COTTON VALUE CHAIN AND UPGRADING STRATEGIES OF COTTON PRODUCERS IN THE VALUE CHAIN: THE CASE OF ŞANLIURFA

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ABSTRACT

COTTON VALUE CHAIN AND UPGRADING STRATEGIES OF COTTON PRODUCERS IN THE VALUE CHAIN: THE CASE OF ŞANLIURFA

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Shifting patterns in global trade and production systems bring different new implications for the regions who want to integrate into it. From the perspective of regional development, engaging with these global trade and production networks became one of the major concerns of developers and policy makers; however, the terms and conditions of the engagement determine whether the region gains or loses because of this integration. Value chains approach, in this respect, come into prominence as a useful framework to understand the recent dynamics of global trade and provides valuable tools for enhancing the position of actors participating into these global trade networks.

The thesis investigates cotton value chain in Şanlıurfa. Even though Şanlıurfa is the greatest cotton supplier of the GAP Region and Turkey, there are several problems associated with cotton value chain affecting the competitiveness of the region and textiles sector. The study aims to identify problems and opportunities of the cotton value chain and further examines upgrading strategies taking place in cotton production. It also aims to explore positions and attitudes of farmers towards upgrading, and factors affecting their upgrading decisions. Particular attention is paid to "upgrading" activities because regional value creation or value increase are usually

achieved through upgrading strategies. Upgrading is also important in terms of promoting appropriate strategies to improve the ways and terms that agricultural producers are integrated into the global cotton value chain and enhancing their position in this integration in order to promote more sustainable economic and regional development.

Keywords: Value chain, upgrading, cotton, agricultural production, Şanlıurfa

ÖZ

PAMUK DEĞER ZİNCİRİ VE PAMUK ÜRETİCİLERİNİN DEĞER ZİNCİRİNDE YÜKSELTME / İYİLEŞTİRME STRATEJİLERİNİN İNCELENMESİ: ŞANLIURFA ÖRNEĞİ

Kahraman, Aslıhan
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Küresel ticaret ve üretim sistemlerindeki değişen dinamikler bu sistemlere entegre olmak isteyen bölgeler için yeni ve farklı gereksinimler teşkil etmektedir. Bölgesel kalkınma perspektifinden bakıldığında, bu küresel ticaret ve üretim sistemlerine entegre olmak bölge kalkınmacılarının ve politika yapıcıların önemli kalkınma hedefleri arasında yer alsa da bölgelerin kazanan veya kaybeden bölgeler arasında olmasında belirleyici faktör bu küresel sistemlere entegre olma biçimi ve şartlarıdır. Değer zinciri yaklaşımı bu bağlamda, küresel ticaretin güncel dinamiklerini anlamada ve katılan aktörlerin sistem içerisindeki pozisyonlarının iyileştirilmesinde faydalı bir araç olarak ön plana çıkmaktadır.

Bu tezin amacı Şanlıurfa İli'ndeki pamuk değer zincirini araştırmaktır. Şanlıurfa, GAP Bölgesi ve Türkiye'nin en büyük pamuk üreticisi olmasına rağmen, pamuk değer zinciri bölgenin ve bölgedeki gelişmiş tekstil sektörünün rekabet gücünü olumsuz etkileyen pek çok probleme sahiptir. Çalışmanın hedefi öncelikle pamuk değer zincirinin problem ve potansiyellerini, daha sonra da değer zincirinin tarımsal üretim aşamasında gerçekleşen iyileştirme/yükseltme (upgrading) stratejilerini ve pamuk üreticilerinin bu stratejiler karşısındaki tutumlarını, pozisyonlarını ve karar verme

mekanizmalarını etkileyen faktörleri araştırmaktır. Özellikle iyileştirme/yükseltme stratejilerine konsantre olunmasının sebebi bölgedeki değer yaratma ve yaratılan değer artışının bu stratejiler aracılığıyla sağlanmasıdır. Değer zinciri yaklaşımı aynı zamanda ildeki tarımsal üreticilerin küresel pamuk değer zincirine eklemlenme biçimlerinin ve şartlarının iyileştirilmesi ve daha sürdürülebilir bir ekonomik ve bölgesel kalkınma sağlaması açısından da önem taşımaktadır.

Anahtar Kelimeler: Değer zinciri, iyileştirme, yükseltme, pamuk, tarımsal üretim, Şanlıurfa

To my mother & father..

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LIST OF ABBREVIATIONS

ABBREVIATIONS

BCI – Better Cotton Initiative

GAP – Güneydoğu Anadolu Projesi

GAP RDA – GAP Regional Development Administrative

GAPTAEM – GAP Tarımsal Araştırma Enstitüsü Müdürlüğü

ICAC – International Cotton Advisory Committee

ICT – Information and Communication Technologies

IPUD – İyi Pamuk Uygulamaları Derneği

TUİK – Türkiye İstatistik Kurumu

TURKSTAT – Turkish Statistical Institute

UNDP – United Nations Development Programme

CHAPTER 1

INTRODUCTION

1.1. Aim

Globalization have caused a considerable increase in flows of people, goods and services across the world. When globalization combined with the developments in logistics, information and communication technologies, these movements have taken place in a more rapid and easy way. In terms of production and trade, first reflection of this situation became decentralization of production across borders. Economic activities have dispersed around the world as the most known example of firms bringing their inputs from where raw material or inputs are cheaper, and moving their production facilities to where production conditions are more favorable. Increasing number of international subcontracting is just another example of it. Market also expanded across the world again due to the information and communication technologies and much more rapid and convenient transportation systems. Firms have started to commercialize their products internationally or even intercontinentally. As a result, global trade scaled up but at the same time "nations have become more interdependent through the flows of goods, services, and financial capital since the 1970s" (Gereffi, Humphrey, Kaplinsky and Sturgeon, 2001).

Besides, countries or regions needed to specialize in some specific areas of these geographically dispersed production systems to remain competitive. Some countries specialized in design, some in production or marketing phases etc. For the nations, important point is that it is significantly matter in which stage of the whole process you fall into. When we consider the whole process/cycle as starting from agricultural production to marketing of the final product or even recycling, developed countries usually involve in higher value-added activities such as design or marketing while

developing countries mostly engage in production and industrial processing stages from which already-developed western world have started to stand back for a while. This also implies that, according to the role one undertakes, there are winners and losers of this increasing global trade with its shifting patterns and new organization.

Another change we experience in the new system of global trade is the changing consumer preferences and its obvious power in product design and production methods. As a reaction to the exploitation of environment, natural resources, labor – especially women and children- and so on caused by several years of mass production, now, consumers are much more sensitive to these issues. People started to show a clear tendency to prefer more '*environmentally-friendly', 'clean'*, or '*free-from child labor'* products. This tendency is especially notable in "in sectors such as garments, processed fruit and horticulture" (Gereffi 1999; Kaplan and Kaplinsky 1998: Dolan and Humphrey 2000).

As a result, this new system requires some specific qualifications and efforts for firms, organizations, or nations (such as understanding consumer preferences better and responding them properly, specializing in some specific functions or tasks of the separated economic activities such as production, processing, design, marketing etc. according to their comparative advantages) to hold a competitive position in the global trade network.

These shifting patterns in global trade and production systems also required a new set of approaches/concepts to understand and analyze how this new system of geographically dispersed but functionally connected activities takes place and works. Analytical frameworks such as *international production networks, global value chains, supply chains, global commodity chains* etc. have risen from the efforts to conceptualize that complex network of economic activities. Even though these approaches carry different names, almost all of them are, at the heart, interested in issues such as how those chains and networks are coordinated, managed and governed.

Distinctions in the names come from the different scholarly disciplines they are adopted and advocated.

From the perspective of regional and rural development, integrating into these global trade and production networks became one of the major concerns of developers and policy makers; and value chain analysis became a commonly used instrument to understand how that complex networks are structured. Researchers have benefited from the useful set of tools that value chain analysis provide in order to facilitate integration of small producers into global economy through improving their engagement in global value chains and production networks. Value chain analysis deals with the issues of how this integration takes place, in other words, position of smallholders and/or farmers and how their positions in the chain can be improved through possible upgrading opportunities. Therefore, understanding the structure of the chains is important in terms of integrating into them and improving your conditions/positions/role when you are entered. It also provides a good insight into understanding the challenges of globalization and shifting patterns in global trade faced by smallholders and agricultural producers of the developing world.

This thesis study aims to examine cotton value chain in Şanlıurfa province in Turkey's Southeast Anatolia Region – which is the largest cotton producing area of the country. There are several problems regarding cotton value chain in the region such as inefficiencies, excessive consumption of natural resources, and poor product quality due to improper practices etc. However, many opportunities also exist including the valued characteristics of the local cotton, already established textiles industry as one of the most competitive exporting industries of the country, available labor, or government subsidies to name some of them.

The study particularly aims to investigate how cotton value chain in Şanlıurfa can be improved. This improvement may come from, first, pointing out the opportunities for improvement to gain more value from the chain –with particular focus on production stage. Second, the chain can be improved by overcoming the bottlenecks and

weaknesses. The ultimate aim in both approaches is to augment the overall value gained from the cotton value chain in the area and enhance its competitiveness. Therefore, understanding the dynamics and circumstances that enables improvement of the chain -especially for the most problematic stages- would provide valuable insight for policy decisions and proper interventions.

Since improvements and value increases are performed by upgrading activities in value chains, the thesis further focuses on whether any upgrading activities exist in cotton production in Şanlıurfa. This part of the study particularly focuses on agricultural production stage and farmers due to our special interest in value chain analysis' contribution to development in rural areas. The importance of upgrading comes from its ability to impact the ways/terms our focus group (agricultural producers) are engaged in global trade and global/national/regional value chains and how this engagement can be improved in favor of them. Appropriate upgrading strategies can empower farmers' positions in value chains, increase their capacity, and provide more sustainable incomes. Therefore, we will be looking for present/available and possible upgrading strategies for agricultural producers that can be adopted in the study area. These upgrading activities can be in the forms of producing a higher-value-added product (product upgrading), improving the efficiency of the production process (process upgrading), integrating into a different regional/national/global chain, vertical or horizontal coordination (for example contract farming).

Furthermore, the study aims to explore positions of the cotton farmers in the value chain and their attitudes towards upgrading. Discerning the differences between the farmers who involve in upgrading activities in order to improve their position in the value chain and the farmers who stay unwilling/resistant or hesitant will provide us a valuable insight to understand the impact of local dynamics on farmers' activities and decisions. Thus, understanding the motivations of the agricultural producers who are willing to upgrade, factors affecting their decision to upgrade or not, their preferred methods to do so, access to information etc. will be the key elements to evaluate farmer's positions toward upgrading.

1.2. Justification

It is obvious that globalization provided many opportunities in terms of local and regional development. Some parts of the world have had the chance to integrate themselves into global economy and new trade system and procured considerable income opportunities for themselves, some have had access to better quality and distinct products which were not available before (Kaplinsky, 2004). According to Parrilli, Nadvi and Yeung (2013) globalization promoted regional development through facilitating "knowledge absorption", "R&D alliances", "productive investments" and "the emergence of new consumers" (Parrilli, Nadvi & Yeung, 2013).

However, neither everyone nor every region have made the most of globalization evenly. Some, on the contrary, suffered desperately from the consequences of it. Some regions lost their production activities to emerging countries and regions which resulted in empty plants, increasing unemployment rates, brain drain and many others (Parrilli, Nadvi & Yeung, 2013). Increasing poverty and inequalities in some parts of the world just exacerbated due to the devastating consequences of globalization as well. As a result, it is fair to say that new dynamics caused by globalization and integration of the world economy reveals both winners and losers. The first step to take, in order not to be excluded from the global economy and to get your share from the opportunities came up from globalization is to be integrated into global trade networks in a smart and sustainable way. However, one should certainly acknowledge that it is not an easy process and requires considerable efforts. As Kaplinsky (2004) indicates;

> "*If the "losers" had been confined to those who did not participate in the global economy, then the policy implications would be clear—join the rush. But, when (as is the case) the "losers" include those who have participated in global processes, then the policy challenge is much more daunting. It is not so much a matter of whether to participate in global processes, but how to do so*

in a way that provides sustainable income growth for poor people and for poor countries."

As it can be understood from the expression above, the point is not just to participate global trade somehow, but doing it according to the rules of the new organization. Therefore, always looking for the opportunities to improve on what terms one engages in global economy is critical for the progress and continuing success.

From this point of view, this thesis aims to illustrate cotton value chain in Şanlıurfa and, specifically, how cotton producers' positions in the global trade network can be improved through upgrading methods of value chain approach. Cotton value chain in the area is already part of a global trade network and integrated into global economy. Cotton is one of the most important crops for the city as well as for the counrty. Turkey ranks among the highest 10 countries in the world (6^{th} in 2017/2018 season) in terms of cotton supply (USDA, 2018). Almost 50% of the cotton produced in Turkey comes from Şanlıurfa and it is critically important as a livelihood for the local people (URL 1). It is also equally important for the textiles industry in Turkey which uses cotton as their main input. Textiles industry is one of the most competitive exporting sectors in the country and already integrated into the world economy. Turkey is one of the world's largest textiles and garments suppliers mostly due to its ability to respond market demands and quality standards, already established manufacturing infrastructure, accumulated knowledge and qualified labor among others. However, it is also among the top 5 cotton importers in the world cotton market together with Bangladesh, China, India, and Vietnam (OECD & FAO, 2016). Therefore, there is a huge imbalance between sector's local supply and demand balance. In the regional context, this imbalance in the market causes some significant problems.

To do this research, we use value chain analysis approach. As it is indicated above, recent developments and changes in the global trade mechanisms have dispersed production activities around the world. Even though those activities take place in distinct geographies, they still need to be somehow connected with each other by

vertical linkages. At that point, value chain approach comes as a quite practical tool to understand how this geographically scattered but still inter-dependent economic activities are organized and managed. As Gereffi et al. (2001) argues, "If globalization in the productive sphere implies functional integration between internationally dispersed activities, then the value chain perspective is an effective means of conceptualizing the forms that this integration takes."

One of the greatest advantages of value chain approach is that it enables us to analyze distinct stages of a complete process with their own dynamics without neglecting the big picture. Value chains focus on issues such as how the chains operate and are governed, barriers to the entry, relationships between the actors involved in each stage, distributional issues along with the chain (how gains are distributed), income diversification, opportunities to upgrade and many others. Upgrading of value chains are especially important because most of the increase in value (the ultimate aim at value chains studies) comes from upgrading activities which are also essential for promoting competitiveness. Upgrading can be done by several methods such as: process upgrading for efficiency improvements, product upgrading by producing higher-value added goods (Humphrey & Schmitz, 2002), or completely moving to a new chain in order to enter different markets (Kaplinsky and Morris, 2001).

From the perspective of regional development, value chain analysis provides policy makers with valuable input for designing the most appropriate interventions to facilitate development. Value chain analysis basically points out the problematic points and bottlenecks on one hand, opportunities and potentials to increase the overall value for the benefit of the region and local people on the other hand. By doing this, it helps policy and decision makers to design projects and development plans for overcoming the drawbacks associated with the chain. Value chain analysis are used widely in diverse developmental topics including poverty reduction, income diversification and distributional issues, inequality, improve agricultural production, food security and promoting sustainability among others. Besides, by systemic efficiency and upgrading components, value chain analysis enables policy makers to

identify essential intervention points in order to improve local agents' positions in the local, regional or global markets and improve total value-added transmitted to the targeted area or groups. These analyses can be also used by the private sector and entrepreneurs in evaluating possible investment opportunities.

1.3. Research Questions

The research is organized around the two main research questions and sub-questions which help to answer these main questions.

The first research question is:

'*How can cotton value chain in Şanlıurfa be improved in an economically and environmentally sustainable manner?*'

This question aims to examine the ways that cotton value chain in Şanlıurfa can be improved in order to increase its contribution to overall value generated from cotton in the region. In order to do this, the most problematic stages (weak points) that negatively impact the competitiveness of cotton sector, decrease efficiency and cause value losses through the chain are intended to examine. In addition to the problems, the section targets to search opportunities in cotton value chain that contributes to overall value generation from the cotton in the region.

The research aims to answer this question (basically identifying problems and opportunities) by using value chains approach. Therefore, dynamics of cotton value chain in the study area are attempted to illustrate by using main components of value chains framework.

After a detailed general value chain analysis, the research focuses on agricultural production stage and farmers because our preliminary research showed that it is one of the most problematic stages of the cotton value chain in Şanlıurfa. As a means of achieving improvements in value chain, the study focuses on upgrading activities carried out. Particular attention is paid to *upgrading* activities because regional value

creation and value increase are usually achieved through upgrading strategies. Here, we look for the upgrading strategies adopted by the agricultural producers which result in economic or environmental improvement in the value chain. The ultimate aim here is to understand how cotton value chain in Şanlıurfa can be improved depending on these analyses.

The sub-questions that help to answer the first main research question are:

- What are the existing problems and opportunities in the cotton value chain?
- What are the existing upgrading activities in agricultural production as means of achieving improvements and increasing value generation in the chain?

The second part of the research focuses on agricultural producers and their integration into the cotton value chain. The aim of this part is to investigate upgrading activities that help to improve positions of farmers in value chain and promote their better integration into the local and global cotton value chains.

This section aims to answer the second main research question:

'How can the terms and positions that agricultural producers integrate into the cotton value chain be improved?'

In order to answer this question, the sub-questions below are also answered:

- How does adopting upgrading strategies affect the position of farmers in the value chain? In other words, does upgrading improve the terms and conditions they are integrated into the cotton value chain and cause a value increase?
- What are the attitudes of farmers toward upgrading (Upgraders vs Not-Upgraders) and factors affecting their upgrading decision?
- What are the differences between planning solution and market solution on upgrading?

For the first sub-question, in order to observe the effects of upgrading on the farmers, we examine some indicators showing what outcomes upgrading strategies lead to. These indicators are: *increase in unit prices for cotton, vertical coordination (contract farming), horizontal coordination, environmental improvement, increased learning and knowledge, increased exports and access to different markets*. The thesis investigates whether these indicators take place due to upgrading activities and how they impact the position of farmers within the cotton value chain. We specifically look for whether upgrading enhances farmers' terms of engagement in the market and advances the conditions they are integrated into the value chain.

The second sub-question listed above investigates attitudes of farmers towards upgrading and factors affecting their decision for whether to adopt upgrading strategies or not. The main purpose here is to understand the motivations of the upgrading farmers, what factors lead to this decision and, on the other hand, attitudes of the ones who do not attempt to upgrade. From the policy making perspective, answering this question will contribute to making more precise and appropriate policy interventions to empower local producers and enhance their position.

The third sub-question of the second research question investigates the difference between the planning solution and market solution in upgrading activities in production stage of the cotton value chain. Upgrading through organic cotton is considered planning solution because it is encouraged by the government subsidies in order to promote quality of the cotton produced and supply market demand for organic production. Agricultural subsidies are one of the most critical determinants for the farmers' decision to cultivate a specific product or not. On the other hand, upgrading through better cotton is a market solution for problems associated with traditional conventional cotton production and increased product quality. There is no agricultural support for better cotton. It works on a voluntary basis and managed through market dynamics. Answering this question will provide valuable insight into understanding advantages and disadvantages associated with market and planning solution to the problems and enable comparing these two approaches.

Table 1.1. *Research Questions, Sub-questions and Indicators*

Main research questions	**Sub-questions**	**Means of Analysing / Indicators**
1. How can cotton value chain in Şanlıurfa be improved in an economically and environmentally sustainable manner?	- What are the existing problems and opportunities in the cotton value chain?	- Identifying problems and opportunities - Detailed value chain analysis: o Actors, and activities carried out through the chain o Governance o Upgrading o Socio-economic analysis of the value chain.
	- What are the existing upgrading activities in agricultural production as means of achieving improvements and increasing value generation in the chain?	- Present upgrading activities (product upgrading through organic cotton and better cotton)

Main research questions	Sub-questions	Means of Analysing / Indicators
2. How can the terms & positions that agricultural producers integrate into cotton value chain be improved?	- How does adopting upgrading strategies affect the position of farmers in the value chain? In other words, does upgrading improve the terms and conditions they are integrated into the cotton value chain and cause a value increase?	- Increase in unit prices for cotton - Vertical coordination (contract farming) - Horizontal coordination - Environmental improvement - Increased learning and knowledge - Increased exports and - Access to different markets
	- What are the attitudes of farmers towards upgrading (Upgraders vs Not-Upgraders) and factors affecting their upgrading decision?	- Motivations of the upgrading farmers - Motivations of the non-upgraders - Factors affecting farmers' upgrading decision
	- What are the differences between planning solution and market solution on upgrading?	- Planning solution as organic cotton - Market solution as better cotton

1.4. Context

In this research, the dynamics of cotton sector in Şanlıurfa -from the procurement of inputs for agricultural production through the processing of cotton- is examined within the context of value chain analysis. The context of value chains framework is adopted for the analysis because it allows investigating inter-sectoral relations, linkages between the stages, and how these relationships are governed. Examining these issues are important for the sake of this research because promoting cotton's contribution to overall regional development and value generation cannot be thought independent from all the actors and activities that have an impact on the final outcome in a sequence. Therefore, the thesis investigates activities carried out along the transformation of cotton and its products with actors involved in these processes.

Universal cotton value chain shows a high degree of branching because of the nature of the product itself. From what we wear to where we sit at our homes or in our cars, cotton and its products are the primary material of several commodities we use in our daily life. Use of cotton as a raw material (fully or partial use) extends various sectors and industries. Raw cotton consists of two parts: cotton lint and seed. Cotton seed is used in oil factories to extract oil for food industry, and seedcake, another by-product of cotton, is used as animal feed. Lint goes to textiles manufacturing to become yarn and dispersed to several other sectors that uses yarn and other products made from yarn. Textiles is the sector that comprises of the greatest consumption of cotton products, mainly as yarn. Home textiles, readymade garments are some of the major sectors using yarn as the primary input. As it is shortly explained here, cotton value chain is quite wide and complex.

However, for the purpose of this thesis study, we particularly focus on input supply, agricultural production, primary processing (ginning) and secondary processing (textiles factories) stages of the value chain because the region has a concentration of these activities rather than the others in the local context. Agricultural production is one of the main economic activities in Şanlıurfa and GAP Region; and accordingly,

there is a quite developed textiles sector utilizing these agricultural outputs. Other branches such as cotton seedcake use in animal feeding or oil factories are not primary economic activities in the study area.

In terms of the locational context, we focus on the agricultural production and producers in the city of Şanlıurfa. The reason is that Şanlıurfa is one of the major cotton growing cities not only in the GAP Region but also in nationwide. However, the ginning and textiles factories being interviewed are not limited with the boundaries of Şanlıurfa because cotton produced in the city can also be processed in surrounding neighbor cities of the region. Thus, analysis of processing stage can go beyond Şanlıurfa but limited within the GAP Region.

1.5. Methodology

The thesis conducts an exploratory research, aiming to investigate cotton value chain in Şanlıurfa and its dynamics with particular focus to farmers as agricultural producers and their attitudes toward upgrading -including how they are affected by upgrading. Since the research is an explorative one, its ultimate purpose is understanding and illustrating the local setting in this framework on the basis of research questions being investigated.

The data collection in this thesis was conducted in two main streams:

(i) literature review for defining components of value chain analysis to prepare in-depth interview questions (secondary research)

(ii) face to face in-depth interviews (primary research)

Firstly, a detailed literature review was made in order to define components of a value chain analysis. These components that come from theoretical framework of value chains approach were needed to determine what issues and topics should be

investigated during the fieldwork and for preparing the appropriate interview questions. In addition to academic resources, various documentation regarding value chain projects around the world were also reviewed in order to understand the dimensions of value chain analysis. According to these analyses and availability of the data, components of value chain analysis to be investigated in the field research were determined as;

- *Actors and activities*
- *Governance*
- *Economic analysis (such as rents and barriers to entry, market demand etc.),*
- *Upgrading*

A detailed literature search was also made specifically about cotton value chain. The stages of cotton value chain were tried to be comprehended before preparing necessary questions that need to be addressed in the interviews. Besides, particular attention was paid to the cotton value chain in local context in order to see which stages of the chain take place in Şanlıurfa. This research showed that the major value chain activities taking place in Şanlıurfa are cotton production and processing. Main cotton processing activities comprise of two stages as ginning and textile manufacturing in Şanlıurfa. The preliminary research showed that even though global cotton value chain shows a great degree of branching, processing part of cotton value chain in Şanlıurfa does not show a wide branching. For example, use of cotton in food industry (extracting oil from the cotton seed) or use of cotton seedcake in animal feed industry are not investigated in this thesis because they were not observed as the major cotton value chain activities in Şanlıurfa. Thus, the thesis focuses on *agricultural production,* with *ginning* and *textiles manufacturing* stages within the processing sector. *Cotton producers including conventional, organic and better cotton farmers, input suppliers, middleman, ginners, and textile manufacturers* are determined as the major value chain actors to be interviewed with.

After determining the activities and actors to be focused on, the second and major part of the data collection (primary research) was implemented through in-depth interviews with the actors of cotton value chain in the field. Several site visits to cotton farms and plants were made in Şanlıurfa and some of the other cities in GAP Region where local cotton is processed. Besides major value chain actors, several in-depth interviews were conducted with experts from the local and regional institutions and other related organizations who are associated with cotton sector. These include specialists from *GAP Regional Development Agency (GAP-RDI), universities, GAPTAEM, IPUD, Ministry of Agriculture and Forestry's Şanlıurfa Directorate, Şanlıurfa Chamber of Commerce and Industry, Şanlıurfa Chamber of Agriculture and UNDP* who have previously conducted cluster projects about organic cotton production in GAP Region.

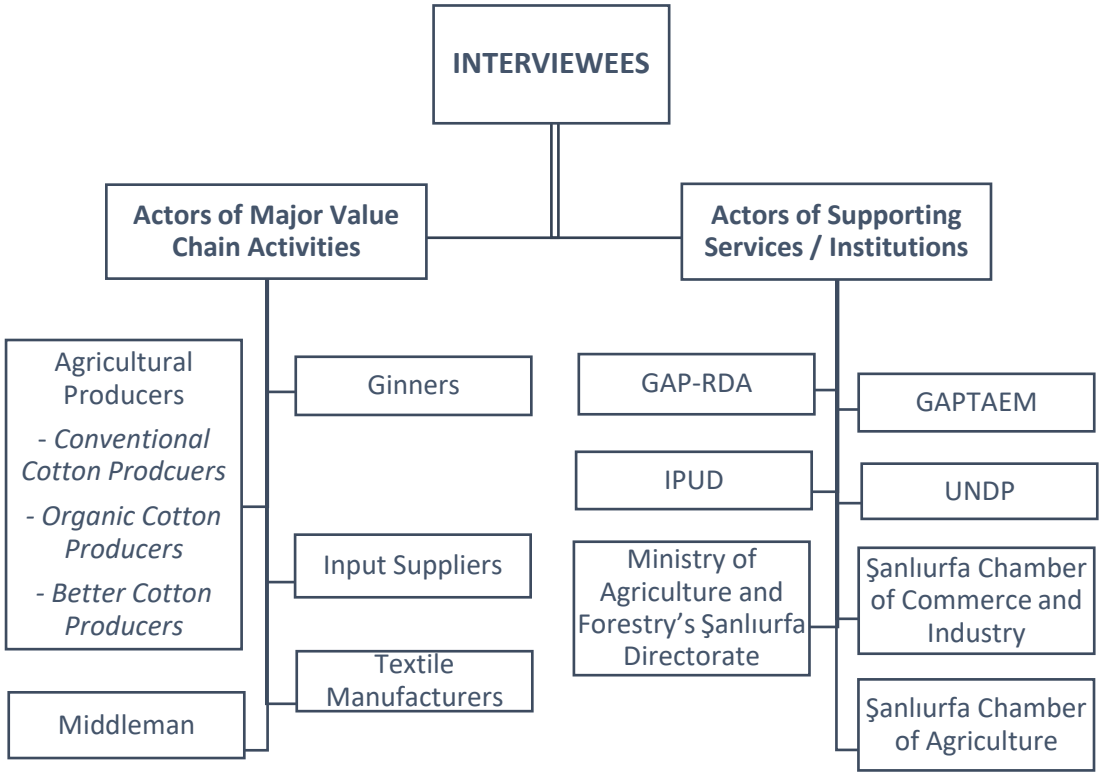

Figure 1.1. Groups of informants that have been interviewed

The data was intentionally collected in the form of in-depth interviews rather than via a survey or questionnaire because we did not want to limit answers of the interviewees and grasp as much as possible insight regarding the dynamics of activities conducted and relationships between the actors. Also, our past experience showed that collecting data from the farmers with questionnaire forms without face-to-face interaction could be quite challenging because they sometimes do not want to share information with foreigners. To overcome this issue, we particularly access to the farmers via input suppliers, ginners, textiles manufacturers, GAP-RDA, GAPTAEM, IPUD, or UNDP. When we went to the farmers with the reference of people from these institutions or entities that farmers are familiar with and worked before, they trust and become more open to information sharing. This method also helped to access specific groups of farmers such as organic or better cotton producers. For example, we asked IPUD specialist that we have interviewed for which farmers they work with for better cotton production and if they can share the farmers' contact information. By this method, we were able to access better cotton farmers as an example, and the reference of IPUD specialists made us more trustworthy to share information.

Table 1.2. *Distribution of Informants*[1]

Interviewee Groups	**Number of Interviewees**
Farmers	18
Ginners	8
Textile Manufacturers	6
Middleman	1
Input Suppliers	2
Local Experts / Specialists	14

In g a project called '*Integrated Resource Efficiency in Agriculture and Agro-Based Industries in Southeast Anatolia Region*'. The project was conducted by Ministry of

[1] For a detailed list of all informants please see the appendices

Devethe research part of the thesis, data regarding value chain activities was compiled durinlopment, GAP Regional Development Agency, MATPUM (METU) and technical assistance of United Nations Development Programme (UNDP). The author of this thesis participated as a researcher in the project, and worked in data collection and research part, conducting interviews with local actors, and analysis of these interviews.

1.6. Why Şanlıurfa?

There are several reasons that make Şanlıurfa interesting as a case study in the context of regional development and planning. First of all, Southeastern Anatolia, referred as GAP Region, has long been one of the most problematic geographic regions of Turkey in terms of socio-economic development. The region has been under the excessive development concerns for years in order to reduce development disparities, improve competitiveness and promote economic and social integrity of the region (GAP Action Plan, 2014). In order to achieve these goals and prevent the region from lagging, significant resources have been transferred to the region including various social and economic development projects and infrastructure investments. GAP Project (Southeast Anatolia Project) has been the greatest one among the others in terms of scale and impact. GAP Project is the "largest scale and costliest project in the history of the Republic of Turkey"[2]. As Şengül and Erkan argues, "GAP is the most comprehensive integrated regional development project ever carried out in Turkey" dealing with in a wide range of issues including economic growth, social development, education, health, transportation, tourism, infrastructure, urbanization, institutional capacity building to name a few. GAP has been one of the most aggressively pursued development projects of the nation for years. Construction of the Atatürk Dam was at the center of the project due to the regions' dominant rural profile and agricultural background. The main objective of the project at the beginning was utilizing the water

[2] Retrieved from: http://www.gap.gov.tr/en/ , last accessed August 2019

and land resources of the region through a series of infrastructure projects for agricultural irrigation and energy generation (construction of 22 dams, 19 hydraulic power plants and other investments for irrigation of 1.8 million hectares in the Euphrates-Tigris Basin was initially planned)[3].

The project then evolved to a more comprehensive regional development project with the industrial development, transportation, education, health, urban and rural infrastructure development components added with the 1989 Maser Plan. However, the opportunities believed to be thriven with the new agricultural lands open up with new irrigational infrastructure after the construction of the dam was at the hearth of the project. This is particularly because agriculture is crucial for the region as the main source of economic activity and income. When the project started, its motto was "Oil exhausts, but wheat does not" referring to another important source of the region, oil, but belittling it against agricultural production.

1.7. Why Cotton?

Cotton is a global commodity covering 2,3% of the arable land in the world produced approximately in 75 countries (ILO, 2016). About 80% of the global cotton is produced by only 4 countries; China, India, United States and Pakistan, as shown in the table below (USDA, 2019). China is the leader in cotton production with over 6 million tons of cotton bale followed by 5.8 million tons of India and 4 million tons of the USA. China and India alone account for almost half of the world cotton production. United States is the main exporter with Brazil while China is in the leader position in world cotton export.

[3] Retrieved from: http://www.gap.gov.tr/en/ , last accessed August 2019

Table 1.3. *Cotton Supply and Distribution (Metric Tons) by Country 2018/19 (USDA, 2018/19)*

Country	**Area Harvested (1000 ha)**	**Production**	**Total Supply**	**Use**	**Imports**	**Exports**
China	3500	6.047.280	16348140	8607840	2.015.760	32.688
India	12600	5.774.880	8112072	5448000	326.880	828.096
United States	4130	4.002.537	4940682	653760	1090	3.159.840
Pakistan	2400	1.677.984	2926666	2309952	631.968	16.344
Brazil	1595	2.789.376	4686805	762720	10.896	1.351.104
Uzbekistan	1100	700.613	1034684	610176	0	130.752
Turkey	520	806.304	1890892	1438272	697.344	108.960
WORLD	**33537**	**26.002.868**	**52671700**	**26384010**	**9024721**	**8947577**

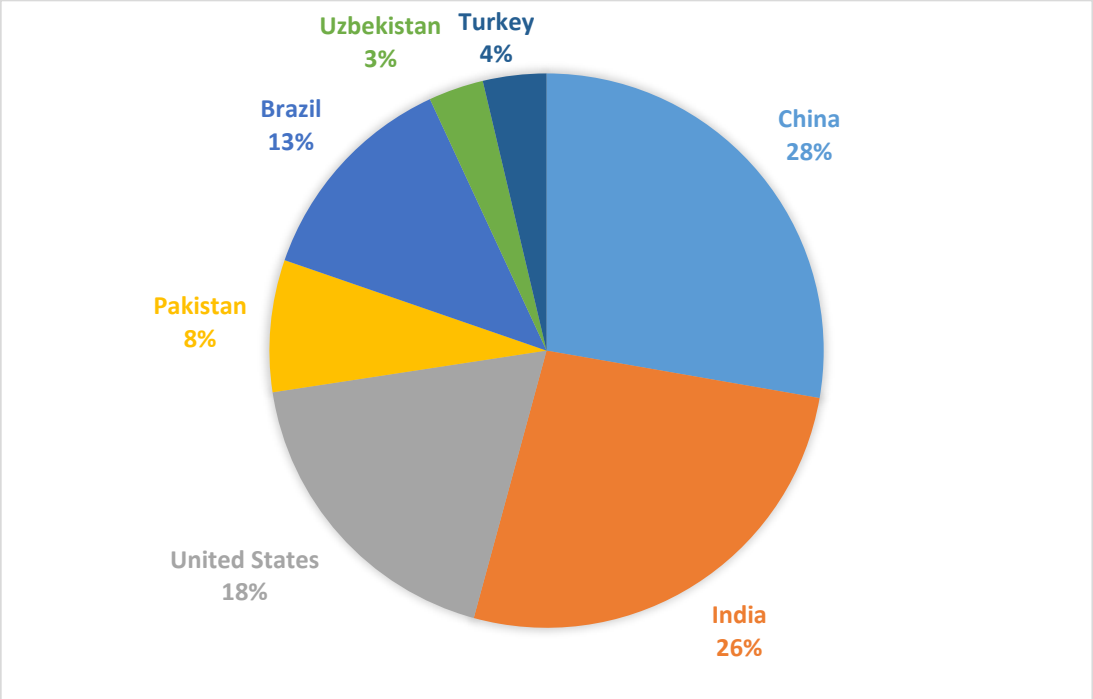

Figure 1.2. Cotton Production by Country 2018/19 (in percentages) (USDA, 2018/19)

Even though great majority of global cotton is produced by a few countries, cotton remains significant in income generation of several parts of the world. Its production is mostly concentrated in developing countries for many of which cotton is one of the main drivers of economic growth and foreign exchange generation (ILO, 2016). In many regions, cotton, textile industries, and other cotton-related industries create several jobs and employ millions of people around the world. Adopted cotton production systems in countries differ. In relatively more developed countries, such as United States, Australia and Brazil, highly-mechanized production systems exist while in Asia and Africa, more labor-intensive production methods prevail (FAO & ICAC, 2015). In such labor-intensive production areas, production is handled by smallholder farmers (ILO, 2016).

Similarly in Turkey, cotton and related industries are one of the most important ones in terms of both employment generation and increasing regional and/or national

competitiveness in these sectors. In agricultural production, for instance, cotton remains one of the most commonly cultivated crops and provides jobs and income for several farmers. In processing sectors as well, textiles industry is the greatest consumer of locally produced cotton. Turkey has a quite developed and competitive textiles sector. According to the USDA (2019) textile industry is among the most important sectors in Turkish economy "accounting for "8% of GNP and 16% of industrial employment". Even though Turkey is a cotton importer, in textile industry the country is one of the major exporters of textiles products to the world -especially Middle East, North Africa and Europe (USDA, 2019).

In Şanlıurfa cotton is one of the major agricultural products as well. Agriculture meant a lot to the region. With the construction of the dam and new infrastructure, extensive land became available for irrigated farming. The coming of irrigation infrastructure caused important changes in agricultural crop variety in the region and local producers enjoyed a broader range of crops that can be produced from then on. Cotton was one of them that farmers of the region have met immediately after the enabling of irrigated farming and it has become more and more prevalent day by day. Especially Harran and Suruç planes have become major cotton producing areas in the region. In 2017, Şanlıurfa accounted for the 42% of the total cotton produced in the country which was approximately equal to the total amount produced in Adana, Aydın, Hatay and Diyarbakır together[4]. Obviously, it was cotton's profitability which made it that prevalent so fast and it has become one of the most strategic products of the region.

[4] http://www.zmo.org.tr/genel/bizden_detay.php?kod=30467&tipi=17&sube=0 , last accessed August 2019

CHAPTER 2

THEORETICAL FRAMEWORK

2.1. Changing Theory

It is a fact that the world economy and trade is now quite different from the times David Ricardo constructed classical trade theory two centuries ago. A series of conditions that altered the pre-globalized world have not only challenged the premises of his classical theory, but also caused old theories and models to be reconstructed. Considering trade at the core of the value chains, the paradigms, models and theories discussed below have contributed to the development of analytical framework of value chains.

The criticisms were mainly to the basic assumptions of the classical trade theory (which were considered unrealistic) such as perfect competition, trade in final products, constant returns to scale, homogeneous producers in the industry, availability of technology for everyone, optimally performing market and so on. Definitely, radical revolutions in transportation technologies triggered the first wave of change (Baldwin, 2006). When cost of transportation was considerably decreased, international trade expanded in an increasing manner. The ultimate aim for the producers was delivering their goods to the most profitable markets around the world. Thus, the place of market became independent from the place of production (Baldwin, 2006). The next wave of revolution in international trade was enabled by the developments in information and communication technologies in 1980s. Lowered cost of communication, with rapid and constant transfer of information, brought about unbundling of production activities of firms around the world. Proximity was no longer a limitation and firms relocated their production segments to the place where those functions can be handled less expensive. Owing to the efficient and inexpensive

cost of communication, coordination of various production segments located in several distinct places became easy (Inomata, 2017). These technological breakthroughs reshaped international trade and the relationship of countries significantly.

In parallel with these changes and empirical evidence from the real-life international trade patterns that challenge some of the main premises of classical trade theory, theoretical framework on trade was needed to be reconstructed and new school of thoughts emerged (Inomata, 2017). First, the premises of perfect competition and constant returns to scale were confronted and New Trade Theory in international trade was introduced by Helpman and Krugman in 1980s (Inomata, 2017). The further empirical findings and observations of Grubel and Lloyd (1975), that challenged the prevailing model, were the existence of intra-industry trade -which also meant that trade can happen between countries in the same industry and "between countries with similar technology and resource endowments -a phenomenon that cannot be explained by the orthodox notion of comparative advantage" (Inomata, 2017). New Trade Theory was able to explain that intra-industry trade enables increasing returns to scale which also promotes trade among the countries in the same industry (Mitchell, Keane and Coles, 2009). According to the Neary (2009), New Trade Theory asserts that "two types of trade coexist, with net or inter-industry trade driven by differences between countries in comparative advantage, and intra-industry trade encouraged by similarities between countries" (Mitchell, Keane and Coles, 2009).

Another important argument asserted by the New Trade Theory is the prevalence of trade in intermediate goods, challenging the classical theory's premise of trade only in final products. Since developments in transportation and communication technologies enabled cheaper prices for moving goods and services, firms started to relocate their production segments to the places where those activities can be handled more efficiently (Inomata, 2017). Increasing outsourcing due to the advances in transport and ICT, resulted in fragmentation of production and firms became more independent in moving some of the production phases across national borders.

Fragmentation of production and countries' specialization on these specific tasks constitutes the basis for the value chains framework. Later on, Melitz (2003) challenged the homogeneous producers assumption by his research on firms heterogeneity in productivity between exporter and non-exporter firms which is considered as New-New Trade Theory (Inomata, 2017).

Moreover, Baldwin (2006), Grossman and Rossi-Hansberg (2006) underlines the importance of arising "tasks-versus-sectors distinction" in competitiveness of nations which is also regarded as a "*'new paradigm'* in trade theory" (Baldwin, 2006). That means specializing in a specific sector or product may not bring the competitiveness nations seek in this era because production is highly fragmented across the national borders -which enables getting a particular task in a production process done in the most efficient place with relatively little cost. In doing so, production is highly divided into separate value-adding tasks (phases) handled in different locations. Increased offshoring and foreign direct investments by multinational companies are some of the clear indicators of that (Baldwin 2006, Inomata 2007).

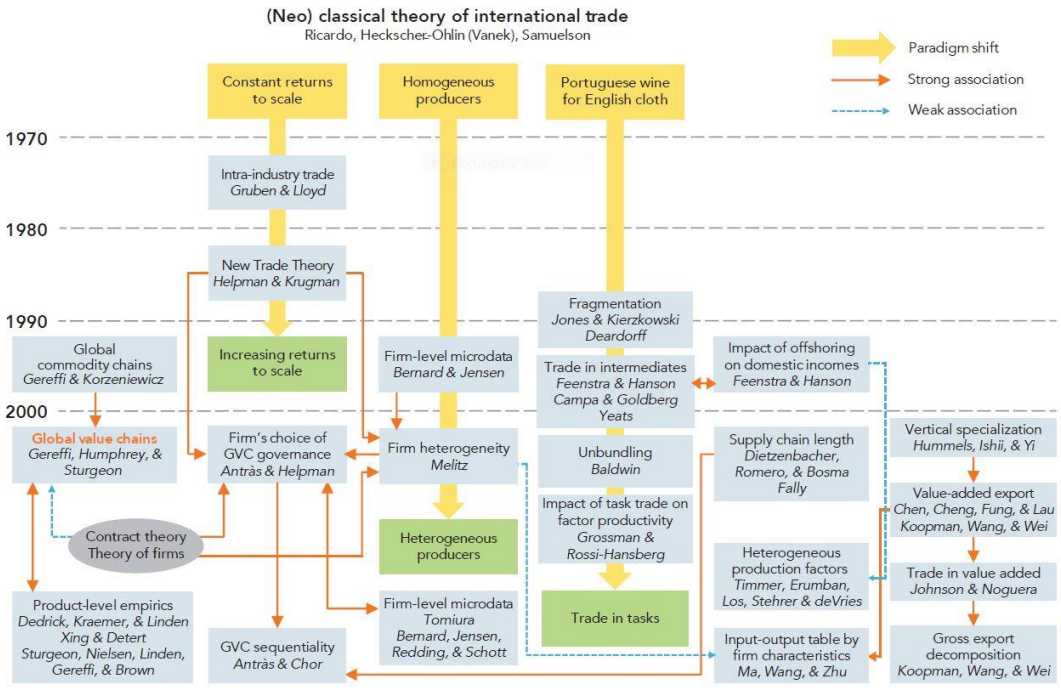

Figure 2.1. (Neo) Classical Theory of International Trade (Inomata 2007)

To sum up, those concepts discussed above are some of the basic ideas that constitute the basic for the development of value chain framework. Changing trade dynamics required new set of tools and approaches to conduct analysis of evolving trade patterns. This is especially important when nations or regions seek competitiveness in global trade. Value chains came up as a useful framework at that point in order to analyze those complex dynamics and determine the most appropriate strategies to improve one's competitiveness.

2.2. Value Chains

The most well-known definition of value chains is made by Kaplinsky and Morris's (2001) and describes them as "the full range of activities which are required to bring a product or service from conception through the different phases of production

(involving a combination of physical transformation and the input of various producer services), delivery to final consumers, and final disposal after use" (Kaplinsky and Morris, 2000; Kaplan et al., 2016). Another definition describes value chains as "a set of interdependent economic activities and to a group of vertically linked economic agents" (FAO, 2013). Mitchell, Keane and Coles (2009) articulates that value chains consist of primary functions which are generally regarded as "input supply, production, processing, storage, wholesale (including export), retail and consumption; and secondary services that support primary functions including "transportation, brokerage and service processing." They also indicate that during each 'downstream flow', goods are altered and value and, costs are added. Trade, especially global trade, is at the core of the value chains framework. Similarly, Keane (2008) refer global value chains as the mechanisms enabling interaction of developing world with the developed through trade; and systems comprising of value-adding activities ("nodes of production") in and between. It is also possible to describe "sub-chains" of a value chain depending on the differentiated processing techniques or usages of the main output, for example cotton fiber and cotton seed production are the two primary sub-chains of cotton value chains (FAO, 2013).

Since value chain refers to a series of economic activities required to bring about a product or service, considering several actors engaged with the chain -and with each others- is inevitable. Not only consumer-producer relationships, but also interactions between the parties which handle distinct parts of the chain is one of the most important interests of value chain analysis. The more actors involved in a chain; the more sophisticated governance is required to manage those complex relationships among the actors. Therefore, governance is another crucial component of value chain framework.

The main objective of the value chain analysis is improving the efficiency of the production or a targeted specific part of it in order to increase overall value gained and improve competitiveness. Efficiency improvements in value chains can be made in various ways - mainly by sourcing cheaper inputs (domestically or outsourcing),

technological advancement or exploiting any possible cost advantages. Thus, value chain analysis focuses on problems, bottlenecks and opportunities associated with the tasks handled through the chain.

Value chain analysis not only deals with inefficiencies associated with production, but also examines market dynamics in order to help beneficiaries to draw the most useful road map that get them reach their desired positions in the market. Mitchell, Keane and Coles (2009) highlights that "value chains are a market-oriented approach, in the sense that all activities in the chain are directed towards the market (no market = no value chain)." Moreover, global markets are subject to change quite fast depending on the rapidly changing consumer tastes and preferences. Besides consumers' interest in variety and different quality standards in goods and services, social and environmental dimensions of economic activities are recently at issue. A tendency towards organic products, sustainable production, fair trade, child-labor free products and so on are quite common in consumer preferences. Consumer demand for environmentally and socially responsible production processes impose higher standards to the producers to comply with. Value chains, in this regard, help producers to understand and respond market preferences better and respond accordingly while maintaining efficient production.

It is clear that developments in logistics services and information & communication technologies lowered the costs of moving goods, people and information which contributed a lot to the spread of economic activities globally. In addition to this, another important factor is trade liberalizations that many countries have been going through. Reduced trade barriers and lowered tariffs allowed firms to spread some of their activities over developing regions to benefit from lower costs. Trade liberalization not only benefited the investing big firms, but also give the smallholder producers or traders of low-income countries the chance of engaging in global trade and ultimately enhance their incomes. However, it is evident that process of globalization and accordingly trade liberalization does not always do the best for smallholder producers or for the poor of the developing world. Several studies, for

instance, illustrated how China's rapid economic growth and participation into world economy in 1980-1990s also aggregated inequality levels in the country. One of the main objectives of value chains framework, in that respect, is dealing with distributional issues associated with participants of the value chains and enhancing the position of the disadvantaged groups.

2.2.1. Origins of the Value Chains Framework

First use of the value chains framework was encountered in 1960-1970s for the path development purposes in mineral exporting sector (Girvan, 1987 as cited in Kaplinsky, 2004). The other primary use of the value chains is considered '*French filière*' approach which is intorduced by the French school of territorial development (ADEFI, 1985 as cited in Parrilli , Nadvi & Yeung, 2013) and used for some of the agricultural export commodities including cotton, coffee, cocoa etc. (Raikes et al., 2000 as cited in Gereffi et al., 2001). Mitchell, Keane and Coles (2009) articulates that *French filière* approach that used by the agricultural scientist can be considered as more like a practice of efficiency improvement attempts in value chains.

Use of value chain analysis as an analytical structure tool became widespread in 1990s with the contributions of Michael Porter's work which describes the concepts of *value chain* and *value system* as the important frameworks contributing to nation's upgrading capabilities (Porter, 1985). Porter makes the classic distinction between the primary activities (inbound logistics, operations, outbound logistics, marketing & sales, and service) and support services (firm infrastructure, human resource management, technology development and procurement) -both of which are also subdivided into their own generic categories. According to Porter (1985), activities are differentiated based on the technology and strategy used. Primary activities refer to the physical stages that are mainly required to create a product and then its delivery to the customers while support activities are the ones helping primary activities to take place (Porter, 1985). He indicates that all activities are handled in a firm; however, the

degree of the engagement may differ and each activity's contribution to the competitive advantage of the firm may vary depending on the industry in is serving.

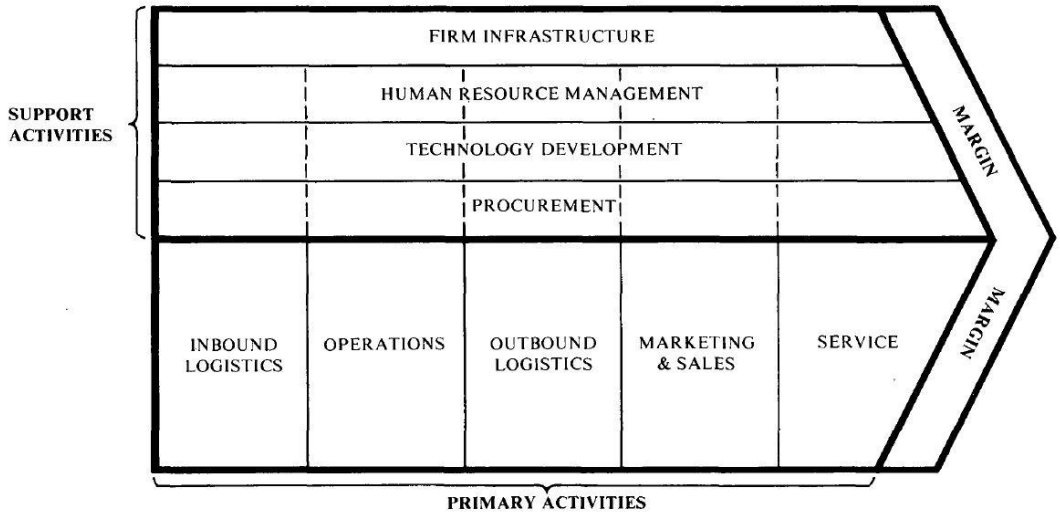

Figure 2.2. The Generic Value Chain (Porter, 1985)

Porter's generic value chain above comprises of *individual value activities* -which also include several sub-activities. For example; marketing & sales can be divided into sub-categories of marketing management, advertising, sales force administration, promotion etc. (Porter, 1985). Even though two firms compete in the same industry and provide same products or services, their value chains would show differences (can be in any activity or activities of the chain) which is regarded as the "key source of competitive advantage" by Porter (1985). Porter (1985) defined value as "the amount buyers are willing to pay for what a firm provides them" and is "measured by total revenue". Linkages, in other words the relationship between the activities, is the other component of competitive advantage according to Porter (1985). Linkages enhance competitive advantage through their optimization and coordination (Porter, 1985).

Later on, Gereffi and Korzeniewicz developed the global commodity chains (GCC) approach in 1990s based on the world systems analysis. They emphasized the importance of *'chain governance'* as the critical component for the competitiveness of a chain (Gereffi et al., 2005; Mitchell, Keane and Coles, 2009). They further made the distinction between the chains by their governance dynamics (buyer-driven and producer driven chains) and increasing influence of global buyers, retailer and brand name companies over the governing of "globally dispersed and organizationally fragmented production and distribution networks" (Gereffi et al., 2005).

In the beginning of 2000s, GCC researchers evolved their studies and came up with the concept of global value chains (GVC) based on the notion of 'value generation' in each distinct stage along the chain of a product or service (Parrilli, Nadvi & Yeung, 2013). Gereffi and others developed a broader and more detailed conceptual framework for conducting analysis of governance in value chains in an attempt to understand the nature of value creation along the stages of a chain; therefore they enlarged two-type governance schema (buyer and supplier driven) to 5 categories approach which are: markets, modular value chains, relational value chains, captive value chains, and hierarchy (Gereffi et al., 2005; Parrilli, Nadvi & Yeung, 2013).

Development of the value chain framework further was carried by Humphrey and Schmitz (2002) and other scholars in an attempt to integrate it into local and regional production systems (including local industrial clusters) and exploit the opportunities and potentials for growth and local development for both developed and developing countries engaging in global markets (Parrilli, Nadvi & Yeung, 2013). Humphrey and Schmitz (2002) examined export-oriented clusters that are integrating into global value chains; and how their governance and upgrading strategies differ from the classical cluster upgrading strategies. Their main findings basically revealed that, for the clusters engaged with global value chains, external linkages gain much more importance compared to the local linkages.

In summary, value chain analysis can be regarded a multidisciplinary framework barrowing from various fields and topics including "…economic activities and farm management (income statements, crop and farm budgets), industrial economics (production coefficients and vertical integration) national accounts (value added analysis, generation and distribution through classical distributional channels, such as wages, interest, rents and profits), Cost-Benefit Analysis for investments (counterfactual scenario analysis, discounted annual-equivalent investment costs), welfare economics (social optimum benchmarking), international trade (competitiveness and protection), contract and game theory (negotiations, strategic behaviour of agents along the chain)" (FAO, 2013).

2.2.2. Why Value Chains

As conditions, theories and practices have changed, researchers needed new concepts and tools to develop a better understanding of the new system in an effort to respond appropriately to the development issues of time. This thesis adopts value chain analysis as one of the most suitable conceptual frameworks to conduct an analysis on the dynamics of a specific trade and production network and its importance in terms of regional development of a particular area. The discussion below intends to articulate how value chain analysis responds appropriately to examining the shifting patterns and recent dynamics of global economy -in terms of fragmented production systems, changing perceptions of competitiveness and specialization- and, as a result, informs policy and decision makers for taking the necessary steps to overcome development issues.

Fragmentation of production

First, developments in information and communication technologies, decreasing costs of transportation and logistics services and trade policy reforms facilitated "access to

resources and markets" in overseas and, consequently, "geographical fragmentation of production processes across the globe according to the comparative advantage of the locations" (OECD, 2012). For example, developing countries have become holders of a comparative advantage in manufacturing (primary branch) due to their supply of cheap labor, resources and production costs while already developed industrial countries created a comparative advantage in "secondary economic activities and value-added traded services" (Kaplinsky, 2004). Interestingly, this process can be considered a 'separation' and 'interconnectedness' at the same time – explained by two somewhat contrary terms- and well-explained as "functional integration between internationally dispersed activities" (Dicken 1998 as cited in Gereffi et al., 2001) and "disintegration of production and its re-integration through inter-firm trade" (Gibbon et al., 2008). Whole process of creating a product or offering a service became much more divided and detailed but a more sophisticated system is required to handle these divided stages. For example, some stages such as design, marketing, or disposal after use gained extra importance. The more production process gets complex, the better organization and management became crucial for success in the markets. In addition to this, worldwide sensitivity to environmental externalities and social issues of production activities started to get more attention. Consumer preferences towards environmentally friendly products and production processes show a considerable increase. Besides environmental concerns, production process which are not free from child labor or exploitation of women workers are highly criticized and not preferred by a lot of consumers around the world. All these factors make the whole process of bringing out a product from design to final disposal even more complicated and elaborated.

Not only stages of production fragmented across the borders with globalization, but also producers and customers of these products or services became spread globally. As a result, a global economic system consisting of "global buyers" and "global suppliers" (OECD, 2012) has occurred and "nations have become more

interdependent through the flows of goods, services, and financial capital since the 1970s" (Gereffi et al., 2001).

Therefore, new system of production can be summarized as a much more complex process comprising of several distinct value adding tasks (as stages of production) with their own complicated dynamics, but also a complete chain -required to be considered as a whole system- at the same time. Value chain analysis focuses on all distinct, but interconnect economic activities carried out through a chain and investigates each stage in detail -not only within its own inner-stage dynamics but also its relationship with other phases. Thus, value chain approach brings a comprehensive approach to see the big picture (whole set of activities) without neglecting peculiar dynamics of stages that constitutes the whole chain activities. As Gereffi et al. (2001) indicated:

> *"If globalization in the productive sphere implies functional integration between internationally dispersed activities, then the value chain perspective is an effective means of conceptualizing the forms that this integration takes. ... It shifts the focus from production alone to the whole range of activities from design to marketing, and it problematizes the question of governance – how chains are organized and managed"* (Gereffi et al., 2001).

Governance

This even more complex and fragmented economic system requires a better organization due to its nature of complexity. However, it is worth to note that again, even though we are picturing a world where production processes are geographically more dispersed and fragmented, overall trade and other economic activities are happening in a more integrated global platform. As it is indicated above, being production processes more fragmented around the world makes nations and regions -as global buyers and global suppliers- more interdependent to each other (Gereffi et al., 2001) in economic activities. Continually increasing number of participants in

global markets makes governing these complex relationships among the actors an important issue.

Value chain analysis provides practical tools to understand how these complex networks and relationships between various participants (actors) are organized and managed. As oppose to the classical industry studies, value chain approach shifts the focus from '*firm'* level analysis to the "*chain or organizational network as the unit of analysis"* and raises questions about power and governance (Gereffi et al., 2001) which helps to understand complex relationships and hierarchies that shapes trade activities between the parties.

Changing Trade Patterns and Policy

In such an integrated and complex global economy, how trade patterns were also altered is discussed above in the previous chapters. In fact, the search for cheaper inputs or supplies and exploring distant prosperous markets across the national borders go way before globalization -actually it started in the "internationalization period" around the 17th century by colonial empires (Gereffi et al., 2001). The difference between two trends -internalization and globalization- is that, with the coming up of globalization, the nature of products being traded has changed and trade became more organized and well-governed.

Similarly, Mitchell, Keane and Coles (2009) indicates that the rise of outsourcing highly contributed to the fragmentation of production and countries, now, trade intermediate goods as much as final products (Mitchell, Keane and Coles, 2009). As a result of gaining importance of trading intermediate goods and services, new areas for the countries or regions to specialize in and compete with the worldwide providers of the same product or service emerged.

In terms of policies regulating trade, Backer and Miroudor argues that:

> "*While most policies still assume that goods and services are produced domestically and compete with "foreign" products, the reality is that most goods and an increasing number of services are "made in the world" and that countries compete on economic roles within the value chain. The concept of GVCs is thus important to close the gap between policy and the reality of business.*" (Backer and Miroudot, 2013).

Value chain analysis constitute the basis for identifying most advantageous stages for the countries to specialize in. As indicated above by Backer and Miroudot (2013), now it is possible to specialize in a specific part of the value chain for countries or regions rather than focusing on the final product itself. Value chain analysis help examining the most advantageous stages nations can achieve or improving existing chain activities by focusing on inefficiency problems. Value chain framework not only provides useful tools to shed light on these issues, but also informs policy makers to take the necessary steps for creating the enabling environment required to improve value chains.

Competitiveness

These changes in trade patterns and increasing accessibility of global resources and markets have created an extra competitive environment for nations and firms. Especially after the decentralization and fragmentation of production activities, and increasing participation of 'low-cost producers' into the global markets, 'local determinants of competitiveness' became the center of attention in many schools of thought including "new economic geography, business studies, regional science and innovation studies" (Humphrey & Schmitz, 2002). Industrial cluster literature, for example, emphasized the significance of local linkages (vertical and horizontal) and local sources in creating competitive advantage through enabling collective efficiencies (Schmitz, 1995; Giuliani, Pietrobelli & Rabellotti, 2005). However, current transformations in production systems and increasing global trade, mostly

facilitated by the improved and eased mobility of resources, information, capital and other factors, enabled firms to participate in global value chains and trade across countries (Giuliani, Pietrobelli & Rabellotti, 2005). Especially in 'labor-intensive' industries such as garments, footwear, furniture, toys etc. in developing countries, which are also referred as "buyer-driven chains" (Kaplinsky, 2004), "global buyers have come to play in increasingly important role in organization of global production and distribution systems" (Humphrey & Schmitz, 2002). Thus, when the control and power of global buyers and huge brand-name companies over the organization of production at a global scale is so obvious, the attention in competitiveness has shifted from local linkages to the cross-border linkages (Gereffi and Korzeniewicz, 1994; Gereffi and Kaplinsky, 2001 as cited in Humphrey & Schmitz, 2002). Global linkages and participation into global markets and international networks have become significant in promoting competitiveness. Value chain analysis, in this manner, promotes local producers' engagement with global trade and production networks. It further examines core rents and barriers to entry in a value chain to facilitate participation of the target groups to those global networks (Mitchell, Keane and Coles, 2009). Moreover, through upgrading, value chain analysis can help targeted local producers forming their own barriers to entry in order to enhance their competitiveness in the market (Mitchell, Keane and Coles, 2009).

Besides, several value chain analysis not only promotes participation of target groups into global trade networks, but also concentrates on how they can improve their position in the chain to enhance their incomes and conditions. To do this, value chain analysis offers upgrading strategies through which local participants can improve efficiency in production, lower the production costs and increase profits (efficiency issues), improve the terms of their engagement in the existing chains. Transferring into more profitable chains is also another option for the actors seeking development. All these strategies are commonly adopted by the low-income targeted groups of developing regions, especially in Latin America, Asia, and Africa, which benefits from value chains framework.

Specialization

Specialization has gained extra importance in such a competitive world. However, the nature of specialization has altered as well as the changing nature of trade and competitiveness. While countries specialize in particular products or industries before too, now "countries tend to specialize in specific business functions rather than specific industries, such as the assembly operations for China or business services for India" (Backer and Miroudot, 2013). In fact, according to many researchers, value chain perspective can be considered as "'incomplete' firms that have specialized in certain value chain functions, such as design or marketing" (Gereffi et al., 2001).

Some researchers argue that comparative advantage is a concept that is subject to change at any given time and countries may adopt specialization strategies according to their "*dynamic comparative advantage*" rather than "*static comparative advantages*" because they ultimately want to transfer into increasing-return industries (Lin and Chang 2009: Mitchell, Keane and Coles, 2009). That means, sticking at a specific task or product may not be the most profitable option over time. Countries ultimately revise their position in the value chain and can abandon some of the tasks they have been handling if those tasks are no longer that reasonable to maintain. An outstanding example of it could be the Netherlands and cut flower value chain. Although the Netherlands has been concentrated in all stages of cut flower value chain for long periods of time, it recently tends to be rather a marketplace node -reducing domestic production and exporting mostly the flowers that are produced abroad (Levelt, 2010). As Levelt (2010) indicates, it is due to the "scale economies in flower logistics" and local knowledge in flower product development accumulated throughout the years that make the Netherlands a global hub in cut flower trade. Obviously, it has a lot to do with the Netherlands' long-time specialization in logistics of perishable products which brings a great advantage in some specific phases of the value chain compared to the other countries.

2.2.3. Value Chains and Regional Development

Globalization of trade and production, which are considered the most important characteristics of the contemporary economy has different implications for different groups and places around the world (Ponte and Sturgeon, 2014; Gereffi et al., 2005). Global scale re-organization of economic activities opened up several new opportunities in a wide range of developed and developing countries which had the opportunity to fuel growth in their industrial capabilities (Gereffi et al., 2005). In this respect, "why and how new opportunities have opened up for firms, localities, and countries to engage in the global economy — as suppliers, processors, value-added resellers, distributors, contractors, intermediaries, and service providers" have been main interest of value chain studies (Ponte and Sturgeon, 2014). From the perspective of regional development, value chain analysis provides valuable insight and useful tools for countries or regions to evaluate themselves depending on their strengths and opportunities; and ultimately help to engage with global economy according to their competencies.

Vertical disintegration became prominent as multinational companies reconsidered their core competencies in the direction of highest value-added activities while decreasing direct ownership of 'non-core' and lower value-added activities. This situation opened new specialization areas for large scale industry segments in developing countries inducing export-oriented economic development (Ponte and Sturgeon, 2014). Several regions have experienced "growth through trade and GVC participation" (Keane, 2008). Specialization has gained extra importance with globalization of production and while developing countries usually focused on manufacturing and its related activities, developed economies mostly specialized in product design and development, finance, marketing, retailing (Gibbon et al., 2008). Value chain analysis provide set of tools and approaches to investigate proper strategies for regions in determining their specialization options in the value chains they are engaged with and help to layout a roadmap to upgrade themselves in this direction.

Innovation, technological spillovers and learning through GVC participation have been some of the prevalent topics in value chain studies (Inomata, 2017) which are also related to the development of regions. Value chain analysis enable developing countries to overcome barriers to entry to the specific markets and integrate into global trade networks (Ponte and Sturgeon, 2014). Once they are integrated, developing country firms get the opportunity to learn a great deal from working with global leaders and enhance their technological knowledge and industrial capabilities which ultimately decreases their economic dependency (Ponte and Sturgeon, 2014). Especially lower income local producers are encouraged to improve themselves by participating in global value chains and trading with lead firms. Much more demanding standards of worldwide buyers compel local suppliers to always update themselves and this interaction ultimately promotes learning and knowledge transfer for local producers.

Another issue is the distributional inequalities intensified by globalization. Gibbon and others highlight that economic globalization is, in fact, geographically and sectorally highly uneven (Gibbon et al., 2008). Still, there are several groups who are "excluded, marginalized or expelled from this process, or have experienced increased inequality and social polarization" as indicated by Ponte and Sturgeon (2014). GVC analysis as a diagnostic tool allow identifying critical issues and blockages for those groups, and help to prepare a roadmap for appropriate interventions for change. GVC analysis are widely adopted by disadvantaged local producers or the poor in an attempt to search for ways to engage with global trade and participate in global networks; or enhance their positions (or terms of integration) once they are engaged. Value chain analysis help to discern core rents and barriers to entry which shows the ultimate beneficiaries of production, so that can draw a useful roadmap in participation of the poor and how this participation should take place (Mitchell, Keane and Coles, 2009). Poverty alleviation is, in this respect, one of the important areas in value chains approach which contributes to regional development.

Moreover, participation into GVCs not only help the poor or disadvantaged to increase their incomes and revenues, but also may help to improve social terms and working conditions. This issue has gained extra importance and attention with the exploiting characteristics of global production over labor and income distribution issues and has been a center of attention in GVC studies (Inomata, 2017). Gibbon and Ponte (2008) explains that how opportunities and rewards gained by participating a value chain are determined and distributed; and how unequal distribution of these gains and limited access or entry to the global value chains issues can be overcome in favor of poor or local producers of developing countries are more of a concern of GVC analysis. Increasing the competitiveness of firms, regions or countries is one of the most important objectives of value chain approach which is enabled through procurement of efficiency in the activities conducted. As Mitchell and others (2009) indicated:

> "*International evidence shows that achieving systemic competitiveness requires cooperation along the chain, as well as within links in the chain. After all, a chain is only as strong as its weakest link. So the establishment of a collation of interested parties involved in promoting participation by the poor, or the restructuring of value chains, is often a necessary process to ensure that appropriate global competitiveness is realised*."

Value chains approach is also widely adopted in promoting agricultural production and integrating smallholders and local producers into larger global trade networks. The aim in developing agricultural value chains is to improve agricultural production and processing so that targeted groups can generate increased incomes, more paid employment and better working conditions (Kaplan et al., 2016). Also, after the 2007-2008 food crises, promoting agricultural value chains became one of the central concerns in food security and poverty alleviation (Kaplan et al., 2016).

Even developed world sometimes face significant challenges due to the rapidly changing dynamics of the today's world economy. As Ponte and Sturgeon (2014) indicate, participation in global trade networks not only provided opportunities for

developing and developed world, but also imposed new challenges and risks for everyone and "increased sense of economic insecurity, even among the 'winners' in the global economy." Value chain studies, in this respect, provide valuable insights to the actors regarding what the possible outcomes of participating and not participating in those global networks are (Ponte and Sturgeon, 2014).

Another area that value chains framework can remarkably contribute is policy making. In fact, policy makers are expected to define development objectives and provide guidelines for various issues including uneven development, economic growth, poverty alleviation, competitiveness, and industrial policy to name some. GVCs analysis provide policy makers with valuable data and outcomes and inform policy making process by helping them to set more achievable lucrative goals, and offer set of tools to conduct these analysis.

As Todeva and Rakhmatullin (2016) indicate:

> "*Economic development policies require more GVC insights and comprehensive understanding of the concentration of capabilities in countries, regions and clusters, as well as the backward and forward linkages that are taking place across sectors and between core and periphery actors, and the distribution of these capabilities across SMEs, medium and large firms*"

In line with these developmental contribution areas, value chains approach has been considered a *descriptive tool* offering a heuristic framework for data collection and processing; however, more recent development of the value chain concept indicates tendency towards a more analytical structure providing valuable insights into most crucial developmental concerns such as "determinants of global income distribution" and "identification of effective policy levers to ameliorate trends toward unequalization" (Kaplinsky, 2004).

In this respect; Kaplinsky (2004) identifies 3 key analytical characteristics of value chain analysis as being related to one of the crucial concerns of contemporary age – "*spreading the gains from globalization*-" as: (i) dynamic rents, (ii) governorship, and

(iii) systemic efficiency gains. Kaplinsky considers these three elements interrelated and argues that key driver for that is the prevalence of competition which decreases profits by lowering the barriers to entry that consequently increases number of actors participating to the chain around the world. Increased number of participants search for new economic rents which requires powerful actors to assist suppliers to update their own operating procedures.

Major topics regarding the benefits of utilization of value chains perspective in regional development are briefly discussed in this chapter. Value chains approach provides more up-to-date tools to understand the dynamics of recent development issues and conceptualize well-designed policy solutions to the current problems of the regions. Especially in Turkey, we have a long history of improper or useless policy responses to some major development issues of the country. The problem mostly arises from the misinterpretation or not fully understanding the dimensions of the issue and accordingly not being able to design appropriate policy responses to it. Value chain analysis, in this respect, provides policy makers with necessary tools and devices to, first, identify the major problem regarding a developmental issue and then determining the best policy response to overcome it.

Different from classical sector-based approaches, value chains perspective underlines the important role of actors participating value chain and governance of the relationships between them. Value chains perspective take actors' intentions into consideration in providing a well-designed policy response. In this respect, when designing policy responses to a development issue, value chains approach enables incorporating major actors of the value chain being examined, and benefit from the dynamics of relationship between these actors.

2.3. Value Chain Analysis

Value chains approach basically aims to provide answer such policy issues; "*Is a value chain creating value added? Who is creating value within the value chain? What*

is the relation between value added creation and profit earning? What is the income distribution within the value chain?" (FAO, 2013). It further focuses on the ways value creation along the chain, namely '*upgrading',* can be accomplished (Kaplan et al., 2016), possible upgrading positions and promoting new ones (EU, 2016). In line with this purposes, being able to answer these questions requires analysis of some aspects, characteristics, or elements of value chains. As it can be understood from the definition below, value chains are complex structures comprising of several distinct components which should be analysed in detail to develop a broad understanding. This section talks about the various components of a value chain.

In '*A Handbook for Value Chain Research*,' a keystone in value chain literature, Kaplinsky and Morris (2000) highlight that, in conducting value chain analysis, there is not a specific "correct" way to do it and the researcher can take an approach depending on the question being asked. Similarly, Gereffi et al. (2001) underlines the absence of a well-developed theoretical framework; and the necessity for common parameters and robust indicators in order to evaluate different case studies and compare various value chains. However, the paragraphs below explain frameworks developed and implemented in several case studies for value chain analysis by some researchers and institutions.

Kaplinsky (2004) identifies three key elements for value chain analysis as: *barriers to entry and rent, governance, and systemic efficiency*. In a broader perspective, FAO (2013) indicates value chain analysis parts as: *socio-economic context of the value chain, demand for value chain outputs, institutional set up, analysis of input-output markets, economic analysis, and functional analysis* (including: *setting the boundaries of the value chain, identifying activities and agents, and quantifying physical flows*). Also, Gereffi et al., (2001) discusses about a central concept to value chain analysis – conceptualization and measurement of the '*value'*. Differently, European Commission put emphasis on the mapping of global value chains in addition to the classical analysis, believing that mapping interconnected capabilities (emerging and integrated inter-sectoral value chains both at regional and national levels) can improve regional

stakeholders' knowledge of their own capabilities and help them connecting to other regions in the most effective way possible, and enhance market relationships via match-making (Todeva and Rakhmatullin, 2016 -2). Lately, FAO has developed a '*VCA-Tool Software'* for value chain analysis to use in policy making, and it has widely been used in several countries for analyzing the socio-economic impact of policies (FAO, 2013).

As can be seen, one can compile a set of parameters and indicators depending on the ultimate purpose of the study. One useful feature of value chain analysis is its being '*inherently scalable'*. It is possible to scale a value chain development exercise based upon a particular firm or producer group, the practice can be applied to a larger context such as a cluster, region or a country (Mitchell, Keane and Coles, 2009).

For the specific purpose of this thesis, the components below are chosen to be further investigated and some of the related ones are regrouped. Also, some of the components are given relatively more coverage due to its importance for this specific study.

2.3.1. Setting the Content of the Study

First step in functional analysis is the setting the boundaries of the value chain being investigated (FAO, 2013). Most value chains are defined on the basis of primary commodity used; for example, cotton value chain, wheat value chain etc. in agricultural chains (FAO, 2013). Boundaries of the value chain research depends on the scale and purpose, when studying a national value chain, for instance, the boundaries can be taken as national borders (FAO, 2013). However, if value chain is of an internationally traded commodity, the boundaries of the study can exceed national borders and requires investigation of all parties involved (FAO, 2013).

2.3.2. Actors and Activities

A value chain is comprised of distinct but interconnected economic activities carried out by different actors or groups (agents). An economic agent in value chain studies is described as the subject implementing (performing) a group of integrated operations to finalize a product or output (FAO, 2013). An agent can be a physical person (farmers, traders, consumers, etc.) as well as a legal entity (firms, development organizations, etc.), the interactions between whom is governed by some formal and/or informal rules (FAO, 2013). Every single agent both can be both a supplier and a customer; selling to the other downstream agents and buying from its upstream ones in the chain (FAO, 2013).

Global value chains broadly refer to the inter- and intra-sectoral linkages between various actors and enables studying reconfiguration of global production in terms of geographical and organizational aspects (Gibbon et al., 2008). As seen in the figure below, a value chain is comprised of interdependent value-adding economic activities. Each stage in the chain can be carried out by independent agents/actors as well as one actor or firm operating more than one stage.

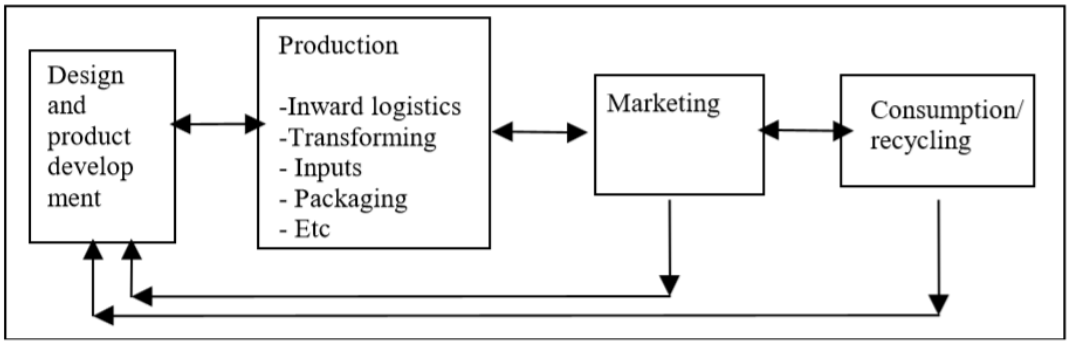

Figure 2.3. A Simple Value Chain (Kaplinsky and Morris, 2001)

Depending on the context and/or aim of the study, value chain analysis can focus one of these elements or some of them together. The series of operations from production to final consumption with detailed identification of all steps, and illustration of the

profile of value chain in physical terms are also referred as "*functional analysis*" (FAO, 2013). This analysis comprises of technical operations used in various value chain stages, input and output flows throughout the chain, agents involved at different stages and functions they are occupied with, physical flows of the products between the agents, and bottlenecks (FAO, 2013).

It is also important to aggregate actors into meaningful categories. This categorization can be based on technology or production system used, location or farm size in agricultural value chains etc. (FAO, 2013). For example, in agricultural value chains, considering irrigation systems farmers can be grouped as pumping irrigating ones or gravitational irrigating; in terms of farm size farmers can be grouped as large scale, small scale etc.; or in terms of land ownership they can be categorized as landowners, sharecroppers, tenants etc. Similarly, in an industrial value chain, actors can be categorized based on the technology they are using, scale of production, or type of product they are producing etc.

Identifying key stakeholders, lead firms or powerful actors is also a quite important aspect of actors' analysis in value chains because they have the ability and power to impact overall functioning of the value chain. These critical actors can induce technology and knowledge spillovers, assist their suppliers, influence customer preferences, or even affect the value distribution along the chain (Kaplinsky, 2004). Sometimes, they can even function as the governors of the value chain they are belong to. Gereffi et al., (2001) describes lead firms as the determiners of 'what is to be produced, how, and by whom.' They possess the power to control access to resources such as new technologies; decide the location of the production, product design, time and pace of the deliveries, etc. which have a significant effect on the overall structure and performance of the value chain (FAO, 2013).

Related with actors and activities carried out through the chain, tracing *commodity flows* from one agent to another with their physical quantities provide valuable insight about the relative weight of the operating agents (FAO, 2013). *Quantification of*

physical flows can be actualized by, for example, yields per unit of activity, cultivation area, product value, etc. Also, input-output matrices of flows, graphical representation, and other value chain flow charts (with particular attention to the consistency of data represented) may help to illustrate commodity movements between the value chain stages better. (FAO, 2013).

Thus, identifying the activities carried out and interacting actors participating in a value chain can be considered one of the first steps to begin with analysis. This, then, should be followed by the examination of the roles of the actors, power relations (governance) and other dynamics which can have an impact on that relationship such as trust issues, communication, ethnic ties between the groups and so on. Understanding the agents' behavior cannot be fully comprehended without understanding the institutions governing the chain because structure of the market they are performing in and rules have a lot to do with the choices of agents (FAO, 2013). The types of relationships between the actors are widely discussed in the governance section.

2.3.3. Economic Analysis

This chapter discusses economic aspect of value chain analysis; particularly focus on topics such as 'barriers to entry and rent' (Kaplinsky, 2004), 'demand for value chain outputs' (FAO, 2013), 'analysis of input-output markets' (FAO, 2013), 'measurement of value' (Gereffi et al., 2001).

2.3.3.1. The Concept of Value and Its Measurement

Gereffi et al., (2001) argues "a fundamental aspect of global value chain research is how 'value' itself is conceptualized and measured." They indicate 3 indicators for assessing value in the chains as *profits*, *value added*, and *price markups*:

- *Profits*: When examining income shares, distribution of profits is one of the basic indicators that we can apply. In measuring profits, 'return on capital employed' or 'rent' are the general factors that can be used (Kaplinsky 1998 as cited in Gereffi et al., 2001). One downside of this method is that profits does not say much about the returns to labor or the productivity level of the overall economy. Another downside is that profits are often not explicitly mentioned, and value is difficult to measure in regard to tasks and places of value chains.
- *Value added*: It refers to the allocation of value added among the tasks/stages of the value chain. Value added shares can be calculated either 1) splitting the final price of a product according to how much price is added between the links of the chain or 2) by examining international import-export data in order to see nations' value-added shares.
- *Price markups*: When using price markups as an indicator to measure value increase, special attention must be paid in order to avoid unreliable results. Price markups can be misleading if factors such as volume of transactions or activities that result an increase in price are not considered carefully.

(Gereffi et al., 2001)

It is also important how '*value added'* is created and distributed among the actors in the chain (FAO, 2013). Value added is defined as "a measure of wealth created in an economic system by a production process, net of the resources consumed by the process itself" (FAO, 2013). Besides value added created by the whole chain, economic analysis also considers; created value added and margins for discrete economic agents and stages of the chain, and its allocation among production factors (FAO, 2013).

2.3.3.2. Economic Rent and Barriers to Entry

Rents stem from "the control of scarce valuable resources" (Mitchell, Keane and Coles, 2009). Economic rent theory firstly defined by David Ricardo, who highlighted the difference between '*rent as a factor of income'* and '*economic rent'* (Kaplinsky, 2004). His important contribution was underlining the significant role of scarcity indicating that the source of economic rent does not come from differential fertility of land itself but unequal access to land as a resource cause this to arise (Kaplinsky, 2004). Thus, controlling this scarce and valuable resource generate rent that needs protection from competition and this protection mostly achieved by creating barriers to entry (Mitchell, Keane and Coles, 2009). However, Schumpeter argued that agents (mainly entrepreneurs) can induce scarcity on purpose through their actions, therefore, scarcity can be constructed unnaturally as well (Kaplinsky, 2004).

Kaplinsky (2005; as indicated in Mitchell, Keane and Coles, 2009) describes 4 basic types of rent:

i. First type of rent is the "ability to shape market relations" by enforcing monopoly and preventing competitive practices (anticompetitive practices such as predatory pricing or cartels eliminating other competitors). For example, agricultural lobbies in developed countries may impose tariffs to prevent from imports and exhibit an unfair discrimination against those other producers.

ii. Second type is the '*resource rent'* which provide advantage to its holder such as high-yielding agricultural land.

iii. Third is the '*endogenous rents'* created by firms, local research and technology centers, and interactions between them.

iv. Fourth type is the '*exogenous rents'* generated by the outsiders of the value chain. Those agents do not have a direct relationship with the production processes nor active participants. Governmental activities can be an example

of it such as transportation and telecommunications infrastructure, financial intermediation, or policy incentives etc.

The "power of human agency" in shaping rents and affecting production processes are more obvious in the third and fourth types of rents (Mitchell, Keane and Coles, 2009).

Distribution of the rents in a value chain is highly related with the barriers to entry - determining the gainers and the losers (Kaplinsky, 2004). He further articulates;

> "*Those who command rents, and have the ability to create new domains of rent when barriers to entry fall, are the beneficiaries. By contrast, those who are stuck in activities with low barriers to entry lose, and in a world of increasing competition, the extent of these losses will increase over time*" (Kaplinsky, 2004).

Moreover, intangible parts of the value chains are observed as providing growing areas of rent which can be illustrated by the falling barriers to entry in manufacturing over the last decades with more and more countries' with lower wage costs entered global trade while copyright and brand names showed very long lasting forms of economic rent (Kaplinsky, 2004). An example of this situation is:

> "*Nike now concentrates on the "D" (develop) and "S" (sell) rather than on the "M" (make) and "B" (buy) of its value chain. The winners include Nike as the coordinator and through its institutionalization of design and marketing, and key celebrities such as Michael Jordan. The losers are the factory owners and the predominantly semiskilled workers in developing country production sites as Nike relocates production to locales with lower wages or where the pressures of competition induce governments to devalue, hence undermining the international purchasing power of domestic wages*" (Kaplinsky, 2004).

That was an example of how intercountry distribution of income is affected by the geographical spread of production activities. However, the same situation is also valid for intra-country distribution of income because, similarly, high-income markets

require more complex capabilities that are usually not possessed by poor producers, farmers, or enterprises etc. (Kaplinsky, 2004).

2.3.3.3. Analysis of Input-Output Markets and Demand

Understanding the dynamics of domestic and international markets that actors engage for providing their inputs or selling their products is a crucial part of GVC analysis. As indicated earlier, detailed investigation of market dynamics is necessary for understanding and anticipating agents' behavior because their choices cannot be considered independent from the market set-up and rules governing the market (FAO, 2013).

Markets, where the transactions between the sellers and buyers take place, exhibit different dynamics depending on their features such as; "number of agents, level of information available to sellers and buyers, entry/exit barriers for sellers and buyers, control binding the supply, control over the prices, and nature of product" (FAO, 2013). Also, efficiency level and pricing mechanisms in a market are highly depend on the market structure including "perfect competition, monopoly, oligopoly (few sellers), monopsony (only one buyer), oligopsony (few buyers) to name some of the main structures (FAO, 2013). All these factors and many others play a significant role in value chain performance and chain dynamics such as value-added generation and its distribution etc. (FAO, 2013).

Another aspect in market research is the financing mechanisms that actors need to use in their value chain activities (FAO, 2013). Availability of national or international financing mechanisms, funding, support mechanisms and incentives are important in actors' decisions and behaviors in the market. Especially in agricultural value chains including smallholder farmers, these financial instruments and mechanisms may be crucial for their survival in global value chains. Besides, these smallholder producers in agricultural value chains may be quite vulnerable in the face of risks and uncontrollable variables (these can be natural disasters, climate change, etc.) directly

affecting production activities and output. In these circumstances, their risk-coping capacities and resilience levels play a significant role in maintaining their activities in the value chains they are participating. Availability and accessibility of insurance services help small producers to cope with such kind of contingencies.

Another important topic in this framework is the demand for value chain outputs, in other words, "consumer side of a value chain" (FAO, 2013). Demand analysis basically focuses on elements such as: "current and potential domestic and foreign demand for the value chain outputs (including trends and/or forecasts), domestic and/or international output prices and price trends, socio-economic features of current and potential customers, including spending capacities, current and potential foreign competitors, specific features of products, including product diversification to target different types of clients, current or potential substitutes that influence prices or volume demanded, Other issues related to demand, such as dependency from economic cycles or other determinants of demand" (FAO, 2013).

Analyzing market demand is quite important in several aspects. For example, demand analysis in some products and services may underpin innovation and product diversification to satisfy consumer preferences and may induce more profitable niche markets (FAO, 2013).

Furthermore, increasing integration into global markets with rapid and easy transfer of information -facilitated by developments in communication technologies- consumers became much more concerned about production and process methods of the products they buy. For example, quality standards, safety (pesticide use etc. in agricultural products), environmental and socio-economic conditions (such as organic or better agricultural practices, fair-trade etc.) (Ponte and Gibbon, 2005) to name a few. An increasing tendency towards environmentally and socially responsible products in terms of human rights, gender equality, child labor etc. issues; environmentally sustainable use of natural resources in production (FAO, 2017);

emerging preferences for ethical and ecological food (FAO, 2017) cause restructuring of value chains in accordance with the newly emerging consumer preferences.

2.3.4. Analyzing Socio-Economic Context

The socio-economic context in which a value chain develops has important implications in terms of functioning and performance of the chain. FAO (2013) list of the key elements in terms of socio-economic context that influence the value chain and vice-versa:

- "*Geo-strategic positioning of the country, including membership in regional organizations etc.*
- *Macro-economic and social situation of the country(ies) in which the value chain develops.*
- *Contribution of the value chain or the sector(s) to which it belongs to the economy (output, value added, employment, balance of trade, competition in use of natural resources and environmental issues, etc).*
- *Contribution of the value chain to the socio-economic situation, including income, expenditure and other social wellbeing implications for various social groups of interest to the value chain.*
- *Geographic location of the value chain and implications for territorial set-up and development (rural-urban relationships, synergies with other activities, role in local production systems etc.).*
- *Current policies and strategies affecting the value chain, including price, factor and natural resource policies, specific incentives or disincentives to producers and consumers, macro-economic policies affecting exchange rates and interest rates, credit policies and international trade policies*"

FAO (2013).

2.3.5. Analyzing Institutional Set up

In promoting or developing value chains, formal and/or informal rules in which value chain is performing and actors are interacting constitute another important aspect of value chain analysis. Institutional set up analysis involve; functioning of vertical linkages among the actors, trust and conflicts, synergies, role of public and private sector, public policies, set of rules (self-imposing or by an authority) that enable value chain functioning, role of the state and other institutions, regulatory and legal environment (FAO, 2013). It is important to foster an institutional environment that facilitates development of value chains and further encourage upgrading in value chain activities (FAO, 2017). Institutions can promote GVC engagement for development purposes, and enable this by "fostering skill building, innovation, and efficient access to capital; by including deep provisions in agreements with key trade partners; by supporting the engagement of more local firms and workers in the GVC network; and by focusing on structural reforms that raise domestic labor productivity and skills" (World Bank Group et al, 2017).

Value chain activities may require interactions in different levels of governments so policies at different levels of governance should also be compatible (World Bank Group et al, 2017). Also, especially in developed countries, predictability of policy implementations impacts investment decisions of value chain participants (World Bank Group et al, 2017). Prevalence of uncertainties (for example in trade policies) and risks, and an unstable environment discourages value chains to thrive in that regions and deter investors.

2.3.6. Governance

Governance is described by Gereffi et al. (2001) “as non-market coordination of economic activity”; “the authority and power relationships that determine how financial, material, and human resources are allocated and flow within a chain” (Gereffi, 1999, as cited in Humphrey and Schmitz, 2002). Governance dynamics in a global value chain basically can be understood as the “nature and basis of value creation along each stage of the GVC” and one of the determinants of value adding distributing processes (Gereffi et al, 2005; Parrilli et al, 2013).

In a broader explanation, Gibbon et al. (2008) articulates:

> “*The idea of GVC governance rests on the assumption that, while both disintegration of production and its re-integration through inter-firm trade have recognizable dynamics, they do not occur spontaneously, automatically, or even systematically. Instead, these processes are initiated and institutionalized in particular forms as a result of strategizing and decision-making by particular actors, usually large firms that manage access to final markets in developed-country (but also increasingly, emerging) markets*.”

Several researchers attempted to provide a theoretical explanation to the governance of global networks or chains. Humphrey and Schmitz (2002) articulate that production and distribution systems, involving recurrent transactions among the parties, require coordination which aims to minimize costs associated with production and transactions. This coordination basically concerns: what is to be produced, how to produce (technology, quality and other standards), how much and when to produce, and then how to manage physical flow of the produced material (Humphrey & Schmitz, 2002). They argue that this has been the interest of transaction cost economics which assert ‘market’ and ‘hierarchy’ as the prominent coordination systems when “coordination requirements between different points in the chain are low, valuation of the product and monitoring of supplier performance is relatively easy, and economies of scale are likely to be significant” thus, customers and

producers can maintain arm's length market relations for the standard products. If these conditions change, for instance in the situations where buyers demand more customized products or detailed monitoring through the production process to maintain specific standards; supplier and producer need to communicate more, coordination of the production becomes more elaborated, economies of scale decreases as the product becomes more customized, and valuing the product traded becomes more complex. These circumstances rise transaction costs and direct firms towards hierarchy or vertical integration for the organization of production (Humphrey & Schmitz, 2002; Gereffi et al., 2005).

Approaches to governance in value chains literature distinguishes 3 groups which consider governance as '*driving'*, '*linking/coordination*' and '*normalizing'* (Gibbon et. al., 2008; Ponte and Sturgeon, 2014).

The first approach to global value chains governance, which is referred as '*driving'*, is conceptualized by Gereffi and Kaplinsky according to the economic power exercised by the lead firms and a 'functional division of labor' along the chains (Gibbon and Ponte, 2008). The power of global buyers and brand-name companies in organizing inter-firm relations in trade networks was previously emphasized by Gereffi and others' 'global commodity chains' (GCC) framework in 1990s and then adopted in global value chain studies (Gereffi et al., 2005). Global '*Buyers'* and '*Producers'* constitute the two types of lead firms according to the Gereffi's GCC approach; where producer-driven refers mostly to the large multinational manufacturers such as General Motors, IBM etc., while global buyers include big retailers such as Walmart, Tesco, Carrefour, JC Penny etc. as well as highly successful merchandisers such as Nike, Nestle, Kraft etc. (Ponte and Sturgeon, 2014). According to Gereffi's empirical findings, technology and capital intensity affect governance characteristics in some ways:

> "*Because innovation in buyer-driven GCCs lies more in product design and marketing than in manufacturing know-how, it is relatively easy for lead firms*

> *to outsource the manufacturing of labour-intensive products. In the more technology- and capital-intensive items made in producer-driven chains, technology and production expertise are core competencies that need to be developed and deployed in-house, or in closely affiliated 'captive' suppliers that can be blocked from sharing them with competitors*". (Ponte and Sturgeon, 2014).

Global producers mostly have been the focus of attention in the literature due to these multinational manufacturers' methods to engage with global economy and sometimes transferring capabilities to developing countries while *global buyers* have been analyzed in terms of how they are able to successfully build, design and coordinate their supply chains (through headquarters, 'overseas buying offices', or intermediaries) comprising of a broad range of actors (Ponte and Sturgeon, 2014). Especially, these global buyers' explicit ability and power in coordinating geographically dispersed and fragmented production and distribution networks - which underpins their strong supply-base- introduced *"buyer-driven global commodity chains*" (Gereffi 1994 as cited in Gereffi et al., 2005). In this approach, lead firms use the power to oblige its immediate (first-tier) suppliers to adjust their production activities so that the lead firms can focus on more profitable activities (Gibbon and Ponte, 2008).

Gereffi and others reveal that even though global commodity chains framework emphasized the '*explicit coordination'* in spatially dispersed distinct value chains (as opposed to vertical integration, this coordination is achieved without direct ownership), global commodity chains approach failed to elaborate the forms of networks and coordination. Moreover, Ponte and Sturgeon (2014) criticizes buyer- and producer-driven approach to governance as being specific to a particular time period and to particular industries; and highlight the need for a more dynamic and

updated approach that is compatible with changing technology, learning and new norms and standards.

The second approach to governance, a more elaborated and updated one, of global value chains was built around the idea of "different forms of coordination between the buying and supplying firms" (Gibbon and Ponte, 2008). This approach considers governance as '*linking'* (Ponte and Sturgeon, 2014) or '*coordinating'* (Gibbon et al., 2008). In this approach, Sturgeon (2002) and Sturgeon and Lee (2001) as mentioned in Gereffi et al. (2005), highlighted the role of supply relationships in network coordination depending on the level of standardization in product and process. This approach mainly implies that coordination between the buyers and suppliers is highly affected by (i) the level of complexity of information and knowledge required to maintain transactions, (ii) to what extend this information and knowledge can be codified and efficiently transmitted between the parties, and (iii) the capability of the suppliers (Gibbon and Ponte, 2008). According to them, three types of product and suppliers -depending on the complexity level of information transmitted between firms and how elaborated the production process- are: "(1) the 'commodity supplier' that provides standard products through arm's length market relationships, (2) the 'captive supplier' that makes non-standard products using machinery dedicated to the buyer's needs, and (3) the 'turn-key supplier' that produces customized products for buyers and uses flexible machinery to pool capacity for different customers" (Gereffi et al., 2005).

Gereffi et al. (2005), by building on the approaches explained above, provided a more comprehensive value chain governance model based on the characteristics of buyer-supplier linkages and power relations. They identify five basic governance typologies:

> *1.Markets*: Markets give buyers and suppliers quite much freedom to change partners because cost of this switch is not high. It may comprise temporary transactions as well as persistent ones such as spot markets.

2. Modular value chains: The degree of specification in the products produced by the supplier is relatively higher than the ones in market networks. Specifications that are undertaken by the supplier may include use of particular technologies or use of generic machinery to ensure competencies requested by the buyer.

3.Relational value chains: Important criteria in relational value chains are the complexity of the relationship between the buyer and seller; and accordingly, increased interdependence and specificity among the actors. Since dependence is high in this type of relations, issues such as trust and reputation are quite important -which may build upon family, ethnic ties. Spatial proximity may play an important role in maintaining these type of value chains, but it is possible to built trust and reputation among geographically dispersed nodes.

4.Captive value chains: In captive value chains, large buyers are clearly dominant over small suppliers in terms of transactions, monitoring, control etc. Small suppliers cannot easily switch the buyer due to high costs of doing so and highly dependent on the lead firm which makes the relationship captive.

5. Hierarchy: It is also described as vertical integration. Managerial control (between managers and subordinates; or headquarters and subsidiaries or affiliates) exists in this type of networks.

After constructing these 5 governance typologies, Gereffi and others articulated the conditions that form a basis for these coordination types to occur in value chains (Gereffi et al., 2005). They argue that there are three circumstances value chain governance depends on:

- The complexity of transactions: The degree of specification regarding product and process defines the complexity level associated with information and knowledge to maintain a transaction. Most of the time, the complexity in the value chain is rise by the lead firms' demands such as product differentiation or just-in-time supply.

- The ability to codify transactions (codifiability of information): In order to convey this information and knowledge efficiently between the parties codifiability of them to which extent is important. Otherwise transaction-specific investment may be needed.
- The capability of suppliers: Success of the transactions also depend on the ability of the suppliers to meet the requirements of the transaction.

(Gereffi et al., 2005)

Gereffi et al. (2005) further examine 5 value chain governance types in terms of these three conditions.

Governance type	Complexity of transactions	Ability to codify transactions	Capabilities in the supply-base	Degree of explicit coordination and power asymmetry
Market	Low	High	High	Low
Modular	High	High	High	↑
Relational	High	Low	High	↓
Captive	High	High	Low	
Hierarchy	High	Low	Low	High

Figure 2.4. Key determinants of global value chain governance (Gereffi et al., 2005)

They discuss that, in markets, since the products are less specific and complexity of information related to transactions is quite low, it is easy to codify transections. In modular value chains, product specifications relatively increase; however, technical standards unify these specifications regarding component, product and process, thus interactions between the parties are simplified. Competent suppliers in modular value chains internalizes tacit information which is hard to codify, and this decreases the need for direct monitoring and control activities of the buyer. Similar to markets, high degree of codification makes complex information transferred easily with little or less

need for coordination. In relational value chains, when transactions are more complex and mutual relations depend on family or ethnic ties or social and spatial proximity etc., codification of product specifications is difficult, and these chains require higher levels of coordination. Complex tacit knowledge is most of the time transferred through face-to-face interaction in this type of chains which also increases the difficulty of codification and costs of changing partners for the buyer. Supplier competencies are considered high in relational value chains. Conversely, in captive value chains, supplier capabilities are low, but product specifications are quite complex. These complex products and specifications need a considerable control and intervention of the lead firm, and as a result, lead firm wants to lock-in suppliers in order to protect its benefits from being exploited by other firms. Also, the suppliers are often engage with a single activity, such as only basic assembly etc., and mostly dependent on the lead firm for more complex activities such as design, logistics, technology upgrading and so on which imposes significant costs for the suppliers for switching partners and the relationship becomes captive. Lastly, in hierarchy, codification of the product specifications is not possible, products are complex, and there are not competent suppliers available; thus, the lead firms have to include several activities inside its body. This governance type usually associated with high levels of tacit knowledge transfer among the activities of value chain and the excessive need to control over resources, inputs, and outputs etc.

The power asymmetry between the lead firm and supplier increases as going from market to hierarchy as well as explicit coordination of the value chain by the lead firm (for example standards regarding quality, production process, component, delivery, material sources etc.) (Ponte and Sturgeon, 2014). Similarly, sensitivity to spatial proximity varies depending on the form, the importance of co-location rises in relational value chains where exchange of tacit knowledge is crucial, while it is relatively less important in markets where arm's-length relationship markets enable simple transparent transactions, and price based information exchange (Ponte and Sturgeon, 2014).

Another approach which regards governance as '*normalizing'* – the term normalizing here is refer to "re-aligning a given practice so that it mirrors or materializes a standard or norm" rather than normalizing as "making things normal" (Gibbon et al., 2008). This approach criticizes Gereffi's framework as implying "…the discursive dimension of the framing of buyer-supplier relations, based on a constructivist approach to the knowledge content of transactions and the capacities of suppliers" (Gibbon et al., 2008). Governance as normalizing approach is developed based upon *convention theory* of Boltanski and Thévenot (1991, as cited in Ponte and Sturgeon, 2014; Gibbon et al., 2008) who contends that economic activities between different people, firms or objects is generally established on the basis of a judgement (or systems of justification) based upon a '*higher principle'*; and identified six ideal-type '*orders of worth'* that used as justificatory devices in people and firm interactions, economic practices, and in firm organizations (Ponte and Sturgeon, 2014). Conventions, as indicated by Gibbon et al. (2008), are "sets of mutual expectations that include – but are not limited to – institutions" and institutions are the "collective and intentional objects that draw on a variety of criteria of justice or 'worth' in order to lend normative sense to decisions and actions occurring in relation to management, production and consumption" (Gibbon et al., 2008).

	Orders of Worth and Quality Conventions					
	Market	**Industrial**	**Domestic**	**Civic**	**Inspirational**	**Opinion**
Organizational principle	Competitiveness	Productivity	Loyalty	Representation	Creativity	Reputation
Focus of justification	Product units	Plans, systems, controls, forecasts	Specific assets	Negotiation, consultation, distributional arrangements	Innovation, creation	Public relations, media coverage, brand reputation
Key testing questions	Is it economic?	Is it technically efficient, scaleable, functional?	Does it follow tradition? Can it be trusted?	What is the impact on society? Is it safe, healthy, environmentally sound?	Is it new? Is it a breakthrough?	Is it accepted by the public?
Measure of product quality	Price	Objective technical measurement	Trust, repetition, history	Social, labour, environmental, collective impact	Spirit, personality, osmotic processes	Opinion poll, social media coverage, subjective judgement by expert
Ease of transmission along value chains	High	High	Low	Medium	Low	Medium

Figure 2.5. Orders of Worth and Quality Conventions[5]

In the work of Ponte and Sturgeon (2014), six quality conventions -including *market, industrial, domestic, civic, inspirational,* and *opinion*- juxtaposed with orders of worth – including *organizational principal, focus of justification*, *key testing questions*, *measure of product quality*, and *ease of transmission along value chains* illustrated in the table above. Ponte and Sturgeon (2014) discuss that price is assumed essential measure of quality in market and indicates that differences in price directly reflects the differences in quality. When it is difficult to measure product quality with price alone and uncertainty is higher, buyers and sellers use more elaborated conventions as in the industrial quality conventions in which "quality is verified via instrument-based testing and inspection, and sometimes assured by external parties via certification against a set of a priori norms or standards" (Ponte and Sturgeon, 2014). Market quality conventions are similar to Gereffi's market linkages as well as industrial

[5] (Ponte and Sturgeon, 2014 elaborated from the works of Boltanski and Thévenot, 1991; Ponte, 2009; and Gibbon and Riisgaard, 2012)

quality conventions to modular GVC linkages, and domestic quality conventions to relational and captive GVC linkages (Ponte and Sturgeon, 2014).

Recently, Ponte and Sturgeon (2014) contributed to governance studies by developing a broader approach using 'modular theory-building' technique which aims to link compatible arguments and insights of different literatures and/or disciplinary fields in an attempt to provide explanation for highly complex, dynamic and variant issues. In line with this porpuse, they accommodate previous studies on GVC governance -to which they previously have contributed: *theory of linking* (Gereffi et al., 2005) and *theory of conventions* (Ponte and Gibbon, 2005); and elaborate and link those previous theoretical studies in order to provide a broader framework. In their model, Ponte and Sturgeon (2014) build a three-scalar GVC governace framework consisting of: micro, meso and macro levels.

- ***Micro level:*** The purpose in this level is exploring exchange characteristics of individual value chain nodes in terms of different linkage mechanisms and conventions summarized above. They offer two modules as: Module 1 including five GVC linkage mechanisms developed in Gereffi et al (2005) and Module 2 listing typology of conventions. The authors emphasize that: "these modules can be applied, sequentially or in combination, to an overall framework (middle box) that represents a simplified succession of stylized value chain nodes (represented by circles) where exchange takes place – either internally in a firm or externally between independent firms."

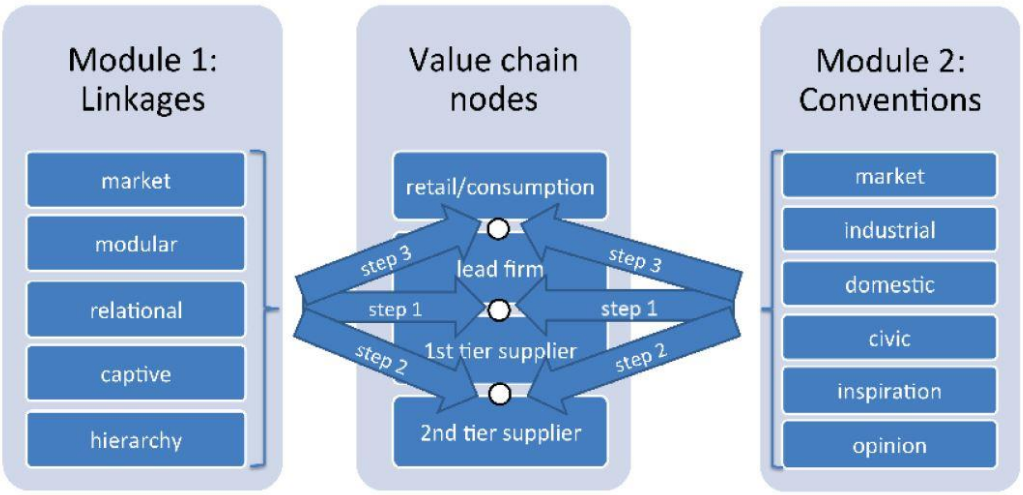

Figure 2.6. Micro-level analysis of governance with two modules (linkages and conventions) (Ponte and Sturgeon, 2014)

They also highlight that linkage mechanisms and conventions can apply to all different value chain nodes in forms of same or different combinations (can differ or overlap); however, it is worth to note that again linkage categories and the first 3 of conventions (market, industrial and domestic) can show parallel patterns in exchanged as explained above[6]. Moreover, they imply that different types of linkages and conventions can be observed simultaneously in a node (for example lead firm can apply different linkages and conventions to different suppliers). Lastly, these two modules may be subject to change by any other group; for example another module focusing on "*influence of regulation in shaping exchange dynamics at individual value chain nodes*" or "institutional factors and/or the nature of national and regional business systems" because the authors do not aim to provide an exhaustive or full list of possible options, rather, offering a framework which aims to utilize future theory building efforts in the topic.

[6] As market linkages can be enabled by market conventions, modular linkages by industrial conventions, and relational linkages (and the ones based on long-term mutual trust) by '*spatially-embedded'* domestic conventions.

- ***Meso-level:*** Ponte and Sturgeon (2014) argue that the type of linkage mechanisms and convention found at a node should not necessarily be correlated with the governance pattern of overall value chain, thus, it is important to explore how these mechanisms of linkages and conventions at one node are transferred to other nodes in the chain. In the essence of this step, selected "*factors that shape transmission mechanisms*" for the modules employed is important; as in figure-4 below: for module 1 'tolerance of distance' and for module 2 'ease of transmission' However, other transmission factors related to regulation, local, national and regional institutions may impact as well.

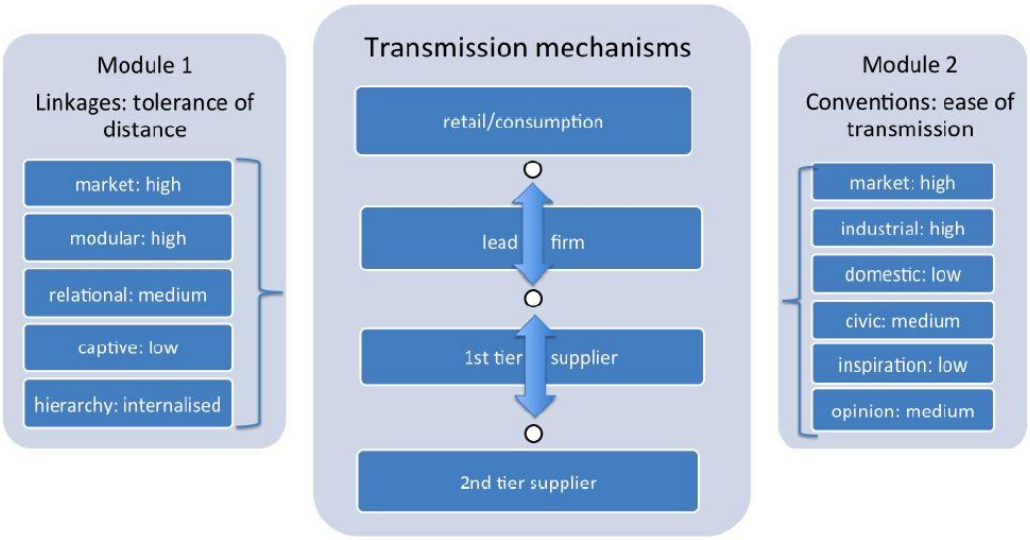

Figure 2.7. Meso-level analysis of governance with two modules

(Ponte and Sturgeon, 2014)

- ***Macro-level***: The purpose of the macro-level governance framework is to build a broader approach which embodies micro and meso foundations explained so far and applies them to the overall value chain. The ultimate aim

of a macro-level 'whole-chain' governance approach is to understand; "the functional division of labour; the creation, destruction, allocation and distribution of value; the processes of inclusion, exclusion and marginalization; upgrading and downgrading trajectories; and the effects of socio-economic and environmental conditions on production and on employment" mechanisms of a value chain as indicated by the authors. In other words, the attempt here is to develop a bottom-up approach by uitilzing previous findings of micro and meso levels.

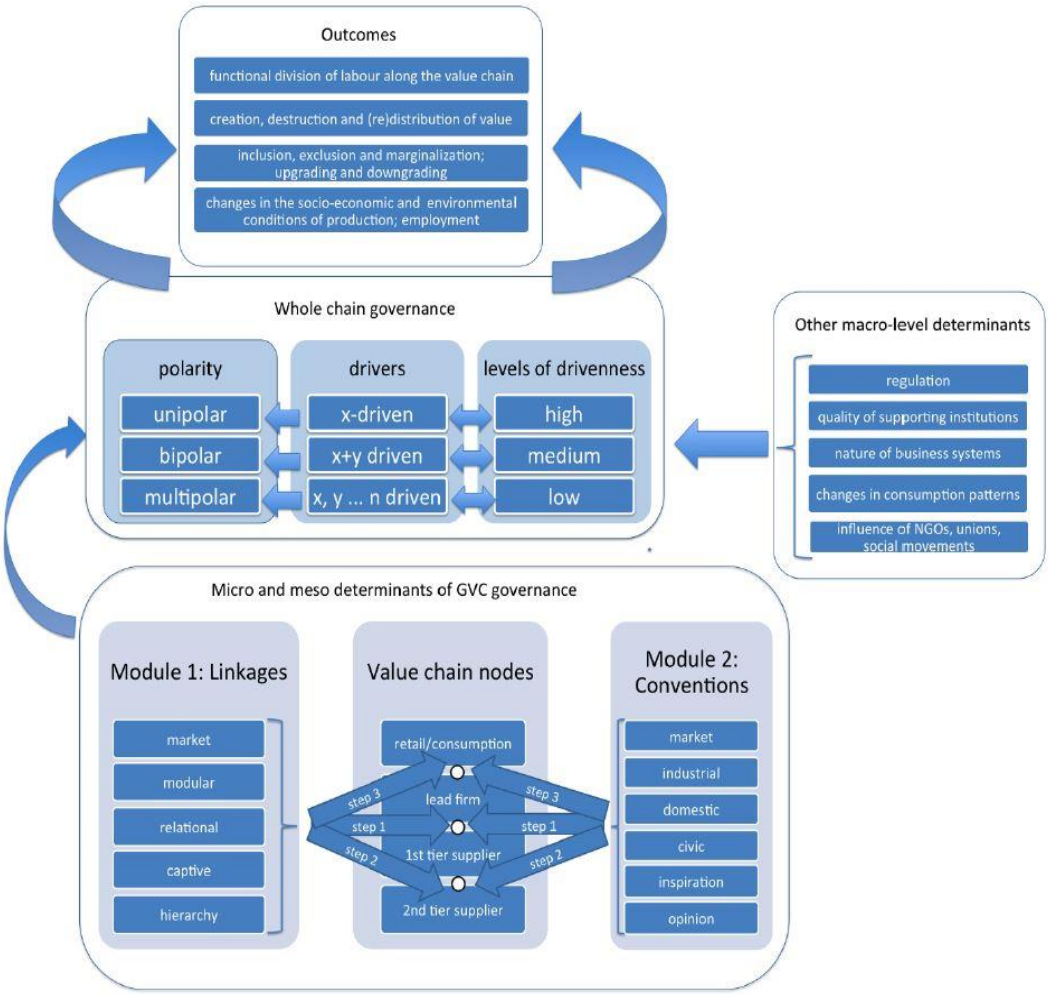

Figure 2.8. Macro-level framework for the analysis of 'whole chain' governance

(Ponte and Sturgeon, 2014)

Besides, the authors aim to provide an overall value chain governance approach from the perspective of 'polarity'. They consider previous studies on governance usually focused on '*unipolar'* value chains such as 'buyer-driven', 'producer-driven' etc. where the power of a 'lead-firm' is explicit in coordinating and impacting relations between the value chain nodes and actors. Ponte and Sturgeon in this study (2014) rather focus on '*multipolar'* chains which are governed by powerful actors, they may have different kinds of linkages and multiple power focuses though. This is especially important in terms of the relationship of macro level governance with micro and meso levels since overall chain governance is highly related with the dominant linkage mechanisms and conventions that are adopted in the key node between the lead firm and first-tier suppliers. Also, recent studies have shown that value chain governance mechanisms can transform from unipolar to multipolar due to increased influence of some groups of powerful actors, environmental groups and standard makers or social NGOs (work of Ponte (2013) about governance of biofuel value chain as indicated in Ponte and Sturgeon, 2014). The authors argue that the '*plurality of drivers*' also critical in terms of acknowledging the increasing influence of other powerful actors (in addition to firms) such as "standard setting bodies, international NGOs, social movements, certification agencies, labor unions, and consumer associations" in governance of global value chains.

2.3.7. Upgrading

Upgrading activities are directly related to enhancing the position of a target group in the chain by enabling them to develop necessary "technological, institutional and market capabilities" in order to improve their competitiveness and gain higher values from a value chain (Mitchell, Keane and Coles, 2009). In other words, it is a process of advancing "*value creation*" through a set of strategies; however, what we mean by 'value' does not necessarily has to refer solely economic value. Building knowledge

and enhancing local capabilities, diminishing environmental detriments associated with value chain activities, or improving working conditions, for instance, may also be considered value creation or acceleration.

It is already discussed that in the context of shifting dynamics of global trade and economy in the 21st century, competitiveness has become even more crucial for maintaining sustainable returns and revenues especially for developing countries. According to Humphrey & Schmitz (2002)'s analysis on the literature on competitiveness, it is revealed that upgrading is one of the most favorable strategies to increase competitiveness of actors in value chains (Humphrey & Schmitz, 2002). Also, upgrading strategies are often used by the developing countries as a means of coping with the challenges imposed by globalization (Ponte and Ewert, 2009). Besides, being able to respond recently changing consumer preferences and market demands -such as punctuality in delivery, environmentally conscious production practices, special packing materials, commodities free-from child labor or labor exploitation, gender equality in labor- is also another factor that have an important impact on competitiveness and entails producers for upgrading their products or production operations. Such kind of improvements directly affect the position of producers and firms in the value chain and offer them better deals, better bargaining positions, or enable them to access completely different and more prosperous end-markets.

Ponte and Ewert (2009) argues that two main directions exist in the literature regarding the ultimate target that is desired to be achieved through upgrading in value chains. First approach focuses on identifying the "sources of capabilities" which enables actors to connect with new markets and enhance their competitiveness; however, there is a conflict among the researchers regarding how that is achieved through: one group advocates "locational and institutional knowledge transmission" while others promote "transmission via buyer-supplier relations" (Ponte and Ewert, 2009). Second approach carries a more development focus and tends to analyze "what conditions and

trajectories can lead to ‘a better deal’” for the target group in a value chain (Ponte and Ewert, 2009).

In the literature, traditional upgrading strategies for firms are characterized in four groups as “process improvements”, “product improvements”, functional improvements” (or “changing the mix of activities”) and “moving to a new value chain” (Kaplinsky and Morris, 2000; Humphrey & Schmitz, 2002):

2.3.7.1. Product Upgrading

Product upgrading basically means improving the quality of the product (Mitchell, Keane and Coles, 2009) and producing higher-value added, more sophisticated products entailing “increased unit values” (Humphrey and Schmitz, 2002) which result in higher gains. Product upgrading can be achieved both in the forms of designing or producing a completely new product or making improvements to existing products (Kaplinsky and Morris, 2000).

Improving the quality of produce provide a better bargaining opportunity to the producers in the market or they can even shift to another more profitable markets due to the new higher-value and more sophisticated product.

2.3.7.2. Process Upgrading

The main focus of the process upgrading in value chains is the improving efficiency. Efficiency can be promoted through various ways; most prevalent ones include lowering the cost of production per unit of output or increasing the output gained per unit of input used in the production (Mitchell, Keane and Coles, 2009). Thus, process upgrading for efficiency improvements may require a “reorganization of activities” involved in production (Ponte and Ewert, 2009) or “introducing superior technology” (Humphrey & Schmitz, 2002) preventing value-loss due to inefficient practices or

technologies. Process upgrading can be achieved both in an individual stage of the chain or inter-chain activities (Kaplinsky and Morris, 2001).

Schmitz (2006) argues that when working with global buyers, local producers get the opportunity to learn a great deal from them about improvements of production operations, achieve consistency and high quality, and punctuality in their responses to customer.

2.3.7.3. Functional Upgrading

Functional upgrading refers to changing the composition or mix of activities carried out in a value chain by adding new functions (upgrading) or eliminating some of the existing ones (downgrading) (Mitchell, Keane and Coles, 2009). Firms can incorporate, for example outsource activities such as logistics, accounting (Kaplinsky and Morris, 2001). Acquiring new functions may also be regarded as "increasing the skill content of activities" (Ponte and Ewert, 2009) because moving to higher value parts of a chain mostly requires a greater degree of skills (World Bank Group et al, 2017).

2.3.7.4. Chain Upgrading / Inter-sectoral Upgrading

Inter-sectoral upgrading happens when a firm or producer transfers into a completely new value chain (Kaplinsky and Morris, 2001) or to a different sector which is also compatible with its already accumulated knowledge (Ponte and Ewert, 2009). As Kaplinsky and Morris (2000) explains, "it may involve changes in the nature and mix of activities, both within each link in the chain, and in the distribution of intra-chain activities" The skills and capabilities of the producer should be qualified with the new sector's or chain's demands. For example, television producers may have sufficient and appropriate knowledge for making monitors or other computer parts when they are transferred between those production activities (Humphrey & Schmitz, 2002).

Inter-chain upgrading may involve significant barriers to entry due to attempts to access more profitable activities or chains, thus chain upgrading is more prone to exclude less-advantaged participants (Ashraf et al. 2008 as cited in Mitchell, Keane and Coles, 2009). However, there are other studies found "no significant relationship between individuals‟ pre-existing wealth characteristics and their likelihood of participation" (based on the work of McCulloch and Ota, 2002 as cited in Mitchell, Keane and Coles, 2009).

All these strategies for sure depend on the availability of opportunities, local trajectories and chain-specific conditions since each value chain has its own unique dynamics. The literature on upgrading indicates that, generally, these upgrading methods occurs in sequence of first process upgrading, followed by product and functional upgrading, and finally chain upgrading (Kaplinsky and Morris, 2000). This upgrading trajectory and 4-stage categorization is, in fact, build upon the industrialization experience of East Asian countries as explained by Kaplinsky and Morris (2000);

> *"This accords with the common assertion that East Asian firms have made the transition from OEA production (original equipment assembling, that is, thin value added assembling under contract to a global buyer) to OEM (original equipment manufacturing manufacturer, that is manufacturing a product which will bear the buyer's badge), to ODM (own design manufacturer) to OBM (own brand manufacturing)*" (Kaplinsky and Morris, 2000).

However, this 4-stage upgrading is found limited and quite specific to explaining the upgrading trajectories of only some particular industries. Mitchell, Keane and Coles (2009), for instance, indicates that;

> "*This categorization, based on the historical experience of the newly industrialized countries of East Asia, may still be relevant for manufacturing firms seeking global markets, but it needs adjustment if it is to be relevant to*

the pressing task of upgrading some of the poorest and most disadvantaged, including agricultural producers and exporters, into viable value chains" (Mitchell, Keane and Coles, 2009).

It is a fact that each sector or industry have its own dynamics that may require different approaches for improvements. Similar to the differences between sectors and industries, challenges and availability of opportunities for upgrading in developing regions may be quite different from the experience of developed world. In terms of challenges; "lack of an enabling environment offering institutional and infrastructural support, availability of resources and efficient and effective coordination" are some of the limitations developing regions experience (Trienekens, 2011). As Trienekens (2011) further explains, in such developing regions especially "…small-scale producers are at a disadvantage because they have little capital to invest, prone to use traditional techniques, depend on family labor and lack contact with (international) market players (De Janvry and Sadoulet 2005; Daviron and Gibbon 2002; Reardon and Barret 2000)". As a result, upgrading strategies should be relevant to the local settings and circumstances. For these reasons, the literature indicates that there may be different approaches to upgrading -apart from the traditional four categories stated above- to be able to respond local needs properly. For instance, Mitchell, Keane and Coles (2009) argues that especially in rural regions of developing countries, horizontal coordination, as an upgrading strategy, may be a prerequisite, at least in order to generate sufficient amounts of produce to take the attention of markets or for access to technical support and even for access to inputs (Mitchell, Keane and Coles, 2009).

Ponte and Ewert (2009) also draw attention to some of the limitations of these 4 categories of classification for upgrading strategies. They underline, sometimes it may be a little ambiguous to differentiate product and process upgrading in agro-food industries for new categories such as "organic" or "sustainable" products which fall into both process and product upgrading. Similarly, they argue that process upgrading put too much emphasizes on efficiency issues improved by innovation and technology, however, disregards the improvement activities carried out to respond customer and

market preferences, or comply with standards and regulations (for instance EU regulations, food-safety standards, environmental regulations, ISO certifications etc.) (Ponte and Ewert, 2009). Even though these practices do not bring more efficiency or higher value to the firms or producers all the time, sometimes they are considered as requirements for the entry to the market which is notably more prevalent in buyer-driven value chains (Ponte and Ewert, 2009).

Based on these criticisms and limitations of traditional 4-category upgrading classification, Mitchell, Keane and Coles (2009) introduces additional upgrading strategies below which can also be relevant to the trajectories of rural regions of developing countries that are mostly involved in agricultural production and basic craft goods:

2.3.7.5. Horizontal Coordination

Horizontal coordination is based on the collective practices of a group of producers or firms at the same level (intra-nodal, within a stage of value chain). Forming a group provides actors with several benefits especially when actors have limited capacity and power when they act individually.

As Mitchell, Keane and Coles (2009) states;

> "*The purpose of all horizontal institutions is to develop economies of scale, increasing functional efficiency and reducing transaction costs. It is often the first step in a sequence of interventions that ultimately facilitate market access, often as a prerequisite for other forms of upgrading, particularly vertical coordination and functional upgrading*."

For example, it can be widely used in accessing expensive inputs, assets, resources or infrastructure when they are not affordable or feasible to obtain individually. Also, it is critically important from the perspective of traders or buyers in terms of guarantee of sufficient amounts of supply -especially in agricultural areas consisting of small

producers. It would be fair to say that collectivism can be considered as a precursor for participating in greater regional value chains or global markets. Besides, ones smallholders access to the global markets and value chains, horizontal coordination and collectivity increase "bargaining power resulting in better negotiation outcomes such as higher prices or more favorable terms of business; … makes individuals more creditworthy which enhances financial stability, in turn enabling investment and smoothing cash flow; enable access to information, training and technical services" (Mitchell, Keane and Coles, 2009).

2.3.7.6. Vertical Coordination

Vertical coordination in value chains is quite related to the concept of governance. It highlights the importance of building trust-based longer-term relationships among the inter-nodal actors of a value chain (e.g. between producer-processor) based on the 'win-win' benefits of interacting agents (Mitchell, Keane and Coles, 2009). A contractor in a vertical coordination enjoys "a stable, assured market, with guaranteed prices that usually at least match the market going rate and, as an incentive for longer-term commitment, often exceed it… embedded services such as discounted bulk input supply (reducing the risk of high-cost inputs), access to credit (cash or in kind), technical support and supply of capital equipment." (Mitchell, Keane and Coles, 2009). On the other hand, contracting firm benefits from guarantee of supply at quality and quantity demanded and risk minimization depending on this (Mitchell, Keane and Coles, 2009).

2.3.7.7. The Enabling Environment

The enabling environment in which value chain operates has a large impact on the overall competitiveness, efficiency and success of the chain. In addition to the upgrading strategies articulated above (product, process, functional, inter chain),

advancement in ‘support services’, institutional setting, ‘legal and policy frameworks’ play an important role in the achieving targeted upgrading strategies (Mitchell, Keane and Coles, 2009). For example, when there is high confidence in institutions; and business friendly and stable policies, that enable more complete contracts and reduces the administrative burden especially in high-income targeting countries. (World Bank Group et al, 2017).

2.3.7.8. The Relationship of Upgrading with Governance

Humphrey and Schmitz (2002) argue that governance type of a chain also has significant impact on upgrading strategies. In the *quasi hierarchy* chains, they indicate, upgrading possibilities of the local producers is highly dependent on the opportunities opened up to them by the lead firms (Humphrey and Schmitz, 2002). For example, they discuss that global buyers in labor-intensive sectors (such as garments) tend to search for new suppliers from developing countries in an attempt to reduce costs. When developing country firms supply global buyers, the product demanded from the global buyer differ from the product they used to produce for their local market (in terms of product and process standards, design, quality etc.). In such situations, global buyer supports local producers of developing countries to upgrade and enhance their capabilities so that they can meet the requirements of export market (Humphrey and Schmitz, 2002).

Depending on his research on garment chain, Gereffi (as cited in Humphrey and Schmitz, 2002) found that upgrading of local producers working with global buyers in the value chain can take place in forms of “*learning by exporting*” and “*organizational succession*.” Producers in buyer-driven ‘captive’ value chains have good prospects for product and process upgrading (and further upgrading to design, marketing and branding) (Schmitz 2006, based on the work of Gereffi, 1999). He exemplifies this with how Asian garment producers are upgraded from “(1) assembly of imported inputs; to (2) increased local production and sourcing; to (3) the design of

products sold under the brands of other firms; and finally to (4) the sale of own branded merchandise in internal and external markets" (Gereffi, 1999, as cited in Humphrey and Schmitz, 2002). Schmitz (2006) emphasizes that foreign buyers are crucial for local producers' access to distant markets and knowledge.

However, there are other researchers who find this example too optimistic and indicate that even if increasing production to some degree can be possible for local producers engaged in global value chains, transferring into design and branding stages would not be that easy. Moreover, global buyers can discourage or even prevent local producers from jumping into design, marketing or branding tasks (Schmitz and Knorringa, 2000 as cited in Humphrey and Schmitz, 2002). As a result, even though global buyers enhance local producer's knowledge and learning to some extend regarding "to improve their production processes, attain consistent and high quality, and increase the speed of response", global buyers' asymmetric power and competence is obvious and they do not let other parties threat their core competences (Humphrey and Schmitz, 2002; Schmitz 2006).

CHAPTER 3

A BRIEF OVERVIEW: NEED FOR UPGRADING IN COTTON PRODUCTION

A series of challenges cotton production has been experiencing globally for years underpin the changes in market preferences for cotton and its products. Its negative environmental impacts are considered among the most drastic ones due to the unsustainable production practices. Cotton is a crop that requires relatively higher amounts of water -the greatest consumer of water among the agricultural commodities according to some researchers (URL 2). Flood-or-furrow is the most prevalent irrigation system used in cotton cultivation due to its easy installation and cheap price; however, it is also the most inefficient irrigation system (Kooistra and Termorshuizen, 2006). In addition to this, intensive use of pesticides and chemical fertilizers in growing cotton causes degradation of soil, contamination of water resources, damage in natural ecosystems and biodiversity, and threat for public health (URL 2). Besides, cotton production usually requires crop rotation in order to sustain a balanced nutrient and mineral context of soil; however, rotation is mostly not followed by the farmers due to the higher economical returns of cotton compared with its rotation subsidiaries.

Another controversial issue about the cotton production is food security. The global population is now around 7.5 billion people and it is estimated to increase around 9.7 billion people by 2050 (URL 3). According to the FAO (2017), this almost 10 billion population by 2050, with changing consumption patterns and preferences in their dietary habits, will cause an approximate 50% greater pressure on demand for agricultural products even in a modest economic development scenario (FAO, 2017). Besides, world rural-urban population composition is expected to change from roughly 45% rural and 55% urban now, to 40% rural and 60% urban by 2050 (URL 3). When coupled with global excessive urbanization trends, it means that we will have less people, smaller land, and more limited resources to feed a greater population

-which also indicates an increasing pressure on natural resources. Such a pessimistic scenario will probably aggravate the discussions regarding the competition of food crops with non-coop crops. In this respect, cotton may be one of the crops whose production may be restricted in order to give priority to food crops and others that have less detrimental production processes for the environment and natural resources.

Other criticisms target social issues associated with cotton production, namely, exploitation of labor, unequal working conditions for women, and child labor. From agricultural production to industrial processing, almost every stage of cotton value chain has a bad reputation about prevalence of child labor and poor working conditions for workers in many parts of the world. International Trade Center's report '*Women in Cotton*' (2011) illustrated that women participate in various activities along the cotton value chain. The same study showed that although women's participation is mostly in similar type of tasks along the cotton value chain such as cotton picking, catering, planting etc. across the cotton producing countries, there are high disparities across countries for women's earnings. However, the general finding is that women are paid less than men workers (ITC, 2011). Child labor is also quite prevalent across the countries participating in cotton value chain, especially in developing countries. International Labor Organization's report (2016) on child labor in cotton reveals that factors contributing to child labor can be considered as supply side factors such as poverty, social norms, migration, barriers to education, and weak legislative environment; and demand side factors including cheap and compliant labor, technical requirements (children's small hands are found better for some tasks in cultivation). Another study regarding child labor in cotton supply chain in Turkey found children as young as eight years old working in cotton harvesting in Şanlıurfa. These children included children of the relatives or owners of the field, children of Turkish migrant families, children of tenant farmers, as well as Syrian refugee families' children (Fair Labor Association, 2017).

Given the cotton's excessive environmental externalities, its being an industrial crop competing with food-crops, and social issues associated with its production -coupled

with its high prevalence among the agricultural commodities grown all around the world-, it seems that existing cotton production practices need an urgent need to change in order to sustain. Recently, changing market demand and customer's sensitivity to production processes of commodities they consume require cotton production to become more environmentally sensitive. *Organic cotton* and *better cotton* come into prominence at this point as a response to the modern age concerns associated with cotton cultivation.

3.1. Organic Cotton

3.1.1. Organic Cotton in the World

Organic production concept is developed based on the idea of adopting environmentally-friendly agricultural practices and production technologies which promote efficient use of natural resources and diminishing ecological footprint of agricultural production. Some potential benefits of the organic production are listed as; "(i) A greater yield stability, especially in risk-prone tropical ecosystems, (ii) higher yields and incomes in traditional farming systems, once they are improved and the adapted technologies are introduced, (iii) an improved soil fertility and long-term sustainability of farming systems, (iv) a reduced dependence of farmers on external inputs,(v) the restoration of degraded or abandoned land, (vi) the access to attractive markets through certified products, and (vii) new partnerships within the whole value chain, as well as a strengthened self-confidence and autonomy of farmers" (Forster et al., 2013).

There are worldwide acknowledged problems associated with conventional cotton production which can be summarized as excessive consumption of natural resources, over and uncontrolled use of harmful chemicals, poor working conditions, gender issues and existence of child labor, unfair distribution of income along the cotton value chain etc. (GAP & UNDP, 2014). Organic cotton initiatives around the world attempts to overcome these drawbacks as much as possible with appropriate practices. In light

of these concerns, coupled with emerging market demand, organic cotton production has first started in late 1980s in Aegean Region of Turkey and in United States (GAP & UNDP, 2014). Now, organic cotton production takes place in 18 countries across the world, 97% of it comes from just 7 countries (Textile Exchange, 2018).

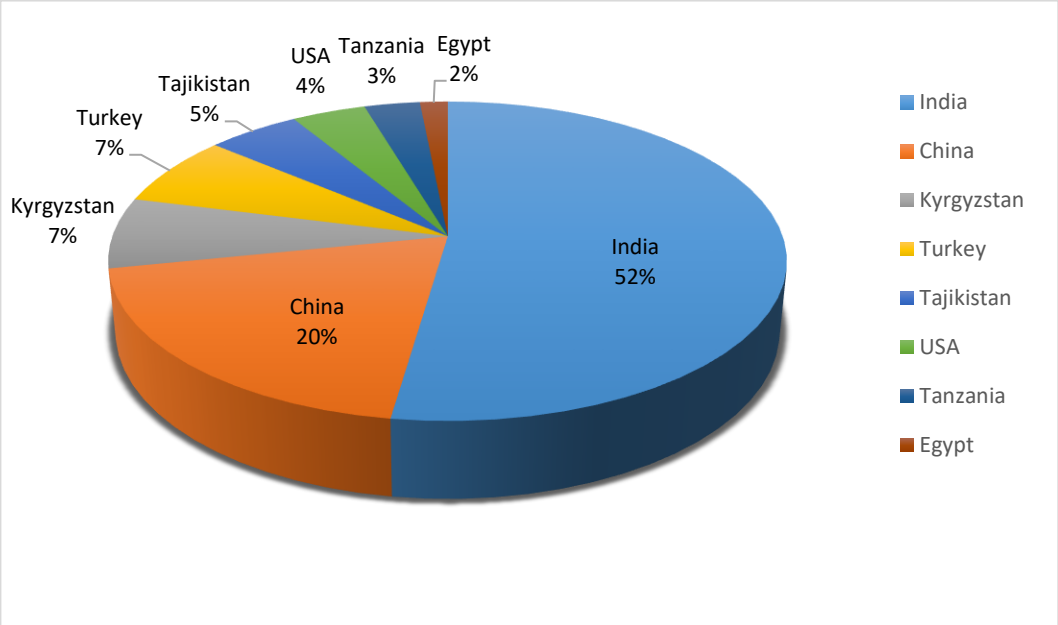

Figure 3.1. Organic Cotton Production Share by Countries (%) (Textile Exchange, 2018)

During the 2016/2017 session organic cotton production, with a ten percent increase, reached to 117525 MT with the number of organic cotton producing farmers reaching to 220478 globally in 472999 ha total certified land (Textile Exchange, 2018).

Increasing awareness toward "social, economic and environmental dimensions of sustainable development" bring forth adaptation of 17 specific 'Sustainable Development Goals' (SDGs) of the United Nations by 193 countries (Textile Exchange, 2018). Organic cotton production is considered a "market-driven solution" and have a great potential to contribute achieving these goals especially the ones associated with reducing poverty and inequalities, promoting income generation for

local producers, creating more resilient communities and sustainable use of natural resources and environment (URL 4, URL 5, Textile Exchange, 2018).

In addition to social and environmental necessities, there is a growing market demand for organic cotton and textile products. The demand, in fact, originates from the changing final consumer demand in the new era who shows increased sensitivity toward environmental externalities of products they consume, fair treatment of labor, and enhanced justice in distributional issues. All these factors require improved traceability through supply chains of commodities. Depending on these market tendencies, several brand-name global textiles companies and retailers make commitments to update their supply chains in order to increase their use of organic cotton.

Recently increasing initiatives such as *Sustainable Cotton of Bayer E3 Program, Better Cotton Initiatives, Cotton Made in Africa, Real Connect Initiative of Cotton Connect* and *Fair Trade* are emerged to provide market with more sustainable forms of cotton (GAP & UNDP, 2014). From production to processing, supplying organic cotton and its products all through the chain has become an indicator of competitiveness (GAP & UNDP, 2014). As a result, brand-name companies look for regions from which they can procure organic cotton and make innovative investments to upgrade those chains in an attempt to secure their supply in long-term (GAP & UNDP, 2014; Textile Exchange, 2018). Superdry for example, a British clothing brand, declared that it will be supporting farmers and suppliers in producing organic cotton to achieve its goal of using 100% organic cotton by 2040; Skunkfunk, Stella McCartney, and EILEEN FISHER announce their commitment to transfer 100% of their cotton supply to organic by 2020; Mantis World by 2021 (Textile Exchange, 2018). There is also '*2025 Sustainable Cotton Challenge'* signed up by 38 clothing and textile companies, including the worldwide renowned ones, committed to ensure that 100% of their cotton will be coming from sustainable resources by 2025 (Textile Exchange, 2018). The global stakeholders and key international organizations working on organic cotton are basically focused on activities of: supply chain

intervention (setting standards, market making), field-level interventions (field data & analytics, seed breeding, field capacity building and training, cotton cultivation and processing), informing and convening (education & awareness raising, market research & analytics, creating multi-stakeholder platforms) (Textile Exchange, 2018).

As indicated by the Textile Exchange (2018), there is not a worldwide accepted definition or methodology for determining pricing of organic cotton seed and fibre; however, the mechanism works as first taking a 'reference price' which is usually the price of conventional cotton quoted in that specific region or in the international commodity market at a given time; then adding a percentage increase for the value adding of being organic; and adding possible compensation for yield loss. '*Price premium'* refers to this differential in price (on average between 5-20 percent) agreed on between the buyer and seller and highly affected by the conventional commodity market prices (Textile Exchange, 2018). Price premium (differential) should cover: "production cost, International Control System (ICS) certification and inspections, training and extension services, investment in farming operations, to some part of collective needs of the community such as schooling, health care, and housing, research, development and investment in seed and farm innovations" (Textile Exchange, 2018). Besides, according to the Textile Exchange (2018) price differential of the cotton seed or lint (ginned fibre) is determined by the factors of:

- "Market conditions and price elasticity, and market variances (in the supply and demand cycle)
- Quality and staple length,
- Country of origin,
- Amount of trash or contamination,
- Trade agreements between producers and buyers,
- Fairtrade certification on top of organic certification"

(Textile Exchange, 2018).

Organic cotton seed and lint prices differ around the world. According to the Textile Exchange's 2018 Organic Cotton Report Turkish organic cotton prices range between 1.90 and 2.32 USD/kg, quality and staple length are the main determinants of the price difference. The same report indicates that the price of Turkish organic fibre is 10% higher on average than conventional cotton prices on the İzmir Commodity Exchange.

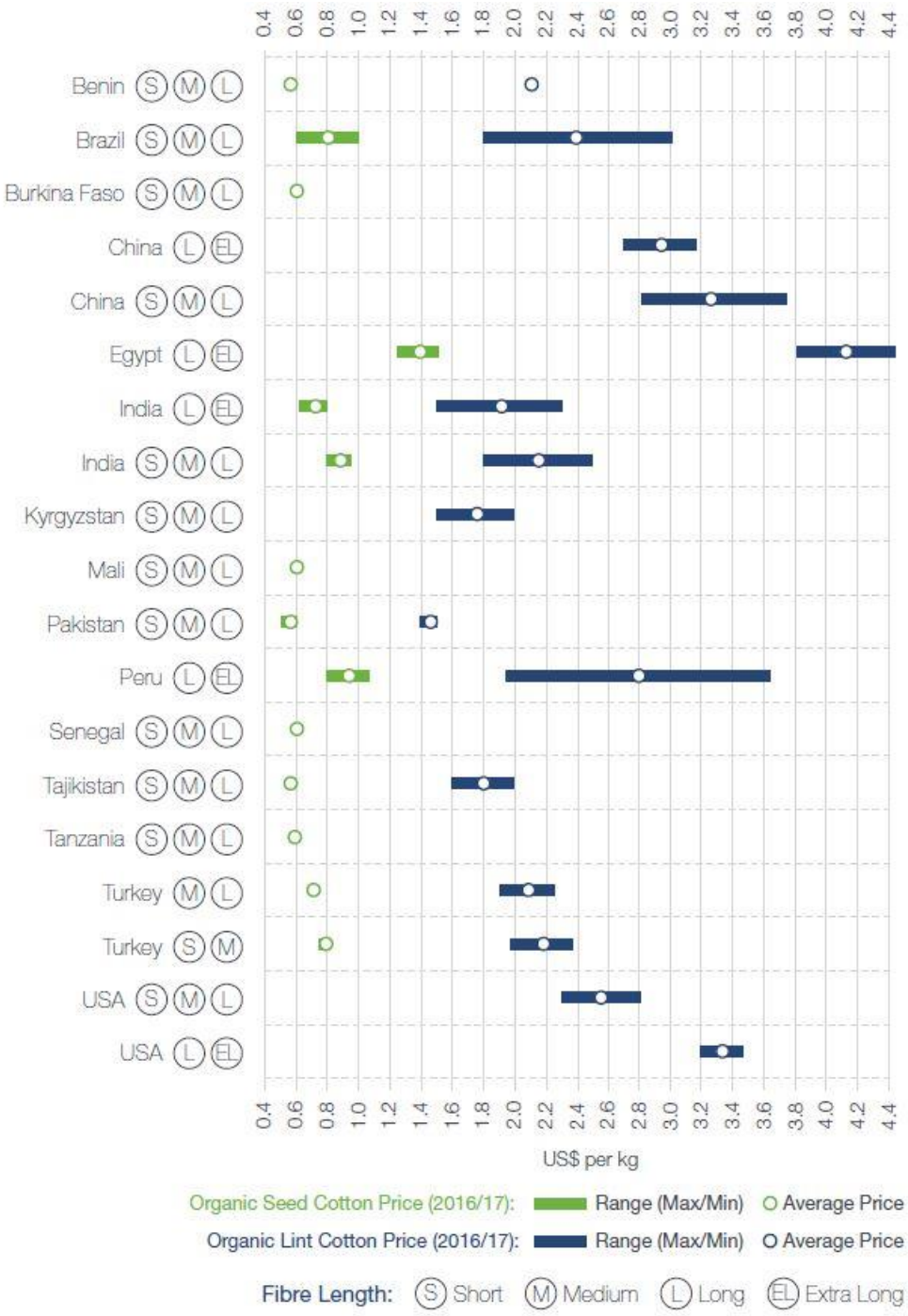

Figure 3.2. Enter the Figure Caption here Organic Seed Cotton & Organic Lint Cotton Prices (2016/17) (Textile Exchange, 2018)

3.1.2. Organic Cotton in Turkey

According to the data of Textile Exchange (2018), Turkey accounts for 6,6% of global organic cotton production with 7741 MT organic cotton fibre in 2016/2017 session (with and average yearly increase of 2,2%) corresponding to 1,1% of national cotton fibre production. Organic certified land in Turkey is 3.863 hectares (Textile Exchange, 2018).

Organic cotton production in Turkey started in 1998 in line with global demand for organic cotton and its products (Özüdoğru, 2017). Production of organic cotton rise from 2500 tons produced in 806 ha land by only 59 farmers to 19000 tons cultivated in 3863 ha area by 196 certified producers (Özüdoğru, 2017).

Table 3.1. *Organic Cotton Cultivation Area, Number of Farmers and Production (ton) (Özüdoğru, 2017)*

	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Number of Farmers	313	164	71	105	117	178	287	311	220	207	167	196
Area (ha)	8367	12857	12079	13129	2408	4045	6192	6885	4436	4443	3297	3863
Production (tons)	**35354**	**63966**	**55535**	**68311**	**11897**	**18042**	**33347**	**31066**	**20603**	**22058**	**16653**	**19353**

Table 3.2. *Organic Cotton Production by Cities in Turkey (ton) (Özüdoğru, 2017)*

	2005	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
CITIES							233	176				2
Adana												
Adıyaman			480	1480			142	67	70			
Aydın	5100	6742	12507	6356	647	2598	3273	2865	2376	3727	2168	409
Denizli					233	265	1206	1467	1574	1940	1941	1877
Diyarbakır		464	366					572				
Gaziantep	60											
Hatay	2136	2166	26	70	3026	2497	2217					
İzmir	1716	253	2315	1731	1088	2068	2326	3388	3196	2255	2564	2741
Kahramanmaraş				187		252						
Manisa	154	170	175	69	159	567	491	44	155	588	473	563
Mardin	855	1379	84	596	637	1322	954	1012	86	77	21	
Muğla	13	13										
Şanlıurfa	25321	52780	39582	57822	6108	8472	22506	21444	13232	13463	9432	10060
TOTAL	**35354**	**63966**	**55535**	**68311**	**11897**	**18042**	**33347**	**31066**	**20603**	**22059**	**16655**	**19353**

After having high records between 2005 and 2008, organic cotton production in Turkey experienced a rapid decrease in 2009 because of the global economic crisis. After that, even though production has increased, it showed a fluctuating trend. Another factor impacting Turkish organic cotton production and number of farmers producing organic cotton is policy changes in agricultural subsidies (GAP & UNDP, 2014). Supporting mechanisms and agricultural subsidies have always been a significant determinant in agricultural production of Turkey. Most of the Turkish organic cotton is produced in Şanlıurfa (52%), Aydın (21%), İzmir (14%), Denizli (10%) and Manisa (3%) in 2016 (Özüdoğru, 2017).

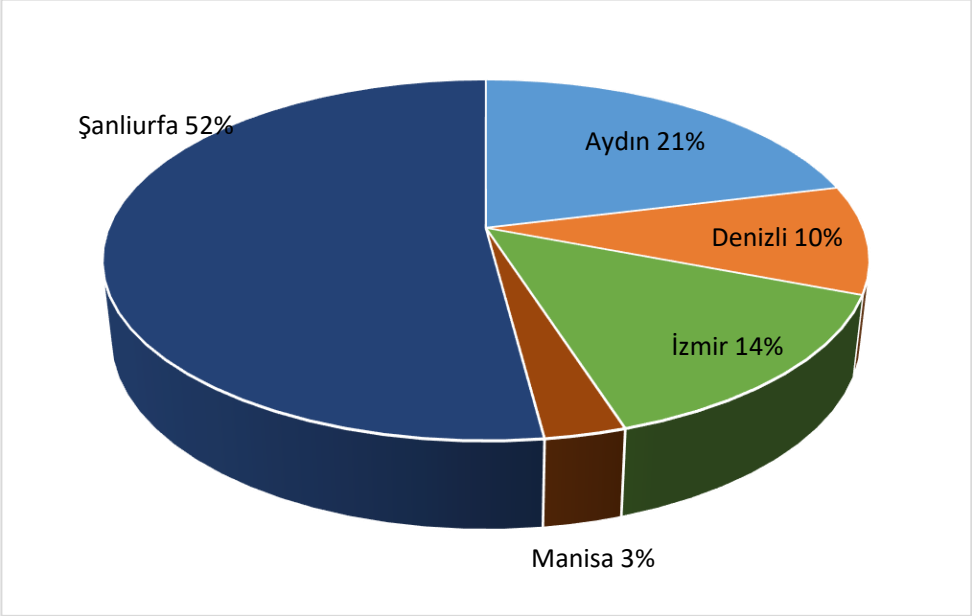

Figure 3.3. *Highest Organic Cotton Producing Cities in 2016 and Their Shares in Percentages (Özüdoğru, 2017)*

Moreover, GMO-free (Genetically Modified Organism-free) status is one of the most important strengths of Turkish cotton -given the fact that GM (genetically modified) version is spreading quite rapidly (77% of global cotton) and causing some major

problems (Textile Exchange, 2018). Also, Turkish National Cotton Council (2018) has recently introduced "*GMO-Free Turkish Cotton*" and its standards; and underlined that Turkey is the largest GMO-free cotton producer in the world (among only three countries including Turkey, Greece and Spain) which puts the country in a quite unique position as being the main source of pure and clean cotton gene in the world.

According to the Textile Exchange's research (2018), organic lint prices are on average 10% higher than conventional prices on the İzmir Commodity Exchange while the difference is up to 60% higher in China, 40% in the USA, and 7% in India.

A cost analysis study from 2011 compares the differences in yield, costs, prices, production value, subsidies and total revenue between conventional cotton production and organic cotton production.

Table 3.3. *Comparison of Organic and Conventional Cotton Production Costs and Revenues (Ekolojik Pamuk Raporu, 2013)*

		ORGANIC COTTON		**CONVENTIONAL COTTON**	
		Underground Irrigation	**Canalette Irrigation**	**Underground Irrigation**	**Canalette Irrigation**
Yield	Kg/da.	351.48	351.48	500.00	500.00
Production Cost	TL/da.	873.42	795.17	638.71	560.28
Selling Price	TL/Kg.	1.20	1.20	1.00	1.00
Production Cost	TL/da.	421.77	421.77	500.00	500.00
Agricultural Subsidies	TL/da.	161.71	161.71	223.70	223.70
TOTAL REVENUE	TL/da.	**583.48**	**583.48**	**723.70**	**723.70**
Difference (Production cost – total revenue)	**TL/da.**	**-289.94**	**-211.69**	**84.99**	**163.42**

3.2. Better Cotton

3.2.1. Better Cotton in the World

Better cotton is another approach arising from environmental, social and economic concerns associated with worldwide cotton production. It is launched by the Better Cotton Initiative. The ultimate aim of better cotton is "*to transform cotton production worldwide by developing Better Cotton as a sustainable mainstream commodity… and make global cotton production better for the people who produce it, better for the environment it grows in and better for the sector's future"* (BCI, 2017). Namely, Better Cotton initiative targets to promote productivity and enhance producers' incomes in a socially and environmentally sensitive manner (BCI, 2017). Similar to organic cotton, several global brand-name retailers and companies (including Adidas, Gap, Nike, IKEA, Levi Strauss & Co., etc.) who make commitments in regard to procuring their cotton from more sustainable sources also prefer better cotton in their supply chains (BCI, 2014). According to the newest data from BCI 2018 Annual Report, BCI's Retailer and Brand Members have sourced more than 1 million Mt of better cotton last year (BCI, 2018).

Better cotton production under the BCI Assurance Program is based upon producing cotton in compliant with defined specific minimum requirements. These specific requirements cover a wide range of practices in various topics including crop protection, water consumption, soil health, biodiversity, fibre quality etc. (BCI, 2017). Besides, better cotton production adopts important Principles and Criteria in regard to specific controversial issues associated with cotton production such as climate change and gender equality among many others (BCI, 2017).

After participating in a series of training, farmers who comply with BCI's '*Better Cotton Standard System*' and '*Principles and Criteria'* became eligible for licensing.

According to the BCI (2017), as 2016/2017 season, there are 21 countries producing better cotton including Australia, Brazil, Burkina Faso, Cameroon, China, Cote d'Ivoire, Ghana, India, Israel, Kazakhstan, Madagascar, Mozambique, Pakistan, South

Africa, Tajikistan, Tanzania, Turkey, Uganda, USA, Zambia and Zimbabwe. Produced by 1,3 million licensed BCI farmers, better cotton accounts for 14% of global cotton production (BCI, 2017). BCI aims to reach 5 million farmers and increase better cotton share to 30% of global cotton production by 2020 (BCI, 2017).

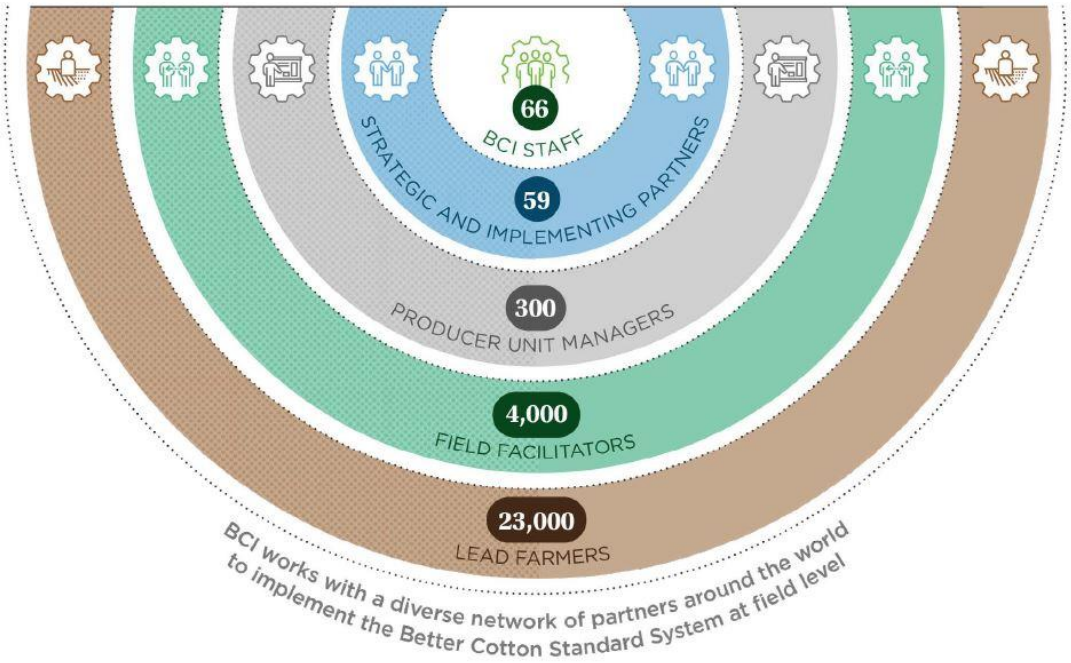

Figure 3.4. Organizational Structure of Better Cotton People (BCI, 2017)

The organizational structure of better cotton production includes Implementation Partners (IPs), Producer Unit (PUs), Learning Groups, PU Managers and Field Facilitators. Each component of the structure is explained in BCI Annual Report 2017 as below: Implementation Partners (IPs), who can be NGOs, cooperatives or companies, help farmers in better cotton cultivation, provide technical assistance and knowledge; and encourage proliferation of better cotton among communities. Implementation Partners support Producer Units (PUs) who are the group of better cotton farmers comprising of smallholder or medium size farmers in the same locale.

Producer Units consist of smaller farmer groups called Learning Groups multiple of which are led by a PU Manager who assist them to master better cotton production practices and techniques according to Better Cotton Principles and Criteria. Also, there are Field Facilitators providing on-the-ground training for the farmers' to adopt better cotton practices through demonstrations in the field.

3.2.2. Better Cotton in Turkey

Better cotton lint production accounts for 0.15 % of total cotton lint produced in Turkey[7]. In 2018, 135788 MT better cotton lint was produced in Turkey. In terms of the distribution of better cotton lint production, GAP Region is the leader with 76900 which accounts for 57% of national better cotton production (produced in Şanlıurfa and Diyarbakır) as shown in Table 3.4 below in this section. The rest of the better cotton is produced in Ege (31%) and Çukurova (12%) Regions (see Table 3.4 below).

[7] Calculated based on the data of TUİK -retrieved from Cotton Sectoral Report (2018) and National Better Cotton Statistics of İyi Pamuk Uygulamaları Derneği (IPUD) retrieved from https://iyipamuk.org.tr/sayfa/556/better_cotton/turkiye%20de_better_cotton_uretimi.html

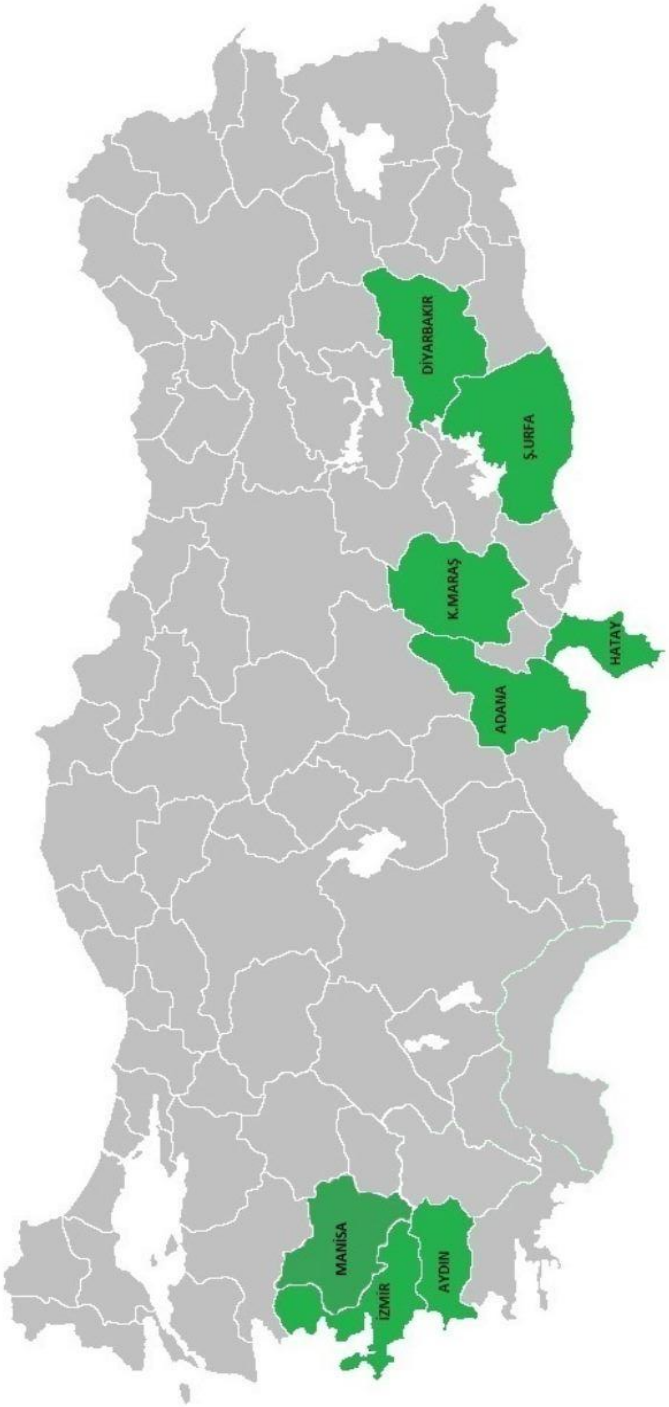

Figure 3.5. Organic Cotton Production by Cities in Turkey (ton)[8]

[8]Retrieved from: https://iyipamuk.org.tr/sayfa/556/better_cotton/turkiye%20de_better_cotton_uretimi.html

Table 3.4. *National Better Cotton Statistics*[9]

YEAR	REGIONS	BCI Farmers	Area Under Better Cotton Cultivation (ha)	MT of Better Cotton Lint Produced	Average Yield (kg/ha)
2018	EGE (Aydın, Izmir, Manisa)	413	8650	42354	5121
	ÇUKUROVA (Adana,Hatay, Kahramanmaraş)	113	2989	16535	5139
	GAP (Şanlıurfa, Diyarbakır)	436	14334	76900	5342
	TOTAL	**962**	**25974**	**135788**	**5224**
2017	EGE (Aydın, İzmir, Manisa)	336	8236	40314	4894
	ÇUKUROVA (Adana,Hatay, Kahramanmaraş)	56	1348	7044	5225
	GAP (Şanlıurfa, Diyarbakır)	399	10792	58665	5436
	TOTAL	**791**	**20376**	**106023**	**5203**
2016	EGE (Aydın, İzmir, Manisa)	249	7624	37703	4945
	ÇUKUROVA (Adana,Hatay, Kahramanmaras)	33	2626	11889	4527
	GAP (Şanlıurfa, Diyarbakır)	60	5401	28407	5260
	TOTAL	**342**	**15651**	**77999**	**4984**
2015	EGE	351	7725	36609	
	ÇUKUROVA	44	3202	14820	
	AKDENİZ	20	129	475	
	GAP	26	1985	8776	
	TOTAL	**441**	**13041**	**60680**	
2014	EGE	342	6743	34677	
	ÇUKUROVA	109	3733	15689	
	GAP	83	2235	10079	
	TOTAL	**534**	**12712**	**60445**	

[9] Retrieved from: https://iyipamuk.org.tr/sayfa/556/better_cotton/turkiye%20de_better_cotton_uretimi.html

İyi Pamuk Uygulamaları Derneği (IPUD) is the BCI's strategic partner in Turkey and it is the organization responsible from the management of better cotton production in the country. Even though number of farmers practicing better cotton production fluctuates by years, the area under better cotton cultivation and the amount of better cotton lint produced in the country show an increasing pattern in Turkey. During the in-depth interviews, one of the IPUD experts responsible from training and capacity building clarified that the decrease in the number of farmers is stem from the high standards that farmers are expected to meet in order to be eligible for better cotton production.

Better cotton in Turkey is cultivated in Ege (Aegean), Akdeniz (Mediterranean, including Çukurova) and GAP Regions. Even though better cotton production in Turkey is dominantly existed in GAP and Ege Regions, GAP has become the leader in the number of better cotton farmers, area under cultivation, amount of better cotton lint prodcution and yields. GAP Region has not only become prominent with its high share of overall national cotton production, but also become the leader in higher-value added (upgraded) cotton produced.

3.3. Local Context

There are also some issues in the local context that underpin the need for upgrading in cotton value chain in Şanlıurfa. As main participants of the cotton value chain, there seems several issues and conflicts between cotton producers and industrial processors, in other words, textiles firms in the region. According to the industry, producers take advantage of the supply-demand imbalance in the market and therefore do not pay attention to the quality of the crop they produced. Firms indicate that since there is a great shortage in the supply, farmers think that quality does not matter that much as long as they can sell their product and, since the shortage is huge, they are always able to find someone willing to buy their output no matter quality of the yield. Processing sector is not satisfied with the quality of the local cotton fiber and states that improper

practices in the production stage affect the quality of their outputs significantly. They also emphasize that even if the essential characteristics of local cotton fiber is of quite high-class (for example in terms of fiber length, paint adherence, touching etc.), the quality substantially decreases due to the incorrect and imprecise practices during the irrigation, harvesting, or storage operations etc. which ultimately cause a considerable decrease in the value of the cotton fiber they use as an input. As a result, the problems in the agricultural production stage of the cotton value chain causes value and income losses not only for the farmers but also for the actors involved in further stages of the value chain. Besides, inaccurate practices of farmers in the field –in terms of uncontrolled usage of chemicals (pesticides and fertilizers) and inefficient irrigation systems- cause extensive deterioration of the soil and depletion of water resources which are already highly scarce in the region. The improper practices of the farmers lead to important environmental consequences as well as economic ones. Despite all this, it is also argued that cotton farmers in the region show a strong resistance to improve the quality standards of the cotton they produced and change the conventional practices they have been performing for years.

Considering all this, cotton production in Şanlıurfa may not be economically and environmentally sustainable as long as cotton producers change their attitudes and practices. First of all, quite higher rates of cotton import may become an important threat for their local products which falls behind the quality standards that market requires. If local cotton cannot meet the quality requirements and standards of the competitive textiles industry, firms would opt for more imported cotton in order not to reduce the quality of their output. Second, current practices used in cotton production in the region poses significant threats to the environment and already scarce resources of the area. Several researchers and studies show that deterioration in the soil due to improper practices and depletion of water resources as a result of excessive use probably will not allow cultivation in the foreseeable future. Also, government's recent expressions and more aggressive intentions about changing subsidy mechanism to enforce crop rotation mandatorily in order to improve soil

structure shows that environmental concerns outweigh production size and became a priority. Crop rotation is already legally mandatory; however, it is not fully enforced yet -at least not in the Southeast Anatolia Region. Local agencies indicate that farmers who do not follow the crop rotation will not benefit from agricultural subsidies soon - hoping that new arrangement can deter them from insisting on planting cotton subsequently over the years. To sum up, it seems that there is an urgent need for the farmers in Şanlıurfa to alter their position in the market because there are several risks awaiting them if they do not take any action.

In terms of our case, the cotton produced in Şanlıurfa is also part of a global trade network and cotton value chain in the region gets connected with the world markets especially after the industrial processing stage of the chain. The thesis aims to concentrate on existing positions of cotton producers in relation to the other actors and stages in the cotton value chain in GAP Region. In addition to this, it aims to compare farmers that have changed their position in the market and managed to improve their terms of integration into the cotton value chain, in other words upgraders, with the others who do not show a tendency to do so. Understanding their motivations for the change and conditions/circumstances that either facilitate or prevent this transition are going to be the key indicators for increasing the overall value gained from the cotton value chain in the area.

CHAPTER 4

ANALYZING COTTON VALUE CHAIN IN ŞANLIURFA

This section of the study aims to discuss the first research question of the thesis:

'*How can cotton value chain in Şanliurfa be improved in an economically and environmentally sustainable manner?*'

The sub-questions that help to answer the first main research question are:

- What are the existing problems and opportunities in the cotton value chain?
- What are the existing upgrading activities in agricultural production as means of achieving improvements and increasing value generation in the chain?

This section aims to discuss these questions in the context of value chains framework. What is meant by 'improving the cotton value chain' here is basically enhancing value generation from cotton, increasing its contribution to regional competitiveness in cotton related sectors, and promoting overall regional welfare by increased incomes and revenues for local people. As it can be inferred from the research question and following sub-questions above, the thesis aims to discuss this in the steps of: (i) identifying problematic and weak stages of the value chain, (ii) shedding light on opportunities associated with the chain, and (iii) discussing upgrading activities taking place along the cotton value chain as means of improving value generation and value increase. Data collection of this section is conducted within a project called '*Integrated Resource Efficiency in Agriculture and Agro-Based Industries in Southeast Anatolia Region*' with a group comprising of researchers, specialists and local experts from the Ministry of Development, GAP Regional Development

Agency, MATPUM (METU) and UNDP in which the author of this thesis worked as a researcher.

The first step is identifying the most problematic and weakest stages in the cotton value chain that prevents region from greater value generation out of cotton and related sectors. Understanding the dynamics that negatively impact the competitiveness of the sector, decrease efficiency and cause value losses are crucial to be able to provide useful policy advices.

Secondly, in addition to the problematic nodes, identifying opportunities also offer valuable insight for describing appropriate environment which enables exploiting these opportunities. As part of the value chain analysis, focusing on strong characteristics and dimensions of cotton value chain in Şanlıurfa is another target desired to achieve in this part of the thesis.

Third, the section discusses existing 'upgrading' activities because regional value creation and value increases are usually achieved through these upgrading strategies. In discussing upgrading, we particularly focus on agricultural production stage and farmers because our preliminary research revealed that this is the most problematic stage of the cotton value chain in Şanlıurfa. Therefore, upgrading strategies adopted by the agricultural producers which result in economic or environmental improvement in the value chain are the particular focus in this section.

In order to answer these questions, a detailed value chain analysis is required to be able spot these problematic weak stages, opportunities associated with the sequential chain activities, and upgrading strategies carried out to increase value generation. Value chain approach is not only important in terms of investigating individual sector activities, but also crucial in terms of examining inter-sectoral relations and dynamics which may have a significant impact on achieving a successful value chain.

4.1. Cotton Value Chain Analysis

Based on the detailed literature review in the theoretical framework chapter of this thesis and depending on the available data, the components of value chain analysis to be investigated in the thesis are determined as;

- *Actors and activities*
- *Governance*
- *Economic analysis (such as rents and barriers to entry, market demand etc.),*

Therefore, this section investigates cotton value chain in Şanlıurfa by these components listed above. As indicated in the research question, these topics are discussed, first, in terms of their natural dynamics, and then in terms of problems and opportunities associated with them.

4.1.1. Major Activities and Actors

Major value chain activities taking place in cotton value chain in Şanlıurfa are observed as; *input supply, agricultural production, primary processing (ginning), and secondary processing (textiles manufacturing)* activities.

The preliminary research showed that even though global cotton value chain shows a great degree of branching, processing part of cotton value chain in Şanlıurfa does not show a wide branching. For example, use of cotton in food industry (extracting oil from the cotton seed) or use of cotton seedcake in animal feed industry are not investigated in this thesis because they were only observed as minor cotton value chain activities in Şanlıurfa. Thus, the thesis focuses on *agricultural production*, with *ginning* and *textiles manufacturing* stages within the processing sector. *Cotton producers including conventional, organic and better cotton farmers, input suppliers, middleman, ginners, and textile manufacturers* are determined as the major value chain actors to be interviewed with.

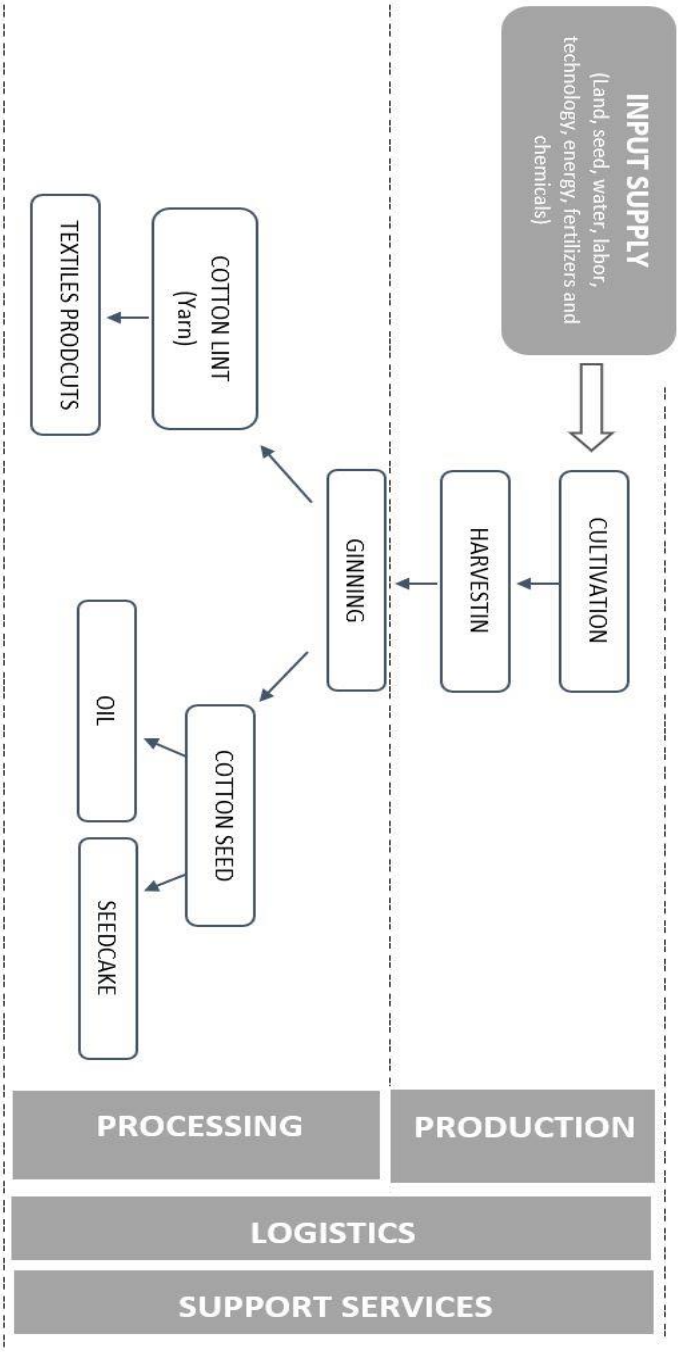

Figure 4.1. Cotton Value Chain Map in Şanlıurfa

4.1.1.1. Input Supply

Input supply of agricultural production constitutes the initial step of the value chain. Inputs identified in the cotton value chain in Şanlıurfa are: *land, labour, seed, technology, chemicals, fertilizers, energy* and *water*. Input supply stage is examined through i) interviews with input suppliers (distributors in the city) and ii) information regarding input supply stage during the farmer interviews.

The interviewed input supplier firms are the providers (distributor) of seed, technology, chemicals, fertilizers and technical consultancy. They define themselves as the agents responsible from providing inputs required for agricultural production activities to the farmers and offering technical support and consultancy in regard to usage of their products (I20, I21). They are not the producers of inputs but only distributors.

Water:

Water (irrigation) is one of the most problematic issues in agricultural production in the city. The problem about irrigation is the excessive water consumption due to the use of inefficient traditional systems and deterioration of the soil as a result of enormous irrigation (I40, I41, I42). In the northern part, where the altitude is higher (Viranşehir, Siverek and other parts of Suruç) they pump water from the water wells. The elevation in this part of the city creates pressure which allows water to be pumped from the wells. In the southern part of the city, where the geography is plainer (Harran, Akçakale, some parts of Suruç), farmers use water canals for irrigation. In this part of the city the prevalent irrigation method is surface irrigation with flooding method. Most of the canals in the city are open canals which result in significant water loss as evaporation due to very high degrees of air temperature. There is an urgent need to transform them closed-canals to avoid evaporation and reduce water loss. Farmers indicated that a great amount of water-saving is possible if open-canals are closed (I14, I15).

Seed:

The input suppliers (I20, I21) indicated that most of the seed used in production is imported from outside of the region. However, they underline that production of the seed in the region would be more practical in terms of producing seeds that are more compatible to the region-specific conditions (such as climatic factors). Another point they made is the limited seed breeding institutions in the region. They indicated that there are research institutes in the region who reproduces seed but does not make any breeding research for local variations that are more durable for domestic conditions. Existing few local producers in the region are also holders of production licenses of international or national seed brands and only involved in reproduction, not any research activities. Besides, the most prevalent seeds used in cotton production are foreign brands not the local ones; however, local research institutions carry breeding studies on local breeds which are not commonly preferred by the farmers. Even though they are more expensive, Farmers prefer these foreign brand seeds because they give higher yields when compared to local seeds.

Chemicals and fertilizers:

One problem associated with the use of chemicals and fertilizers is that they are sometimes applied without following the instructions or without technical assistance by the experts (I49). This may cause misapplication and contamination of the soil.

Similar to the seed, input suppliers argue that the region lacks local (or national) producers of chemicals and fertilizers, thus they have to provide farmers with imported chemicals and fertilizers which are quite expensive for them.

In terms of overall input prices, one of the input suppliers (I20) emphasizes that "Turkish farmers can be considered the ones who use the most expensive inputs in the world" in terms of energy, seed, chemicals and fertilizers. This is particularly because these inputs are imported with high currency rates. Even local products use imported

raw materials which boosts the prices as well. However, despite excessive cost of inputs, agricultural output prices should be in accordance with the world market prices which puts the farmers in a very disadvantaged position, diminishes their income and decreases competitiveness in the world markets. Price fluctuations depending on the inconsistent currency rates and unstable national economic standing have significant impact in farmers' expenses and earnings. This problem is one of the biggest challenges local farmers face.

Given the limited financial sources and unstable conditions of farmers, input suppliers usually make informal contracts and quite flexible payment schedules with the producers (I20, I21). Farmers mostly wait to make payment until the harvest. Even though this situation puts considerable financial burden to the supplier, they accept the condition as it is and consent late payments (I20, I21). This indicates strong ties and trust between the agricultural producers and local input suppliers. This also requires a long-term business relationship because trust building between the parties can be a slow process. Because of that situation, input suppliers indicate that they all have their own farmer networks that they maintain long-term transactions.

Technology:

Technology in production stage refers to the machinery and farming equipment. Large and expensive machinery may be leased by the farmers who cannot afford to buy (I17). Mostly, there is sufficient amount of machinery equipment to lease; however, it is reported that sometimes there may be congestion in demand especially in the peak season (for example cultivation or harvesting seasons) (I1).

Cotton is mostly harvested by machinery. Farmers indicate that mechanization in cotton harvesting increased the product quality because before machinery, when cotton was picked by hands and level of contamination was higher. Now it is significantly reduced according to the farmers (I2, I3, I17).

Land:

Land ownership and use among the cotton producers in the area varies, including landlords, smallholder farmers, sharecroppers and tenants (leasers). There are a lot of small farmers who do not own sufficient amount of land for efficient production, therefore lease extra land for production or became sharecroppers. In sharecropping, small farmer works under the landowner. Landowner is responsible from the management of the production and expenses. Small farmers can also lease a piece of land and produce by his/her own independent from the landowner.

The law requires farmers to get soil analysis completed in order to benefit from agricultural supports. Using fertilizers and other chemicals should be based on these analyses to protect the structure of the soil.

During the interviews, urbanization is indicated as another threat causing loss of fertile agricultural lands. Urban sprawl through the peripheries put a considerable risk on the valuable agricultural production areas in Şanlıurfa (I14).

Labor:

Analysis revealed that there is sufficient labor in the city, especially young population who are suitable for working in agricultural production is adequate. However, there is an unwillingness to participate agricultural labor force among the young population. Younger generation looks for more urban-type occupations (I14).

In addition to the local labor, Syrian refugee population contributes to the labor force (I1, I2). Syrian workers seem favorable to the local farmers due to their lower wages. It is also indicated that in local families, almost all family members contribute to the labor (in various ways) (I1). In cotton production, the need for labor diminished after mechanization of harvesting in Şanlıurfa though (I1, I2, I3).

Energy:

The problem highly underlined during the interviews is that the production areas quite frequently experiences power cut-outs (I5). This creates a considerable problem for the farmers who irrigates by using electric power. It is indicated that farmers sometimes have yield loss due to often interrupted irrigation during the season (I5).

4.1.1.2. Agricultural Production

Agricultural production stage in cotton value chain consists of growing cotton crop from planting to the harvest. The main actor of production is the farmer. The investigated farmers can be grouped in three main categories based on the production area size: large-*scale, medium-scale*, and *smallholder* farmers. Another categorization can be made based on the land ownership as *landowners* and *tenants* or *sharecroppers*. Farmers, as the main actors of the production stage, are also related to the input suppliers through backward linkages and to the processing sector agents (ginners) as the forward linkages. As the primary consumers of the cotton grown in the fields, ginners and textiles factories also provided valuable insight into the production process. Therefore, production phase dynamics are not evaluated by solely on the statement of farmers, but also collocated with the considerations of processing stage actors. Also, there is a small group of middleman involved in cotton trade between the farmers and ginners. Mostly, smallholder farmers (cultivating in an area approximately less than 20 decare) work with middleman to commercialize their cotton due to small amount of their produce. Number of middleman and farmers who trade cotton through middleman is quite low in the area though.

The size of the cotton production areas in Şanlıurfa vary. Depending on the farm size and, accordingly, amount of labor required for the management of the production, farm scale can be divided into categories of: large scale, medium scale and small-scale farming. Farms which has a production area greater than 200 hectares is considered

large-scale; the ones between 20-200 hectare are medium scale; and smaller sizes than 20 hectares are regarded small-scale farming (BCI Annual Report, 2017).

Table 4.1 *Farm Scale and Sizes (BCI Annual Report, 2017)*

Farm scale	**Farm size**	**Labor requirement**
Large-scale farming	>200 ha	Dependent on permanent hired labor
Medium-scale farming	20-200 ha	Dependent on permanent hired labor
Small-scale farming	1-20 ha	Does not dependent on permanent hired labor

Large scale producers that were interviewed indicated that they rent extra land in addition to their own area for cotton production because of the scale economies, cotton production is not reasonable and efficient in small sizes (I2, I3, I12, I13). They further indicated that they make cooperation with surrounding farmers and enlarge their production area in order to increase profits. However, small farmers, on the other hand, have the opportunity to take care of their crop quite better compared to large scale producers (I16). Since the area they handle is small, they can spend extra time and effort to improve their produce (I16). Also, due to the small size of the area, they can afford to use higher quality fertilizers or chemicals which ultimately improves the quality of cotton they produce (I16). Thus, it is better for the small farmers to grow higher quality cotton.

One factor affecting cotton farmlands is the division of land through inheritance which causes farmlands getting economically unviable sizes for agricultural production. Lately, policies setting minimum size limits for the division of the farmlands and protecting them at a economically viable size for agricultural production were put into implementation. Preventing division of the farmlands is followed by land acquisition regulation in order to regain proper farm sizes which enables efficient agricultural production and improves fertility.

Another common problem existing in the area is the migration of the landlords and landowners of large farmlands from rural to urban areas as explained by one of the informants (I7): Migrated landowners lease their farmlands -partially or as whole- to shareholders or tenants. When large agricultural lands rented to several tenants in small pieces, each farmer may choose to grow another variation of cotton seed and homogeneity decreases. For example, variation can lead to cotton fibres with different micronaire values which results in homogeneity problem in the processing sector and, accordingly, a decrease in product quality.

Main activity carried out in this stage of the value chain is the production of cotton consisting of operations such as preparation of the land, planting, growing the plant (includes irrigation, fertilization, pest control etc.), harvesting, storage and finally transferring product to the next stage actor. Average cotton production (yield) in Şanlıurfa is indicated 500 - 600 kg/decare in Şanlıurfa. There are several local characteristics effecting yield in the area including varieties in temperature, availability of irrigation, height to name some. The ultimate aim of the local cotton producers is making the highest possible yield and, accordingly, greatest amount of revenues out of cotton. From the comprehensive logic of value chain approach, higher level of yield is, together with higher product quality, not only for the benefit of farmers but also directly for the benefit of other actors involved in cotton value chain. This is particularly because increasing the value created in one of the value chain stages also directly cause a value increase in other stages of the chain. Knowing that, as a response to those sometimes harsh conditions, a global pharmaceuticals company, Bayer, developed a special type of seed called ‘Candia’ and it has become the most prevalent seed used in cotton production in the city, especially in Harran plain where the temperature is higher and altitude is low. Farmers particularly emphasized Candia’s endurance against different temperatures and water levels and its obvious superiority over other types. Besides adaptation to the local conditions and higher yield, Bayer has also made a significant contribution to the solution of regions’ another critical problem, the low quality of the cotton. The quality of cotton fibre is typically

determined by its strength, colour, length and purity (the absence of foreign matter). With Candia, cotton producers in Şanlıurfa have become capable of growing more quality cotton in terms of color (whiter), fiber length and strength with higher level of yield.

Farmers are required to abide crop rotation to protect nutrient and mineral balance of the soil. However, they insist on subsequently growing cotton because of its higher income generation compared with other crops. Rotation is technically mandatory for the farmers in order to benefit from agricultural subsidies, though it is not fully enforced yet and farmers keep growing cotton and other higher-price crops.

In-depth interviews with ginners and textiles sector revealed that, besides inherent characteristics which could be overcame by seed development to some degree, low-quality of raw cotton caused by the improper practices that farmers implement in the field is a major problem in the agricultural production stage. By its nature, cotton is a product which requires extra sensitivity and care in almost all steps of production. Low-quality of raw cotton adversely affects all the subsequent processes in the chain by disturbing appearance or cleanness of all the cotton-based commodities -to which purity of the material is the essential criteria in determining the product quality and price. These problems related with agricultural production stage below are reported during the meetings with downstream stage actors, namely processing sector agents using cotton as their primary input and other actors belong to supporting services (I30 – I41; I45 – I49)

- ***Contamination***: There are several factors and malpractices that cause contamination problem in cotton production. Firstly, during harvest, if cotton is not picked cautiously and in a clean way, various contaminants (foreign matters) may mix into the harvest and adulterate its purity. Even though mechanization allowed diminishing contamination levels in harvesting, farmers still may be negligent in handling the raw cotton. Once harvested,

cotton is stored in jute bags before going into processing. Small particles of these jute bags blend into raw cotton and cause another type of contamination.

- ***Humidity***: Farmers sometimes pick cotton early in the morning when the dew is on the crop. They purposely do not wait the dew to dry because humidity makes cotton bales weight heavier so that farmers earn more from the cotton they sell. However, this misbehavior causes a decrease in the quality of cotton. Humidity distorts the whiteness and texture of the cotton. Local government plans to control this malpractice by installing GPS devices to tractors (harvesters) to detect farmers who pick cotton early in the morning before dew dry up or in the evening when humidity is high.

- ***Variety in cotton seeds***: Another factor is the variety of different cotton seeds which causes diverse cotton fibre lengths. High variation in fiber length causes standardization problems in the processing stage of the value chain.

- ***Excessive irrigation***: Besides exploitation of local natural water resources, excessive irrigation causes increasing humidity levels in the fields which creates a suitable environment for the spread of insects and disease. Over-irrigation also reduces the effectiveness of fertilizers and triggers over-use of those inputs which not only increases expenses but also distorts the quality of the soil and cause impairments.

During the interviews, cotton producers reported that technological equipment is sufficient for maintaining production activities (I2, I14). They further explained, before mechanization cotton was mostly picked by hands which increases contamination level and dependency to human labor. After mechanization, they observed a remarkable diminish in contamination levels of cotton. However, the region still lacks the latest technology farming equipment and systems that are used in developed cotton producing countries. Both the farmers (I14, I3) and local experts (I38, I47) highlight the need for adaptation of satellite tracking systems in agricultural production. This technology allows to detect whether the plantation needs irrigation,

fertilization or any other maintenance, the optimum amount and timing of these requirements and so on. Having such a technology would prevent excessive use of production inputs and enable higher quality cotton in a more efficient manner.

Economic Sustainability of Cotton Production in Şanlıurfa

Before starting discussion, it is important to note that we consider conventional cotton production in this section. Primary and secondary analysis reveal that conventional cotton production in Şanlıurfa does not seem economically sustainable for several reasons. The information below is compiled based on the secondary data from literature research and in-depth interviews with local experts and specialists.

First reason is that, as it is already mentioned, input prices in cotton production is considerably expensive due to the higher exchange rates. As one of the interviewees emphasized, Turkish farmers produce the most expensive cotton compared to the other producers from the other parts of the world. Using imported inputs, especially fertilizers and chemicals (pesticides, herbicides etc.) create excessive financial burden on farmers budget. On the other hand, they must sell their products at average market rates determined by world cotton prices in international markets or based on local prices in the national market. In other words, local cotton producers do not have equal conditions in production side; however, they are expected to compete with other producers based on the prices determined by external factors. Kaçıra and Karlı (2002) argue that high production costs adversely affected the competitiveness of cotton production in Çukurova and Antalya regions, land devoted to cotton production shrank and cotton production diminished significantly. Cotton gave its place to alternative crops such as citrus fruits, fresh fruits and vegetables in Antalya; soybean, corn and peanut in Çukurova (Kaçıra and Karlı, 2002). GAP Region as well may have the same risk of changing crop patterns in the near future.

According to the National Cotton Council's Cotton Sectoral Report (2018), national average yield is indicated 456 kg per decare and 500 kg/decare for Şanlıurfa (average)

according to the same report (Cotton Sectoral Report, 2018). However, during the field research, farmers reported that their average yield varies between 500 – 600 kg/decare. Average national production cost of cotton (unseed) is calculated as 1620 TL per decare and 3,55 TL/kg. In Şanlıurfa, unit cotton production costs are reported as 1705 TL per decare and 3,74 TL/kg for canalette system irrigation; 2095 TL per decare and 4,59 TL/kg for the areas using pumped irrigation. When compared to national average, cotton production cost in Şanlıurfa is relatively higher. When looking at selling prices reported by the farmers during the field research, they indicated that selling price of unseed cotton varies between 2,7 TL/kg. – 3,5 TL/kg. depending on the quality of the produced cotton. In addition, there is 0,80 TL agricultural support. Together with this, farmers can increase revenues up to 3,5 TL/kg – 4,3 TL/kg. Compared with the production costs indicated above, cost of production seems outweighing the revenue generated for per kilogram cotton which means producing cotton economically does not make any sense. However, it is a fact that cotton is one of the most critical and prevalent agricultural products in the area; and people keep growing cotton despite low profit margins. It is worth to take attentions to the differently reported yield levels between Cotton Sectoral Report and field research because this can be the explanation why farmers still keep growing cotton despite of its high cost exceeding the revenue. Since average yield level in Şanlıurfa is indicated as 500 kg/decare while the farmers say it ranges between 500 – 600 kg/decare and sometimes rises up to 700 kg/decare. This means, in fact, if farmers are really getting higher yield than what is recorded in the report, production cots per unit should be lower from the indicated numbers in the report.

For comparison, according to the ICAC data, average world cotton fibre price were 82.8 cents in 2016/2017 season and 79.2 cents in 2017-2018 season which makes approximately 4,5 Turkish liras. It shows that fibre cotton selling prices per kilogram in Şanlıurfa (3,5 TL/kg – 4,3 TL/kg which of 0,80 TL comes from agricultural supports) are below world average prices. Also, during the time field research was conducted, 1 US dollar was equal to 3,5 Turkish liras and after a while it increased up

to around 7 TL. Significant increase in currency rate means that production cost of cotton has become even higher after the interviews conducted which indicates a further decline in farmers' revenues. Moreover, excessive production costs put Turkish farmers in a quite disadvantaged position in the world market. Under these circumstances, competing with foreign grown cotton seems almost impossible for local cotton producers.

Furthermore, another issue local farmers and local government deal with is the high price of energy and conflict between these two groups (local officials and farmers) on pricing of electric power. According to the farmers, local government uses pricing of electricity as a control mechanism for irrigation since a great deal of farmers use water pumps operating with electric power to irrigate their fields (I2, I3). They complain about the different pricing of agricultural irrigation water and want government to cut charges. It is indicated by these farmers that electric pricing for the irrigation of 100 decare land cost them approximately 20.000 TL which is extortionate for their budget. They further exemplified the situation as indicating that "many farmers cannot afford to pay electric bill even if they sell their land, so it is impossible as long as pricing is that high" (I2). Local authorities (I46, I49), on the other hand, argue that despite of large discount rates (up to 65%), farmers refuse to pay any amount for the water they use and keep excessive water consumption without considering future demand and scarce water resources of the region. They (farmers) also refuse to install more efficient irrigation systems such as drip irrigation due to the installment cost.

Environmental Sustainability of Cotton Production in Şanlıurfa

Another controversial issue is the environmental sustainability of the cotton production in the region. According to the analysis explained above -based on the statements of several cotton value chain actors including academicians, experts and local specialist- producing cotton under these conditions may not be sustainable in the

future. This is particularly because of excessive water consumption and use of chemicals in an uncontrolled manner.

As it is explained earlier, water is a quite scarce resource for the region. Most of the irrigation enabled after the construction of the Atatürk Dam which changed the destiny of the region completely. Enabling of agricultural water and irrigated farming have introduced new lucrative agricultural crops to the GAP region, and Şanlıurfa has become one of the greatest beneficiaries of it. Cotton is one of those fruitful crops which requires excessive irrigation to grow. With irrigated farming, cotton rapidly became one of the most favorite and prevalent crop in the region and Şanlıurfa has come into prominence among one of the greatest cotton producing places after Adana and Aegean Region. However, over-irrigation of cotton fields put extra pressure on water resources. Farmers in Şanlıurfa use excessive water in cotton fields, much more than it is needed.

The problem is not that cotton is a high water-consuming crop, rather the farmers' unfamiliarity with how to handle such a new condition. As one of the interviewees indicates (I21):

> "*You suddenly leave a huge and very valuable resource in the hands of a group who has never managed such a thing before and do not know how to use it; how to handle it. You should not mistake them for the farmers of Adana, İzmir or Aydın who are familiar with abundant water for so long time. They are two totally different groups*." As it can be understood, the problem is not the scarcity of the water itself, but its being new in the area and local people's unfamiliarity with this critical resource.

Excessive irrigation not only causes overconsumption of scarce water resources of the city but also degenerates soil structure. Increasing salinity degree of the soil is an important problem in the area as a result of this. Another problem associated with over-irrigation is that excessive water in the fields skims fertile (rich) soil layer and decreases fertility and quality of the land. Besides, accumulation of excessive water

in the field decreases efficacy of fertilizers and farmers ultimately end up using more and more fertilizers. These improper practices (both excessive water and degenerated soil) have a considerable impact over the environment and agricultural product quality.

There are farmers who indicated that (I2, I5) they have already realized the impairment caused in soil structure affecting agricultural product quality and yield. In more sloping land, farmers can install drip or sprinkler irrigation systems which are much more efficient irrigation methods; however, most of the agricultural producers avoid employing those infrastructures due to higher costs. There are farmers who attempt to install efficient irrigation systems in their fields partially, if not fully, as much as they can afford. They indicate that governmental incentives (if there would be any) would encourage making such kind of investments (I2).

However, these constitute a small group of farmers among the interviewees (2 farmers) and among the overall farmers in the city according to their statement, a great portion does not attempt for that because they do not want to bear extra financial burden due to such kind of infrastructure installments. The underlying reason for this is that there is a common tendency in the region for not paying a price for water. The interviews with local officials also confirm that great majority among the local producers does not really pay the bills for water consumed in irrigation. As indicated by a local specialist (I39), debt accumulation is so high that it is impossible for the farmers to pay those bills, even if they sell their fields they still cannot pay off. Some others believe that pricing for water is so high and should be reduced.

This is one of the major structural problems and a cultural issue in the region. It is a common knowledge that a substantial number of local people consider water as ‘given’ and they do not feel obliged to pay any price for it. Moreover, there is a fallacy in the region - farmers believe that ‘the more they irrigate, the more yield and high-quality product they get’. One of the farmers reported that (I8):

> "*They (agricultural producers) even compete in the highest amount of irrigation they make in their fields and flaunt it in the face of other farmers who irrigate less. Some of the farmers compete with his neighbor farmer and want to irrigate a little more than what his neighbor consumed. Thus, more irrigation means a better status, reputation and an indication of wealth in this region*"

However, two of the interviewees highlighted that a consciousness regarding the detriments of excessive water use on the product quality has finally emerging among some of them (I4, I5, I8). This happens sometimes by observing other farmers who does not over-irrigate and get better-quality products, and sometimes by depending on their own experience (by using optimum amount of water and improved product quality and yield (I8).

Another environmental downside associated with cotton production is the lack of crop rotation among the farmers. There is a strong tendency among the producers to always grow higher-value, more profitable crops regardless of irreversible consequences of their actions. Exhaustion of the soil is an example of this malpractice. Cotton is one of the agricultural products which affects mineral structure of soil when planted subsequently for a long time. There is an urgent need for the farmers to understand the risk and consider crop rotation in order to prevent soil from deterioration.

4.1.1.3. Processing

Processing part of cotton value chain consists of two stages:

i. Ginning (primary processing)
ii. Weaving and textile manufacturing (secondary processing)

Processing stage actors are basically the ginners, textiles manufacturers and a small number of middlemen. Ginning, first processing activity that raw cotton goes through, refers to the process of separating raw cotton into lint and seed. This process is

conducted by local ginners in ginning factories. Ginners buy raw cotton mostly from the farmers; however, there is a small number of middlemen who may collect cotton of small producers whose produce is so small to be directly put on the market. Middleman collects those small quantities of cotton from various smallholders and markets them at reasonable amounts to the ginners (I19). Smallholders especially prefer selling their cotton to the middlemen when they have no or limited access to processing sector (I19). However, processors mostly prefer to buy cotton directly from the farmers rather than the middlemen in order to avoid middlemen's commission, and to have more bargaining options; they indicated that middleman is quite rare in cotton trade in Şanlıurfa (I24, I33). Providing cotton directly from the producers is cheaper for the ginners. Also, middlemen in the area usually work informally, it is not a formal institution.

When the cottonseed is separated from the lint in ginning, both goes into different processes. Cottonseed is used to produce oil and seedcake (küspe); cotton lint is used to generate yarn which is further used in making textile products, namely fabric (can be raw, finished or dyed) and then garments (Feyso, 2018).

Ginning

The primary stage of cotton processing, ginning, basically refers to the process of separating lint from the cotton seed. When cotton is arrived at ginning, firstly, it should be brought to appropriate moisture level in dryers to be further processed. Next, it goes through cleaning process to remove trash, dirt or foreign matters in it. Cleaned cotton is then goes to the process of separating cotton fibre and cotton seed in the gin stand. The raw fibre is called lint once it went through ginning process. At the end of the ginning, lint is pressed and finalized in the form of bales to be transferred to following processing steps. Ginning factories should be located in close proximity to the production areas because ginning is a weight-losing activity and transporting raw material would otherwise be quite costly. When raw cotton is separated as fibre and

seed, it losses almost half of its weight. Owners of ginning factories are generally cotton producing farmers at the same time. Thus, they process their own produce and these entities can be considered as family business.

There are several problems associated with the structure of ginning sector in Şanlıurfa. The problems below are compiled based on the statements of ginners that have been interviewed (I22, I23, I24, I25, I26, I27, I28):

- ***Short operation period:*** Ginning factories in Şanlıurfa province, as well as other ginners in the region, actively operates in a very limited time period during the year -only a few months following cotton harvest.

- ***Unutilized capacity:*** In addition to the short operating period, unutilized capacity is a big problem for the ginning factories. This is particularly because imbalance between the amount of cotton production and capacity of ginning facilities in the city. Cotton production of Şanlıurfa supply approximately 50% of the ginning capacity, thus, almost all gins operate under inefficient conditions. The main problem emanates from the short period of operation and unutilized capacity of ginning sector which make ginners unconcerned and inattentive to the work they handle. Due to the high demand and limited supply, ginners usually do not face difficulties in selling their products at the market, Therefore, lack of competition decreases their sensitivity to quality and value-adding. Due to the short working duration, they are also prone to exploitation of labor and sometimes may employ workers informally (without insurance).

- ***Lack of control and inspection mechanisms:*** There is not a controlling mechanism or enforcement for ginning activities which makes them even more careless. Most of the ginning factories in the region are owned by local landlords who also has an influence over small farmers around them. Such a non-institutionalized and non-corporate system does not allow trust building from the perspective of advanced higher quality demanding textile

manufacturers in the region. According to textiles sector, imprecise attitude of the ginners and malpractices in that stage are the primary sources of value loss in cotton value chain. To achieve quality guaranteed supply from the ginning, there should definitely be standardization and active controlling mechanisms in this stage of the value chain.

- ***Uncertainties in cotton prices***: Ginning factories in the area have very low profit margins. During the ginning process outage and other losses cause total amount of input to diminish. Together with operating expenses, ginning factories sometimes even make loss. Under these circumstances, when cotton prices are low, ginners tend to stock cotton rather than selling and wait until prices increase.

- ***Low technological capacity:*** Ginning factories in the area stated that available technology is an important factor in determining quality of the output they produce. Short operating period together with unutilized capacity cause ginners to avoid any improvement investments for their facilities, most of the plants even need higher degree of maintenance. Due to limited financial availability, ginning factories avoid making investment in modernization of the existing technology. However, upgrading in technological capacity could allow increased efficiency levels in production.

- ***Low Quality of input***: Ginners emphasize that quality of the raw cotton they are provided by the farmers is quite low. Most of the ginners argue that especially improper practices of farmers such as wrong timing of using chemicals or high contamination during harvest cause decreasing quality levels prior to cotton's arriving to ginning.

- ***Insurance***: Ginners also complain about insufficient insurance services provided for ginning factories. The requirements of insurance companies to be qualified for insurance is overwhelmingly difficult for ginning firms. Given

their short operating period and limited budgets, many of them avoid undertaking insurance expenses.

Textile Manufacturing

Textiles manufacturing constitute the second stage of processing sector following ginning in cotton value chain. In this stage, cotton fibre is first transferred into cotton yarn with spinning machines, then cotton yarn becomes raw fabric bolts through processes of weaving/knitting. It is followed by dyeing and finishing stages to create smooth dyed and finished fabric. Lastly, finished smooth fabric goes into the process of cutting and sewing in order to design final garments to be distributed to customers. Main actors operating this stage are textiles manufacturers. During the field research, several textile manufacturing factories provided valuable insight regarding not only processing sector itself, but also overall functioning of cotton value chain in the area.

Figure 4.2. Processing Stage Activities of Cotton Value Chain[10]

[10] Retrieved from: http://aboutorganiccotton.org/field-to-fashion/

In terms of business management, technology and physical capacity, textile manufacturing sector draws a higher profile when compared with previous stages (agricultural production and ginning). Most of the factories being interviewed indicated that they have sufficient technologic equipment, facilities, and physical infrastructure to maintain world-standards manufacturing. Higher quality standards are essential for them because many of them are also exporting factories. Thus, they should secure a stable supply meeting the quality requirements of their customers.

In terms of labor, abundance of young population is considered by the firms as an advantage for the city; however, it is highlighted that people of the city are a bit unwilling to work, they rather tend to rely upon unemployment payments to sustain their lives without working. Many firm owners regard local people as lazy to work. They consider there is a deficiency of qualified labor in the city though. Women workforce is quite valued and favorable for the textiles firms because they indicate that women workers show a higher performance, better adaptation and discipline at work compared to men workers. However, they reported that women workforce diminishes after they get married. Because of the local cultural dynamics, women are expected to stay at home and take care of children after marriage. Therefore, female labor force participation rate in textiles sector is highest between the ages of 18-30 in the area, it then decreases.

With regard to environment and waste management, textiles sector actors claim that yarn production is a completely physical transformation process and it does not reveal and chemical waste. There is only cotton yarn waste (cuttings, husks) which can be completely recycled. Husks generating from process can be reused in yarn production, exported, or utilized in production of medical equipment. However, these plants processing yarn waste are located out of Şanlıurfa, mostly in Kahramanmaraş.

Major problems textile sector actors indicated are basically insufficient supply, low quality of the input provided by the preceding stages of the value chain (agricultural

production and ginning sector), standardization, infrastructure, and risks associated with geographical location of the area (I30, I31, I32, I33, I34, I35).

- ***Insufficient supply:*** Cotton production in the region and in Şanlıurfa is not sufficient to meet the demand of textiles sector in the region. Thus, most of the factories run under the capacity they could process if enough input is supplied from the previous stages. This creates efficiency problems in firms and operating under these circumstances bring extra costs. In order to utilize available capacity, textiles sector imports cotton bales from various countries.

- ***Poor Quality cotton***: The major factor affecting quality of the local cotton is the high demand in the presence of low supply. On the strength of imbalance between demand and supply, farmers and ginners believe that they can sell their products no matter what quality it has because of low supply. They assume that they can find a buyer in the market, so they do not make an effort to provide high quality products to market. Major problem reported by the textiles manufacturers is mixing cotton bales of different qualities in ginning and contamination.

  Textiles sector demands high quality input with low contamination levels. If locally produced cotton does not satisfy the quality requirements of the local buyers, they may increase the amount of imported cotton which is cleaner and more appropriate to the requirements of the textiles manufacturers. Large scale textile enterprises who had been interviewed indicated that out of 3 months following cotton harvest, they usually import cotton to maintain production. In addition to local cotton grown in Şanlıurfa, places that firms procure cotton are mentioned as Bismil, Çınar Havzası, Silopi, Nusaybin in the region; US, Brazil and some of the Turkic Republics among the international cotton producers. When local cotton is compared with import cotton: the advantage of the locally available cotton for the firms is that they can chose desired quality at a relatively lower price. Extra costs such as transportation, logistics

and customs expenses sometimes constrain firms to import second-quality cotton especially when currency rates are that high and national economy is unstable.

Another quality problem stem from ginning stage is the mixing cotton bales of different types or qualities during the stowage. Textiles manufacturers highlight that it has, in fact, an easy solution that ginners can manage by stowing cotton bales properly without mixing different types; however, ginners consider this as an extra cost factor, so they avoid. Also, ginners do not pay sufficient attention to the drying phase and let the cotton rest for a few days before processing.

As reported by the textile manufacturers, foreign fiber problem is another critical issue affecting quality of cotton products. The problem in ginning sector is that they cannot guarantee supply of products free from foreign fiber which is critical for textile manufacturers. Foreign fiber is one of the greatest problems, together with contamination, causing value loss in the cotton value chain.

- ***Standardization problem***: Non-standardization of the locally grown cotton is also another major problem for the processing sector. Classification of cotton bales is mostly handled by ginners in Şanlıurfa by manually -hand classing. In order to prevent value loss and efficiency losses appropriate standardization of the cotton by its length, color, level of foreign matter, whether being hand-picked or mechanized harvest seems necessary. Standardization enables easier marketing of the cotton and cotton products in national and global markets. Thus, in an attempt to ensure proper standardization in the sector, government works for the implementation of 'Tek Balya Sistemi' -a regulation for proper classification of cotton bales in ginning based on quality indicators such as color, length, purity by instrument testing instead of manual allocation. With this regulation, it is intended to preclude manual classification in ginning and

provide markets with more standardized product. Proper classification can enable producers to market their products with better pricing and allow buyers to access cotton with desired quality. It can increase efficiency and value-adding in processing sector.

- ***Insufficient infrastructure***: Another problem associated with the processing sector is the inadequate infrastructure. Despite of the technical advancement of textiles manufacturers, insufficient infrastructure in the industrial areas, especially power cut-outs which interrupts production is reported as an important problem. Higher energy prices (compared to the other textile manufacturing countries) are also reported as a disadvantage undermining competitiveness of local textile sector by increasing production costs.
- ***Locational risks***: There are region-specific risks coming from geopolitical position of the area. Characteristics such as locating on the border of Syria and previous terror incidents impose region-specific risk which sometimes make firms refrain from making investments in GAP Region cities. Being located in a high-risk area sometimes causes difficulties in access to loans and bank credits for the firms. Besides, cotton grown in Şanlıurfa also seems investors a little risky in terms of stock and raw cotton supply because, unlike Diyarbakır or other cities that have been growing cotton for a long time, quality and characteristics of cotton grown in Şanlıurfa may widely vary by session.

On the other hand, firms expressed that they benefit from industrial incentives and subsidies because of Şanlıurfa's becoming a priority region for development. Many of the interviewed firms (4 out of 6) highlighted that especially during the establishment of the firm and its improvements, they used these governmental aids. Since GAP Region is among the priority regions in development, establishing firms in this area is relatively less costly due to the government based financial aids which is an advantage for the region.

4.1.1.4. Logistics

Logistics activities in cotton value chain in Şanlıurfa comprise of transportation of inputs and products between the value chain stages, storage and distribution. Both agricultural production and ginning stage actors implied that their outputs do not wait long time before transferring to the next stage, therefore they are not in need of extra or improved storage facilities. Raw cotton is directly transferred to ginning factories immediately after the harvest, and to the textile factories after ginning. Most of the storage activities is handled in textile plants. However, an important problem associated with storage of ginning factories is that cotton bales of different qualities can frequently be mixed here. This problem is reported by the textile manufacturers who are negatively affected from this mishandling. Mixed cotton bales with different quality and cotton characteristics decrease efficiency in textiles processing and cause significant value losses.

Transport services between those stages is mostly operated by the actors themselves. For example, farmers transport raw cotton to the ginners or ginners go and get the produce from the farmers with their own transport vehicles. Textile factories as well transport their products from the ginners and to the retailers by their own means or through logistics companies.

4.1.2. Governance

When the relationships among the actors which govern the value chain are considered, it is possible to observe the power of brand-name textile companies in cotton value chain in the study area as well as other value chains around the world. However, Şanlıurfa case shows a lot of different parameters and dynamics affecting the forms of governance in the area. For this reason, the relations can be examined by different groups including conventional cotton production, organic cotton production and better cotton production.

In conventional cotton production, it is possible to observe typical market relations where buyers and seller are free to change partners. Complexity of information related to transaction is basic and easy to access since cotton is a basic commodity.

When we think about organic cotton case, higher degree of monitoring and control of a contracting farm is observed. This contracting firm shows an explicit power and influence over the production methods. Breaking the contract is almost impossible for the supplier and causes high costs. Therefore, it is possible to classify this relationship as a captive governance.

In better cotton production, the influence of global-buyers or brand name companies was observed more clearly. Better cotton producers that we have interviewed underlined that the influence of these global brand-name companies and their commitments to change their supplier channels toward more sustainable cotton production in a few years encouraged them to produce better cotton (I12, I13). They also indicated that working for those global companies and producing a higher-value product are the main motivational factors for their decision to transfer from conventional cotton to better cotton production. However, since better cotton production is not maintained by contracting, we cannot name this as a captive governance relation.

It is also worth to mention the influence of input suppliers over farmers, which is thought to be a unique situation in this location. Most of the farmers interviewed told that input suppliers are their primary source of information regarding market conditions, prices, new products etc. Moreover, farmers sometimes get technical assistance from them and consult if they have a problem regarding their produce. A strong relationship is observed between the farmers and those input suppliers.

Another powerful group of actors influencing the value chain in the region is local governing bodies and institutions, namely GAP RDI and Ministry of Agriculture and Forestry's Şanlıurfa Directorate. These are the actors encouraging farmers towards product upgrading (for better and organic cotton), organizing training and education

programs to improve farmers, taking measures and impose sanctions in order to prevent miss-practices in the fields that lead to low quality products.

4.1.3. Economic Analysis

Economic analysis discusses '*barriers to entry and rent'* (Kaplinsky, 2004), '*demand for value chain outputs*' (FAO, 2013), 'analysis of input-output markets' (FAO, 2013), and *distribution of value added along the chain* aspects of the cotton value chain in Şanlıurfa.

4.1.3.1. Barriers to Entry and Rent

The greatest economic rent in the area comes from ownership of different land-sizes - where land is considered a scarce resource to which farmers have unequal access. Big landlords and large-scale producers enjoy from this rent while smallholder farmers and renters are most of the time excluded from several benefits. For example, when a contracting firm establishes new agreements in the area, they prefer big landowners because it is easy to agree with one person rather than making several agreements with many individual small farmers. Due to such kind of burdens that firms want to avoid, small-scale producers have the risk of being excluded from new opportunities. This is also called 'resource rent' which provides advantages to its holder (big land owners).

In terms of barriers to entry, it is possible to observe it in organic cotton production. As it is explained earlier (I39), because of very high costs of inputs and certification expenses, it is impossible for small-scale farmers to enter organic cotton market individually. Given the contracting firms' tendencies toward working with large-scale landowners to make procedures and agreements easier (I29, I39), small-scale farmers face strong barriers to entry to the organic cotton production.

4.1.3.2. Input-Output Markets and Demand for Value Chain Outputs

For the agricultural production stage of the cotton value chain, producers have access to inputs; however, inputs are quite expensive for the farmers. The reason for that (as it is explained in the related section) is the inputs used in cotton production are mostly imported, and highly dependent on fluctuating currency rates. High foreign exchange rates make input prices even higher which puts extra financial burden on farmers' budgets. One of the interviewees underlined that they use the most expensive energy (oil for machinery or electric power) in the world so they can never compete with other cotton producers around the world. In terms of output market, all of the farmers we have interviewed told that they have no problem in selling their products in the national markets. Locally produced cotton is mostly processed factories in GAP Region. Local textile firms are the major buyers of locally produced cotton. Since the supply of cotton is quite less than the need, farmers can usually sell all their produce.

From the perspective of processing sector, textile firms complain about the insufficient local cotton supply. They indicated that out of 3-4 months following cotton harvest, they must import their main input -cotton- from outside sources, mostly from the United States, Brazil, Uzbekistan, Burkina Faso and Benin (I32, I33, I34). They told that the cotton fibre they use from the international markets varies between 30 – 50 % of total cotton required. When we asked textile firms about their output market, they also informed that there is no problem in selling their products in the market. While some of the firms supply national markets in İstanbul, Çorlu, Denizli, Bursa where textile sector is concentrated, some of them supply international markets including Fas, Russia, Brazil (I34, I35).

4.1.3.3. Distribution of Value Added Along the Chain

In order to understand how value-added changes between the stages and actors of cotton value chain we tried to trace monetary value of cotton along the chain; however, sometimes it was difficult to grasp exact price information.

For the production stage, average cost of producing cotton is found as 3.55 TL/Kg. according to the Cotton Sectoral Report (2018). The average of selling prices reported by the farmers during the interviews is 2,9 TL per kilogram, as 2,6 being the minimum and 3,5 being the maximum prices reported. When 0,80 Kuruş agricultural subsidy for cotton is added, Total revenue for a farmer can be calculated (based on the average production cost and selling prices) as 4,35 TL for a kilogram of cotton.

When a ginner buys cotton at this price, after adding the production costs for ginning, overall average cost for ginners is reported as 8,4 TL/kg. and average selling price is reported as 11.5 TL/Kg for cotton bale.[11]

It is difficult to trace prices after ginning because in textiles manufacturing final product variety increases too much. When there are extensive products and several expense items for each of them, it requires product specification among several final outputs of the textile firm to see price difference between the costs and profits. However, as it is argued by one of the informants (I29) that "…when you consider a brand-name textile company can sell a basic t-shirt more than 200 TL…", profit margins can increase significantly in the processing sector of the value chain and this margin even exceeds when the product is labeled as produced from organic or better cotton.

[11] For ginners, the minimum reported price for the costs is 6 TL/Kg and maximum is 11,5 TL/Kg; for selling prices, the minimum reported price is 11 TL/Kg. and the maximum is 12 TL/kg.

CHAPTER 5

UPGRADING ACTIVITIES IN COTTON VALUE CHAIN

The previous sections discussed the dynamics of cotton value chain in Şanlıurfa. It is followed by existing upgrading strategies adopted in cotton production as means of improving value generation. These topics were discussed in order to understand how cotton value chain in Şanlıurfa can be improved in an economically and environmentally sustainable manner -with particular focus on agricultural production.

In this section, the thesis discusses the second research question '*How the terms and positions that agricultural producers integrated into cotton value chain can be improved.'*

After a general examination of value chain dynamics in the previous section, this section particularly focuses on agricultural producers because preliminary research revealed that agricultural production is the most problematic stage of the cotton value chain in Şanlıurfa. To discuss ways of improvement in the farmers' engagement in value chain we search for these sub-questions below:

- How does adopting upgrading strategies affect the position of farmers in the value chain? In other words, does upgrading improve the terms and conditions they are integrated into the cotton value chain and cause a value increase?
- What are the attitudes of farmers towards upgrading (Upgraders vs Not-Upgraders) and factors affecting their upgrading decision?
- What are the differences between planning solution and market solution on upgrading?

For the first sub-question, in order to measure the effects of upgrading on the farmers, we examine some indicators showing what outcomes existing upgrading strategies has led to. These indicators are: *increase in unit prices for cotton, vertical coordination*

(contract farming), horizontal coordination, environmental improvement, increased learning and knowledge, and *increased exports and access to different markets*. The thesis investigates whether these indicators take place due to upgrading activities and how they impact the engagement of farmers with the cotton value chain. We specifically look for whether upgrading enhances farmers' position in the market and advances the terms or conditions they are integrated into the value chain.

The second sub-question listed above investigates attitudes of farmers towards upgrading and factors affecting their decision for whether to adopt upgrading strategies or not. The main purpose here is to understand the motivations of the upgrading farmers, what factors lead to this decision and attitudes of the ones who do not attempt to upgrade. From the policy making perspective, answering this question will contribute to making more precise and appropriate policy interventions to empower local producers and enhance their position.

The third sub-question of this section investigates the difference between the planning solution and market solution in upgrading activities in production stage of the cotton value chain in Şanlıurfa. Upgrading through organic cotton is considered planning solution because it is encouraged by the government subsidies in order to promote quality of the cotton produced and supply market demand toward organic production. Agricultural subsidies are one of the most critical determinants for the farmers' decision to cultivate a specific product or not. On the other hand, upgrading through better cotton is a market solution for problems associated with traditional conventional cotton production and increase product quality. There is no agricultural support for better cotton. It works on a voluntary basis and managed through market dynamics. Answering this question will provide valuable insight into understanding advantages and disadvantages associated with market and planning solution to the problems and enable comparing these two approaches.

5.1. Upgrading in Cotton Production

The interviews with cotton producing farmers in Şanlıurfa revealed that there are farmers who have adopted product upgrading strategies by growing *organic* or *better cotton* which are considered as higher-value added products compared to conventional cotton. This product differentiation is mostly driven by the motivations to gain higher incomes from the cotton production by responding to the recent changes in market demand and preferences of the textiles industry. Also upgrading is important for increasing the value generated from cotton, enhancing local farmers' positions in the market, diminishing environmental externalities of cotton production, and providing solution for the major poor-quality problems associated with traditional production practices.

5.1.1. Organic Cotton in Şanlıurfa

The contribution of GAP Region to the national organic cotton production accounts for 50% - 75% of overall organic cotton produced which makes it the most important region in organic cotton production (GAP & UNDP, 2014). Similarly, Şanlıurfa in GAP Region outstands with its greatest share of organic and overall cotton production. As shown in the graph below, Şanlıurfa accounts for more than 50% of organic cotton production of Turkey which puts it in a strategically important position.

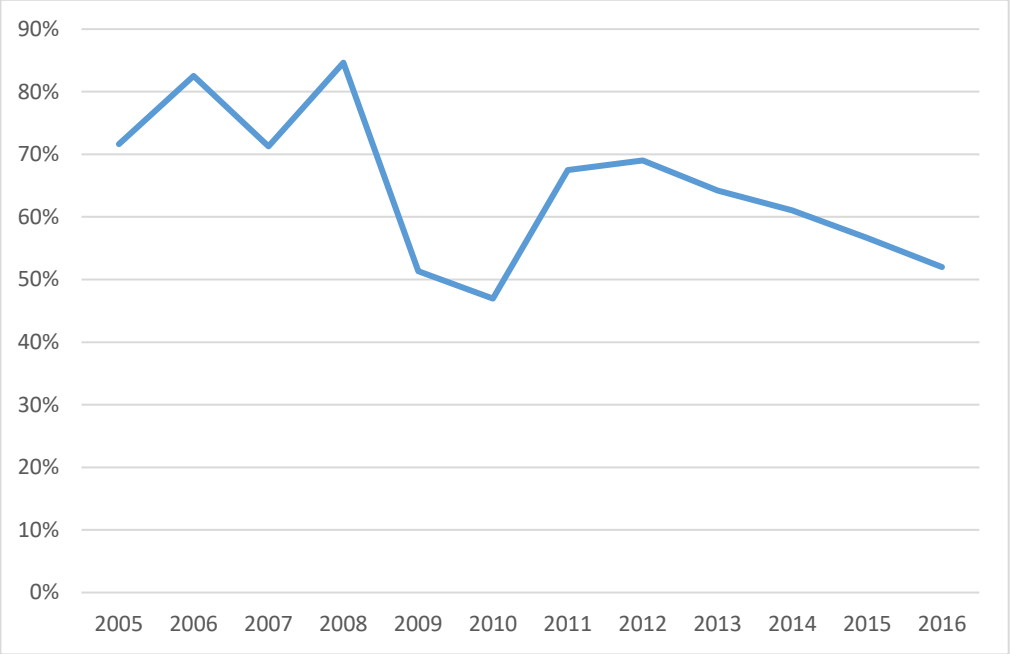

Figure 5.1. Share of Organic Cotton Production of Şanlıurfa in Turkey (Özüdoğru, 2017)

Considering this great potential, there are valuable attempts in the region to exploit this opportunity. GAP Organic Agriculture Cluster Project was one of the biggest projects conducted in the region. The project was implemented by GAP Regional Development Administration (GAP RDA) in technical cooperation with United Nations Development Programme (UNDP). Despite of its abundant resources and potentials, the region has a long history of being one of the least-developed regions in Turkey. The project[12] underlines that, the problem arises from the region's concentration on lower-value-added segments of value chains that it participates. Fulfilling the organic agriculture potential of the region to enable transferring into higher value-added economic activities and eventually contributing to the sustainable development of the region is the main concern of the project.

[12] http://www.gap.gov.tr/en/gap-organic-agriculture-cluster-project-page-24.html last accessed August 2019

Despite of the great potential of the city in cotton production, recent agricultural practices in cotton cultivation are quite problematic (as discussed previously). To summarize again, yield instability is a problem impacting sustainable income generation and increasing risks for the farmers. Elevated degeneration of the soil and salinization due to over irrigation impose significant risks for the long-time fertility of the soil. Local cotton farmers are highly dependent on external inputs which put excessive financial burden on farmers' budgets. Local producers do not have direct access to international cotton markets. Even if they get access, due to the lack of standardization and lower quality products, they would not have a good bargaining position in specific markets. All these conditions imply that recent agricultural practices cause significant value-losses for the region.

Organic cotton, in this respect, can be regarded as a product upgrading which not only leads to higher-value generation out of cotton produced in the region but also may have the potential to solve several problems of the local cotton producers in the area. From the value chains perspective, transition from conventional to organic cotton, as a product upgrading method, means improving the quality and standards of the products which results higher returns and increased value-added.

Production stage of organic cotton value chain in Şanlıurfa is mainly organized and governed through contract farming, by a leading contractor firm. The contracting/buyer firm is the key leading actor in this stage who is responsible for various tasks including:

- Organic input supply for the farmers
- Technical assistance and consultancy
- Enabling access to markets (marketing)

During the interviews, it is emphasized that special inputs which are required for organic production are extremely expensive for local farmers to afford. Thus, the first responsibility of the buyer/trader firm is procuring required organic inputs for its

contracting farmers as part of the agreement. Firms also indicate that those inputs are only available in bulks so that farmers individually cannot order them. Firms, instead, procure these materials and distribute to farmers as needed. (I29)

Second, buyer firm provides technical assistance whenever farmers need -from plantation through harvesting. Organic cotton production is quite new and challenging for traditional cotton farmers who are used to practice conventional methods. Breaking this routine first and foremost is a psychological challenge for the farmers (I39, I40). For example, during the interviews both local experts and farmers underlined that adaptation to irrigation requirements in organic cotton production is the most difficult challenge for the cotton producers who are used to over-irrigate for years (I38, I40, I9). Unfortunately, there is a common misbelief in the region that the amount of water used in irrigation is associated with the higher amount of yield. Thus, farmers tend to overconsume water in the field which is one of the major problems in conventional farming. Besides amount of water consumed, the fertilizers and pest control materials used in organic production differ from conventional cotton farming and farmers associate the amount of these materials they use with the level of yield. In other words, they believe the more they use these chemicals and fertilizers, the greater yield they get in harvest season. New practices of organic production make farmers afraid of that the yield levels will decrease due to not using the traditional chemicals and fertilizers they have been excessively using from the beginning. These old habits create psychological barriers for the farmers against transition to new practices of organic cotton production.

Another responsibility of the buyer (contracting firm) is enabling access to markets. Unfortunately, farmers' trade network in Şanlıurfa does not go beyond the local ginning factories to which they sell their cotton. Lack of a well-developed licensed warehouse system is an important reason for the limited trade options for the area. Licensed warehouse system is required for proper storage of cotton and marketing it through the year (especially when cotton prices are higher). Now, cotton is sold to ginners and then to manufacturers immediately after the harvest. Also, licensed

warehouse system would provide farmers with electronic product bills which they can use to market their products in different markets. In addition to this, local farmers do not sell their cotton in any futures exchange. Financial literacy is one of the areas that local producers should improve in order to access various markets, maintain a more stable income, and decrease uncertainties arising from price fluctuations. Contractors enables marketing of local cotton to various domestic or foreign markets since they have well-developed network connections compared to the farmers.

5.1.2. Better Cotton in Şanlıurfa

Better cotton in GAP Region is produced in Şanlıurfa and Diyarbakır provinces. The region accounts for more than 50% of the area under better cotton production and amount of better cotton lint produced in Turkey (I42).

Similar to organic cotton production, better cotton is also an important contributor to diminishing negative externalities of cotton production in the area. As parallel to the criteria and standards of better cotton, pesticide and synthetic fertilizer usage diminishes in better cotton production compared to traditional / conventional cotton farming. Better cotton promotes using organic fertilizers and lower volumes of water for irrigation. These environmental benefits contribute to the sustainability of cotton production in the area which was already threaten by damaged natural resources such as degenerated soil structure, salination or decreased irrigation water levels. In addition to the environmental dimension, better cotton production requires farmers to meet some social standards such as eliminating child labor or gender equality in cotton production (I42, I43, I44).

Prevalence and familiarity to better cotton differs among the farmers interviewed. One of the cotton producers stated that they (as a whole village) have never heard about it and nobody around them produces better cotton (I6). He stated that there farmers who have no knowledge of upgraded cotton production. Another group is familiar with better cotton concept. When we ask how they are informed about it, the answers reveal

that advisers from the Ministry of Agriculture and Forestry's Şanlıurfa Directorate introduced better cotton and provide technical consultancy about it (I1). Some farmers are informed through IPUD (I12, I13). A large proportion of the farmers are introduced by ginners they work with and highly encouraged by them to cultivate better cotton (I25). A leader farmer in the community who cultivates better cotton is also the greatest driver for the proliferation of better cotton because when farmers see someone in a better position relative to them (for example a large-scale farmer) doing something new and getting better result, they find the courage to try as well (I10). Besides, smallholder farmers are generally risk-aversive, so they avoid uncertainties and trying new methods as opposed to traditional practices they have been doing for years. Large scale farmers, on the other hand, are more open to uncertainties (I42). As a result, we can infer that information channels, access to information and a leader/model are the critical factors for upgrading to better cotton. Economic profitability and increased/sustainable income are, of course, the underpinning motivations behind all.

Prices for better cotton also quite uncertain, vary depending on the market demand at that specific time. Farmers producing better cotton say that profit they make from better cotton is not so much different from conventional cotton; however, they keep producing better cotton because of the brand value it has (I12, I13). During the interviews, farmers highlighted that it is valuable for them to supply global brand-name textile companies who use better cotton in their supply chains (I12, I13). They believe that actual value of better cotton as a brand will be soon well-understood. The main customer of better cotton produced in Turkey is the exporting textile companies. They especially supply European and Western markets who rises demand for products made from better cotton. Some of the global brands specifically search for certified better cotton (I30).

When compared to organic cotton, local experts and value chain actors we have interviewed argued that better cotton seems more favorable to the local cotton farmers due to its more moderate requirements compared to organic production (I40, I42). The

standards and criteria farmers are required to meet to get certified for better cotton production are easier to accomplish and less restricted than organic cotton. Better cotton is not implemented through contract farming unlike organic cotton production. It is produced on a voluntary basis -no contract required- and at the end, farmers are free to sell their products in the market as they want. Another difference is that better cotton is not included in agricultural subsidies unlike organic cotton. This is reported as the biggest disadvantage discouraging farmers from better cotton. Better cotton producers wish that it is also become a supported crop as soon as possible.

5.2. Impacts of Product Upgrading on Cotton Farmers in Şanlıurfa

In order to measure the impacts of product upgrading on cotton producers we can examine some indicators including; *increase in unit prices for cotton*, *vertical coordination (contract farming)*, *horizontal coordination*, *environmental improvement*, *increased learning and knowledge*, *increased exports* and *access to different markets*. The aim here is basically to illustrate whether product upgrading cause an increase in the indicators listed above based on the statements of value chain actors.

5.2.1. Increase in Unit Prices for Cotton

As it is indicated previously, organic cotton and better cotton are the two main upgrading strategies practiced in the area which have the potential to increase unit prices for cotton and enable creating higher value-added product.

Pricing of Organic Cotton

Normally, it is expected that due to its higher-quality and sophisticated nature, organic cotton production should reveal more profits and higher returns for the producers. However, in practice, organic cotton production could not provide farmers with the

expected increase in returns. Conversely, it brings extra costs for the producers. The reasons for decreased returns are explained below as (I2, I3, I4, I5);

- Higher production costs related to organic cotton production
- Lower yield in organic cotton production

Increases in production costs for organic cotton are mostly due to the different practices adopted in the processes of cultivation, expensive inputs such as using certified organic seed, ecological crop protection methods and materials, and efficient irrigation systems which cost relatively higher. The most affecting factor is the lower yield in organic cotton. Getting less product at the end of the harvest reduces farmers' overall revenues considerably. Farmers try to balance price difference with agricultural supports for organic cotton. These subsidies are the main motivation for the farmers to produce cotton.

Pricing of Better Cotton

Similarly, farmers indicated that better cotton sale price does not make a considerable difference from conventional cotton (I9, I10, I12, I13). Some of the stated price differences between better cotton and conventional cotton indicate approximately 5 % - 7% increase (I1). However, this increment is not considered sufficient by the producers. One of the farmers even indicated that prices should be as higher as 20% - 25% for the better cotton to be considerably motivational for everyone (I4, I5).

Similar to organic cotton, expensive input prices and lower yield are main problems affecting profits in better cotton too. Different from conventional cotton production, better cotton requires biological pest control methods or more natural fertilizers which are more expensive and less protective compared to traditional fertilizers and pest control chemicals; however, more environmentally sensitive (I1)

Prices are quite uncertain and always subject to change depending on the market demand and supply. It is possible to gain higher returns, while there is no guarantee

and one may end up selling his better cotton almost as the same price with conventional cotton (I43, I44). However, it is indicated that it is almost impossible to get great increments in sale prices for now.

Different from organic cotton, better cotton production is not subject to subsidies, so it is another drawback for the farmers (I9). In other words, despite their efforts to improve the quality of the product, there is no extra incentive from the government - which was an important motivation in organic cotton production (I9).

However, it is worth to note that, even though both organic and better cotton production do not provide significantly higher returns when compared to conventional cotton production (which is considered not only more profitable but also less demanding and effortless to produce), there seems an increasing trend in both of them. Many farmers indicated that they are already trying or determined to plant organic or better cotton in a small part of their fields (approximately around 20-25% of the total cultivation area to begin with) to experience and see the results (I1, I4, I5). In addition to this, farmers who are already actively involved in organic or better cotton production indicated that they plan to expand or increase production (I12, I13, I25). Even if gains from better cotton are not so much different from conventional cotton (when extra effort that put into better cotton production practices are considered as well), producers are intended to grow better cotton because they believe prices will increase due to the accelerating demand for better cotton from the global brand-name textile companies such as Adidas, Nike, GAP, H&M etc.(I10, I12, I13). Also, brand value of the better cotton is reported as a motivational factor to keep producing it even though low returns (I12, I13).

5.2.2. Vertical Coordination and Contract Farming

Organic cotton is mostly produced via contract farming in Şanlıurfa. Generally, organic cotton trading firms organize and govern organic production in the area. It is a win-win position both for the farmer and for the firm for several reasons. From the

perspective of firms, contract farming ensures a sustainable supply with desired quality or requirements for a targeted period. From the perspective of the farmers, the best advantage of contract farming is that contracting firm undertakes all the risks. Farmers get a guarantee price -which was settled at the beginning of the agreement- to sell their produce at the end of the season. Normally, prices are quite uncertain and tend to fluctuate depending on market demand and fluctuations in foreign exchange rates. Contracting firms mostly offer a buying price which is relatively higher than the market prices at that specific time. Thus, having a guarantee selling price from the beginning relieves the farmers. Contractor firm is also responsible from providing all necessary inputs to the farmers and pay for the certification documents. In other words, contracting firm bears all the extra expenses occurred to the farmer due to producing organic cotton (compared to the expenses of conventional cotton) so eliminates the risks and uncertainties associated with organic cotton production for the farmer.

The interviews with local governing bodies (GAP-BKI), firms and farmers revealed that organization of organic cotton production in the region is mostly managed by the private firms involved in organic cotton trade, and there is a consensus on that '*farmers cannot manage organic cotton production individually and/or separately – it requires a collective action'* (I29, I39). Thus, organic cotton production in the region almost completely practiced through contract farming -exception to this is the farmers who indicated that they try planting organic cotton in a small part of their fields mostly as an experiment before fully involved in.

There are several reasons that organic cotton production seems almost impossible without a contracting firm. These are (I29, I39);

- First of all, organic cotton production requires specific procedures that local farmers in Şanlıurfa have no practical or technical knowledge of it. These specific procedures for organic cotton are also significantly different from the traditional practices that local farmers have been doing in the region for years. The most apparent example for this situation is the input use. Farmers in the

region unfortunately have a bad reputation for using excessive water, chemicals and fertilizers in cultivation which ultimately exploits soil and water resources. Organic cotton production requires considerably less water use compared to conventional cotton, ecological fertilizers and biological pest control. All these different practices, especially using considerably less water for irrigation, creates a psychological barrier for the farmers, and they believe that the less water they use, the less yield they get from the harvest. In other words, it is psychologically quite difficult for them to change their old habits and routines ones they shift to organic cotton production. Contract farming at this point provide farmers with technical assistance and training regarding new practices they should follow.

- Second, organic inputs such as organic fertilizers or organic agricultural pest control are much more expensive for farmers to afford. Contracting firms indicate that, farmers cannot even have access to organic inputs without a contracting firm since those materials are mostly ordered in large parties. Therefore, obtaining those inputs individually seems both economically and technically impossible for the farmers.

- Third, if farmers individually enter the market and try to sell their organic cotton, the price is determined by the instant supply and demand for organic cotton. It means that there is no guarantee that they will be able to get a reasonable price allowing them to make profit. However, in contract farming firms and farmers agree on a pre-determined selling price at the beginning, so farmers do not have any concerns about not being able to sell their organic cotton at a reasonable price.

- When doing organic cotton, farmers have to obey crop rotation rule and plant other crops (such as wheat and lentil for the case of cotton) in order to protect soil structure and the balance of the minerals in it. As a result, sometimes during the year, farmers get organic wheat and/or organic lentil which are quite

costly to produce and difficult to sell in the market at that high prices. Contracting firms also guarantee to buy these other organic products which have quite limited demand in markets.

Besides contract farming, during the interviews it is emphasized that product upgrading is more advantageous for the farmers who also have ginning factories (I29). Almost all of the ginners in the area are farmers at the same time -as an example of vertical coordination. Local experts (I29, I39) highlight that organic cotton business is only profitable if an organic cotton producer is also an organic cotton ginner. This is particularly because number of organic ginning factories are quite low in the area and all ginners have their designated farmers. These farmers make pre-agreements with the organic ginners to sell produced cotton to them, so organic ginners prefer buying from their previously agreed suppliers. An individual organic cotton producer has the risk of not being able to sell his product to a random organic ginner. Besides, farmers cannot benefit from organic cotton subsidies before selling their product to ginners and getting a document called 'müstahsil makbuzu' (producer receipt). Subsidies are paid based upon this document. If an actor is both a farmer and ginner at the same time, he have the opportunity to grasp more gains due to carrying out two stages of the value chain. Vertical coordination in organic cotton, in this respect, seems more advantageous for the parties involved.

5.2.3. Horizontal Coordination

Product upgrading in cotton production requires farmers' horizontal coordination in several aspects. The advantages of horizontal coordination can be examined both from the perspectives of agricultural producers (as sellers) and buyers. In terms of farmers, collectivity enable easier access to expensive inputs, resources and infrastructure. As it is discussed in organic cotton case earlier, such kind of special inputs are quite expensive and only available in large amounts (as bulks). Farmers cannot obtain these inputs (such as organic seed, fertilizers or biological control) individually in small

quantities. Second, horizontal coordination enables access to different markets and buyers due to large amount of supply provided by collectivity and empowers farmers in better bargaining positions when they take action together. From the perspective of buyers, farmers' coordination is desired because firms get the opportunity to access sufficient amount of supply in this way. Otherwise, especially when smallholders dominate the production, downstream actors may have problems to procure raw materials in sufficient amounts at one time.

In Şanlıurfa case, there is a cultural drawback that prevents farmers taking collective action. The farmers we have interviewed underlined that the culture of '*ağalık'* is one of the greatest obstacles for horizontal coordination in this area (I16, I18). *Ağas* are generally the large landowners and they are the first choice of contracting firms or other buyers most of the time due to their capacity to provide great amounts of supply at one time. However, the social status they possess because of being an *ağa* prevents them taking cooperative action with other medium and small-scale farmers (I8, I30).

During the interviews, local experts especially underlined the necessity of horizontal coordination in organic cotton, and, an urgent need for an actively operating cooperative of cotton farmers (I29, I39). They argued that this is particularly important because organic market requires connectivity among the farmers, ginners, contracting firms and textile manufacturers. Ones organic cotton is not processed in organic ginning or textile mill, there is no value out of it. Besides, organic production requires mandatory crop rotation to keep the health of the soil structure available for organic production. In Şanlıurfa; however, farmers prevent cultivating other rotation crops such as lentil because they are not as profitable as cotton and there is no market for organic lentil. Horizontal coordination would enable farmers to be able to market also these rotation crops in larger quantities and access to foreign markets where demand for such kind of products is exist. Individually, quantities are not appropriate to access different markets. To sum, horizontal coordination is not only a pre-requisite for well-functioning of the organic cotton chain, but also a requirement for the farmers to gain more profits out of organic prodcution.

In terms of better cotton, it naturally works in a more suitable manner for collectivity. This is because *Field Facilitators* in better cotton production creates their own *Production Units* (PUs) and each PU is comprised of a group of farmers. Also, licensing in better cotton is made to a group -not to the individual farmers- so farmers should first create a group to be a licensed better cotton producer. Moreover, farmers benefit from training courses for better cotton practices, principles and standards as groups.

5.2.4. Environmental Improvement

Cotton, by the nature of itself, is not an environmentally-friendly crop because it requires vast amount of water in irrigation. Also, there are several local diseases that make farmers use lots of chemicals (pesticides and herbicides) which deteriorate soil structure and decreases its fertility. Another contributor to diminishing soil fertility is the excessive use of fertilizers in the cotton fields of Şanlıurfa. Organic and better cotton in this respect, are the two mechanisms that can decrease detrimental impacts of cotton production to the natural resources because these practices promote using more natural inputs and sustainable methods in cotton cultivation. However, recent share of organic and better cotton production in total cotton produced in the region is quite small and it should be increased in order to get more significant positive impacts on the environmental sustainability.

It is already possible to discuss some achievements though. For example, farmers experimenting organic cotton production (even in a small portion of their land) stated that they have started to use less irrigation water by installing efficient water systems such as drip irrigation as a requirement of organic production, and amount of fertilizer required in their field is already reduced, they started to get more quality products (I4, I5). Even seeing early results encourage some of the farmers to adopt more sustainable production practices. It is also reported that these sustainable practices become more prevalent in the area as some leader large-scale farmers adopt them (I7). Then, small

or medium scale farmers who observe the positive outcomes also start to practice these methods in their own fields. This imply that information transmits in the area through observations, and leader farmers have an important role in the community to guide farmers towards more sustainable production practices.

Moreover, IPUD conducts a survey investigating achievements accomplished via better cotton production such as changes in the use of pesticides and fertilizers, water consumption, and profits. In the survey better cotton production is compared to traditional conventional cotton farming and the results are reported. According to the 2014 and 2015 season harvests (BCI, 2014; BCI, 2015): Level of yield has increased 3% in 2014 and 7% in 2015 with better cotton. Use of pesticides and synthetic fertilizers has decreased respectively 8% and 9% in 2014; 12% and 6% in 2015 compared to traditional conventional cotton farming. Better cotton producers consumed approximately 9% less water in 2014 and 10% less in 2015. In terms of returns, better cotton resulted in 28% higher profits in 2014 and 26% in 2015. In 2016 / 2017 season, level of yield has increased 2%. Use of pesticides is diminished 3% while synthetic fertilizer consumption is elevated 2% in the last season. Better cotton farmers in Turkey had 2% higher yields and 10% higher profits compared to the average non-BCI farmers (BCI, 2017). In addition to the environmental and economic measures, social indicators of better cotton production contributed to eliminating child labor in cotton production areas and promote women's equal inclusion in better cotton production in Turkey. According to the 2016/2017 season's data (BCI, 2016/2017) better cotton enabled 83% advancement in eliminating child labor and increasing knowledge in this issue.

5.2.5. Increased Learning and Knowledge

Participating in organic and better cotton value chains contributes to the local farmers' knowledge accumulation in regard to these new and more sustainable agricultural practices. Especially in better cotton, farmers are required to go through a series of on-

the-ground training provided by the IPUD to master better cotton production practices and techniques (I42). Besides, some of the farmers participated to the training sessions and educations in this topic provided by the Ministry of Agriculture and Forestry's Şanlıurfa Directorate (I1, I41). GAP International Agricultural Research and Training Center (GAP-TAEM) is also another important local institution serving research and training activities in the area (I45, I46). Providing education and training sessions, research in the topics of organic and better cotton, and dissemination of the findings of these studies are some of the main responsibilities of GAP-TAEM.

Knowledge transfer may occur from downstream actors through the upstream ones in the value chain because access to knowledge is enhanced when going through downstream in the chain. In this case, exporting textiles manufacturers who have a direct relationship with the global buyers and brand-name companies have greater opportunity for learning from those global buyers. They know recent market dynamics better and transmit this information to the upstream actors (their suppliers). For example, the concepts of organic and better cotton are firstly known by the textile manufacturing. Then the information regarding an existing demand towards these new updated products conveyed to the ginners, and from ginners to the agricultural producers (I7, I25).

5.2.6. Increased Exports and Access to Different Markets

When we tried to trace exports in cotton, first of all, almost all of the locally produced cotton is consumed within the region as indicated by the informants. Textile manufacturers even import approximately 30-50 % of their input from outside sources (I32, I33, I34). It is reported that there may be organic and better cotton exported from the region; however, there is no regional or local level data regarding the amount and value of this export, or this information is not sharable by third parties (I42).

In any case, farmers do not have direct access to different markets, but their cotton may be arriving international markets via other downstream agents (such as cotton

traders, ginners, middleman, or textile manufacturers processing their cotton) who trade those farmers' products in the cases of organic and better cotton. Only other buyers may be exporting local cotton to international markets.

5.3. Attitudes of Farmers Towards Upgrading

It is possible to divide farmers into two groups as upgraders and the ones who do not. There are different circumstances that underpin the farmers' decision in this point.

When considering not-upgraders, we can categorize them as the ones who do not upgrade by their own decision, and the ones do not upgrade because they have no or limited information regarding upgrading. During the interviews, it is discovered that there is a group of producers who are totally unaware of product upgrading options associated with cotton production, stating that they have never heard about it. These farmers' access to information sources are limited. They are mostly smallholder farmers. During the interviews they told that, no one advised them to try these practices, they would do if they knew or provided technical assistance (I8, I10). There are farmers among them who indicated they heard about it but do not know much so they have never thought to try (I2, I10). It is implied that limited information regarding upgrading processes is also a deterring factor to take action.

The other not-upgrader group is the ones who know upgrading options but do not attempt to upgrade. During the interviews several reasons were stated by these farmers. First and the most prevalent reason is that cotton producers avoid cultivating better or organic cotton because they do not have problem in selling their conventional cotton at the market. As it is explained previously, there is an imbalance between the supply and demand in Turkish cotton market. While demand is huge due to the well-developed and competitive textiles sector, domestic supply fall behind, accounting for 40% of national cotton demand (USDA, 2019). A similar situation also exists in Şanlıurfa. The textile manufacturers we have interviewed reported that they must import 30% – 50% of the input cotton they process because of the limited supply.

Thus, textile sector consumes all the domestic supply and import the remaining from outside sources. Under these circumstances, local producers are able to sell their cotton despite its quality problems. When there is not a big impediment in selling their produce, local cotton farmers do not think that upgrading to organic or better cotton is necessary for them.

Second, even though contracting firms compensate extra expenses imposed by organic cotton production, there may be extra expenses associated with organic or better cotton such as installation of efficient irrigation systems etc. Given the fact that revenues from cotton production is almost equal to the production costs, farmers do not want to bear extra financial burden. Besides, yield levels are normally less in organic and better cotton compared to conventional production. Therefore, even if all the extra expenses caused by upgrading is compensated by the contracting firm, lower yield levels mean lover revenues -which is a discouraging factor for the farmers' decision to upgrade (I7).

Another factor for the farmers' avoiding transition into product upgrading is the uncertainties about prices of organic and better cotton. The prices of organic and better cotton are quite unpredictable and unstable depending on the market demand at the time of transaction, so farmers refrain from any situation that put their predictable income at risk. In fact, this situation can be overcome by some methods. First, financial literacy can be promoted in the area so that farmers can have the opportunity to market their products at futures exchange or options exchange markets at more desirable prices. However, this would only be enabled if a well-functioning licensed warehousing system operates in the area -enabling proper classification of the cotton depending on its quality and other features; and providing appropriate storage facilities. In this scenario, farmers could market their properly allocated products depending on their quality and characteristics at any time during the year. Enabling of such a system would also facilitate access to different markets where demand for Turkish organic or better cotton can be higher at more promising prices.

Another reason for the farmers' decision in regard not to upgrade is that organic and better cotton production methods are new and unknown to the local producers. As it is discussed earlier, local farmers have some undesirable habits such as over-irrigating, using excessive fertilizers and chemicals during the cultivation; and believing that these practices are associated with higher yields, preventing losses, and minimizing risks. On the other hand, organic and better cotton practices preclude these improper routines. However, it is quite difficult for the farmers to abandon these old habits and traditional methods. Requirement of change in organic or better cotton imposes psychological barriers that are difficult to overcome for the farmers and stand their way to adopt more sustainable practices through upgrading.

On the other hand, when we look at the upgraders, first prominent characteristic of these group is the improved access to information. Information flow is highly dependent on connections and networks. Consequently, the actor who is involved in the largest network has the information and transmit it through its upstream chain actors. In better cotton case, it is first known by the textile sector actors who are engaged with trade, so their information channels are wider. The interviewed ginners stated that they are informed about better cotton by the textile companies they work with. Similarly, ginners are the information sources of the farmers. They introduce better cotton to the cotton producers and advise them to cultivate it in order to upgrade their products, access to different markets, and eventually to increase revenues. Farmers who have communication with ginners that are working with exporting textile manufacturers benefit from the information channels of these downstream actors. This information may be about the types of newly developing products, market demand and tendencies, cotton prices, and so on (I12, I13).

Another source of information for the farmers are indicated as input supplier firms who work as consultants as well. These firms sometimes encourage farmers to try recent agricultural practices and provide technical assistance. Moreover, a group of farmers stated that they have been informed through training and consultancy services of Ministry of Agriculture and Forestry's Şanlıurfa Directorate. Several cotton

producers told that they decided to cultivate organic or better cotton at least in a small portion of their lands -as trial, just for experimenting- after participating training and services provided by the directorate. When it is asked whether they think to enlarge their production, the farmers affirmed and showed their willingness to increase their production in better or organic cotton.

It is observed that motivation and encouragement of Ministry of Agriculture and Forestry's Şanlıurfa Directorate is quite effective and influential in farmers' decisions regard upgrading because producers trust governmental institutions. In addition to these institutions, experts from IPUD (I43, I44) also indicated that:

> *"Trust building period between the farmer and IPUD specialists took almost one year. Usually, at the end of the one year of continuous interaction trust building is completed and farmer accepts to join us"*

Another determinant in upgrading decision is observed as education level. Transition to better or organic cotton increases as farmers get more educated. One of the interviewees indicated that (I9):

> *"Educated farmers easily understand the terms and conditions of better cotton principles and adopts. On the other hand, uneducated farmers hesitate and refrain from because they have difficulties in understanding. When they do not understand, they afraid to do paperwork and sign documents. According to them this is something threating."*

When we look at the motivations of the farmers who made up his mind to upgrade, they can be examined in three groups. The first motivational factor for upgrading to organic or better cotton is the *risk management*. However, it is more common in organic cotton production rather than better cotton since it is organized and managed through contract farming. Farmers usually decide product upgrading because contracting firm compensates all the extra costs (such as providing organic seed and other organic inputs, certification expenses, technical support) occurred because of organic production methods (I29). Moreover, contracting firms and farmers settle a

pre-determined selling price prior to production, thus farmers protect themselves from price fluctuations. Normally, farmers always have the risk of making a loss in cotton production because of always changing prices due to economic instability, weather conditions affecting yield and output, or unpredictable market dynamics. Assuring these risks management relieves farmers and enhance their motivation towards upgrading (I29).

The second motivation, especially among the better cotton producers, is the *developing market demand and brand value* of sustainable cotton. Better cotton producing farmers emphasized that they believe better cotton market demand will considerably increase in the near future due to the commitments of global brand-name textile companies to source their cotton from sustainable sources (I43, I44).

Different from organic cotton in which contract farming is a major motivational factor to participate, there is not a contract between the farmers and IPUD or BCI to guarantee prices in better cotton. In fact, better cotton is riskier than organic in this respect; however, it is easier to adopt in practice. Being easily adoptable in practice (without tough requirements and standards that are difficult to fulfill for the farmers) is another motivational aspect of better cotton production (I40).

Observing positive outcomes is the other encouraging factor for the farmers to decide transition into sustainable cotton practices. A group of farmers who have started to try cultivating better or organic cotton underlined that they decided to experiment these new practices because they observed some *leading farmers* in the community who are already growing better or organic cotton (I1, I7). Seeing the positive outcomes of leading farmers encourage other small or medium scale agricultural producers to easily adopt these sustainable production methods.

Moreover, upgrading is usually observed among the farmers who also have ginning facility, in other words, among the actors who are involved in more than one stage of the value chain. The reason is that those farmers -who are also ginners- have the opportunity to gain more when they upgrade so they capture the value added from 2

different stage of the chain (one degree of value increase from agricultural production, one degree from ginning). Therefore, it seems easier for them to make a decision for upgrading which provides them with more increased incomes.

5.4. Planning Solution vs. Market Solution for Upgrading

As it is indicated before, upgrading activities take place in cotton production in the study area for increasing the value generated from cotton, enhancing local farmers' positions in the market, meeting increasing market demand for organic and better cotton products, diminishing environmental externalities of cotton production, and providing solution for the major poor-quality problems associated with traditional production practices.

Implementation of organic cotton production can be considered as a planning solution for achieving these targets listed above because it is encouraged by the governmental subsidies and implemented through legal regulations -similar to conventional cotton subsidies as paying a premium per kilogram of seed cotton. The working principle is that, the government basically encourage production of organic cotton by paying agricultural subsidies for the area of land dedicated for organic cotton cultivation (30 TL per decare of organic production land). Similarly, conventional cotton production is subsidized by the amount of production as well as organic cotton (0,80 TL/Kg. of cotton).

The problem here is that, since the support is determined based on quantitative factors, quality and practices adopted in production (such as sustainable production methods, eliminating child labor, gender equality etc.) are not a determiner in the amount of subsidy payments farmers receive for growing cotton. In other words, only quantity of the produce matters. As a result, this mechanism does not solve the existing poor-quality issues and negative environmental impacts of cotton production in Turkey. The most upsetting aspect of this mechanism is as explained by one of the local experts (I41);

"This mechanism attempts to increase revenues of farmers but unfortunately does not solve the essential problem of low-quality cotton production. On the contrary, it causes farmers to produce just to get the subsidy but do not care about the quality because it is not rewarded. Farmers would change their behavior and mindset when they are not paid by the amount of production, but according to the quality of their product"

On the other hand, better cotton can be considered a market solution for the problems of cotton production mentioned at the beginning because there are no governmental subsidies for it. It takes place on a voluntary basis and market rules are accepted. Prices are determined according to the supply and demand conditions -no pre-determined prices settled by a contracting firm and guarantee of selling as in the organic farming example. Under these circumstances, better cotton farmers focus more on quality of their product because it is the determinant for the price they can sell their product at the market. Better cotton farmers that we have interviewed indicated that quality, value added generated from better cotton practices (such as using natural resources moderately, avoiding child labor, or being sensitive to the labor rights and gender equality in production) are important to them (I9, I10, I12, I13); however, none of the organic cotton farmers told that they value such kind of practices.

What we can infer from the discussion above is that, policies rather than directly supporting amount of production, the ones rewarding high-quality production and sustainable practices could be a better approach to solve existing problems of cotton prodcution. Current circumstances show that subsidies such as direct payments or premiums per production do not change the farmers' attitudes toward improving value-generation and enhancing their position in the value chain. Despite, policies which help operating market dynamics without interruption may provide a better solution as it can be seen in the example of better cotton. Also, providing the required infrastructure for the well-functioning of market dynamics may be another useful approach too. On this subject, for example, field research revealed that establishment of a licensed warehousing system would be a solution for many problems of the area.

In licensed warehousing, first of all, producers would have the chance to get exact worth of their produce by a well-established system which allocates products according to their quality and other characteristics so that give farmers the chance to market their products by their exact value and quality.

Second, they would have the option to store their produce and sell when cotton prices get higher. In the existing system, because of the limited and unsuitable storage conditions of farmers and ginners, they do not want to keep the produce for long time to avoid risks and harm, therefore, they directly send it to the textile factories immediately after the harvest. With the storage facilities of licensed warehousing, farmers would have the option to sell their produce in parties through the year, especially when cotton prices rise. Besides, this option would benefit manufacturers as well because they could have the chance to access local cotton supply not only during the time period following harvest, but also all through the year.

Third, a licensed warehouse system would enable farmers access to different markets since in this method they can sell their produce with the electronic product bills (ürün senedi) in other world markets and future forward options exchange and take advantage of competition between numerous buyers. Moreover, having product bills enable farmers to benefit from financial credits and increases their creditworthiness.

As a result, an alternative solution to direct agricultural subsidies can be a subsidy mechanism based not only on quantity, but also considering quality, or a mechanism which provides required infrastructure and enabling environment for well-functioning of the market dynamics. Another solution could be providing subsidies for cotton inputs. Such a solution could work quite better in a country like Turkey where high input prices are one of the major problems of the cotton producers.

CHAPTER 6

CONCLUSION

The thesis aimed to conduct a research regarding cotton value chain in Şanlıurfa and ways to improve it in order to enhance its contribution to regional value generation and overall development of the GAP Region. The research is organized in the context of value chain analysis because of its comprehensive approach pectives of farmers differ a lot from the perspectives of textile manufacturers regardifocusing on not only sectoral dynamics, but also inter-sectoral linkages and relations between the actors. In accordance with that, we put extra emphasis on different perspectives of different actors on important issues of cotton value chain. For example, persng the problems associated with agricultural production stage of the value chain. Each group of actors face different problems and provide totally different and valuable insights based on their own unique experiences.

In accordance with this purpose, firstly, a detailed value chain analysis is conducted to understand the dynamics of cotton value chain in Şanlıurfa; and to identify problems and opportunities. Understanding these issues of the value chain was necessary to examine how improvements can be achieved. Therefore, major value chain activities in the study area -input supply, agricultural production, processing, and logistics stages- are investigated. The study basically focused on actors and activities carried out through the cotton value chain, its governance, some economic analysis, and finally particular attention is paid to a detailed discussion on upgrading. During the interviews, the most common problems were the poor-quality problem of locally produced cotton and improper practices of farmers in Şanlıurfa. This is why the study focuses on upgrading in particular. Upgrading is considered a way not only to help increase value generation through higher value-added products in the area, but also to promote a better integration of the farmers into cotton value chain and improve their position.

In the essence of the problems, the underlying reason is spotted as the incompatibility of agricultural production and processing sectors (secondary processing-textiles manufacturing). There is a well-developed and very competitive textile industry which needs sustainable high-quality cotton supply on one hand; and there are less enthusiastic and ambitious farmers supplying cotton to this successful sector on the other hand. Moreover, the imbalance between the quantity of cotton demanded from the textiles sector and amount of supply coming from farmers is another underlying reason which exacerbates the problem. Farmers do not have problem in selling their produce because of the low supply -despite of its poor quality depending on the improper practices in the cotton fields. Excessive irrigation, contamination, and inconvenient storage are some of the major factors diminishing the quality of the local cotton caused by those improper practices. However, farmers do not attempt to solve the poor-quality problem as long as they can sell their produce. For now, there is no problem in selling this low-quality cotton in local and national markets, but the future of local cotton may not be optimistic if farmers still do not attempt to improve the quality and take care of cotton well.

Two factors threating the future of local cotton are; economic and environmental sustainability. Several issues which are revealed during the interviews imply that, sustaining cotton production under these conditions may not be possible in the near future. The first reason is environmental externalities of producing cotton which are already at high levels in Şanlıurfa and GAP Region. The level of irrigation water is already started to fall, and the structure of soil is already deteriorated due to excessive water use in the cotton fields. These are just some of the major environmental detriments. On the other hand, expensive input prices and low profit margins put critical financial burden on cotton producers, especially when the economy is that fragile and full of uncertainties.

Upgrading may come into play at that point as a way to improve the quality of the cotton and the position of farmers in the cotton value chain. Existing upgrading activities take place in the form of product upgrading through organic cotton and better

cotton as an alternative to conventional cotton production in Şanlıurfa. These methods (organic and better cotton) have the potential to solve the poor-quality problem of local cotton, promote higher-value generation in the region out of cotton, and prevent environment degeneration and excessive use of natural resources. For these reasons, we wanted to investigate dynamics of product upgrading through organic and better cotton in the area.

When examining upgrading, the thesis firstly investigated the dynamics of organic and better cotton production in Şanlıurfa (as means of product upgrading) through a series of in-depth interviews and meetings with value chain actors. The question in mind was how to improve the position of farmers in the cotton value chain while promoting environmental sustainability through more conscious and precise methods of organic and better cotton practices. To investigate this, we first attempted to analyze the effects of current upgrading activities adopted by local organic and better cotton farmers. In other words, we aimed to see whether product upgrading caused any improvement in their conditions and contributed to the regional value generation.

The first indicator we search for this was whether upgrading has led to an increase in unit prices of cotton. The findings showed that transition into organic cotton and better cotton provides an increase in the earnings of farmers; however, the amount is quite small for now. Farmers hope that it will increase in the future though. Since organic and better cotton is managed through contract farming or with the help of the institutions such as IPUD, GAP-BKI or other local government bodies, vertical coordination is increased among the actors and value chain participants. Similarly, working with experts and brand-name companies promotes learning and knowledge of local producers.

In terms of attitudes of farmers towards upgrading, the greatest motivation for the farmers decision toward upgrading is possible value increases and higher incomes. Second, better cotton producers reported that working with global brand-name companies and producing a higher-value branded product is the main motivational

factor for them. Third, observing positive outcomes of other farmers' experiences (especially leader farmers' and big landowners') with organic and better cotton; and encouragement of locally effective actors such as experts/specialists from GAP-BKI or Ministry of Agriculture and Forestry's Şanlıurfa Directorate work a lot in influencing farmers' decision towards upgrading. Trust is another important factor in their decision. If they are advised by a trusted agent, they decided easier. There are some farmers who started to cultivate organic or better cotton in a small portion of their land as a trial. They are intended to experiment and transfer into product upgrading if they can achieve and see positive results. Moreover, educated farmers are more prone to adopting upgrading strategies compared to uneducated ones.

On the other hand, when we look at the not-upgraders, there is a group who are totally unaware of such kind of product differentiations. Have they not heard about organic nor better cotton before -which indicates that they have limited or no access to the information channels. This situation triggers the question of how successful transmission of information is in the region. Among the others who have heard about product upgrading options but prefer not to, uncertainties regarding prices is one of the reasons. Also, they are required to quit their old habits such as using excessive irrigation water, fertilizers or chemicals during the production which lower yields in organic and better production to some degree and this constitutes psychological barriers for the farmers. Lastly, difficult procedures and standards to meet -especially in organic cotton- is another factor deterring farmers from transition into organic cotton farming.

Despite of difficult procedures and uncertainties in prices, organic cotton producers tend to continue organic farming because it is managed through contract farming. The advantages of contract farming include that contracting firm eliminates most of the risks and uncertainties for the farmers. For example, it removes uncertainties regarding prices by settling to buy all the produce at a pre-determined price, so farmers do not need to worry about fluctuating prices. Contracting firm provides all the expensive

inputs and closes the extra financial gap occurred to the farmer because of cultivating organic cotton over conventional.

Finally, the thesis discussed and compared planning solution and market solution for existing problems of cotton -considering organic cotton as planning solution since it is encouraged through government subsidies; and better cotton as market solution because it is a market-oriented approach which works on voluntary basis and does not subject to any subsidy mechanism. The problem created through government subsidies is that, farmers aim to earn from subsidies -not from the quality of their produce. Since government subsidies are paid on the basis of amount of production, quality is not an issue for the farmers to be considered. An exception for this is the better cotton which does not work based on subsidies- only by market dynamics. Better cotton farmers sell their products based on the supply and demand at the time of transaction, so they always aim to produce higher-quality products and adopt sustainable practices that add extra value to their produce. While better cotton farmers we have interviewed indicated that quality and value added generated from better cotton practices (such as using natural resources moderately, avoiding child labor, or being sensitive to the labor rights and gender equality in production) are important to them; none of the organic cotton farmers told that they value such kind of practices. Based on the observations in the field, policy approaches which promotes well-functioning of market dynamics, and providing required infrastructure and enabling environment would be a better solution for the existing problems of cotton production.

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APPENDICES

A. Interview Questions

Interview Questions in Turkish

ÇİFTÇİ MÜLAKATI SORULARI

1. Ne kadar alanda pamuk ekimi yapıyorsunuz, üretim miktarı ve verim nedir?

2. Toprak sahibi misiniz yoksa icarcı (kiracı) mı?

3. Girdi tedariği, tarımsal üretim, işgücü, satış- pazarlama, lojistik vb. aşamaları hakkında genel bilgi verebilir misiniz? Bu aşamalarda karşılaşılan sorunlar nelerdir?

4. Değer zincirinin aşamalarında yer alan diğer aktörlerle (girdi tedariği, tarımsal işleme, satış - pazarlama, lojistik vb.) ilişkileriniz nasıldır? Herhangi bir problem yaşıyor musunuz?

5. Ürününüzü kime satıyorsunuz? Alıcılarla nasıl iletişim kuruyorsunuz?

6. Satış aşamasında problem yaşıyor musunuz?

7. Fiyatlar, maliyetler ve piyasa konusunda düşünceleriniz/değerlendirmeleriniz nelerdir?

8. Alıcılar ürününüzden memnun mu?

9. Ürününüzün kalitesini genel olarak nasıl değerlendiriyorsunuz? Üretim aşamasında kaliteyi olumsuz etkileyen uygulamalar olduğunu düşünüyor musunuz?

10. Sözleşmeli tarım, organik tarım veya iyi pamuk üretimi yapıyor musunuz? Bu yöntemler hakkındaki düşünceleriniz nelerdir?

Eğer yapıyorsanız;

10.1. Kaç hektar/dönüm alanda yapıyorsunuz? Üretim miktarı ve verim nedir?

10.2. Nasıl başladınız, bunun için motivasyonlarınız neydi?

10.3. Böyle bir uygulamanın varlığından nasıl haberdar oldunuz?

10.4. Üretiminizi ne tür bir kurum veya kuruluş için yapıyorsunuz (sözleşmeli firma, IPUD vb.)? Bu kuruluşla ilişkilerinizi nasıl değerlendiriyorsunuz?

10.5. Konvansiyonel üretimden geçişlerde zorlandınız mı? Farklılaşan üretim süreçleri hakkında kısaca bilgi verebilir misiniz?

10.6. Konvansiyonel üretime oranla maliyet ve karlılık oranları nasıl değişmektedir? Sizce bu uygulamalar konvansiyonel üretime göre avantajlı mı?

10.7. Üretimi genişletmeyi düşünüyor musunuz?

10.8. Organik veya iyi pamuk piyasa koşullarını nasıl değerlendiriyorsunuz?

11. Herhangi bir birlik veya kooperatife üyeliğiniz var mı?

12. Risk yönetimi stratejileriniz var mı?

13. Genel olarak sorunlarınız, şikâyetleriniz, potansiyelleriniz ve önerileriniz nelerdir? Eklemek istediğiniz başka hususlar var mı?

İŞLETME MÜLAKATI SORULARI

1. İşletmenizin fiziksel kapasitesi ve ortalama üretim miktarı nedir? Fiziksel kapasite ve şartlarınız üretiminiz için yeterli midir?

2. Hammadde ve girdi tedariği, işleme, işgücü, satış-pazarlama, lojistik vb. aşamaları hakkında genel bilgi verebilir misiniz? Bu şamalarda karşılaşılan sorunlar nelerdir?

3. Hammadde ve girdi tedariği, işleme, satış- pazarlama, lojistik vb. aşamalarındaki diğer aktörlerle ilişkileriniz nasıldır?

4. Üretim aşamalarınızı kısaca anlatabilir misiniz?

5. Hammadde olarak pamuğu/pamuk lifini kimden ve nasıl temin ediyorsunuz? Tedarikçilerle nasıl iletişim kuruyorsunuz? (Çiftçiden, aracıdan, ithal vb.)

6. Hammadde/girdi temini aşamasında problem yaşıyor musunuz?

7. Fiyatlar, maliyetler ve piyasa konusunda düşünceleriniz/değerlendirmeleriniz nelerdir?

8. Tedarikçilerin ürününden (hammadde/girdi kalitesi vb.) memnun musunuz?

9. Alıcılar sizin ürünlerinizden memnun mu?

10. Ürününüzün kalitesini genel olarak nasıl değerlendiriyorsunuz? Üretim aşamasında kaliteyi olumsuz etkileyen uygulamalar olduğunu düşünüyor musunuz?

11. Risk yönetimi stratejileriniz var mı?

12. Herhangi bir mesleki birlik, dernek veya kooperatife üyeliğiniz var mı?

13. Organik üretim veya iyi tarım uygulamaları vb. faaliyetleriniz var mı?

14. Genel olarak sorunlarınız, şikâyetleriniz, potansiyelleriniz ve önerileriniz nelerdir? Eklemek istediğiniz başka hususlar var mı?

Interview Questions in English

FARMER INTERVIEW QUESTIONS

1. What is the size of harvested area, amount of production and yield for cotton?

2. Are you the land lord or tenant?

3. Could you please give some information regarding the input supply, agricultural production, labor, logistics, and sales and marketing etc. processes? What are the problems you encounter with during these stages?

4. What do you think about your relationship with other actors involved in the other activities (input supply, processing sector, labor, sales and marketing, logistics, etc.) of the value chain? Do you have any problems with them?

5. Whom do you sell your product? How do you contact/reach out to the buyers?

6. Do you experience any problems in selling your products?

7. What is your opinion about the prices, costs and overall market conditions?

8. Are buyers satisfied with the quality of the product you sell?

9. How do you assess the quality of your product? Do you think that there could be some practices in the production process that may impact the quality of your product negatively?

10. Are you involved in any contract farming, organic farming/agriculture, good agricultural practices etc? What is your opinion about these practices?

If you are involved;

10.1. What is the size of harvested area, amount of production and yield for cotton (with these practices)?

10.2. What was your motivation? How did you decided to start?

10.3. How were you informed/hear about these practices?

10.4. Who do you produce for? (Contractor firm, BCI etc.)

10.5. Did you experience any difficulties in the process of transition from conventional farming to the new practice (organic farming, good agricultural practices etc.)?

10.6. How the costs and returns/profits differ from conventional production? Do you think that these new practices are more advantageous compared to the conventional production?

10.7. Do you think of enlarging the area harvested (or increasing the production) for organic or better cotton?

10.8. What do you think about the market conditions of organic or better cotton?

11. Are you affiliated with any association, cooperative, union, corporation etc.?

12. Do you have risk management strategies?

13. Would you like to make any additional comments regarding problems / complaints / potentials / recommendations etc.?

ENTERPRISE INTERVIEW QUESTIONS

1. What is the physical capacity and approximate amount of production/output of your enterprise? Do you have sufficient facilities and appropriate conditions for your production/processing activities?

2. Could you please give some information regarding the input supply, processing, logistics, labor, sales and marketing etc. processes? What are the problems you encounter with during these stages?

3. What do you think about your relationship with other actors involved in the other activities of value chain (input supply, agricultural production, labor, sales and marketing, logistics, etc.)? Do you have any problems?

4. Could you please briefly explain production stages in your facility?

5. How do you procure your raw materials (cotton or cotton fiber in this case)? (From the farmers, middleman, import etc.) How do you contact/reach out to the providers?

6. Do you experience any problems in the process of supplying raw materials?

7. What is your opinion about the prices, costs and overall market conditions?

8. Are you satisfied with the quality of the inputs / raw materials?

9. Are buyers satisfied with the quality of the products you sell?

10. How do you assess the quality of your products? Do you think that there could be some practices in the production process that may impact the quality of your output negatively?

11. Do you have risk management strategies?

12. Are you affiliated with any association, cooperative, union, corporation etc.?

13. Are you involved in organic production or good agricultural practices etc.? What is your opinion about these practices?

14. Would you like to make any additional comments regarding problems / complaints / potentials / recommendations etc.?

B. Informant List

AGRICULTURAL PRODUCERS (FARMERS)				
Informant Number	**Occupation**	**Production Type**	**Land Size[13] (decares)**	**Additional Value Chain Stage**
I1	Farmer*	Better Cotton	1000 +	Ginner
I2	Farmer	Conventional	1000 +	
I3	Farmer	Conventional	1000 +	
I4	Farmer	Conventional	100 – 199	
I5	Farmer	Conventional	100 – 199	
I6	Farmer	Conventional	500 – 999	
I7	Farmer	Organic Cotton	200 – 499	
I8	Farmer*	Conventional	1000 +	Ginner
I9	Farmer **	Better Cotton	1000 +	Ginner, Textiles Manufacturer
I10	Farmer	Better Cotton	1000 +	
I11	Former farmer **	Former organic cotton producer	1000 +	Ginner, Textiles Manufacturer
I12	Farmer	Better Cotton	1000 +	
I13	Farmer	Better Cotton	1000 +	
I14	Farmer	Conventional	200 – 499	
I15	Farmer	Organic Cotton	200 – 499	
I16	Farmer	Conventional	200 – 499	
I17	Farmer	Conventional	500 – 999	
I18	Farmer	Conventional	200 – 499	
INPUT SUPPLIERS, MIDDLEMAN and PROCESSORS				
Informant Number	**Occupation**			**Additional Value Chain Stage**
I19	Middleman			
I20	Input Supplier			
I21	Input Supplier			
I22	Ginner*			Farmer
I23	Ginner*			Farmer
I24	Ginner*			Farmer

[13] Land size classification is adopted from Agricultural Farm Structure Survey, 2016 of TUİK (TurkStat) and groups are: -5; 5 – 9; 10 – 19; 20 – 49; 50 – 99; 100 – 199; 200 – 499; 500 – 999; 1000+

I25	Ginner			
I26	Ginner			
I27	Ginner*			Farmer
I28	Ginner			
I29	Former Contracting Firm **			Farmer, Textile Manufacturer
I30	Textile Manufacturer / Contracting Firm			
I31	Textile Manufacturer			
I32	Textile Manufacturer			
I33	Textile Manufacturer			
I34	Textile Manufacturer			
I35	Textile Manufacturer			
SUPPORTIVE SERVICES ACTORS				
Informant Number	**Occupation**		**Institution / Association**	
I36	Local Specialist (GAP Organic Agricultural Cluster Project)		GAP-RDA	
I37	Agricultural Engineer		GAP-RDA	
I38	Irrigation Specialist		GAP-RDA	
I39	Development Specialist (GAP Organic Agricultural Cluster Project - Field Coordinator		UNDP	
I40	Assoc. Professor		Harran University	
I41	Agricultural Engineer		Ministry of Agriculture and Forestry's Şanlıurfa Directorate	
I42	Field Training and Capacity Building Specialist		IPUD	
I43	Field Facilitator / Producer Unit		IPUD	
I44	Field Facilitator / Producer Unit		IPUD	
I45	Agricultural Engineer		GAPTAEM	
I46	Agricultural Engineer		GAPTAEM	

I47	Irrigation Specialist	GAPTAEM	
I48	Engineer	Şanlıurfa Chamber of Commerce and Industry	
I49	Agricultural Engineer	Şanlıurfa Chamber of Agriculture	

* The symbol refers to the actors who carry out more than one stage of value chain activities. One * refers to the actors who involve in one additional stage, two ** refers to the actors who involve in two additional stages of value chain activities. Additional stages that actors carry out are specified in the last column of the table.