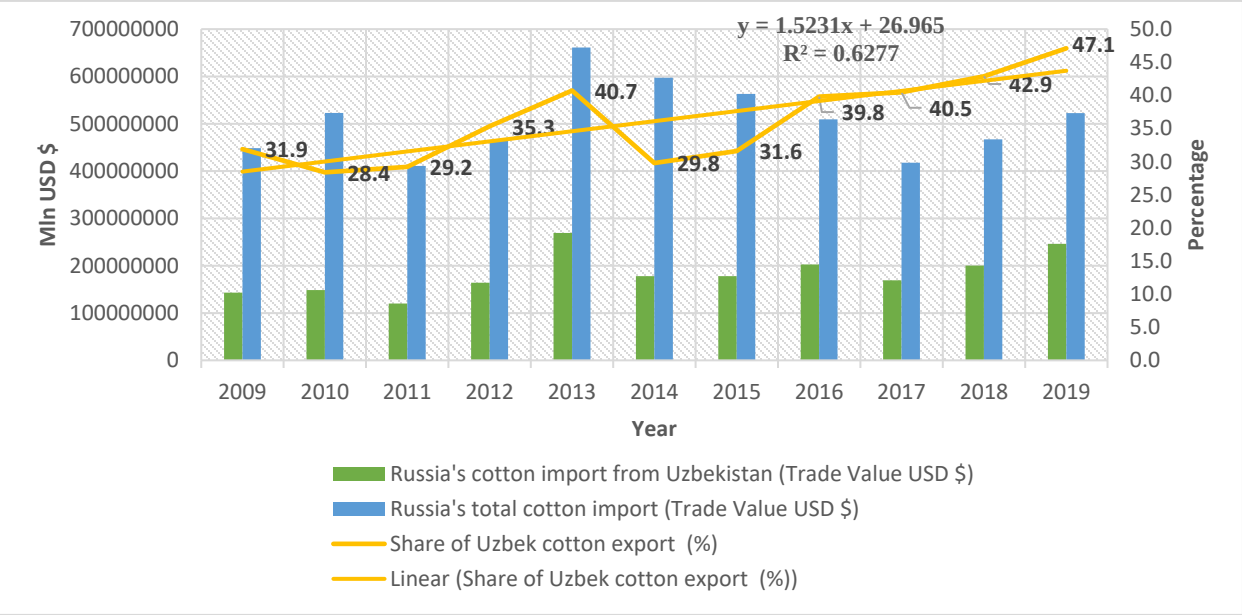
According to the Table No.8, it is analyzed revealed comparative advantages of cotton commodities (yarn, fabrics and textiles). The research results show that cotton yarn and woven fabrics have comparative disadvantages during last 10 years. There was almost the same export values on cotton yarn. Despite woven fabrics have comparative disadvantage, its export rate slightly increased year by year and RCA reached to 0.41 in 2019. It is higher by 0.20 compared to 2009. One of the main reasons for that, Uzbekistan exported only raw cotton and the recycling of cotton was not much developed in the last years.

However, Uzbek textile products export hava a slight revealed comparative advantage in the global market. Coming to 2009, the government focused more on involving more foreign investments and develop reproducing agricultural products. And after changing the head of Government in 2016, more revolutions had happened in agriculture system. Many foreign companies together with locals started their business to develop of reproducing of agricultural products, such as cotton reproccessing rate increased and ready textile products' export around the world developed. And the Uzbek textiles RCA increases from 1.8 to 3.2 between 10 years.

Russia is one of the main importers of food and agricultural commodities in the world, thus the CIS countries consider Russia as one of the important direction of their agriculture exports. Figure No.15 shows the dynamics of Russia's cotton import from the world as well as from Uzbekistan during 2009-2019.

Analyze the share of Uzbek cottton export to Russia

Figure No.14



Source: UN Comtrade 2019 and Author's analyze

As it is described on the Figure No.15, the share of the Uzbek cotton to Russia was changed differently. In 2009, it was 31.9% which means thar uzbek cotton was one of the main imported products in Russia. The figure shows that cotton import increase in Russia was not stable. Import was decreased in 2010 and 2011. Afterwards. it started to grow significantly. As the figure shows that import reached to the top point in 2013 and the share of import from Uzbekistan was around 40%. The reason of the reduction in imports in 2009 was the global financial crisis, while the decrease in the last two years is because of Russia's restrictive policy. In turn, the export of textile products in 2018 grew 1,4 times, or 11.2% of the total export of Uzbekistan. In general, the share of uzbek cotton export is starting to increase again from 2019. As described on the

figure, it could be seen significantly growth with 47% in 2019. BI values fluctuations present not stable in the export of Uzbek cotton in Russian market.

Nowadays, Uzbekistan is exporting not only raw cotton but also other textile products as well. Uzbek cotton exports to Russia fell from 178 thousand tons in 2000 to 1,6 thousand tons in 2018. Russia's constraint on agricultural products import from some countries (The USA, the EU and others) additionally affected to the structure of major import partners of agriculture products. Russia's top ten import partners of agricultural commodities in 2009 were Brazil, Ukraine, Belarus, the USA, Ecuador, Argentina, China, Netherland, and Uzbekistan. Some of its partners such as USA and Ukraine stopped exporting by 2018. Instead of that, the countries like India, Peru and Turkey shifted to Russia's top 10 import partners of agricultural products during the 2000-2017 (UN Comtrade, 2018).

As Uzbekistan is landlocked country in the Central Asia, it does not border neither Russia nor China. Also it does not have directly access to the Caspean Sea. Its security situation is characterized by a protected conflict with Kyrgiztstan and Tadjikistan through the crossing roads to China and the danger of dividing the border with Afganistan (Ibragimov, 2008).

China retained first place in Uzbekistan's foreign trade. It is the main country which imports most cotton from Uzbekistan. As a result of the 2008 economic crisis, the growth rate of global consumption of goods and services slowed down, such as cotton. But the decline was not uniform across countries. Similarly, post-crisis economic growth indicators are not proportional in individual economies. In other words. the structure of world economy has changed. After economic crisis. demand for cotton textiles started rising and large number of cotton imported to China between 2010 and 2013. In recent years, it can seen that the growth rate of China's cotton spinning industry falling down and it shows significant decrease in cotton import during next years. Based on the results, it can be concluded that the volume of cotton imports in China is still one of the main factors determining the world price of cotton.

Analyze the share of Uzbek cottton export to China

Table No.9

Period	China's cotton import from Uzbekistan. Trade value (Thous. US$)	China's total cotton import. Trade value (Thousand US$)	Share of Uzbek cotton %
2009	298,408	7,718,195	3.87
2010	274,161	7,444,854	3.68
2011	184,515	6,180,050	2.99
2012	772,654	10,619,616	7.28
2013	554,665	14,730,025	3.77
2014	794,659	18,681,444	4.25
2015	686,446	17,229,073	3.98
2016	525,686	12,756,184	4.12
2017	547,761	10,254,128	5.34
2018	348,502	7,743,516	4.5
2019	398,673	8,614,958	4.63

Source: UN Comtrade, 2019 and author's analysis

At present, China's role in production, consumption and imports continue to grow. Consumption is also increasingly concentrated in South and Southeast Asia and other areas with significant textile production after 2007. China holds very large stocks and currently accounts for 55% of world imports. Uzbekistan has risen in the list of the largest suppliers of cotton fiber in China last season. And China is the main importer of the Uzbek cotton. Currently, Uzbekistan is providing China not only with raw cotton but also exporting textile products as well. (UN Comtrade, 2019). It is used trade data UNCOMTRADE database on the Table No.10. From the description on the Table No.10, that China's total import was near $7,5 billion and its import from Uzbekistan consisted of almost $300 million. As a result of calculations, the share of Uzbek cotton was around 3,87% in 2009. From 2009 till 2019, the share of cotton export had fluctuate changes. In 2009, that indicator was declined dramatically. After a year, it concluded dramatically growth and the export value of Uzbekistan was about $772 million in 2010. Exactly that year was the highest point of the export share. Till 2015, the share of cotton export of Uzbekistan kept almost steady which is twice more than 2009. After 2011 share of uzbek cotton

slightly decreased. However, coming to 2019, export value concluded more than $390 million which means more amount than previous years.

According to the results, About 3,5 million tons of raw cotton and one million tons of cotton fiber are produced in Uzbekistan every year. Of these, approximately 50% of the produced cotton-fiber is exported. In the first half of 2019 alone, China exported $141.5 million worth of fiber. By 2025, Uzbekistan plans to completely abandon the export of cotton-fiber and independently provide its processing on the domestic market (Stat.uz, 2019).

Export Price Analyze in selected countries

Table No.10

Uzbek cotton (not carded or combed) export to China			
Year	**Netweight (kg)**	**Trade Value (US$)**	**Price Per kg**
2009	215,649,424	297,808,918	1.38
2010	167,216,880	273,225,097	1.63
2011	140,364,080	176,135,390	1.25
2012	345,150,173	693,429,803	2.01
2013	167,731,069	506,179,235	3.02
2014	309,752,791	693,151,686	2.24
2015	273,529,084	543,853,635	1.99
2016	170,529,121	331,367,390	1.94
2017	171,462,917	285,009,835	1.66
2018	93,127,206	154,082,558	1.65
2019	93,035,162	171,471,730	1.84
Uzbek cotton (not carded or combed) export to Russia			
Year	**Netweight (kg)**	**Trade Value (US$)**	**Price per kg**
2009	108,278,445	99,189,329	0.92
2010	86,227,924	90,420,679	1.05
2011	32,280,861	35,863,552	1.11
2012	28,014,574	42,421,335	1.51
2013	36,726,861	99,637,784	2.71
2014	13,235,547	19,922,522	1.51
2015	12,286,620	20,327,438	1.65
2016	17,358,243	32,472,385	1.87
2017	3,000,870	3,623,197	1.21
2018	9,729,152	14,865,882	1.53
2019	3,227,833	5,146,652	1.59

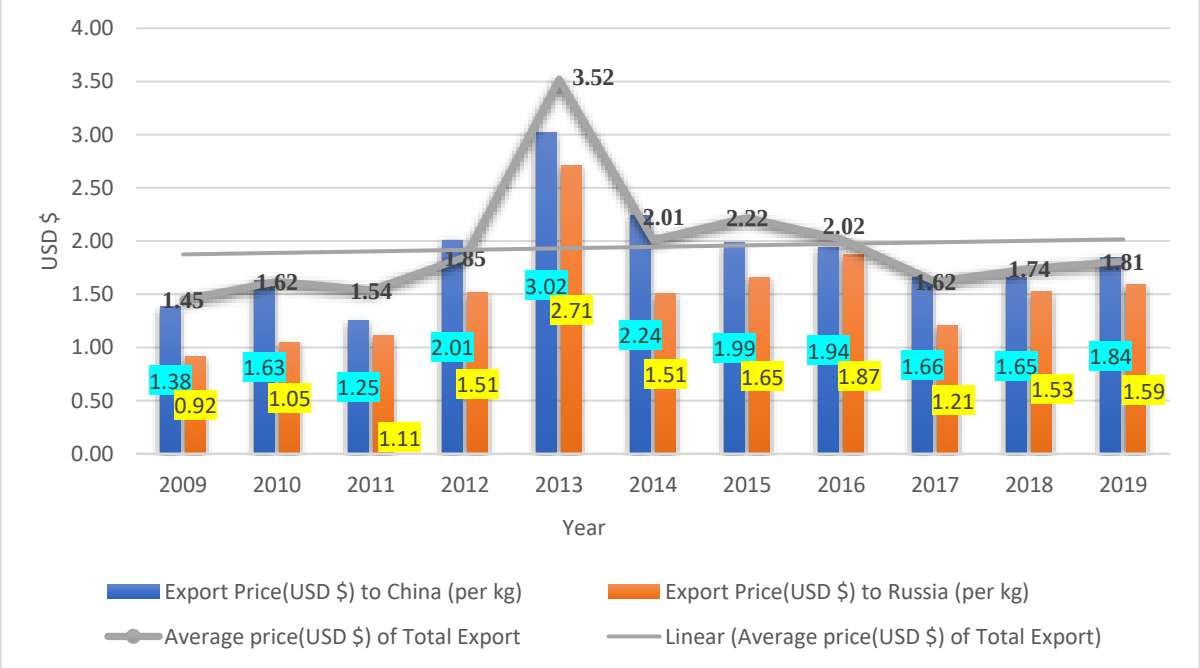
Source: UN Comtrade, 2019 and author's analysis

Export price was different in China and Russia between 2009 and 2019 years. Table No.10 describes more detailed. In 2009, sold cotton price to China was 1.38 USD dollar per kilo. And at the same year, one kilo cotton was sold by 0.92 USD dollar to Russia. According to some trade exchange contracts and demand, cotton was sold cheaper to Russia than China. Between 10 years cotton price changed differently. One of the main reasons for that were global economic situations and internal reasons. The highest evaluated year of the cotton price was in 2011. In that year, Cotton price was more than 3 USD dollar in China and 2.71 USD dollar in Russia.

Because Uzbek cotton is usually picked up by hand and warm weather, the quality is higher comparing to other producers. That result to increase the demand for Uzbek cotton. That is why the price of Uzbek cotton usually almost equal to global cotton price. Above table shows that cotton price in both countries was almost more than 1 USD dollar per kilo. As a proof of that, the table shows the cotton price was 1.84 USD dollar in China and 1.59 USD dollar in Russia coming to 2017 year.

Price Ratio in the Selected Countries

Figure No.15



Source: UN Comtrade, 2019 and author's analysis

Based on the Government statistics in 2019, Uzbek cotton fiber exports declined by 25 percent to 477,000 tons, in 2019. And its share decreased to about 3 percent in the structure of exports. Moreover, the production fell to 952,000 tons that is 7.5 percent less. Annually, it is produced around 3.5 million tons of raw cotton in Uzbekistan. The country exports more than 50 percent of the produced cotton. Currently, Uzbekistan is trying further development of its textile industry. For example, between 2010-2014 years, the textile industry of Uzbekistan spent foreign investments worth more than $780 million. About 147 new textile enterprises with their investments came to Uzbekistan. Investors from Japan, The USA, Switzerland, Germany, South Korea, Turkey and other countries were involved. And Export potential of these enterprises amounted to $670 millions (Stat.uz, 2019).

Analysis of exported cotton products (Yarn, Fabric, Textile)

Table No.11

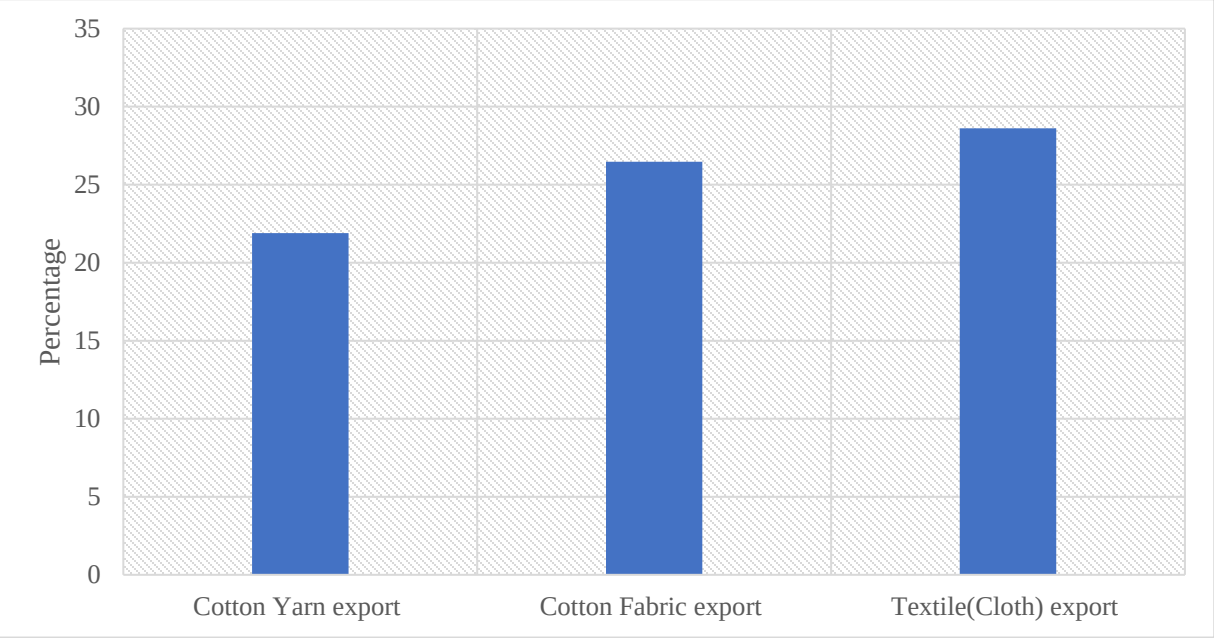
Year	Yarn export (1000 USD $)	Growth Rate %	Fabric export (1000 USD $)	Growth Rate %	Textile(Cloth) export (1000 USD $)	Growth Rate %
2009	222,861		24,484		104,250	
2010	406,974	83	30,015	23	121,597	17
2011	443,838	9	19,441	(35)	93,148	(23)
2012	760,816	71	34,240	76	191,600	106
2013	705,510	(7)	34,814	2	254,164	33
2014	644,230	(9)	82,829	138	505,729	99
2015	816,415	27	102,500	24	576,277	14
2016	959,028	17	88,324	(14)	480,391	(17)
2017	982,757	2	77,302	(12)	413,639	(14)
2018	960,615	(2)	104,038	35	547,043	32
2019	1,224,294	27	134,789	30	765,037	40

Source: UN Comtrade, 2019 and author's analysis

Table No.13 describes export of cotton yarn, cotton fabric and textiles. Looking at the table, we can see that export is increasing in all these 3 spheres. Export of cotton yarn grew up to 1,224,294 thousand USD dollar from 222,861thousand dollar between 2009 and 2019. It is very high development in Yarn export. Cotton fabric also increased significantly year by year and comparing the value in 2019 to 2009, the growth was almost 20%. In 2009 the value of export it decreased dramatically with the value of 19,441.18 thousand USD dollar. At the same time, we can see the decline on textile export as well. The reduction amounted 93,147 thousand USD dollar from 121,596. There are some internal and external factors which influenced for this decrease. As it is mentioned above, Uzbekistan is paying more attention on reprocessing of cotton. As an evidence, the table shows development in textile export. The growth was by 15 percent during 2009 and 2019 years. Textile export was amounted 765,037.50 thousand USD dollar in 2019. But this indicator has been increasing year by year.

Figure No.16

Annual Average Growth Rate (2009 – 2019 years)



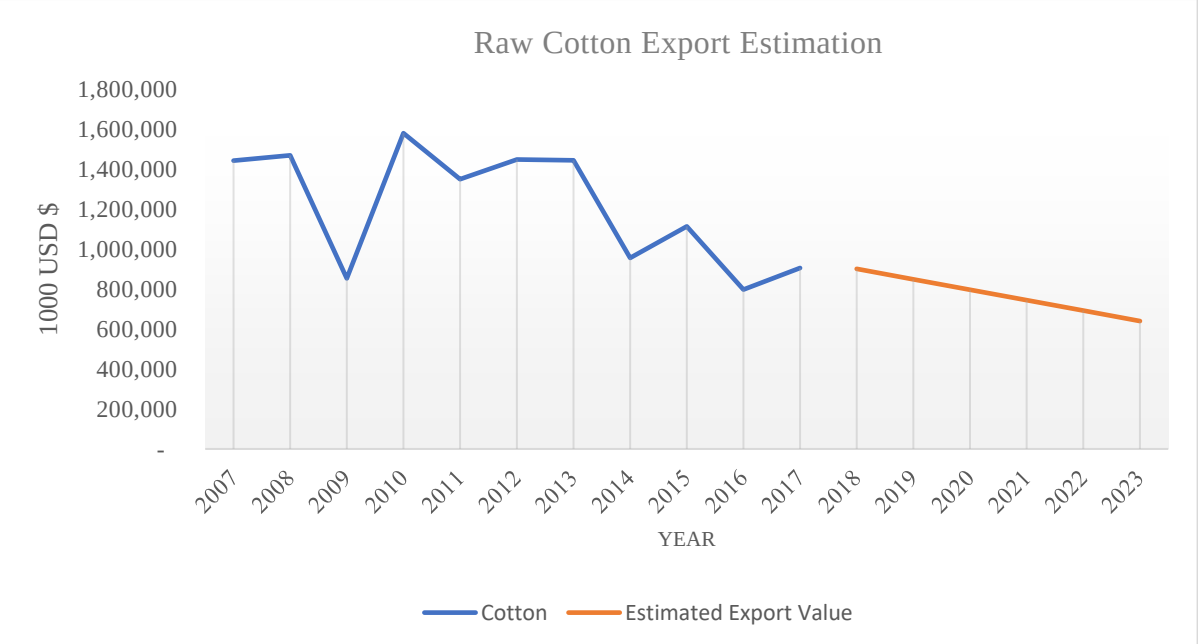
Source: UN Comtrade, 2019 and author's analysis

The result of annual average growth of Yarn export was almost 22%, Fabric export growth 26.5% and Textile export reached at 28.6% between 2009 and 2019 (Figure No.18). According

to the results from the figure, it is known that Uzbekistan is trying to develop producing textile and cloth. The main purpose from that is not only to provide with cotton products in internal market but also strenth the product quality and sell them outside Uzbekistan.

Trend Function Analysis of Raw cotton

Figure No.17



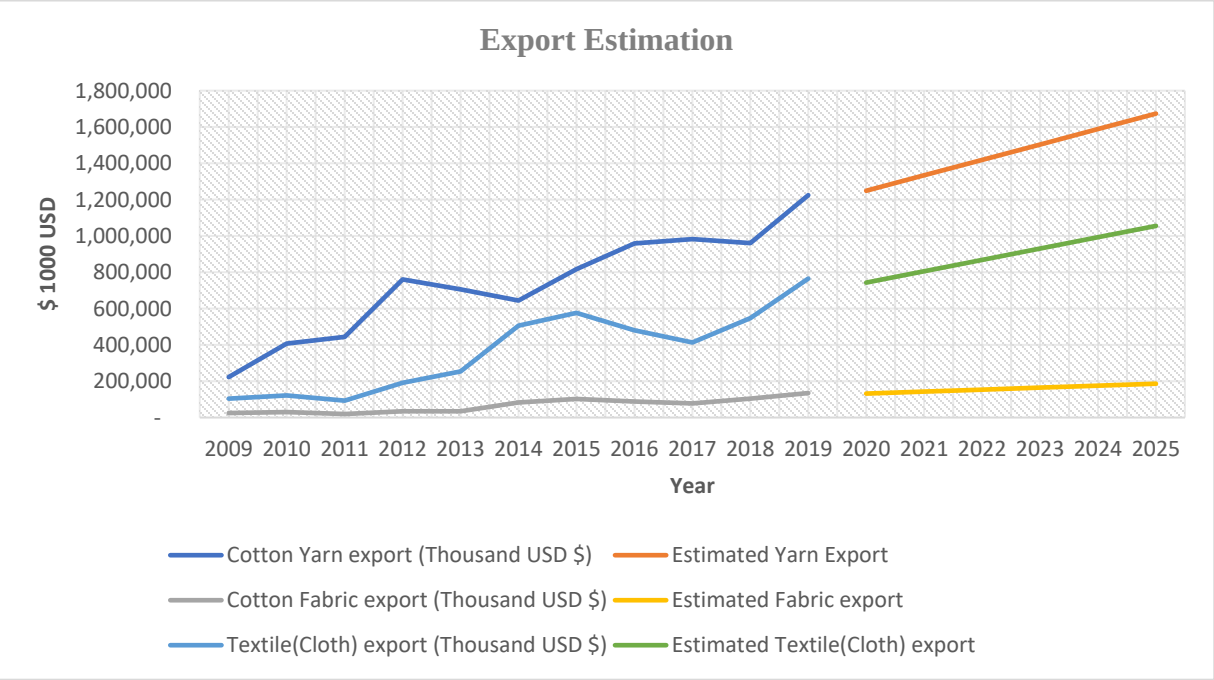
UN Comtrade, 2019 and author's analysis

When I did Trend function analysis of cotton and cotton products export, the result shows that export of raw cotton has been decreasing year by year. According to Figure No.18, In 2007, cotton export was 1,442,459 thousand dollar and coming to 2009, it was declined rapidly by 42%. Export reached to the top point in 2010, the growth rate was 85% higher comparing to 2009 and amounted 1,579,671 thousand USD dollar. Unfortunately, this point did not go ahead growing. Cotton export value started to decrease significantly from 2011 till 2016. Total raw cotton export value amounted about 797,447 thousand USD dollar in 2016. In the next year, there was slightly increase in export and it grew around by 14% than 2016. As a result of Trend analysis, export of raw cotton will be reduced in the next 3 years. The predicted value of export

will be about 700,000 thousand USD dollar coming to 2023. The main reason for that is the Government is going to develop reprocessing cotton and export more cotton products.

Trend Function Analysis of cotton products (Yarn, Fabric, Textile)

Figure No.18



Source: UN Comtrade, 2019 and author's analysis

Above Figure No.19 describes export of Yarn, Fabric and Textile within 2009 and 2019. Morever, estimated export of these products is analysed using Trend function. As it is mentioned in the previous figure, Uzbekistan is going to stop raw cotton export in future and develop reprocess and export more cotton products. As a proof of this, the Figure No.19 shows that cotton products started increase significantly from 2009 till 2019. Such as, Yarn export was 222,861 thousand USD dollar, Fabric export 24,484 thousand USD dollar and Textile export was 104,250 thousand USD dollar in 2009. As a result of annual growth rate, Yarn export has been grown by 22%, Fabric export growth by 26% and Textile export progressed by more 28%.

Furthermore , the Trend function analysis shows that export value keeps going up in the next three years. An estimated amount of Yarn export will reach at 1,673,430, Fabric export by 186, 321, Textile export export will be more than 1,055,000 thousand USD dollar in 2023.

The textile industry is one the most important spheres in the economy of Uzbekistan. This industry employs one-third of the industrial work force and its share of industrial output is about 26 percent. Currently, almost 180 enterprises are engaged in textile production in Uzbekistan. The Uzbek government is supporting new partnerships for larger use of cotton domestically. A lot of new textile production investments are approved that will develop domestic consumption significantly in the coming years. Uzbekistan's exports of textiles, cotton yarn and readymade garment exports are estimated to around US$1 billion in 2017 (World Bank, 2019).

Undesirable situations during the season like bug attacks, high temperatures during summer, scarcity of water, lack of quality seeds and chemicals have all taken larger than anticipated tolls in the MY 2018/19 cotton crop. The government is expected to continue to lower the targeted cotton planting area and production and in the next marketing years, planted area is expected to be more than 1,06 million hectares and production around 3,58 million bales (480 pound bales), which is almost 780,000 metric tons (MT). Domestic cotton consumption is growing each year with new investments, which in turn is decreasing cotton availability for exports. The MY 2020 domestic consumption measure is near to 2,98 million bales (650,000 MT), and exports of cotton are down to 505,000 bales (110,000 MT) but exports of fabric, yarn and textiles are upturning (World Bank, 2019).

Conclusion:

In accordance with the objectives of the work, the structure of global flows in cotton trade was first examined. At present, world regions of production and consumption / import regions can be clearly identified. Some of these areas have survived since the 1960s, when the global era of massive cotton cultivation began, while others have emerged in recent years. In certain cases (China, for example, South Asia or Turkey), the areas of production and consumption are approximately the same. Cotton trade flows show that the economic system of the core and periphery, which is based on the flow of raw materials from less developed countries to developed industrialized countries, has changed considerably over the last few decades (especially over the last 10 years). Cotton trade is partly influenced by the localization of textile production, which has been moving from Europe to Asia for a long time, and the production of developing countries with lower production costs and cheap labour penetrates the markets of developed western countries. Similarly, it is desirable to bring production closer to countries where economically strong markets are developing, such as China, Demand for cotton is consistently high as cotton has the advantage of relatively lower prices, popularity among customers and a wide range of products over other fibers. Following the liberalization of the cotton trade and the elimination of export quotas, the position of large producers, led by China, is growing, where, among other things, speculative purchases and the related jump in cotton prices on stock exchanges lead to distortions in the world market. Given the changes in the global cotton market, the question of the appropriateness of the neoliberal market model arises. Indeed, significant successes in recent years have often been achieved by states governed by authoritarian regimes that centrally plan and conduct significant state control in cotton (China, Uzbekistan and others). The US also maintains its position in the cotton market thanks to the strongly protectionist agricultural policy of the state. Uzbekistan practically took over the cultivation practices, habits and technologies introduced by the ruling Soviet garniture and, after 1991, could fully participate in the global cotton market. In the first half of the 1990s there was a significant drop in the GDP of the state and the transformation of agriculture was thus quite complex. Gradually, however, the structural transformation of agriculture was relatively successful, with the prevailing large inefficient plants being replaced by smaller breeding farms.

In addition, the system of quotas in the framework of directive planning, the implementation of a firm structure of the cotton commodity chain, or innovations in cotton have made it possible to keep cotton production at its earlier levels. As a result, however, serious environmental problems have emerged - increasing degradation of arable land, drying up or contamination of water resources due to excessive and inefficient irrigation, salinization, etc. The condition of irrigation channels is also significantly worsening and there is a significant loss of water. Existing practices in Uzbek agriculture will, in the future, affect the deterioration of the health of the population, especially the peasants, and there is a risk of ecological disaster. Uzbekistan is growing significantly in population and economics, water use in Uzbekistan is likely to become increasingly significant due to the increasing population, whose standard of living is improving, and the purchasing power of the population is generally increasing. However, the continued growth in water use will depend heavily on what will make the deteriorating environment possible and on the strength of the Uzbek cotton industry, whose practices have long been very environmentally friendly. Economic development is largely made possible by profits from cotton production. However, the reinvestment of these profits in the even development of all administrative areas of the state is at least questionable. A complicated bureaucracy that prevents effective reforms represents a significant obstacle. Important decisions are made slowly and very rigidly, Participants in the gradually privatizing commodity chain need to develop marketing and other services in order to make Uzbek cotton production not only more competitive on the world market (this target is relatively fulfilled after 1991), but also, for intensive cotton production to benefit the domestic population. The privatization and transparent cooperation of the main players in the Uzbek commodity chain (i.e. government, cotton growers, mills, state export companies, in recent years also textile factories) should lead to the elimination of various intermediaries and other variables that disrupt the operation of the chain. This could ultimately lead to an increase in the income of ordinary peasants.

Uzbekistan implies to develop cotton during reforms in agricultural sphere for 2020 – 2025 years. Therefore, it is very vital to study its cotton competitiveness in the neighbour countries market (such as, Kazakhstan, Tadjikistan, Turkmenistan and others) as well as in global markets. Furthermore, it is significant to keep the stability of exports, because the fluctuations in the production of cotton and its exports have a negative influence on the sustainability for

long period relationship. From a policy corresponding, Uzbekistan should facilitate its export opportunities for producers in agriculture field and develop the productivity of related logistical systems and the capabilities to connect the global supply chain. The scope of this investigation was limited by the analyse of export competittvenes in Chinese and Russian markets. In the future, those investigations must include all agricultural export destinations of Uzbekistan. Also, one of the main significant things is to find obstacles which affect negatively on cotton export competitiveness.

If Uzbekistan wants to diversify its economy, it needs a regular supply of finance, and this is largely secured by the rigid government structures from massive cotton production. Suggestions for further research could be, for example, the possibility of developing Uzbekistan based on profits from produced cotton. Uzbekistan has significant economic potential and it is not excluded that the country will embark on a path of rapid development in the future, as in China. Another topic could be the continuing changes in cotton trade. for example, after a few years and after the increase in the market position in countries with growing economies, as well as the topic of reducing transport costs in cotton trade, increasing the assessment of the decline of the core and peripheral system in the global cotton trade.

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