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Labor Productivity and International Competitiveness of Ethiopian Textile Industry:

A Case Study on Adei Abeba Yarn Share Company

By
Aleme Worku

A thesis submitted to the school of Graduate Studies of Addis Ababa University in partial fulfillment of the requirements for the Degree of Masters of Science in Economics

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Acknowledgements

First, I would like to thank the Lord for enabling me to go through the program.

I would like to thank my thesis advisor, Chakndhara Panda, for monitoring and guidance from the beginning to the end of the thesis.

I would also like to thank to all my classmates specially Eshete Amsalu and Solomon Lemma, for their continuous support by sharing ideas and long time discussion.

Many thanks to Adei Abeba Yarn Share Company for giving the chance of sponsorship for the last two academic years. And also thanks to AAYSC Labor Union secretary W/Ro Yodit Negussie, for her co-operation in secretarial service.

Sincere thanks to all my families who have encouraged and supported me from the beginning up to this stage.

At last, I would like to thank to Mr. Yeneneh Dawit for his follow up of my thesis progress and given recommendation and also Mr. Gebru Mengistu encouraged me throughout the entire period of my study.

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Acronyms

- AAYSC Adei Abeba Yarn Share Company
- CSA Central Statistical Authority
- ADLI Agricultural Development Led Industrialization
- GDP Gross Domestic Product
- GVP Gross Value Product
- EC Ethiopian Calendar
- IIMD International Institute of Management Development
- ILO International Labor Organization
- UNIDO United Nations Industrial Development Organization
- US United State of America
- UK United Kingdom (Britain)
- EU European countries
- SSA Sub Saharan Africa
- DCs Developed Countries
- FDI Foreign Direct Investment
- FJVs Foreign Joint Ventures
- EPZ Export Processing Zone
- TDS Technology Diffusion Scheme
- MSTQ Metrology, Standards, Testing, and Quality constitute
- TQM Total Quality Management

- NIEs Newly Industrialized Economies
- SOEs State Owned Enterprises
- USITC US International Trade Center
- SMEs Small and Medium enterprises
- AGOA African Growth Opportunity Acts
- COMESA Common Market in Eastern and South Africa
- WISE Work Improvement in Small Enterprise
- USD US Dollar
- LP Labor Productivity
- WC Working Conditions
- IS Incentives Systems for Workers
- ABS Labor Absenteeism
- TR Training Facility
- EER Employer-Employee Relationship
- LR Labor Regulations
- EDUC Educational status
- FS Family Size
- WE Work Experience
- MS Marital Status
- HU Housing / Living Place of employee

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Abstract

The study tried to examine how low labor productivity affects company's international competitiveness. This is exemplified by taking a case study on Adei Abeba Yarn Share Company; the paper also indicated how the labor productivity factors worsening company's performance and thereby affected Ethiopian textile competitiveness.

Labor productivity factors, which directly affect the company competitiveness, are poor working condition, no incentive system, employee-employer relationship is not good and inadequate for maximizing employees' productivity, employees' absenteeism, and inadequate training facility in the company. Demographic characteristics are other factors that indirectly affect labor productivity; these factors are family size, marital status, work experience and employees housing /living place of employees/ and other factors are considered in the study. For example, if an employee with large family size is less productive than who has small family size.

Finally, the paper tried to give valuable recommendations for the management groups working in the company to improve labor productivity with a little adjustment of working environment. Mostly the recommendation strategies focused on activities where the company should apply an effective incentive system and become productive by sharing profit with employees because in this system both employees and the company become beneficiaries. In addition, the paper recommend to change aged employees by younger employees or upgrade employees by making investment for training and human resource development to increase productivity of the company. As seen from the result of the study about 90% of employees have 16 years and above work experience /aged employees/ in the company and 67% of employees in the company have never taking training before.

CHAPTER ONE
INTRODUCTION

This chapter covers an overall background description and problem statement of the thesis. It also describes the purpose of the study, the scope and limitation. The chapter also contains a layout of the thesis, which briefly summarizes the content of each chapter.

1.1 Background of the study

Ethiopia follows market economy since 1992, and has adopted agricultural development led industrialization (ADLI) policy as the basis for economic growth of the country. The main objective of the strategy is to bring about structural transformation to streamline and reconstruct the manufacturing sector via extensive use of the country's natural and human resources.[1] Textile industry is one of the manufacturing sectors to fulfill objective of the country sectoral competitiveness in domestic and world market.

Ethiopian textile companies compete in the world market with huge and strong foreign companies, which enjoy advanced technology, high-level capital and management capability; also compete with numerous foreign companies, which have wide and strong marketing networks internationally. Almost all developed and many developing country companies which enjoy the services of highly developed and efficient infrastructure, widely skilled diligent manpower and efficient government administration.

[1] Addis Ababa Business Directory, 2006/07

The manufacturing sector in Ethiopia contributes about 12% of the national GDP, mainly engaged in producing consumer goods both for domestic and international markets. The main consumer products includes foodstuff, tobacco, beverage, cement, leather products, textile products, wood products, metallic and non-metallic products. For a long-term existence of these and any other manufacturing sectors, it is mandatory to have an improvement of every activity of the firm at the best level. In this time, the art manufacturing technology for an industrial business may not guarantee a long lasting profitability both in the local and global market. The drastic changes in technology and the ever-increasing demand for competitive products may subject firms to change entirely or update part of their activities in accordance to the external pressure.

Here in Ethiopia, almost all manufacturing sectors need change; but there is not sufficient effort being made to bring this change. That's why most industries are still doing their activities in unprofitably, customer dissatisfaction and poor performance. These companies aspire to manage all their resource including manpower, machinery and all their resources in a very competitive way. This paper focuses on Ethiopia textile companies, which have not yet fully utilization of their labor resource and be incapable of company's competitiveness. Therefore these companies are not in a position of win market competitions (international competitiveness); effectively handle their resources (manpower, machinery, etc); and Satisfy customer needs.

This paper is mainly intended to deal with how these textile industries long-lived loss and incompetent in the world market. It carried out by taking Adei Abeba yarn Share Company (AAYSC.), one of the textile companies in Ethiopia, as a case study. Generally, the paper will focus on empowering textile companies through maximum utilization of resources especially labor productivity, indicate factors that affect labor productivity based on AAYSC as a model for low labor productivity leads company's in-competitiveness.

Adei Abeba Yarn Share Company was established in 1961GC and the company has two spinning, one blanket, one knitting-dyeing-garment and one garment only plants. The objective of the company is to produce and sell different cotton yarn, garments, knitted fabrics and blankets for the local and export markets. Especially the company participates in the export market taking garment outputs. The company calculates and fixes its price for its product following the cost plus method. The market segment of the company is produce 100% cotton knitted and woven fabrics like polo-shirts, t-shirts, lady dress, pants, shorts, trousers, shirts, uniforms, overcoat and the likes, is estimated to 20% of the total garment supply of the country . In order to undertake the company duties, it has organized into various operational supporting departments. In general, the company has about 1523 employees working in various departments. The company has one general manager, one deputy manager and nine departments;

these departments are production, technical, administration, finance, commercial, audit, quality, plan & information and production assistance office.[2]

1.2 Statement of the Problem

Low labor productivity is a problem in almost all Ethiopian textile companies that reduce country's competitiveness in the world market. The factors are underutilization of labor force and existing capital, low level of technology etc. The thesis focuses on the major reasons of low labor productivity in the existing technology and other resources of the company.

The major factors that lead low labor productivity in the industry, such as poor working conditions, poor incentive structures, inadequate training, poor employee-employer relationships, labor absenteeism, restrictive labor regulations, lack of professionals, marital status, years of work experience, family size of an employee and housing status means an employee living his own house or not are considered in the study. In addition, mostly companies do not have tangible information about how and why they can't compete in the world market. Therefore, the study wants to identify and measure the factors that significantly affect company's productivity and competitiveness.

[2] AAYSC Company Profile (1999EC)

1.3 Hypothesis of the study

Based on the above discussion, the hypothesis will be tested are some factors of labor productivity; working condition, application of incentive system, training facility, employee-employer relationships, labor absenteeism, educational status, marital status, housing /place of living and labor productivity are positively related. And on the other hand restrictive labor regulations, family size, years of work experience and labor productivity are negatively related.

1.4 Objective of the study

The objectives of this study are as follows.

- To make assessment on the level of labor productivity in AAYSC.
- To identify factors those contribute to low level of labor productivity and competitiveness of the company.
- Finally to give recommendations and indicate some basic strategies that may bring up high labor productivity and become competent of AAYSC and generally Ethiopian textile industry.

1.5 Significance of the study

The company efficiency highly depends on productivity especially labor productivity. Therefore the result of this study help managers to know the existing efficiency of the company, reasons for low labor productivity, and helpful for making their maximum effort to increase employee's productivity with the help of recommended strategies and to bring the company in the world market.

On the other hand, the international competitiveness of a company product measures in terms of price, quality and timeliness. Labor productivity is the most important variable to compete in the world market in terms of price, quality and timeliness. The study also gives some framework for researchers who are interested to do further research in this area and helpful for other similar industries in Ethiopia.

1.6 Plan of the thesis

The study contains a total of six chapters. The report is structured and presented the information in a logical sequence to simplify for the reader. It is presented in such a manner that the necessary background information is covered before going further into the next level of details. The contents of the chapters are as follows:

Chapter 1 – Introduction: - This chapter gives introductory view about the problem, objectives and methodology of the study.

Chapter 2 – Literature Review: - The literature review goes deep to the definitions and principles of productivity and international competitiveness, countries as an independent participant of global competition and the key factors of competitiveness. It further explains labor productivity is the major factor of competitiveness. This chapter also contains empirical literature of few countries like Pakistan, Sri Lanka, and Mauritius from electronic and different secondary data sources. Finally, it winds up the literature with productivity in Ethiopian industries especially labor productivity in textile company.

Chapter 3 – Textile Overview: - The chapter starts from the textile history and goes deep to the main production activities going in the sector. It gives a clear understanding of the reader giving the necessary information what are the basic activities and how these can be carried out in Ethiopian textile industry. It also gives brief discussion about government initiatives of the textile industry, marketing and export promotion in the sector, which helps to show the supports to the sector.

Chapter 4 – Methodology: - The chapter describes different aspects of the methods used and situations that the research must consider during each phase of the study. It also describes the data collection methods and techniques in the study. Clearly state types of data analysis technique, the study variables and abbreviations used for the study variables. The purpose of this chapter is to make the reader understand the methodological choices made on the study.

Chapter 5 – Analysis of the Results: - The result presented based on interview of the prepared questionnaire and 1993 - 1997 E.C- annual reports. The chapter will concentrate on each factor affecting labor productivity and how the company does not compete in world market sees from the data collected and the plan with respect to the actual achievement. The intention of the chapter is to give an emphasis of labor productivity on competitiveness especially based on primary data collected.

Chapter 6 – Recommendations and Conclusions: - This chapter presents the conclusions drawn from the study, and gives some recommendations as to how the textile company focuses to maximize their labor productivity, also indicate some strategies to overcome the problem. It also includes suggestions for further researches in the area. The recommendation also includes what government, private companies and other institutes have to do in order to achieve a higher productivity.

CHAPTER TWO

LITERATURE REVIEW

The literature review covers theoretical and empirical literatures; theoretical literature goes deep in to the different definitions and principles of international competitiveness of a country in terms of productivity of human capital. It further explains the impact of low labor productivity on business success and shows the role of labor productivity in competitiveness. Continuing its review by explaining labor productivity techniques and tools applied on factors of labor productivity. Finally it winds up empirical literature that indicates labor productivity in Pakistan, Seri Lanka, Mauritius and Ethiopia manufacturing industries especially in textile sectors.

2.1 Theoretical Literature

2.1.1 Definitions of International Competitiveness and Labor Productivity

International Competitiveness is the ability of a country, under free and fair market conditions, to design and produce market goods and services that are better quality and cheaper than those of foreign countries. Competitiveness is fundamental to a country's living standard and is basic to the expansion of employment opportunities and the ability to meet international obligations. According to the definition of the European Commission, country's competitiveness is the capability of a country to produce goods and services that are in demand on international markets and, at the same time, ensure a stable and high level of incomes for the local population; more generally, the capability of a country, in the conditions of external competition, to ensure a relatively high level of incomes and employment.[3]

[3] European Commission Periodic Report (1999).

For a country, there are many ways of defining international competitiveness. However, they all have the common factor; a country's competitiveness depends on its ability to take advantage of opportunities in the world market. Any country does not produce all output needs because countries have different quantities and qualities of economic resources and different ways of combining them; thus each country can produce certain products at relatively lower costs than others, as long as the relative production costs of goods differ in different countries, there are gains to be made from specialization and trade (David Ricardo, 1772-1823).

He emphasized the supply side of the market, that is, the immediate basis for trade shoots from cost differences between countries, which depend on their natural and acquired advantages. Since a country having an absolute disadvantage in all goods would find it's advantageous to specialize in the production of the good in which its absolute disadvantage is least. Therefore international trade is characterized as a race for competitiveness in which firms make every effort to minimize production costs. David Ricardo emphasized that country's competitiveness in international market is solely on the basis of labor productivity and wage levels.

International Institute of Management Development (IIMD), is responsible for the publication of the world competitiveness yearbook, considers the economic growth, namely, domestic economic strength, degree of internationalization,

quality of government, financial and macro-economic-stability, scientific and technological capabilities and capacities infrastructure development, management capabilities, and human resource or quality of human skills are the major factors of determining international competitiveness.

At the firm level, the competitiveness of a particular industry would depend on the quality of the product or the industry is in a position to offer its goods at a lower cost, the growth and quality of capital investments to insure a definite and sustained place in the market, the productivity of the workforce and the efficient utilization of input. This shows that the competitiveness of a given industry depends on the nature of the industry and the existence of certain favorable conditions; which would ensure the industries success. This study focuses on one of the factors which directly affect the competitiveness of the company, i.e. human resource utilization /productivity of the workforce or labor productivity/.

Labor productivity is a major factor limiting the rate of economic growth, industrial development and competitiveness; in particular the lack of skilled human resource and shortage of industrial capabilities. The capability is aggravated by the educational system, which may not be functional and may not be geared towards productive activities.

The major factors of the labor productivity which affect the company competitiveness are:-

a. *Incentive Systems*;

b. *Working Conditions;*

c. *Employer-Employee Relationship*;

d. *Educational status*;

e. *Training facility*;

f. *Labor Turnover and Absenteeism*;

g. Restrictive Labor Regulation;

Labor Productivity /Output per Worker Hour/: - It is the most significant factor of competitiveness in the industry. While it has become evident that developing country cannot compete on low labor costs alone, the emphasis has been shifted to improve the productivity of both labor and the manufacturing operation as a whole. Factors that affect labor productivity are:-

a) ***Incentive Systems***: - It is a serious constraint to enhancing productivity, whenever an industry set poorly structured incentive and paying systems, cannot productive. In most industries, allowances are not linked with productivity and in the cases where productivity payments are made in flat-rate allowances rather than incentive systems. But strong factories have conducted "time and motion studies" and implemented well-structured incentive schemes for employees, which have significantly improved productivity levels.

b) ***Working Conditions:*** - It is the most important factors affecting the productivity of labor. In many industry layouts with overcrowded workspace for the employees are not conducive to improving output. Some factories also lack basic facilities such as safety equipment, recreation area, cafeterias, toilets, etc. The direct consequences are that the person's productivity gets diminished with feelings of low achievement, and increases absenteeism. Good working conditions are usually linked to improve productivity

c) ***Employer-Employee Relationship:*** - The poor relationship between employers and their employees is another constraint to improving productivity. Strained relationships are reflected in the demands made by management upon employees in cases where unrealistic targets are set and the employees are pressured to perform beyond their capacity. On the other hand, the lacks of adequate training amongst middle and upper level managers as well as to a lack of professionalism in the industry not develop good relationship.

d) ***Educational status:*** - At the initial development stage of the textile industry, most of the developing country entrepreneurs managed their factories without enough professionals like family businesses. Most of the factory activities, purchasing and higher level management were conducted by themselves. There is lack of professionalism in the industry as most entrepreneurs are unwilling to invest in human resources to manage the

various functions of their business professionally. On the other hand, professional's turnover is high in developing countries because always they are searching better salary and working environment, stress-free work, etc.

e) ***Training facility:*** - Inadequate training of managers and employees alike is an important factor constraining productivity. There is little emphasis placed on the importance of training and its role in improving productivity by company owners/ managers. Often, managers do not view training as an investment and are unwilling to incur expenditure on it. While most employees are trained during recruitment, this initial training is not sufficient to ensure consistently high levels of labor productivity and product quality.

f) ***Labor Turnover and Absenteeism:*** - There are a number of reasons attributed to the high rates of labor turnover and absenteeism. Poor working environment and work-stress are among the main reasons. Differences in allowances and facilities between factories have resulted in the continual movement of labor to factories where working conditions are better. A poor social image of factory workers is another factor contributing to high labor turnover. Labor absenteeism mostly occurred due to illness and family responsibilities of employees in the company. These factors have impeded the productivity of labor and affect mostly developing country's international competitiveness.

g) ***Labor Regulations:*** - The consensus amongst the majority of textile manufacturers is that the labor regulations governing employment are too restrictive and adversely affect company's productivity. The Government advocated specific legislation applicable to the manufacturing sector, covering particular employment terms and conditions specific to the sector.

These are the major factors of labor productivity in manufacturing sector, at the same time it indicates the country's competitiveness. Within the above factors, some literatures indicate that countries with high labor productivity tend to be wealthier societies. Whenever each worker is responsible for a larger share of goods and services, real wages tends to be higher. In addition, high wages motivate a broader range of workers to participate in the labor market. This reduces the difference between products per worker. Moreover, countries with high productivity can achieve high standards of living without necessarily losing price-competitiveness, since goods produced with more productive employees command lower prices, even at higher wages.

But, the factors behind a high level of labor productivity are not well understood, as reflected by the large number of poor countries in the world. However, social scientists are gaining some insights into the reasons behind high productivity. One of the factors is associated with labor itself, such as the skills of employees bring to or attain in the workplace, as well as the level of effort they put into their jobs. In addition, productivity growth is associated with education attained through

formal schooling and with on job training attained in the workplace. And cooperative labor relations are more advantageous to productivity growth than are relations marked by conflict.

In addition, productivity growth encourage by providing incentives for poor families to keep their children in school and by distributing funds according to school performance. Schooling more concentrate on-the-job training is necessary, as is making schooling available around work schedules and giving tax subsidies to people who complete certain levels of adult education. The quality of training can be improved through certification programs for training providers, and by giving tax subsidies to firms that train their employees. Because education is the impart knowledge and skills that generally result in higher productivity in the labor market. There is a positive relationship between schooling and higher productivity.

The public policy can also support better labor relations by facilitating dialogue between employers and employees, promoting training for managers and employees, and advancing compensation mechanisms for employees who stand to lose their job or job status because of technological advances. Labor relations describe the employment relationship between three main players: employers and managers; employees and their unions; and the government. Compared to the impact of education or training, the relationship between labor relations and productivity outcomes are under-study. However, international comparisons of

labor productivity suggest that factors such as worker motivation, the quality of management, union agreements, restrictive work practices and absenteeism are important in explaining cross country differences in labor productivity. Overall, these factors determine whether labor relations are productive and the objectives of firms are perform with those of employees; or instead, whether labor relations are marked by conflict and non-cooperation between employees and employers.

Therefore, training is a flow variable which raising the available stock of knowledge. The effects of training last for few years, and depreciation of the acquired skills is to be expected. One can either estimate the impact of training on the change in performance, or estimate the impact of the knowledge stock on the level of performance. This stock approach is based on the 'continuous inventory methods'. This method has recently been used to calculate the stock of Research and Development (R&D) capital. Based on R&D expenditures in recent years are on assumptions as to depreciation and a pre-sample growth level of expenditures. This method is used to calculate the stock of human capital based on training expenditure. Other method of measurement of training is just as the amount of labor measured by the number of employees, the amount of training should then be measured by the amount of training days (Groot, 1994).

Working condition is also a significant factor of labor productivity to increase company competitiveness. For example, in Thailand, the department of labor protection and welfare has conducted various activities to improve working

conditions and the environment at workplaces in order to reduce the rate of work-related damages. One famous and very powerful activity is the participatory approach by using the Work Improvement in Small Enterprises (WISE) Technique.

The WISE approach was developed by the International Labor Organization (ILO) and is implemented in many industrializing countries. This methodology has proved to be effective in improving working conditions and productivity at many workplaces. In many countries it has also been proved that participatory training courses and advisory labor systems can play vital roles in mobilizing managers and employees to take self-help actions in order to improve working conditions, the work environment and productivity.

National Institute for the improvement of working conditions and environment first started to apply the WISE approach in Thailand in 1986, where it was used for the owners, managers and supervisors in small and medium-sized enterprises located in Bangkok and the provinces. In 1996, the institution launched a WISE methodology project for enterprises with a high number of work-related damages. It founds that enterprises participating in the project were able to improve their working conditions and the work environment, and especially to reduce the number of occupational accidents.

The institution also conducting the project of durable risk-reduction emphasized activity to prevent musculoskeletal problems at work, which is a participatory

approach aiming to improve working conditions and work environment at enterprises whose employees have problems with musculoskeletal disorders. The study found that many workplaces can improve their working conditions and work environment in order to reduce employees' muscular workloads. For example, in the polishing process factory, employees have to sit and bend their bodies forward to polish materials. Their seats were without backrest and footrest adjusted. After a group discussion, the factory was decided to improve the seats by having chairs with backrests and by having adjustable footrests. A survey conducted among the employees before and after the improvement revealed that the employees were satisfied with the new chairs, which had a backrest, and with the adjustable footrests, especially as these can reduce muscle workload. Thus, this approach has proved to be effective in improving working conditions and the environment at workplaces, leads to effective in improving productivity. In addition, improvement efforts on the cause source of work-related injuries, the factory can reduce the numbers of work-related accidents and diseases.

2.1.2 Principles of International Competitiveness and Labor Productivity

The trend of the growth of independence and enhancement of the role played by some companies in the development of national economies was considered. The country is more efficient and use of the advantages of integration ties and adaptation to the conditions of global market. Therefore, the use of possibilities of globalization and creation of local competitive advantages enable the country not

only to strengthen their own competitive status, but also promote the enhancement of the level of competitiveness of the international economy.

According to N. Y. Kalyujnova (2004), the problems of country competitiveness as the capacity of the country to determine, develop and protect local competitive advantages are gaining especial characters. Ensuring international competitiveness of the country is the first problem referred to as a global problem inherent in different levels in different countries of the world. Some aspects of local development found their reflection already in the classical economic theory: the theory of absolute advantages and the theory of comparative advantages.

According to Professor M. Porter (2000), Competitiveness is an attribute of companies and the study gives attention on investigating the productivity as a key indicator of a competitive company. His book, "The Competition", say that competition takes place between companies rather than between countries, whereas countries simply serve as an external environment which has a positive or negative impact on the competitive status of companies. This identifies that a country is defined by certain constant physical characteristics which cannot be changed in a way adequate to the dynamics of market situation, forming the basis of the competitive process.

R.Camagni (2002), had different idea states that in the global economy, countries serves not just as an economic area of activity of local companies, but plays a key

role in the process of accumulation and diffusion of knowledge, promoting inter-corporate interaction and emergence of new forms of business, i.e. act as active independent subjects of competitive relations.

A different view regards the identification of international competitiveness of the country, stating that the country's competitiveness is not simply an interpretation of macroeconomic or microeconomic competitiveness, i.e. countries can be analyzed as neither a simple totality of companies, nor as a simplified model of a national economy. The standpoint is that the factors of competitiveness influence the formation of well-being, high standards of living and socialization of an economic system.

The above approaches elaborate the concept of international competitiveness of countries, which would include an analysis of interaction of countries as independent economic agents' participants of the global competitiveness. Therefore, it should be noted that, there is no commonly used definition of the concept of international competitiveness of the country due to its questionable and ambiguous nature.

According to R.Cellini and R.Soci (2004), "The tree" symbol model is an important principle of international competitiveness; the symbol chosen lays emphasis on the organic and cyclic character of the model: the quality of the soil and efficiency of the functioning of the root system, the trunk and the branches determine the

tree's capability to bear fruit. The dynamic nature of the model is emphasized by the fact of the tree's fruits. Therefore, the country's competitiveness may be represented in the following way:

i. The root system in the soil – determinants of competitiveness (incoming flows):
   - The fertile soil – a key factor of competitiveness;
   - The root system illustrates the capability of local companies to make use of available advantages and transform them into their own assets.

ii. The trunk and the branches – the main essence of competitiveness (productivity)
   - The tree's trunk represents the country's industrial structure and the level of labor productivity;
   - The branches represent the levels of employment and incomes.

iii. The fruits – the level of country's competitiveness:
   - A strong tree will only yield fruits such as the well-being, improved living standards for the population, and socialization of the economy.

From the discussion of the model, the trunk is the productivity of labor of international competitiveness of any country. Without trunk there is no root or fruit because they can't communicate each other even to survive, it indicates that

with out labor productivity there is no well-being, improved living standards for the population, and the economy as a whole.

2.2 Empirical Literature

Empirical literature contain researches on labor productivity and international competitiveness of textile companies in three countries and the previous study of Ethiopia's textile companies are considered in this sub-section. The selected countries are Pakistan, Seri Lanka, and Mauritius.

The empirical literatures indicate: -

- How developing countries have weak and inefficient industrial base, are competent in the world market?
- What measures are taken to use the comparative advantages and accelerate the export growth of the country?
- Low labor productivity is one of the most significant factors affecting the competitiveness of the country's textile company.
- Some factors of labor productivity are positively and others are negatively affect productivity and competitiveness.

2.2.1 Productivity and competitiveness in Pakistan

Pakistan's export competitiveness has to be examined in the broader context of integration of developing countries into international markets, the opportunities and benefits. Its presences and the challenges face in deriving maximum benefits.

Pakistan international competitiveness compared with other developing countries and its comparative advantage to build and accelerate their export growth are as follows.

a) Competition with other developing countries

Pakistan has a weak, narrow and inefficient industrial base and among many years the country would not be able to compete with the huge size economies of China and India because they possess economies of scale and are endowed with superior technological and human resource base. It is a fact that the fear about China is not only common in Pakistan but among all developing countries. There is no doubt that China has been the most aggressive among the developing countries to penetrate international markets and become the largest exporter of the world. China is one of the fastest growing economies in the world with per capita income doubling every ten years and the real effective purchasing power rising significantly every year.

China is a large market which absorbs more than $250 billion of merchandise exports from all over the world every year and the bulk of it from the Asian countries. Pakistan's share in China's market is less than 0.2%. This will translate into $2.5 billion of additional exports and an assured growth of 15-20% every year. In six years time Pakistan will be able to double the value of exports to China to $5 billion annually. Removal of subsidies, reduction of tariffs and non tariff barriers and elimination of preferential treatment will exert considerable

pressure on the state owned enterprises to improve productivity and competitiveness.

b) Pakistan's Comparative advantage

Low wage rates do not necessarily give a competitive advantage when labor productivity is also low. The ratio, wage over labor productivity, is the unit labor cost which is critical to competitive advantage. Pakistan's low unit labor cost in textile is the main source of its static competitive advantage. But static advantage is of little consequence in a rapidly changing international economic environment and it is dynamic comparative advantage which should be taken into account. In the market, dynamic manufactures show smaller variations around their trend values than less dynamic manufactures and primary commodities. Thus it can be identified as the drivers for increasing market share in world markets.

In Pakistan, textile is one of the main exports that experiencing highest growth rates with a high share concentrated in developed countries. Such products involve labor-intensive processes, which suggest that the increased importance of international production sharing has been a highly determinant of the growth of their exports. Therefore, Pakistan in near term safely competes for products which have low technology and high labor intensity. Among the twenty top products on market dynamic considerations in the country has the scope of enhancing its share on textiles and primary commodities with very low import intensity, adequate domestic production of raw materials at low cost, abundant

supply of labor at competitive costs in the textile and clothing industry. These indicators show that Pakistan has the ability to face competition in the world markets.

Lower transport and communication costs are used to reduce trade and regulatory barriers to facilitate production sharing which is generally concentrated in labor-intensive activities in Pakistan. Production sharing allows firms to exploit the comparative advantage specific to the production of particular components, including scale economies and differences in labor-costs across countries. Firms determine the location of the production of components according to their own factor intensity and costs rather than the average factor intensity and cost of the end-product. But for sustaining and enhancing Pakistan's export competitiveness in the global markets mostly focused to increase labor productivity through education, on-the-job training, skill up-gradation and dissemination of new knowledge and techniques. This will translate into higher value added and low unit labor cost.

As a result, the larger economic interest of Pakistan to integrate into the global markets and derive maximum benefits offered by their opportunities. It is also clear that the fears about deindustrialization resulting from integration and liberalization are unfounded and misplaced. The competition from countries like China, while strict and real can be managed to Pakistan's advantage.

2.2.2. Productivity and competitiveness in Sri Lanka

The Sri Lanka textile industry experienced phenomenal growth after the late 1970s and continues to be the strongest manufacturing sub-sector. The growth record as well as the evolution of the comparative advantage in the manufacture of textiles was supported by the market oriented economic policies introduced in 1977 and the liberalization reforms which placed greater emphasis on export-driven industries.

Since Sri Lanka is a labor-surplus economy, growths of textiles industry have generated large quantities of manufacturing employment. By the end of the year 1998, 32% of the industrial workforce was engaged in the textile industry. During the growth period of the industry, Sri Lanka has enjoyed a relatively assured export market for textiles through bilateral agreements mainly with the USA and the EU. Most textile manufacturers in the country are geared to produce standard, low value added products for the major markets under export quotas.

Sri Lanka's international market share as recorded still stands only at 2% due to many factors which leads to in-competitiveness. One of the most significant factors affecting the competitiveness of the Sri Lankan textile industry is low labor productivity. While it has become obvious that Sri Lanka cannot compete on low labor costs alone, the emphasis has been shifted to improve the productivity of both labor and the manufacturing operation as a whole.

Despite the fact that the Sri Lankan textile industry has achieved phenomenal growth over the decades, the development of backward linkages has been poor. Because of the industries are highly dependent on imported inputs. The high dependency on imported raw materials result the level of value addition in the textile industry is low. In addition, the import of raw materials delayed lead time has become another serious threat to the international competitiveness of the industry. It would be essential to reduce lead time for competing in a globalize trade environment effectively.

Other factors that affect Sri Lanka's textile productivity are poor relationship between employers and their employees; and inadequate training of managers and employees is an important factor that limits productivity and restrictive competitiveness. Labor regulation is another factor that governing the industry is too restrictive and adversely affects Sri Lanka's international competitiveness. On the other hand, Sri Lankan manufacturers are more likely to invest in technology in order to reduce their labor force and minimize industrial issues amongst the workforce due to the inflexible labor laws in the country. Many factories do not fully conform to labor standards and are already losing potential market share as a result. In addition, the poor infrastructure facilities such as roads, transport and telecommunications as well as the delays caused by documentation and customs procedures at ports and airports have seriously affected lead time and costs in the textile industry.

Then again, most of the end-users of the Sri Lanka's textile outputs are western countries, earning higher incomes and having greater purchasing power. They are becoming increasingly aware of global issues, and specially the labor standards in developing countries in the manufacture of the goods that they purchase. As this trend increases, buyers and brands are more exposed to consumer group pressure. Majority of the Sri Lankan textile manufacturers produce standard outputs and rely on an easily trainable, skilled labor force at relatively low costs. During the period 1995 to 2000, Sri Lanka maintained a 19% export earning growth in the textile industry. If there is a lifting of the US tariff barriers for Sri Lanka's textiles then there would be an increase of exports by around 50%. Over the 90% of Sri Lanka's textile exports are destined for the USA and the EU, Sri Lanka does not rank amongst the top exporting nations to the EU. In 1998, Sri Lanka ranked 20th and 15th place among suppliers of textile products to the EU and the USA market, respectively.

Looking at most developing countries like Sri Lanka, textile manufacturer has been concentrated primarily in low quality, low value-added and standard outputs. As such, the cost based strategy of lowering costs and improving productivity in competing textile manufacturing countries can be seen in their shift from reliance on labor-intensive manufacture to advanced technology.

2.2.3. Productivity and Competitiveness in Mauritius

Mauritius is synonymous with an African success story. Over a span of some 25 years real growth averaged 6 percent per annum, resulting in a near 4-fold increase in real per capita income and the elimination of unemployment. Growth was export- led, fueled by relatively cheap labor and preferential access to markets in Europe and the USA for the country's principal exports, sugar and garments. Notwithstanding this success, there are growing challenges to competitiveness and the sustainability of growth. New competitors have emerged in the traditional Mauritian labor-intensive exports, and returns to investment in the Export Processing Zone (EPZ) declined steadily in the late 1980s and early 1990s. The core problem is that productivity is not increasing fast enough to keep pace with wages that have been rising as a result of near full employment, thus eroding competitiveness. Moreover, past successes were built on a fragmented incentive environment. The perpetuation of segmented factor (labor and capital) markets in an era of scarce human and capital resources leads to the significant misallocation of resources, undermining the competitiveness of the economy as a whole. To sustain growth, Mauritius is in the process of:

- Strengthening its technology capacity to ensure that productivity increases match rises in real wages; and
- Enhancing flexibility in the markets for labor and capital so as to enable them to flow to their most efficient uses.

To achieve these objectives, the government and its partners are focusing their efforts on developing a more supple and competitive incentive framework while building the structures for a know-how rich and information based economy.

Past Sources of Growth: As in other countries with limited resources, growth in Mauritius is driven by an expanding labor force, capital accumulation and increased factor productivity. Between 1983 and 1986, as EPZ employment tripled with the increasing participation of women - productivity fell by 10 percent. In the mid-1980s, capital accumulation became another source of growth, as firms mechanized fabric formation and integrated upstream. Between 1988 and 1991, productivity rebounded, rising by 4.9 percent per annum in constant dollar terms, which while a commendable result, was not enough to offset an 8.5 percent per annum increase in real wages over the same period.

The Kernel of the Problem: On the one hand, Mauritius faces new competitors in its traditional labor intensive exports and the formidable task of improving productivity to levels achieved by newly industrialized countries. Mauritian wage levels for garment manufacture were estimated at $1.28 per man hour for 1991, much higher than the wages demanded in China for example ($0.25). In contrast in 1991, productivity in the Mauritian EPZ stood at $3,247 per man year, compared to $12,157 in Singapore's garment industry. Despite efforts by EPZ firms to upgrade the quality of their products, the value-added content of exports has declined steadily from 42 percent in 1983 to 36 percent in 1991. During the

same period, the share of labor costs as a proportion of export value declined only marginally from 20 to 19 percent, and as a result operating surplus in the EPZ was squeezed down from 22 percent to 17 percent of export value. In short, Mauritian manufacturers have not been able to upgrade their product lines fast enough to compensate for falling margins on world markets, due to increasingly intense international competition. [4]

The East Asian Experience: Mauritians are rising to the challenge with their usual mixture of pragmatism and innovation . They view their country as a potential Indian Ocean "tiger" following in the footsteps of the Asian Newly Industrialized Economies (NIEs), able to achieve financially and environmentally sustainable growth, with the benefits shared equitably by the population. The two common orientations of NIE growth strategies are:

- ensuring the business environment is private sector- friendly and export oriented; and
- promoting the development of technology support systems.

Given its small size - with a population of only 1.1 million - narrow industrial base and its high dependence on external trade, Mauritius is taking its cue from the Hong Kong and Singapore approaches with their emphasis on a *competitive regulatory framework* and focus on *technology-support services* in developing a conducive business environment.

[4] World Bank finding report (2000)

The Vision: Mauritius' vision is to grow at 6 percent annually through the year 2000, which would bring per capita income to US$4, 000 by 2001 (US $2,700 in 1992) and US$ 6, 000 by 2010. In this vision is embedded the concept that in the immediate process of diversification and upgrading the country will move to a new plateau of productive capacity where *competitiveness will be determined more by the country's ability to compete on quality and quick response than simply cost alone*. In the near term, the island is striving to consolidate existing strengths through enhancing competitiveness and productivity in garment manufacturing, high-end tourism and sugar exports. Beyond the immediate future, the strategy is to diversify into new activities, higher value-added textiles and garments, the production of non-sugar crops, and, capitalizing on its unique mix of assets - a literate and dextrous bilingual population, strong historical ties to Europe and Asia and a gateway to Africa - the development and export of financial, consulting, trade, communications, education, and other information-intensive services.

Developing a Competitive Incentive Framework: As part of the competitiveness strategy, the authorities are pursuing a number of reforms to ensure the efficient allocation of labor and capital. Tariff reform in parallel with the introduction of a value- added tax to replace sales is required to move towards an undistorted low tax environment. The objective of creating a level playing field for all enterprises and removing residual pockets of anti-export bias is central to this process, which will also entail the consolidation and

rationalization of some 12 distinct incentive certificate schemes. The labor market too has in-built rigidities. While the EPZ is starved of labor there are underutilized labor reserves in the civil service and sugar industries. The reform of labor laws in the sugar industry could release up to 10,000 workers to other sectors. Mauritius has 5 civil servants per 100 inhabitants, a proportion that has remained unchanged after the economy reached full employment, and well below the international average of 2-3 per 100. Key to improving outward labor mobility from the civil service is the reform and integration of public service retirement savings plans into the private sector system, to both encourage greater savings and facilitate their portability. The investment climate is particularly important to technology acquisition. The experience of Singapore shows that for small countries like Mauritius, with a brief industrial history and limited technological capability, foreign investment can be an effective instrument of accelerated technology transfer and can allow countries to leapfrog stages of economic development. Foreign direct investment from Hong Kong and, to a lesser extent, France and Taiwan played an important role in the development of the EPZ in the early 1980s. New foreign investment in the late 1980s and early 1990s has since slowed. In this regard, both foreign and local investors must follow cumbersome procedures for investment approval, including certificate status for the myriad of incentives, work permits and various other licenses. An initiative is currently underway to reform the industrial investment authorization process in line with efforts to rationalize the incentive environment.

Building Up Technology Support Structures: The first phase of labor-intensive industrialization, with the exception of the sugar industry, involved simple skills and technology, with little requirement for technology support systems. Recently, larger Mauritian textile manufacturers have been able to enhance their capacity to compete through the upgrading of activities amenable to mechanization, such as knitting. However, in upgrading production structures, Mauritians soon found that it is no longer just access to labor and the acquisition of machinery that are important, but that a third element - *know-how* - has become critical in determining competitiveness. This third element demands a strong body of expertise and support in three key areas.

- First, systems need to be developed to ensure that enterprises have the know-how to achieve the quality and prescribed standards of products and processes that they are diversifying or upgrading into (quality services).
- Second, systems also need to be developed to ensure that factors of production are efficiently used in achieving these quality standards (productivity services).
- Finally, capacities need to be developed on how best to adapt technologies to the local environment and to find new ways of improving product quality and design (technology effort and design services).

Productivity. Labor shortages and inadequate human resource management have given rise to high labor turnover, high absenteeism and strained industrial relations economy-wide, which is a major deterrent to new foreign investment

and impedes capacity expansion by existing firms. Information on productivity and competitiveness trends, which are important to public and private sector decision making, is extremely limited. A program to introduce productivity measurement at both the company and sectoral levels, along with productivity awareness campaigns, is being supported to raise the consciousness of both management and workers on these issues. Apart from improving general awareness, productivity levels in EPZ firms can be boosted through improved technology application. Most local firms are not aware of best international practices, and consequently are not fully conscious of the magnitude of benefits that could be gained from applying these procedures to their production and management processes. Quick productivity gains could be achieved through relatively minor improvements in production processes (e.g. work-flow organization: introducing conveyor - manual or automated- cloth handling procedures as opposed to the conventional bundle system; and phasing out traditional assembly lines in favor of group work systems) and labor relations. Local private sector delivery of productivity services is virtually non-existent, though some production managers reportedly undertake sporadic consulting work. To develop a technology-support system which facilitates access to productivity services, while simultaneously encouraging the private sector and, wherever possible, domestic delivery of these services, a cost sharing fund, named the *Mauritius Technology Diffusion Scheme (TDS)*, has recently been instituted. The cost sharing concept is widely used in other countries to develop markets in specialized services. The object of the scheme is to offset the private

sector's learning costs in the initial acquisition of technology know-how, and to promote technology diffusion through the strong demonstration effects that such acquisition will have. The attractiveness of the scheme is that it is demand-responsive and promotes private sector delivery of technology services, avoiding the creation of heavy public institutional structures, whose creation would be difficult to justify in small island economies like Mauritius. **Quality**. Mauritian exporters have considerable potential for increasing value-added by developing higher-quality products and services that command higher unit prices in developed markets. Furthermore, with reject rates in Mauritius estimated as high as 3 times those in industrialized economies, quality management needs to be dramatically improved. The quality of a product or service is determined by either formal and/or informal standards defining its attributes. Increasingly sophisticated buyers are requiring not only product certification, but certification of the quality system for the production process and/or certification of personnel whose skills (e.g., welders) are critical to the process. Ensuring the achievement of these standards (both formal and informal) requires ready access to credible testing laboratories with equipment that is periodically calibrated to high- precision measurement (metrology) standards. All these elements combined -Metrology, Standards, Testing, and Quality - constitute the MSTQ infrastructure. In the face of growing international competition, and in order to maintain or capture export markets, Mauritian enterprises are coming under increasing pressure to upgrade the quality of their products and/or to demonstrate the attainment of quality standards. As a result, demand for MSTQ services in Mauritius is growing fast,

particularly for the ISO 9000 quality management standards, which requires that a demonstrably effective quality system is in place. In apparel assembly, as in other industries, buyers faced with the choice of using suppliers or sub-contractors from different countries with similar costs are choosing certified users of this standard. To assist firms to improve Total Quality Management (TQM) and attain ISO 9000 standards, government has developed an integrated MSTQ strategy. The private sector is being encouraged to provide most of these quality services, especially in the area of consulting, through the *TDS*. Government does, however, need to take a lead in the provision of TQM and ISO 9000 assessor training, in upgrading the necessary testing and metrology infrastructure required in both the delivery and use of private sector MSTQ services, and in developing an independent laboratory accreditation scheme. To this end, initiatives are under way to assist the Mauritius Standards Bureau in:

- establishing a national quality system; management and institutional upgrading; and
- developing complementary MSTQ services and support facilities to those provided by the private sector.

Technology Effort. While Mauritius has considerable research expertise in the agricultural sector, particularly in sugar production and processing, because of economies of scale, there is virtually no formal industrial Research and Development (R & D) in Mauritius. Some of the large Mauritian textile groups

carry out R & D activities on an ad hoc basis, mostly to adapt foreign technologies to local conditions. This is an appropriate orientation given Mauritius's relatively small economy. There is little sign, however, of unmet demand for industrial R & D, and certainly no immediate requirement for sponsoring any public industrial R & D institution. **Design**. The experience of Asian NIEs shows that developing local design capabilities can play an important role in helping firms increase value-added and sustain competitiveness despite high labor costs. Both Hong Kong and Singapore have succeeded in developing local brand names, and are now recognized as distinctive and innovative design centers. In targeting this objective, Mauritius has, however, a long learning curve to climb. Currently, most Mauritian firms receive their designs from their customers, principals or parent companies. However, a few local manufacturers have their own capability, either in-house, or through contracts with local designers. In fostering design capabilities, Mauritian manufactures should initially develop their ability to interpret efficiently and creatively the patterns provided by their overseas (mostly European) customers. Only in the medium to longer term is it expected that a market for distinctive Mauritian designs will develop. To stimulate design capabilities within Mauritius the cost sharing *TDS* will improve access to foreign expertise with specific reference to the technical aspects of design (particularly the marking, grading and cutting of fabrics in the textile industry) for which there is a strong current demand.

The ability of a country to effectively harness international technology is key to sustainable growth. The close cooperation between the government and the

private sector in Mauritius as it gears up to face the challenges of the next century sets a useful example in this regard for Sub- Saharan Africa.

2.2.4. Productivity and competitiveness in Ethiopia

As a labor intensive industry, textile sector plays an important role in solving employment problems. On the other hand, among African countries, Ethiopia is a country whose textile industry is with relatively long history and large scale. But many enterprises operate under capacity, the actual output value of textile only accounts for 53.5% of its annual productive capacity. In 2000/01 the enterprises have a great potential to raise output by means of strengthening management of enterprises and increasing productivity.

Ethiopia has prominent cost advantages in terms of payment level for labors. Generally textile company employees have paid about $30per month, below the level not only in Asia and Latin America, but also other developing countries in Africa. On the other hand, most Ethiopia textile and garment industries are not able to operate at full load, with actual manufacturing capacity, which is below 50% of their designed capacity. The major reasons for under utilization of capacity includes: 1) Serious aging of employees; 2) low level of productivity 3) undesirable operation skills of employees and 4) existence of inefficient management system.

In 2000/01, Ethiopian textile industries export their output into US and EU countries and the amount exported reaches $3.62 million; the study indicates that it increases by nearly 50% from the year 1999/00. In year 2000/01 export contributes 0.8% to the total GDP of the country[5].

But Ethiopia textile industries are participating in international market without adequate team of qualified professional managers. Because the existing professional managers, as a social class with the business management as their jobs, but generally these managers have prominent work ethic and professional maturity, professional advantages capable of integrating their education, training and professional experience of their work.

On the other hand, people employed in the textile sector accounts for 25.8% of the total employment of the manufacturing sector in the country. The study shows the age group of employees in the textile sector. Out of the total textile sector employee; 29% of employees are age of 30 and below, 41% between age 30 and 40 and 30% over the age of 40. [6]

Table 2.1. Age of Employee in textile sector

Age of Employee	<30	30-40	>40
%	29.0	41.0	30.0

Source: CSA Statistical Report, 2001

[5] CSA Statistical Report (2001)
[6] CSA Statistical Report (2001)

The study also indicates that educational level showed the percentage of employees with primary school or below is 57%; middle school education is 36% and high school education or above is 7%, in 2000/01.[7]

Table 2.2. Employees' Level of Education in textile sector

Educational Level	Primary school or less	Middle school	High school or above
%	57.0	36.0	7.0

Source: CSA Statistical Report,2001

[7] CSA Statistical Report (2001)

CHAPTER THREE

AN OVERVIEW OF THE TEXTILE SECTOR IN ETHIOPIA

This chapter covers general overview of Ethiopian Textile Company historical development from traditional to modern textile in the country; production and trade; contribution of the sector in terms of GDP, fixed capital asset, employment and wages; structure and function of the sector. Continuing the overview of the sector is by explaining the capacity, competitiveness, technological development of the sector, and government initiatives of the textile sector. Finally briefing the commodity marketing and export promotion are government incentives and market linkage development.

3.1 Historical Development

3.1.1 The Traditional Sector

The traditional cottage industry has a long history in providing the dressing needs of the people made of woven cotton thread. The activities were traditionally held by small artisans called "Shemane" who are the important economic unit of the traditional economy.

Currently, these cottage industries are very important and exist in various types of economic organizations. In 2003 there are 297,987 textile and apparel making cottages/crafts under different form of ownership[8]. This fact calls a due attention in the industrial development endeavor.

[8] CSA Statistical Abstract (2004)

3.1.2 The Modern Textile and Garment Industries

The modern textile sector has been started in Ethiopia since 1939, established by foreign capital under the name of Dire Dawa Textile Mills. Since 1939 till 1961, five textile companies with different capacities have been constructed by private investors. During 1975-1992 five additional large scale enterprises were established. In year 2005, there are 8 large scale textile factories, in which 7 are managed under public ownership. At present, there are 36 textile manufacturing industries with 22,373 employees.[9]

The development of large scale integrated textiles industries is relatively slow. The large scale textile mills yarn and thread manufacturing companies and garment/apparel manufacturing with their establishment year and capacities.

3.1.3. Production Trend

Production trend in the country for five consecutive years of textiles and clothing production, during 1994/95-1998/99,the first and 1999/00-2002/3 the second period of production years has been recorded in the share of Gross Value Product /GVP/ of the textiles and clothing manufacturing sector[10].

- Production of textiles and apparel industries during the first observation period increased by 7.24% while during the second observation period average growth rate was only 3%.

[9] CSA Statistical Abstract (2004)
[10] CSA Statistical Abstract (2004)

- The decline in the average growth rate was also observed in the manufacturing industries, which was 23.3% during the first observation period declined to 10% in the second observation period.
- Average share of the textiles and apparel sub sector from manufacturing total become 8.9% during the second study period and in the first study period was 10.4%. This also shows that the share of the textile industry is falling.

3.1.4 Trade in Textiles and Clothing Industries

During the Socialist regime of Ethiopia (1974 – 1991), the economy of the country was operating under strong economic strategies of inward looking economies. The industries were also functioning in the atmosphere of import substitution, production based on serving domestic demand[11].

The rapid shift from closed economy, nationally focused to open, global markets came in 1992 with the new government. The global situation and the economic situation of the country forced the state to implement market economic policies and measures. Thus, the industries deal with the removal of distortion factors and market forces which make them to conform to profitability objectives and market oriented production. The manufacturing sector started production for competitive internal and foreign markets.

[11] Ministry of Trade and Industry Report (1996EC)

a. Internal Trade Environment

The internal market face many challenges such as

- Low productivity rate of the industries
- Removal of the subsidies and relaxation of tariffs which opens the industries to cruel price competition with imported textiles and clothing
- Limited product mix and low quality of products made the market losers
- Expansion of used cloths trade throughout the country users their low income group of customers
- Low purchasing power of the majority of the people increases the shrinking of their market and other factors caused the local industries to be less competitive and to operate under capacity.

b. Export Trade Environment

Foreign Trade: - The textile and clothing industries have recently get into the export market. The process is effort demanding and slow-moving since most of the manufacturers are new for export trade businesses. The relative importance of Ethiopia in world exports of textiles and clothing is negligible and approaches to nil. However, textiles and clothing export trade participation of the country is getting a gradual rebirth.

Preferential Trades: - African Growth and Opportunity Act (AGOA) is one of the opportunities for the total of 39 Sub Saharan Africa (SSA) countries to participate in the US market. Ethiopia is the one has exported various

commodities under AGOA trade activities, which is around a total of $25.7 million in 2002 and $30.5 million in 2003.

The share of exports total trade and under AGOA compared with the 39 SSA countries was 0.18% and 0.15% of total trades in 2002 and 2003 respectively. The contribution of the textile and textile articles using AGOA export trade valued $0.8 and $0.4 million in 2002 and 2003 respectively.

Percentage contribution of the textile sector out of the total export under AGOA was 36% and 13% in 2002 and 2003, respectively. Again the textile sector shared 0.009% and 0.003% from the total US imports under AGOA in 2002 and 2003 respectively compared with the eligible SSA countries.[12]

3.2 Contribution of the Sector

The textile and clothing sector ranked second largest sub sector in manufacturing, next to food processing industry in Ethiopia[13]. For instance, in 1998/99 textile accounted for

- 20% of fixed /capital asset;
- 8.7% of gross value of production;
- 13.1% of employment and
- 18.8% of wages and salaries.

Recent statistics shows also that the textile and garment sector is playing crucial role and it has a future to contribute more[14].

[12] Official Statistics of US Department of Commerce (2004)
[13] UNIDO (2001)

- The three years /2001-2003/ average data shows that the sub sector employs 20.53% of the total manufacturing sector in terms of wages and salaries.
- The same year's average reveals also that the sector employee is 24.56% out of the manufacturing total.
- The sub sector contributes also 0.8% to the total GNP.
- The contribution of the textile and garment sector in the manufacturing sector reached well and above 10%.
- Even if it is not enough, it contributes to the foreign earning of the country through exports which is about 0.65% in value terms.

3.3 Structure and Function of the Sector

Taking elements of enterprise structure to include ownership, financial structure, product orientation, forms of industrial organization and other basics of the industry is analyzed in this context.

3.3.1 Industrial Environment

The textile and clothing manufacturing sector is encamped with different favorable supporting systems, strategic measures and provisions. The sector also has opportunities to be exploited and different threats to be tackled. The opportunities and threats are listed below.

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[14] CSA Statistical Abstract (2004)

Opportunities are: -

- The sector is a first ranked industry and supported with various policy measures in the country;
- Preferential trade with US by using the AGOA provision;
- COMESA agreement is also a good chance for the industry;
- Bilateral agreements made by Ethiopian government which provide legal framework to enjoy favored nation treatment and removing of tariffs;
- The existence of different support system like Trade Associations and Chamber of Commerce and other Professional and Civic Association.

Threats are:-

- Since most countries follow export oriented industrial development strategy competition in the world market is violent;
- Adequate technical skills and trained manpower is in short in the sub sector which pulls back productivity;
- Equipment and machineries are too old which reduces productivity;
- Lack of orientation of producing market standard outputs;
- Technological backwardness in the sector;
- Limited product range etc.

3.3.2 Ownership Structure and Product Orientation

Ownership structure is one important element of the complex system of corporate governance the legal and institutional framework by which enterprises is

governed. Ownership patterns of the major large scale textile industries show that 7 of 8 enterprises are state owned.

In year 2001/02, there was 36 major textile and clothing factories. Out of 36 factories, 19 factories are state owned, the remaining are 8 private, 7 individual, 1 partnership and 1 shareholding type companies respectively. The entire textile sector mainly produce 100% cotton textiles. The companies are oriented to produce cotton yarn, cotton fabrics, cotton garment, blanket and other related items. [15]

3.4 Capacity, Competitiveness and Technological Development

The textile and clothing sector is highly characterized by

- Obsolescence of machines and frequent breakage;
- Low level of industrial skills;
- Under utilization of capacity;
- Low productivity of labor and capital which makes the sector a slow-moving economic sector which operates at loss and lag behind the market.

Among different reasons for under utilization of production capacity; the known reported reasons are lack of market, lack of raw materials, and shortage of working capital are ranked in their importance[16].

[15] CSA Statistical Abstract (2004)
[16] CSA Statistical Abstract (2004)

3.5 Government Initiatives and the Textile Sector

3.5.1 The Industrial Development Strategy

Accepting the difficulties to the need of shift from closed and nationally focused to open market economy, the Government started the new market economic policy in 1992. A number of policy measures had been taken to change the course of the economy.

In doing so, the government prioritized agriculture as front line economic sector towards the development and industrialization of the country. Thus, agricultural development led industrialization (ADLI) strategy was formulated and is being implemented. The assumptions of the strategy is that

- Considering the abundance of land and labor but the shortage of capital in the country, it was assumed that the only possibility of capital accumulation is developing the agricultural sector;
- Agriculture and rural development is supposed a basic for generating broad based economic growth;
- The private sector is considered a dynamic investment and growth force;
- The role of market become dominant importance;
- Public and private partnership roles are required to facilitate growth;
- Utilizing the country's comparative advantage is taken as granted ;
- Export orientation is the core motor of the industrial development.

3.5.2 The Textile and Clothing Industry appropriate Strategy

In the formulation of appropriate industrial development strategy, prioritizing the sub sectors and focusing on activities which increase benefits and being rapid economic change is economical. Accordingly, the industrial development strategy has ranked the textile and garments sector as the first and key sub sector.

The selection of the textile and garments sub sector as the first sector has assumed that

- Textile and clothing market is worldwide and market for textile and clothing is always available next to food commodities.
- The sub sector utilizes more labor which is available and abundant with lower cost in the country.
- The textile sector utilizes cotton as the main input and it can create favorable condition for agricultural development.
- The sector is assumed to create high backward linkages with the agriculture which in turn creates more income for farmers/investors on farming.
- In the long run it is assumed that the textile sector initiates the establishment of chemical and other inputs, which are being currently imported.

In line with these strategic assumptions other important strategic measures has been publicized as Value Chain and Production Technology, which are the Value

Chain which included a comprehensive set of activities that is required to bring a product from a concept stage to marketing and consumption of end products. The production-consumption chains of the textile and clothing industries also include;

1st Equipment, technology, human resources and decision support system

↓

2nd Raw materials supply (domestic and imported)

↓

3rd Production process/assembly line

↓

4th Marketing (in internal market or in the foreign market)

In this production-consumption chain there is other in between activities and exogenous factors. The strategy considers the chains and addresses the issue as

- Promoting labor intensive technology; the textiles and clothing sector is selected as key sector for it utilizes labor extensively.
- Encouraging the agricultural sector to ensure adequate supply of cotton for the industries.
- Create strong linkages between agriculture and the textile-clothing industrial sector.

Other elements of the commodity chain are considered in the following sections.

3.5.3 Human Resources Development and Upgrading Capacity

Human Resources Development: - The industrial development strategy of the country recognizes the prevalence of general skilled man power problem and basic technical and managerial core skills in the industry. In this view, government determined to strengthen the existing Bahir Dar Textile Institute and up grade it's Equality and broaden its linkage with the industry to improving the technical and managerial skills of the industries either through exploiting the opportunity of maintaining the skills and knowledge of foreign companies or foreign investors by contracting out the management of the industries to foreign companies and there by quickly learn and maintain the required skills; the government has also provided a cost sharing scheme for those industries which employed emigrants with technical and managerial skills; and expanding vocational training schools and institutes to develop appropriate skilled man power.

Upgrading Capacity: - In 2001/02, the textile industries are operated on average of 41.7% from their designed capacity. Production process is reported that to be interrupted because frequent machine breakage and oldness factor. The speed of the machines is also below the world's level of technology. The government prepares a strategic plan to rehabilitate textiles and garment factories with $10.3 million in the same year.

3.6 Commodity Marketing and Export Promotion

The government initiation is to bring the production and development of the industry took export led industrialization as its leading principle. In doing so different strategic incentives and measures have been taken. Among these strategies the following are the main and described.

3.6.1 Export Incentive Schemes

With the objectives of making the exporting manufacturers and exporters competitive in the international market, in order to export without taxes for exported commodities to increase the foreign exchange earning of the country. The government has implemented three export incentive schemes. These are

a. Duty Drawback Schemes (DDB)
b. Voucher Scheme (Duty Remission Scheme)
c. Bonded Manufacturing Warehouse Scheme (BMW)

In the year 2003/04, 28 companies have been given about the total of $2 million duty exemption through voucher and bonded manufacturing warehouse schemes. As a whole till March, 2004 export manufacturers were exempted from duty payment amounted to $8.7 million for imported inputs which to be used for the production of the exported commodities.

Out of 28 manufacturing companies 8 companies are from the textile sector which is 28.5% from the total manufacturing sector. And these textile companies have benefited from the voucher scheme amounted to $5.7 million which is 65% of the total revenue forgone by the government through this scheme. These companies also supposed to export commodities with a value $92.7 million. The share of the textiles and garment industries amounted to $13.4 million which is 14.5% from the total share in manufacturing sector of the country.

3.6.2 Export Financing

To promote the export sector the government has also rewarded different mechanisms and credit facilities to the manufacturing sector. With this developmental objectives

- The textile and garments sector is availed a $0.2 billion credit scheme with the objective of development and expansion of sector.
    i. The only requirement is an economically viable business plan from the client will be needed and a meaningful contribution at least 30% for new comer and 40% for experienced entrepreneur. No collateral is required beyond the contribution;
    ii. Rented houses can be mortgaged if the renter gives his written permission.
    iii. Cost of capital is reduced to 7.5% with a grace period of 3 years and payments to be made within 15 years.
- Importing of used machines are permitted;
- Short term working capital lending for exporters in short of finances is allowed.

3.6.3 Market Linkages and Infrastructural Development

Market is the critical element in the production-consumption chains. In line with the strategy objectives efforts have been done to find and expand markets for the commodities, creating producer-producer and producer-buyer linkages, building national textile forums and other support system development.

- Efforts have made to integrate the textile factories to link each other so that they can solve their bottlenecks and find and share markets;
- National textile form has been establishes;
- The government is assist manufacturers to participate various trade fairs;
- Signing of bilateral trade agreements which creates favorable market opportunities and;
- Successful efforts have made to link domestic producers with external buyers to create market linkages.

After these all things, the country's textile industry is yet at its infant stage and has only counted ages. The industries are surrounded with various efficiency problems due to shortage of skilled man power and technical know how, outdated technology, shortage of working capital, and others. The sector needs also a good and huge investment to renew the sector. A linkage with the agricultural sector needs serious attention. Adei Abeba Yarn Share Company is one of the textile sectors that have the above privileges but facing these problems and not yet growing industry in the country.

CHAPTER FOUR
REASERCH METHODOLOGY

The chapter describes the methodology used during the study. It presents the selected model, methods and techniques of data collection. Detail list of the variables with assigned value in the study. The chapter also describing the estimation procedure of the study and finally it ends up by stating the limitation of the study.

4.1 The Model Selection

In the study, labor productivity of the work force is the most and the one that the thesis emphasized. Because company's labor productivity (output per labor hour), relative to that of other nations, is the most important determinant of international competitiveness. A company can maintain its international competitiveness only if its productivity performance keeps pace with that of other foreign companies.

At the firm level, the competitiveness of a particular industry would depend on the quality of the product or the industry is in a position to offer its goods at a lower cost, the growth and quality of capital investments to insure a definite and sustained place in the market, the efficient utilization of input and the productivity of the workforce.

According to the literature, labor productivity measured in terms of working condition, incentive system, availability of training facility, employee-employers relations, organization of the labor force and employ's absenteeism. Other

demographic characteristics such as marital status, family size, housing and work experience also considered in the study (See Appendix 2). The relative importance of these factors varies in each country and tends to change over time.

The model description choices from a limited number of alternatives that attempt to relate the conditional probability of a particular choice being made to various explanatory factors that include the attribute of the alternatives as well as the characteristics of the decision makers can be designed. Therefore, for this study the logit or the probit model is chosen for such discrete choices. This model can be considered as a tool of analysis to estimate the probability of an event occurring, for the dependent variable to lie between 0-1 probability limits, i.e. 0-1 dummy variables. As it is indicated in most standard books, the theoretical difference in the application of these two models lies on the cumulative distribution function that is used to define choice probabilities. That is usage of the cumulative normal distribution function or the cumulative logistic distribution to estimate the probability of occurrence of the dependent variable gives as respectively the well known probit and logit models. In this study, the probit model would be employed and its derivation is presented as follows.[17]

Let Y_i denote a random variable representing a binary response coded zero and one, as usual. We will call Y_i the manifest/clear response. Suppose that there is an

[17] (William H. Greene 2003).

unobservable continuous random variable Y^*_i which can take any value in the real line, and such that Y_i takes the value one if and only if Y^*_i exceeds a certain threshold θ. We will call Y^*_i the latent/hidden response. The interpretation of Y_i and Y^*_i depends on the context of the study.

Since a positive outcome occurs only when the latent response exceeds the threshold, we can write the probability π_i of a positive outcome as

$$\pi_i = \Pr\{Y_i = 1\} = \Pr\{Y^*_i > \theta\} \quad \text{..... 1}$$

As often happens with latent variables, the location and scale of Y^*_i are arbitrary. We can add a constant to both Y^*_i and the threshold θ, or multiply both by a constant c, without changing the probability of a positive outcome. To identify the model, we take the threshold to be zero, and standardize Y^*_i to have standard deviation one (or any other fixed value).

Suppose now that the outcome depends on a vector of covariates $\mathbf{x}$. To model this dependence we use an ordinary linear model for the latent variable, writing

$$Y^*_i = \mathbf{x}_i\beta + U_i, \quad \text{..... 2}$$

where β is a vector of coefficients of the covariates $\mathbf{x}_i$ and U_i is the error term, assumed to have a distribution with cumulative density function (cdf) F(u), not necessarily the normal distribution.

The obvious choice of an error distribution is normal and assuming that the error term has a standard normal distribution, $U_i \sim N(0,1)$, the results of the previous section lead to

$$\pi_i = \Phi(\eta_i), \quad \text{..... 3}$$

where Φ is the standard normal c.d.f. The inverse transformation, which gives the linear predictor as a function of the probability

$$\eta_i = \Phi^{-1}(\pi_i), \quad \text{..... 4}$$

is called the *probit model.*

It is instructive to consider the more general case where the error term $U_i \sim N(0,\sigma^2)$ has a normal distribution with variance σ^2. Following the same steps as before we find that

$$\pi_i = \Pr\{Y^*_i > 0\}$$

$$= \Pr\{U_i > -\mathbf{x}_i\beta\} = \Pr\{U_i/\sigma > -\mathbf{x}_i\beta/\sigma\}$$

$$= 1-\Phi(-\mathbf{x}_i\beta/\sigma) = \Phi(\mathbf{x}_i\beta/\sigma) \quad \text{..... 5}$$

where it divided by σ then obtain a standard normal variate, and used the symmetry of the normal distribution to obtain the last result.

This development shows that we cannot identify β and σ separately, because the probability depends on them only through their ratio β/σ. This is another way of saying that the scale of the latent variable is not identified. We therefore take σ = 1, or equivalently interpret the β's in units of standard deviation of the latent variable.

Therefore from equation (1), prob(Y = 1) is the probability of an employee is become productive, β's are vectors of parameters to be estimated, $\mathbf{x}_i$'s are vectors of explanatory variables that are defined the next section.

4.2. Description of Variables and Expected Signs

i. Labor Productivity (LP)

Labor Productivity is the dependent variable in the study. It measures employee output per shift and compared with the standard output which set by the company. The standard output is set based on 70 percent of the total output obtained from the motion study. The company left 30 percent for different allowances like time for toilet, for breakage (discontinuity of work due to technical and other types of problems) and for any fatigues to an employee, etc. Therefore, if an employee produces equal or more than the standard output then set LP equals one else set LP equals zero when an employee produces below the standard.

ii. Working Condition (WC)

The variable is not a directly observable variable but it determined by taking an average value of other seven variables considered in the study. These variables are

- Availability of suitable Seat(S);

  S equals one if an employee has suitable seat, zero otherwise.

- Availability of Transportation (T);

  T equals one if an employee gets transportation service from the company is good, zero otherwise.

- Availability of Insurance (I);

  I equals one if an employee expected amount of insurance is good and more than good, zero otherwise.

- Availability of safety equipments (SE);

  SE equals one if an employee get safety equipment in the scheduled time table and satisfied by the company provides, zero otherwise.

- Availability of suitable café (C);

  C equals one if an employee uses suitable café is more than good, zero otherwise.

- Availability of suitable toilet (To);

  To equals one if an employee uses suitable toilet, zero otherwise.

- Availability of recreation area (RA);

  RA equals one if an employee uses suitable amusement area and gymnasiums etc, zero otherwise.

Therefore working condition takes the average outputs collected from the above seven responses from each employee. That is:

WC = AVERAGE(S, T, I, SE, C, To, RA)

If WC greater or equal to 0.5, then working condition for employee's on average good and set WC equals to one else set WC equals to zero (working condition for employees is not good)

iii Incentives Systems (IS)

Availability of incentive system in the company brings a great change on productivity of employees. Many employees believed that the application of incentive system will initiate and become more productive than before. Thus, the expected coefficient is positive. Therefore,

- IS equals one, when employees believe that if incentive system apply in the company will increase output from currently produced, zero otherwise.

iv. Employer-Employee Relationship (EER)

It measures the relationships between employee and employer and it is a major factor for labor productivity. If there is no good relationship or dialogues between employees and leaders, then the labor productivity will expected to be reduced. Alternatively good relationship leads employees more productive and expected a positive coefficient for the variable. Therefore,

- EER equals one if employee-employer relationship is good or very good from the response else zero which implies the relationship is poor or very poor.

v. Training Facility (TR)

Training facility is another factor used to measure labor productivity. An employee taking training in the company or outside the company before is more productive than still not taking any type of training. Training is useful to update employee's knowledge. According to the literature, training is the flow variable which raises the available stock of knowledge on the level of performance. The effect of training at the time of being is good but after few years depreciation of the acquired skills is expected. Therefore,

- TR equals one if an employee taking training before else zero.

vi. Absenteeism (Abs)

It is one of the reasons for low productivity of the company. Absenteeism expected to a negative coefficient, if employees frequent absenteeism increases then labor productivity decreases, as the same time the company productivity also decreases. Therefore,

- Abs equals one if an employee absent repeated days for the last three months else zero (if an employee not repeated absent for the last three months).

vii. Labor Regulations (LR)

The literature indicates that most of government recognized labor regulations for governing employment are too restrictive and adversely affect company's productivity. These labor regulations are mostly settled by discussion between the labor union and the management of the company. This study focus on the labor union, when unions are stand for employees to keep terms and conditions by dealing with management or any other recognized body. Therefore,

- LR equals one if an employee say the labor union stands for them and zero otherwise.

viii. Educational Status (EDUC)

It indicates educational status of an employee working in the company. The study wants to measure the dependency of factory workers within professionalism (educational status). Literate employees are more productive than illiterate, thus it expected to have a positive coefficient. Therefore,

- EDUC equals one if an employee is literate or zero if an employee is illiterate.

ix. Marital Status (MS)

Since an employee is married, shows a higher productivity than others because married employees are more settled than single employee or other groups of marital status. The expected relationship is positive. Therefore,

- MS equals one if an employee is married else zero.

x. Family Size (FS)

Since an employee with large family size is lower productive than has small family size, assuming that the two families have similar income group. It is expected that large family size employee have more pressure like family responsibility in terms of food, cloth, health, and etc than less family size. The expected relationship between small family size and labor productivity is positive. Therefore,

- FS equals one if an employee has less than or equal to three families including himself, zero otherwise (an employee with more than three family members).

xi. Housing (HU)

It measures a living status of an employee, if an employee living in his own house is more productive than living in rental, with relatives or other place. An employee who is living in his own house needs less cost for housing and better living standard and good environment than who are not living in his own house, assuming the two families have similar income group. The coefficient of the variable expected positive. Therefore,

- HU equals one if an employee living in his own house and zero otherwise (if an employee living in rental, with relatives, or etc).

xii. Work Experience (WE)

It measures the number of years working in the company of an employee. In this case more experienced employees are expecting less productive than less work experience, because in textile companies employee's age has a significant effect on labor productivity. But for this study employee's age group is indirectly measured by using work experience because mostly employees can't remember their exact age. Thus the study expected a positive coefficient, that is, younger employees are more productive than older employees. Therefore,

- WE equals to one if an employee has work experience less than sixteen years in the company and zero otherwise (greater than or equal to sixteen years).

4.3 The Data

The study used both primary and secondary data from Adei Abeba Yarn Share Company. The primary data is collected by using questionnaire. The questionnaires are designed for factory workers (machine operators); those who are directly participate in the production process. The contents of the questionnaire are like employees working condition, availability of training facilities, existence of incentive systems and etc in the company; these questions are indirectly measure the level of labor productivity in the company. Other supplementary questions also included to capture other unobservable aspects of labor productivity. To collect the data mostly scales are used, which ranges from 1= very poor to 4 = very good. But the study used dummy variables, zeros and ones, for all variables that takes zeros' for poor and very poor responses and takes ones' for good and very good responses. Using the actual scales is difficult to interpret the gaps or the differences between responses due to the nature of the variables.

Labor productivity or output per person per shift is measured in garment section the output takes the weekly average output in terms of T-shirt equivalent production line in the company. For each operator take the average output divided by number of operators in the line. In other sections, there is no difficulty to measure labor productivity because each employee has his own task to do which is planned and easily can measure the actual achievements.

4.3.1. Method of Data collection

During data collection interview is made from the selected employees in each production section of the company using the designed questionnaire (See Appendix 1). And secondary data are collected from the company plan and information service department about the existing condition of employees and all information about the company. All interviews were tried to conduct that the interviewee to answer what they are really feel. Observation was made while employees were performing their routine activities. Secondary data is also used for additional information from the company annual reports and company profile; and other sources from outside the company, such as data's from CSA (Central Statistic Authority of Ethiopia), Ministry of Ethiopian Trade and Industry and other electronic sources like internet webs.

4.3.2. Sampling Technique

In general, there are five types of probability sampling techniques; simple random sampling, stratified sampling, systematic sampling, cluster sampling and multi stage sampling techniques. In this study, Multi-Stage sampling is appropriate sampling technique. From the statistical definition multi-stage sampling technique is uses the combination of two or more than two sampling methods together. The most important principle is that one can combine the simple methods/ the first four sampling techniques from the above list/ in a variety of useful ways that help to address the sampling needs in the most efficient and effective manner. The study used the combination of stratified sampling and simple random sampling techniques.

4.3.3. The Study Population

The population of the study is employed in Adei Abeba Yarn Share Company. The study population is classified into five different groups (strata). These stratums in the data set are as follows: - Strata I – Garment operators, Strata II - Spinning operators, strata III-Knitting operators, strata IV - Dying operators and strata V– Others. From the objective of the study, Strata-V is not included because mostly this group of employees is indirect labor for production process in the company. Therefore, the selected groups for the study are strata I – IV. In each stratum each member of the population has equal chance of being selected because the data selection uses simple random sampling in the second stage.

Totally the company has 1523 employees. From the total employee, 1159 employees are directly participating in the production process, which is 76%; the study conducted 15% of employees which are directly participating in the production process. By using simple random sampling technique for each stratum;

- Strata-I has 528 employees then selected 80 employees;
- Strata-II has 406 employees then selected 61 employees;
- Strata-III has 126 employees then selected 20 employees and
- Strata-IV has 99 employees then selected 15 employees.

Entirely 176 employees are selected and conducted in the study.

4.4. Estimation Techniques and procedures

Multiple regression analysis is employed in order to assess the factors that affect labor productivity. For this purpose a maximum likelihood estimation technique, probit model is employed to estimate the discrete regression model since the dependent variable assumes discrete dummy variables, zeros and ones. Other statistical inferences are applied in the study such as tests for the presence of multicollinearity through the analysis of correlation matrix and hetroscedasticity problem by using a Stata program whose estimation result is given by a hetroscedasticity corrected results. Whenever the data give best estimation result, then we can say it should not suffer from these problems.

Descriptive statistical analysis is used as an additional method which employed in order to evaluate the factors that affect labor productivity in the company. The statistical measures are, such as ratios, proportions, frequencies and percentages. Tabulations such as bars, pie charts, histograms and scatters are also used to measure the analysis.

CHAPTER FIVE
ANALYSIS OF THE RESULT

This chapter will present factors that identify labor productivity from the selected sample size of the company. The chapter clearly states the study variables affect labor productivity based on primary data. The secondary data is the five years annual report showing the company's plan with the corresponding achievement of production and sales. The analysis uses both descriptive and econometric models to revel out the effect of labor productivity.

5.1. Annual Report Analysis of AAYSC.

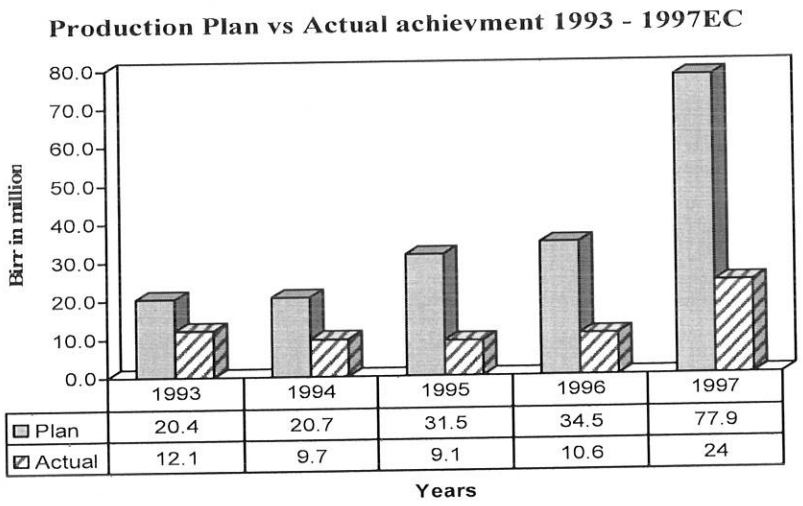
The company has a yearly plan on what to accomplish in each year. The company proposed 85% of its total production capacity as the plan for each year production and sales. The study has collected five consecutive years annual report with its respective plan in order to analyze the company's actual achievement with respect to the plan.

The assessment reveals why the company failed to achieve its plan. It also gives reasons for the failure of the company was unable to achieve its goal using descriptive and econometrics analysis. Failure in achievement of planned production has drawn attention to examine the core problems behind inefficiency. The assessment tries to point out the main reasons that aggravate the existing situation on the factors of labor productivity.

The annual report analysis used as evidence to support the labor productive factors in which the data collected and analyzed in the next sections. The annual report in the study covers five consecutive years from 1993 E.C. to 1997 E.C.

The following tables and figures show the annual reports from years 1993 - 1997 EC of the total production and sales of the company. It shows the planned and achieved of the total production and sales in million birr. And finally summarizes the average production and sales by comparing the planned with respect to the actual achieved for the years presented in tables and pie charts.

Figure 5.1. Production Plan Vs Actual Achievement, 1993- 1997EC.



Source: Annual Reports of AAYSC.

Company production in years 1993-1997 E.C.

The summary has collected the entire five years production plan and the actual achievement during those five years. The analysis given on table 5.1 shows an average achieved production is 39% for the five years of the total planned. This indicates that the company performance is significantly below half of the actual designed capacity due to many reasons. On of the main reasons is low labor productivity.

Table 5.1. Five years production unachieved Vs achieved plan

Annual Year	Unachieved Plan in %	Actual Achievement in %
1993	41	59
1994	53	47
1995	71	29
1996	69	31
1997	70	30
Average	**61**	**39**

Source: Annual Reports of AAYSC.

Figure 5.2. Five years Average Production unachieved Plan Vs Actually Achieved.

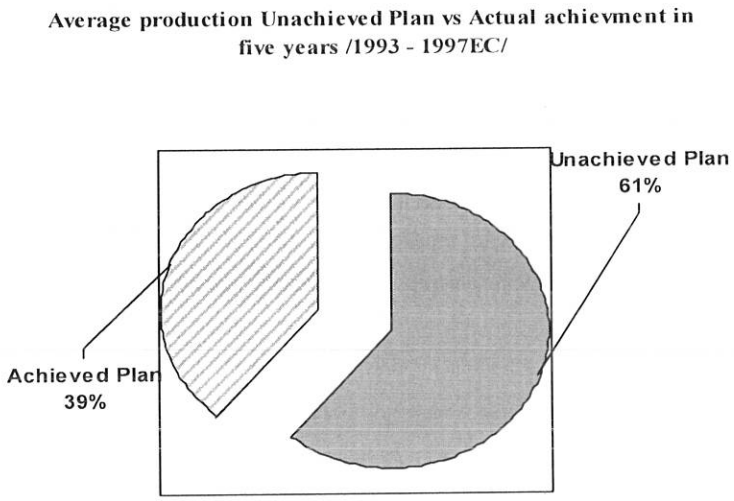
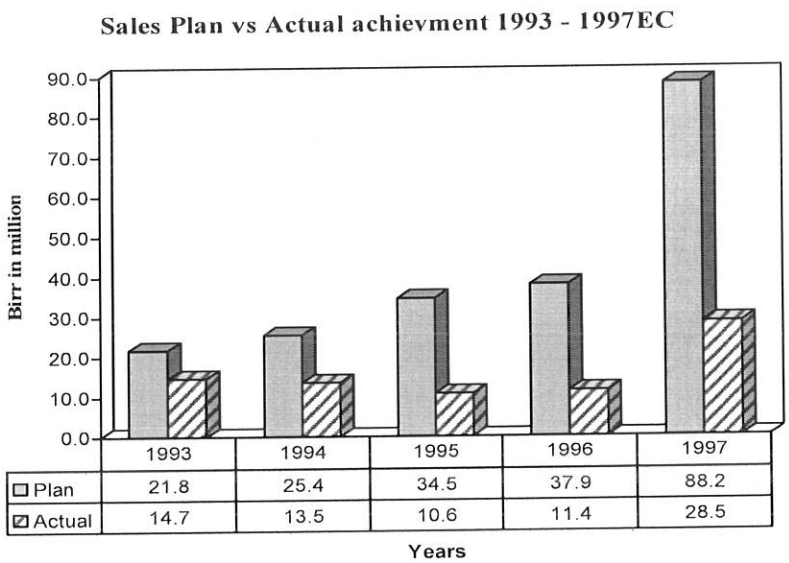


Figure 5.3. Sales Plan Vs Actual Achievement 1993 - 1997EC



Source: Annual Reports of AAYSC

Company Sales in years 1993-1997 E.C.

The summary has collected the total sales plan and the actual achievement to give an average performance. The analysis given on table 5.2 shows average achieved sales is 42% for the five years of the total planned. This indicates that the company sales performance is below half of its planned capacity and it is based on the production performance. According to the company profile, the sales plan is based on production plan.[18]

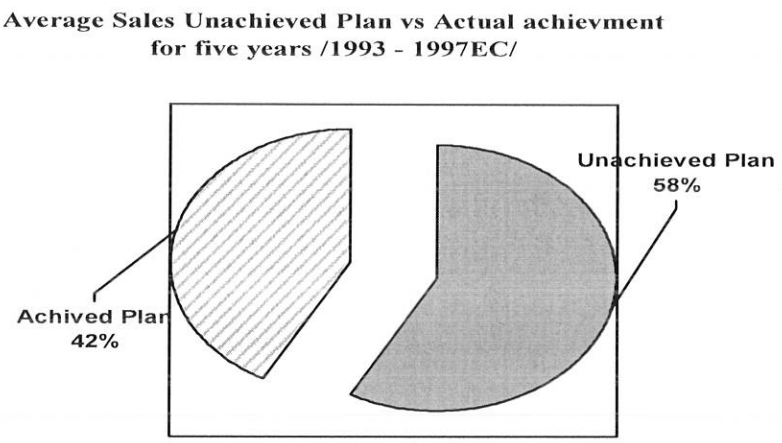
Table 5.2 Five Years Sales Unachieved Vs Achieved plan

Annual Year	Unachieved Plan in %	Actually Achievement in %
1993	33	67
1994	47	53
1995	69	31
1996	70	30
1997	68	32
Average	**58**	**42**

Source: Annual Reports of AAYSC

[18] AAYSC Company Profile (1999EC)

Figure 5.4. Average Sales Unachieved Vs Achieved Plan, 1993 - 1997EC



From the above figures; figure 5.2 and figure 5.4 indicate the company plan unfulfilled and unproductively working in the past five years. The above tables also summarize by using the total planned and the actual achieved for the year 1993 to 1997EC, the company has only achieved 39% in production and 42% in sales from its planned in value/birr. Labor productivity is the expected factors that lead the company realize its plan, and the objective of this study concentrates to indicate the factors that will increase labor productivity and the factors that have significant effect on labor productivity.

5.2. Descriptive Analysis

An empirical investigation have been carried out in AAYSC to survey its productivity and determine how the company challenged by the existing labor productivity. Data is collected by interview from an organized questionnaire and interviewers are selected carefully so that proper intended data can be collected

from the interviewee. The collected data participate employees of the company, and a special attention is given to those directly participate in the production line, machine operators.

The compiled questionnaires give emphasis on the labor productivity and labor productivity factors mainly; working condition, incentive system, employee–employer relationship, training facility, educational status, labor regulations and labor absenteeism. In addition, other demographic characteristics like marital status, family size, housing/ place of living/ and years of work experience are also described in the following descriptive analysis of tables and figures.

Each labor productivity factors described with its corresponding collected data towards their effect on labor productivity

i. Labor Productivity

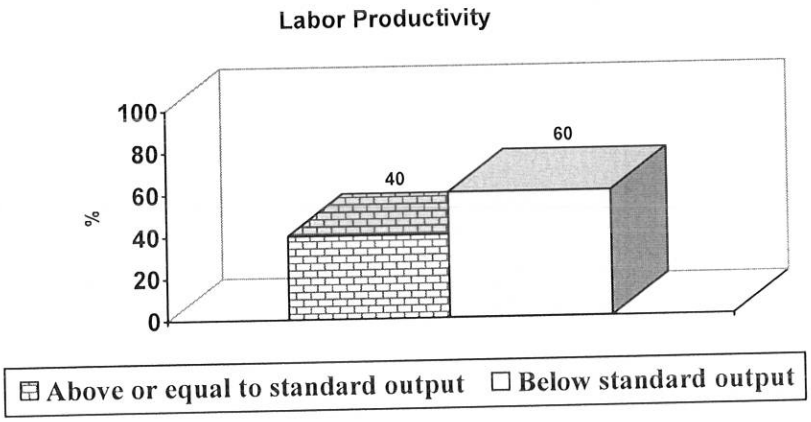
According to the data collected, productivity of employees in the company is measured using company's standard set for each section in the factory, only 40% of employees produce above or equal to the standard output; and 60% of employees produce below the standard output. In each stratum (Garment section, Spinning section, Knitting section and Dying section) there are different standard outputs level considered in the study.

Table 5.3. Level of Labor Productivity

Labor productivity	Frequency	Percentage
Above or equal to standard output	70	**40**
Below standard output	106	**60**

Source: Survey Data

Figure 5.5. Level of Labor Productivity



ii. Working Condition

Among the different working condition factors some are highly significance on working condition and others are less significance. But it is difficult to give different weights to each factor therefore the study is taken the average value of all sub variables considered in working condition. Working condition factors are availability of suitable seat, transportation, safety equipment, availability of insurance, suitable café, suitable toilet and recreation area for employees considered in the company.

The result shows that on average 78% from the total response is said that suitability of working condition is not good. On contrary, 22% of respondents are said the existing working condition is good and suitable for work. In general, based on the respondents in the company one can say the company working condition is poor.

The result indicates that the company does not give enough attention for working condition to adjust and become suitable for employees. Among working condition factors, let us see the issue of suitable seat; like chairs and tables are the fundamental factors to increase labor productivity. Availability of transportation also affects the production time seriously; for example, if an employee reaches late in work place, it will affect the mass production or face the problem of total output reduction. In addition, availability of insurance for transportation and medical facility is important factor for suitable working condition and productivity. Availability of suitable café and recreation areas are helpful for employees to refresh themselves at tea break or launch time in the company. Suitable toilet and availability of safety equipments are the most important criteria for employees' to be healthy because inappropriate toilet damage employees' health seriously and become them unproductive; and finally safety equipment is important, without safety equipment an employee may totally damage his body or part of his body and become unhealthy.

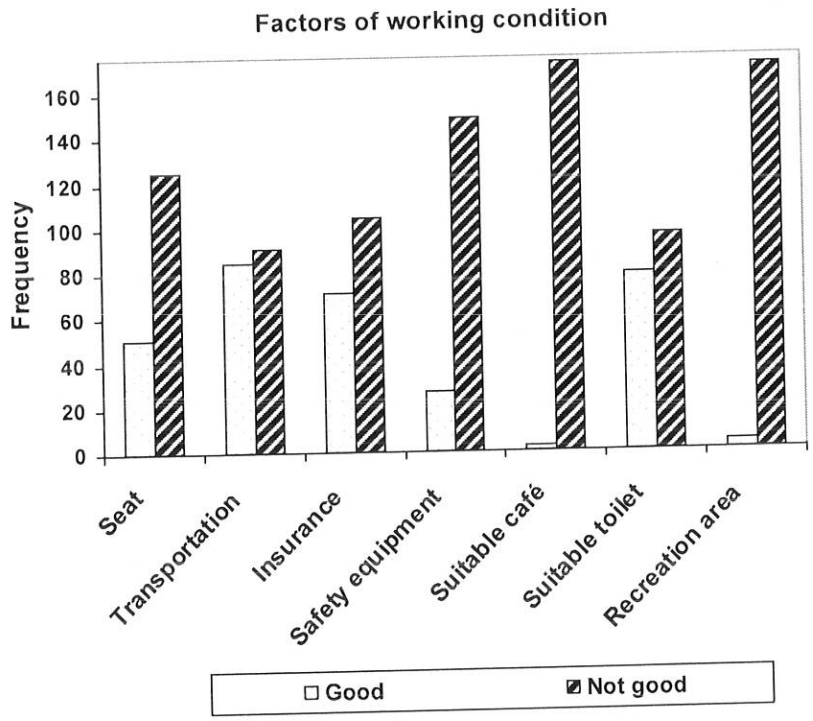
Form table 5.3, suitable café, recreation area and safety equipments are the first and highly significant variables with 99%, 95% and 85% respectively are not good and reduced working condition. The next not good variables are insurance and seat. Toilet and availability of transportation have the least effect on working condition as seen from the survey.

Table 5.4: Frequencies of Factors of Working Condition

Suitability of working condition	**Good**	**Not Good**	**Not Good %age**
Seat	51	125	**71**
Transportation	65	111	**63**
Insurance	57	119	**68**
Safety equipment	27	149	**85**
Suitable café	2	174	**99**
Suitable toilet	62	114	**65**
Recreation area	8	168	**95**
Total frequency	**272**	**960**	
Average frequency	**39**	**137**	
Percentage share	***22***	***78***	

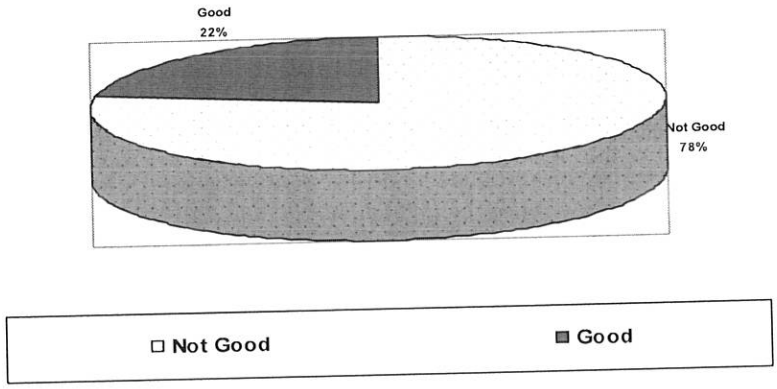
Source: Survey Data

Figure 5.6. Frequencies of Factors of Working Condition



Source: Survey Data

Figure 5.7. Average Percentage of Working Condition



iii. Incentive System

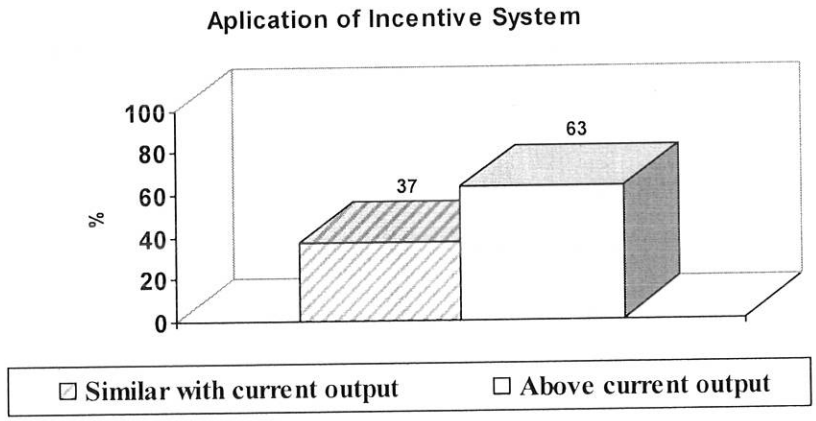
According to the data collected, whenever incentive system applied in the company, 63% of employees believed that the output of the company would be greater than currently produced; and 37% said there is no difference in the output, they believed that their current output is at maximum level. Literature indicates that incentive system can make employees more productive than flat rate payment system. Therefore application of incentive system leads employees more productive so that the company becomes productive and competent.

Table 5.5. Application of Incentive System

Application of Incentive system	Frequency	Percentage
Similar with current output	65	**37**
Above current output	111	**63**

Source: Survey Data

Figure 5.8. Application of Incentive System in the Company



iv. Employee-Employer Relationship

From table 5.5, the relationship between the two different groups, the response indicates that 88% of employees said the existing relationship with employer is good. But 12% of employees are said the relationship with their employer is bad/ not good. According to the literature the effect of employee-employer relationship on the labor productivity is expected positive; that is, if employee- employer relationship is good then the expected labor productivity increases. Contrary to the existing poor productivity of the company, the study expects employee-employer relationship is bad/ not good.

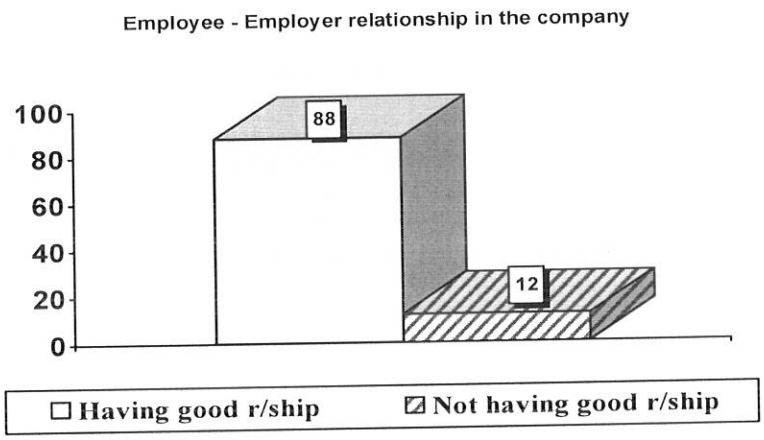
Despite this fact the collected data does not show the expected relationship between the two variables. One can suggest that this is due to fear of employer; employees think, if they said the relationship is not good then they may loss their job and other unexpected action taken by the employer, employees have no confidence to present the actual feeling about the relationship with their boss or owner of the company. This indicates that in mostly developing country, employees are tried to keep their job otherwise once loses his job; it is difficult to get another and wait for long time unemployed. This may be the reason that the collected data does not show the expected relationship.

Table 5.6. Employee Employer Relationship

Employee Employer Relationship	Frequency	Percentage
Not having good r/ship	21	12
Having good r/ship	155	88
Total	**176**	**100**

Source: Survey Data

Figure 5.9. Employee Employer Relationship



v. Labor Regulations

A restrictive Labor regulation in the company is one of the factors that inversely affect labor productivity, the regulations mostly controlled and checked by the labor union and the management. From the data, the company has governmentally recognized labor union. The literature states that availability of government recognized labor union in the company is helpful for keeping terms

and conditions for employees. This variable measures in terms of labor union; good labor union stands for employees, which indicates that the union kept terms and conditions and any labor regulation for employees against the company and it adversely affect company's productivity.

Despite this fact, many employees say that when the company does not keep employment terms and conditions; the labor union should make a discussion with management to solve problems. But in this case employees believe that the labor union should stand for them rather than stand for the company.

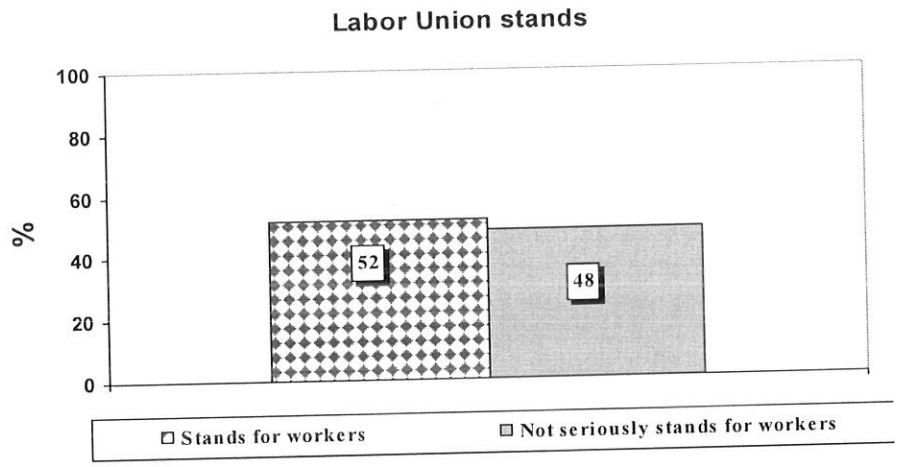
From the data, almost 48% of employees are blame the labor union and the other 52% employees indicate the labor union is good and helpful to keep labor regulations. Therefore labor union is a variable that reduce labor productivity but not seriously because almost half of employees said the union is not good and not stands for them seriously; which means the union also understand the company problems.

Table 5.7. Labor Union Organization

Labor union	Frequency	Percentage
Not seriously stands for employees	85	48
Stands for employees	91	52
Total	**176**	**100**

Source: Survey Data

Figure 5.10. Organization of Labor Union



vi. Educational Status

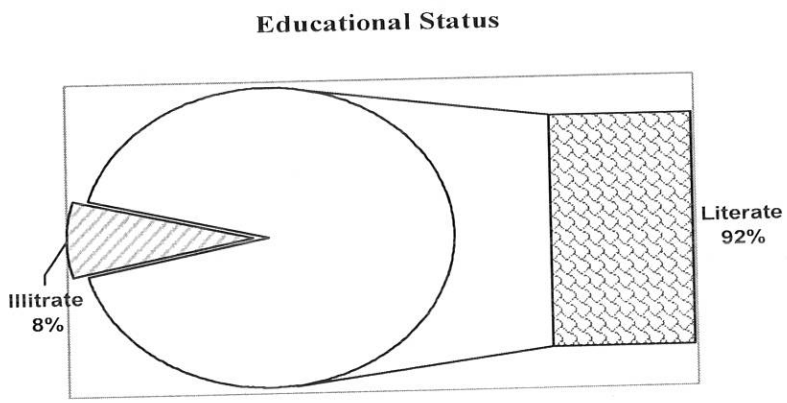
Educational status of employees in the company is another factor for determining labor productivity. According to the result almost 92% of the study population is literate; at least they can read and write. In textile companies educational status should not be a major factor because the machines in such companies don't need a special knowledge other than practical training. But literate employees are better than illiterate b/s the can read and write at any time of training and skill upgrading.

Table 5.8. Educational Status of Employees in the Company

Educational status	Frequency	Percentage
Literate	162	**92**
Illiterate	14	**8**
Total	**176**	**100**

Source: Survey Data

Figure 5.11. Employees' Educational Status



vii. Training Facility

From the literature, training is the most important factor for increasing productivity or even to keep constant labor productivity. From the company information, the company has a training center and also around 2-5% of training budget from the total annual budget in 1997EC, but the actual responses from employees indicates that only 33% of employees have taken training before.

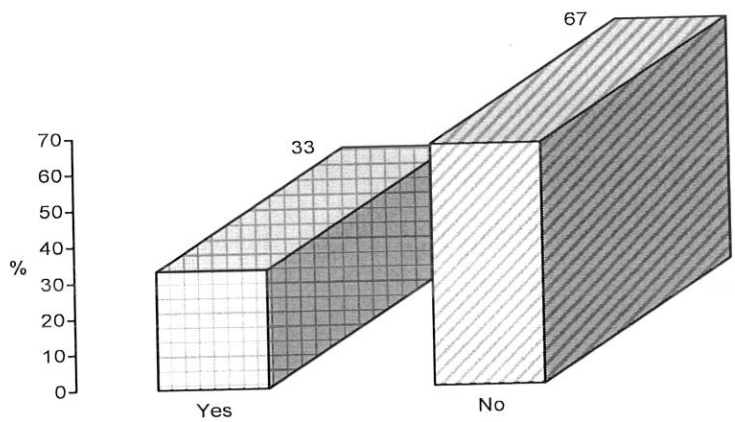
The training is given by the company educated or skilled employees on job training which takes place in the company training center and others have taken outside the company. The rest 67% of employees have never taken training before. Therefore training facility is important factor for skill upgrading and used to increase productivity of the company.

Table 5.9. Training Facility for Employees

Training taken by employees	Frequency	Percentage
No	118	**67**
Yes	58	**33**
Total	**176**	**100**

Source: Survey Data

Figure 5.12. Training Facility for Employees



viii. Labor Absenteeism

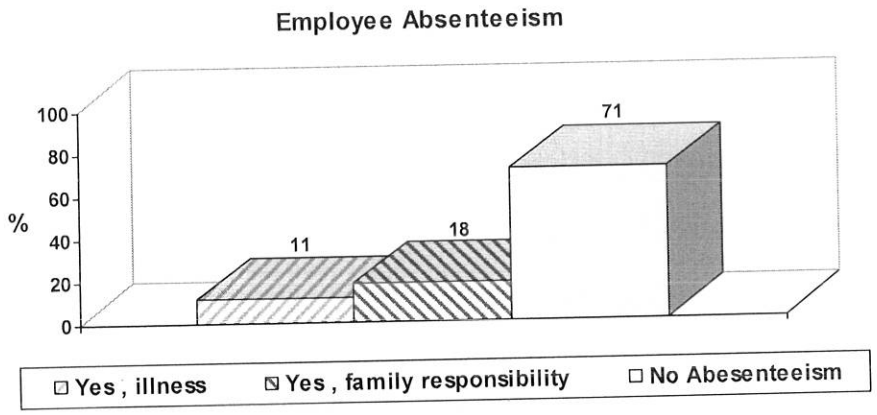
The study wants to show how frequent absenteeism on workplace creates problems on company's productivity. For example, the company faces problem of fulfilling the agreement on delivery time of customer orders. Such problem leads the company under caution from the customer and they may change to another supplier. Therefore the company become in trouble to satisfy customers as a result the company may totally lose customers. According to table 5.9, 29% of employees are absent frequent days for the last three months due to illness and family responsibilities. The rest 71% are present or not frequently absent from their work place.

Table 5.10. Labor Absenteeism

Absenteeism	Reasons for absenteeism	Frequency	Percentage
No		125	**71**
Yes	illness	19	**11**
	Family responsibility	32	**18**
Total		**176**	**100**

Source: Survey Data

Figure 5.13. Labor Absenteeism



5.3. Demographic Analysis

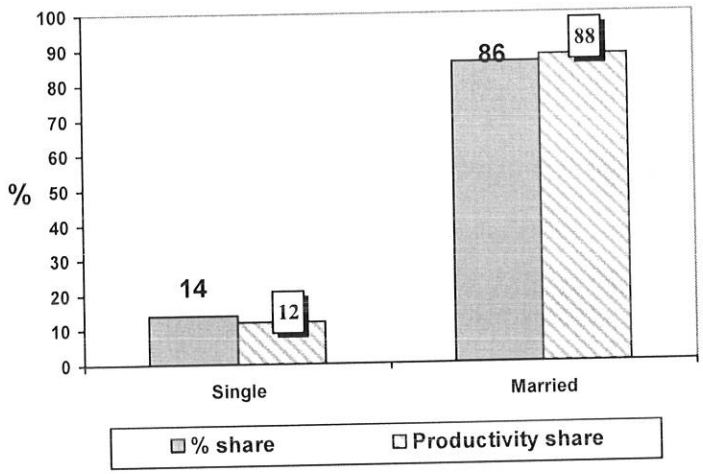
Marital status: - As it is indicated in the following Table, 86% of employees are married and 14% employees are single. From the data below, married employees are more productive than single because they are settled and given full attention for their work.

Table 5.11. Employees' Marital Status and Labor Productivity

Marital Status	Frequency	Percentage	Labor Productivity	
			1's	% of 1's
Single	24	**14**	8	**12**
Married	152	**86**	62	**88**
Total	176	**100**	70	**100**

Source: Survey Data

Figure 5.14. Employees' Marital Status and Labor Productivity



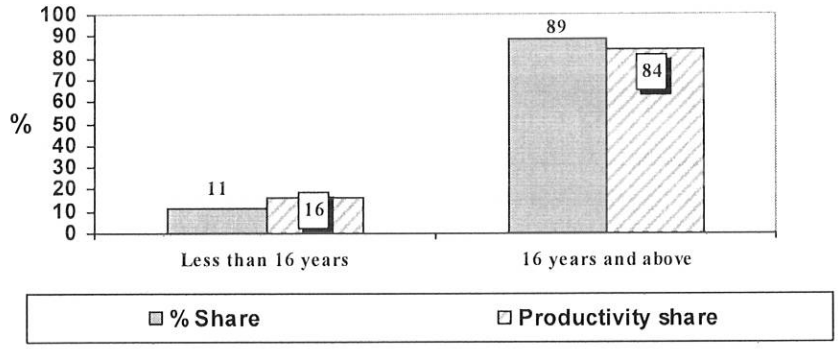
Work Experience: - From table 5.11, about 89% of employees have 16 years or more than 16 years work experience in the company. The left 11% of employees are below 16 years work experience. On the other hand, from the literature, more senior workers are less productive than junior workers in this case junior workers have below 16 years work experience on average because in the long run employees' potential is reduced. Mostly in textile sector some knowledge need upgrading by additional training or by any other human resource development method. In many cases seniority is better for managerial works than for manufacturing works because in manufacturing work almost all physical and mental parts of employees should be active and always standby to operate the machine. Therefore, high work experience employees are aged employees and they are lower productive than less work experience employees.

Table 5.12. Employees' Work Experience and Labor Productivity

Work Experience	Frequency	Percentage	Labor Productivity	
			1's	% of 1's
Below 16 years	19	**11**	11	**16**
16 years and above	157	**89**	59	**84**
Total	**176**	**100**	**70**	**100**

Source: Survey Data

Figure 5.15. Employees' Work Experience and Labor Productivity



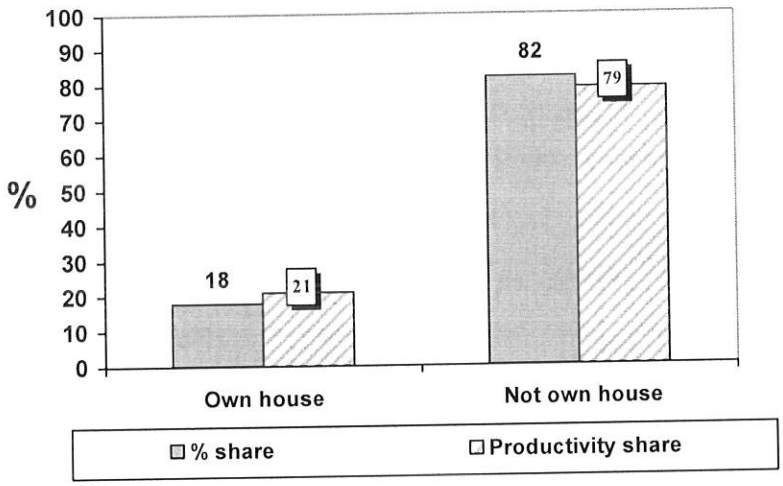
Place of Living: - From table 5.12, only 18% of employees are living in their own house; the others 82% are living in rental house, with relatives, with family or other places. But from the literature productivity of employees living in their own house is expected more productive than who are not living in their own house. One can conclude from the data, employees who are not living in their own house are suffering by additional cost and many problems during their life.

Table 5.13. Employees' Living Place and Labor Productivity

Place of Living	Frequency	Percentage	Labor Productivity	
			1's	% of 1's
Own house	31	**18**	15	**21**
Not own house	145	**82**	55	**79**
Total	**176**	**100**	**70**	**100**

Source: Survey Data

Figure 5.16. Employees' Living Place and Labor Productivity



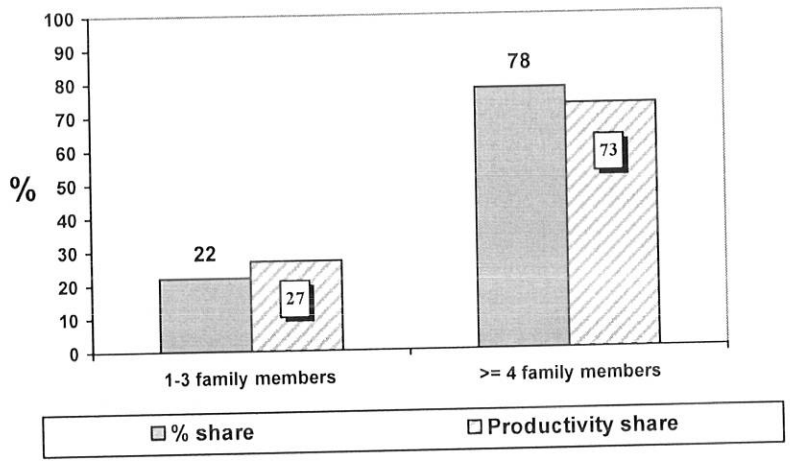
Family Size: - table 5.13 indicates that 78% of the company employees have four or more than four family members and the rest 22% have three or less than three family members including them. When a family size increases then productivity of an employee reduces, which indicates that family size has a negative relationship with productivity. From the result, one can conclude that 78 percent of employees have four and above family members then family responsibility increases very much and leads to reduce work related responsibilities including the permanent job. Leisure times of employees are used for family care and other family related responsibilities. Therefore, an employee with larger family size would not be productive than with having less family size.

Table 5.14. Employees' Family Size and Labor Productivity

Family Size	Frequency	Percentage	Labor Productivity	
			1's	% of 1's
1-3 family members	39	**22**	19	**27**
>= 4 family members	137	**78**	51	**73**
Total	**176**	**100**	**70**	**100**

Source: Survey Data

Figure 5.17. Employees' Family Size and Labor Productivity



5.4. Econometrics Analysis

In this main sub heading the econometric results are obtained from the estimation of the specified empirical model in chapter four, The Probit Model, is presented. The empirical results that coincide with the model specified and the objectives are set at the introduction part of the analysis. The factors determined in the analysis are presented the probability of being an individual employee productive or not.

A correlation matrix of the independent variables was established to remedy the problems of multicollilearity (See Appendix 4). In the matrix, all correlation coefficients are between ± 0.3 which indicates almost all variables are not seriously correlated each other. Therefore, all variables in the study are

considered because there is no problem of multicollinearity in the data set. Appendix 3 shows that the summary of the data set collected by interview in the company. All 176 sample observations are considered. The means, standard deviations, minimum and maximum values for each variable are listed in the study.

The estimated probit econometric result coefficients can not directly interpreted as the change in probability of occurrence caused by a unit change in the independent variable. But, the sign of these coefficients tell us the direction of the relationship between the explanatory variables and the probability of occurrence. But the marginal effect values are used to interpret or show a change of the dependant variable by the unit change in each explanatory variable.

In table 5.14, the output indicates that all 176 observations in the data set were used in the analysis. If fewer observations would have been used without any variables had missing values, by default, Stata program does a list wise deletion of cases or observations with missing values.

The likelihood ratio, chi-square of 43.68 with a p-value of around 0.0001, tells us that our model as a whole is statistically significant, as compared to model with no predictors. This indicates that as a minimum one of the variable coefficients is different from zero. The pseudo-R2 is also given, that is, 0.1847. The pseudo R2 is measures the percentage of the "uncertainty" in the data explained by the

empirical result but it does not have direct equivalent of an R-squared (for OLS regression) in non-linear models.

Marginal effects, column 3 in the table, are calculated to show the magnitude of the change in the probability of occurrence, given a change in the explanatory variables and it is easier to understand than the coefficients listed to determine the dependent variable.

The joint significance hypothesis, the likelihood ratio statistic shows that the model is significantly different from intercept model (i.e. out of the coefficients of explanatory variables at least one is different from zero). From the table, a Chi square test shows that LR Chi^2 is 43.68 with 11 degrees of freedom, which is greater than the tabulated Chi^2 with 11 degrees of freedom, equals 19.68. The variables WC, IS, TR, LR and HU have an estimate significantly different from zero at 5%, 1%, 1%, 10%, and 5% respectively as it can be seen from the column labeled by p-value (which is the exact probability value of error introduced) or level of significance (which is the approximate value of probability of error introduced).

Table 5.15. Results of Probit Model

			Obs =	176
			LR chi2(11) =	43.68
			Prob > chi2 =	0.0001
			Pseudo R2 =	0.1847
Variable	**Coefficient**	**Marginal Effect**	**T- value**	**p-value /significance level /**
WC	.5925721	.2302952	2.14	0.032**
IS	.7287354	.2619326	3.03	0.002***
EER	-.4656856	-.1822232	-1.48	0.138
TR	.7111901	.2726584	3.19	0.001***
LR	-.392966	-.1484136	-1.79	0.074*
EDUC	.0565116	.0212509	0.14	0.885
ABS	-.1960977	-.073196	-0.80	0.423
MS	.2386478	.0874834	0.68	0.494
FS	.2476638	.0955165	0.92	0.358
HU	.5795483	.2260869	2.03	0.042**
WE	.4676186	.1831862	1.34	0.181
CONS	-.943081		-1.65	0.099

Note: *** Reject at 1% level of significance;

** Reject at 5% level of significance;

* Reject at 10% level of significance.

Labor productivity, the dependent variable, is at the standard level of output or above the standard level of output one is taken otherwise zero is taken in the Probit regression model: Maximum Likelihood Estimates. (If employee's output equal or above the standard output then labor productivity = 1, else = 0)

From the empirical result, one of the variable which is significant effect on labor productivity or labor output increases from below the standard to equal or above the standard. A unit change in WC variable (from 0 to 1) indicates changing working condition from not good condition to good condition. The sign of the parameter value of the coefficient shows the presence of positive relationship between working condition and the probability of employee being productive. In this case, the marginal effect indicates that good working condition changes employee's become productive is estimated to be 0.23 times as high as working condition is bad/not good, other things being constant.

Application of incentive system (IS) in the company is helpful for enhancement of worker's existing output. According to the result, Application of incentive system is a highly significant variable with the expected sign. This variable is a major variable for employees productivity and the positive coefficient shows that the application of incentive system in the company, the more the employee being productive because the employee gain additional money as much as his output increases. In this case, the company also becomes productive and competent because whenever output increases the price of the output will reduce. Incentive system existing in the company would change unproductive labor to become productive; the marginal effect indicates 0.26 times as high as IS does not existing in the company, other things being constant.

The third variable, training (TR) is another significant variable on labor productivity. The positive parameter value of this coefficient shows that an employee taking training is more productive than who is not taking because employee's awareness about their work would be updated, so training facility and productivity have positive relationship. From the result, the marginal effect of employees taking training before is more productive and estimated 0.27 times as high as not taking training before.

Labor Regulation (LR) is the other variable fairly significant for the labor productivity. The parameter and the sign of the variable are expected. Restrictive labor regulations adversely affect the company's productivity. In this case, the variable is indirectly measured because it difficult to measure how much labor regulation affects the company's productivity. Labor union is a union which stands for employees to keep terms and conditions put together (labor union and management), so labor union seriously stand for employees which indicates restrictive labor regulations inversely affect employees productivity. Because productivity is measured especially in production time, so labor union is good for employees means employees always reporting current problems and makes a dialogue with employer and reduced production time. In valuable words, restrictive labor regulations, labor union seriously stands for employees or the variable changes from 0 to 1, the labor productivity reduces by 0.15 times, consider other things constant.

Housing (HU), an employee who is living in his own house or not, is a useful and significant factor on labor productivity. The expected sign of the variable is positive and the value also significant. Anyone who is living in his own house is better productive than not living in his own house because his leisure time is good and peaceful, no need of additional cost for house rent and no other related stresses. According to the result, the marginal effect indicates that an employee who is living in his own house (from 0 to 1) an employee productivity changes by 0.23 times as higher as an employee who is not living in his own house, consider other things constant.

Table 5.14 shows the negative significant constant term reflects the fact that an employee without good working condition, training facility, application of incentive system, unrestrictive labor regulation, not living in his own house and also other positive and negative insignificant factors labor productivity reduces or negative impact on total company productivity. This indicates without the significant and insignificant variables labor productivity depreciates through time.

In addition to these, the estimated parameter coefficients on the marital status of an employee (MS), Family size of an employee (FS) and years of working experience of an employee (WE) are found positive, indicating the fact that an employee who are married, less than or equal to three family member and less than 16 years work experience has more productive; according to the result the marginal effects for these variables changes in labor productivity are as high as

0.09, 0.10 and 0.18 times respectively, but their effect was not statistically significant.

In the same way, the estimated parameter coefficients on absenteeism of an employee (ABS), is found negative, indicating the fact that an employee who are frequent absent in workplace for the last three months, leads to reduce productivity. According to the result the marginal effects for this variable reduces company productivity by 0.07 times than not frequently absent in workplace, but its effect was not statistically significant.

On the other hand, one of the variables in the study, Employee-employer relationship (EER), from the literature the expected coefficient would be positive sign. But the result indicates the coefficient is negative. This is due to overestimating data; in the company employees might not respond the actual feelings. An employee who said 'employee-employer relationship is good' by bearing in mind different angles, like if the information reach to employer, then he may lose his job. Therefore the existing data does not indicate the relationship of the variable EER and labor productivity, but the variable is not statistically significant.

CHAPTER SIX
CONCLUSIONS AND RECOMMENDATIONS

This chapter is the last chapter and covers the conclusions and recommendations of the study. The recommendation present different strategies for management teams to overcome the problems in the company by using full efficiency of the labor force and maximize productivity. These leads the company becomes competent in the world market.

6.1 Conclusions

Here in Ethiopia, almost all industries need improvement to increase productivity; but there is no sufficient effort being made to bring this improvement. That is why most industries are still unproductive and incompetent as compared to even with their own designed production and sales capacity.

Anyone can conclude from the study almost all Ethiopia textile companies' annual report indicates they are in a state of huge loss for long time. The study is based on one of the textile company, AAYSC who are not in a position to:

- Win market competitions;
- Satisfy customer needs and
- Effectively handle their resources (manpower, machinery, etc).

On the other hand, competitive advantage of the sector is the abundant labor, which satisfies the textile industry. But the unproductiveness of local textile companies as whole and particularly Adei Abeba Yarn Share Company who has

registered an average of 39% actual achievement from the total production planed. Some other viable advantages are:-

- Privileges given in the world market including AGOA and
- Privilege given by Ethiopian government to textile sector.

The analysis in Chapter 5 concentrates on existing condition of AAYSC. It has shown the company's failure to achieve its plan for the past five years through annual reports and the existing condition of labor productivity factors in the company. The actual average productivity determined is 39%, which is a very poor output level and almost all labor productivity factors are on average below 50%, which is at lower stage. Therefore a strategy should be implemented to make the company productive and competent.

The textile industry as a whole has a privilege of abundant labor and tax free market in US through AGOA. However, the existing strength of the sector to support the country's economy is very minimal. Even then, the sector can remain in the market and improve its share only if it can manage to deliver high quality products in the specific time with competitive price. Today globalization has enforced fierce competition on all economy sectors of the country, even more in the textile industry. Therefore, the only way to survive this competition is to sort out the factors that hold back productivity.

The paper tries to reveal out the factors of labor productivity that affects directly or indirectly conducting a case study on AAYSC. Attention was first given to a theoretical definitions and principles of international competitiveness and state labor productivity is the major part in international competitiveness, and the main objective is measuring problems affecting the company's labor productivity to enhancing competitiveness.

An empirical study conducted on AAYSC, which investigated the factors of low labor productivity and find out a solution without considering other factors. The factors may not include firm level competitiveness like the quality of the product or the industry position to offer its goods at a lower cost, the growth and quality of capital investments to insure a definite and sustained place in the market and the efficient utilization of input. The competitiveness strengths and weaknesses in terms of labor productivity also include the quality and availability of human resources, systems of payments, work ethic of labor force, vocational and industry related training facility, workplace improvements, and other factors of productivity are considered in the study.

The study found that the level of productivity in AAYSC is poor. The company is unable to use its human resources effectively due to unexpected working condition, lack of safety equipment; unsuitable café and other unspecific factors; in addition low level of training facility due to budget constraint; absentees due to illness, family responsibilities; large family size and other factors affect labor productivity. Consequently the company is not in a position to compete in the international market and it is true in almost all Ethiopia textile companies.

6.2 Recommendations

Coming to the result of the study, there are thing which can be handled easily with less cost and time but one can observe that the management of the company has no suggestion to creating ideas and solving simple problems to increase labor productivity. Hence the following strategies may help to alleviate the existing problem by improving employee's awareness about the existing condition of the company.

The following recommended strategies can be executed by the existing management:-

- Adjust training facilities for employees, for example giving on job training for employees is used to improve employee's awareness and upgrading their knowledge and make investment for training and human resource development to increase productivity of the company.

- Rather constant rating payment system, the company develop a strategy to apply incentive system; it is a payment system that employees salary based on the amount of output produced. As a result both employee and the company are beneficiaries and also the company becomes productive and competent in the world market.
- With less cost and time frame, the management can make a difference on working conditions; like adjusting toilet, café, recreation area and employees working seat to increase labor productivity as the same time improve company's competitiveness.
- The company can also take sufficient time and budget to improve insurance and safety equipment for employees to acquire better output.
- In addition, from the result about 90% of employees are aged and they have 16 years and above work experience in the company. Therefore the company tries to change aged employees by younger employees or upgrade employees' knowledge to increase productivity of the company.

Finally, I need to say management should be strategic to solve problems, in addition to low labor productivity, from the remark of employee's and management's group response, the company also faces shortages of raw material, shortages of skilled labor /professionals/, outdated machinery and equipment, support and co-operation with competitors or government for shortages of maintenance, and managerial skills upgrading also consider in the improvement of business activities.

The ability of firms to enter foreign markets, growth in exports and profits are also taking in to consideration. Therefore a country is competent in the world market, which is, company's output in the country should be competent in terms of price, quality and timeliness, to do so the management should apply at least part of the recommended strategies to bring the company in the market of competing productively with rivals.

Lastly, the study concentrates on specific sector textile industries in the country, is one of the limitation of the study, which can be covered in further study work. And the other limitation is the industry sectors can be further extended to other industries with other productivity factors like capital, availability of raw material etc.

BIBILIOGRAPHY

Addis Ababa Chamber of Commerce and Sectorial Associations, 2006/07 Edition: "*Addis Ababa Business Directory*", Publication.

Adei Abeba Yarn Share Company, 1993 - 1997EC: "*Adei Abeba Yarn Share Company Annual Report", Annual report.*

Adei Abeba Yarn Share Company, *1999EC: "Adei Abeba Yarn Share Company; Company Profile".*

Amin Abdella, 2001: "*Export Instability and Economic Growth in Ethiopia*", Unpublished M.Sc. Thesis, Addis Ababa University, Ethiopia.

Becker, G.S. 1964. "*Human Capital: A Theoretical Analysis with Special Reference to Education".* New York. Columbia University Press Journal.

C. Knick Harley, Sep. 1992: "*International competitiveness of the Antebellem American Cotton Textile Industry*", The Journal of Economic History, Vol.52, No.3.

Central Statistic Authority (CSA), 2001: "*CSA Statistical Report",* Publication.

Central Statistic Authority (CSA), 2004: "*The Textile Sector in Ethiopia",* Abstract Publications.

China Textile Planning Institute of Construction, 2004: "*Study Report on the Development Strategy of Ethiopian Cotton/Textile/Garment Sub Sectors*", Study Report.

David Ricardo sited by Bo Sodersten and Geoffrey Reed, 1994: "*International Economics*", Third Edition.

G. Badri Narayanan, "*The Determinants of Employment in the Indian Textile Industry*", India Gandhi Institute of Development Research Mumbai-400065, India.

Greene, W.H. 2003: "*Econometric Analysis*", fifth edition. New York University, First Indian reprint.

Gujarati, D.N. 1988, "*Basic Econometrics*", B and Jo Enterprise Private Limited, Singapore.

Jesse W. Markham, Jun. 1950: "*An Alternative Approach to the Concept of Workable Competition*", The American Economic Review, Vol.40, No.3.

R.Cellini and R.Soci are sited by Lawrence Edwards and Stephen S. Golub, 2004: "*South Africa's International Cost Competitiveness and Exports in Manufacturing*", Working Paper.

Leonard Lardaro, August 2001; *"Taking The Mystery of Labor Productivity"*, The Providence Journal, Money & Business Section.

Ministry of Trade and Industry in Ethiopia, 1996EC, *"Development of Textile Sector in Ethiopia"*, Study Report.

Occupational Safety and Health information (OSH) Development Section National Institute, 1999, *"The Improvement of Working Conditions and Environment (NICE) in industries"*, International Labor Organization Report.

Official Statistics of US Department of Commerce, 2004, Periodic Report, Publication; source: Electronic Data.

Saman Kelegama and Roshen Epaarachchi, 2000: *"Productivity, Competitiveness and Job Quality in Garment Industry in Sri Lanka"*, Institute of Policy Studies of Sri Lanka with International Labor Organization and South Asia Multidisciplinary Advisory Team (SAAT), New Delhi.

Sara U. Douglas, Apr, 1989: *"The Textile Industry in Malaysia: Coping with Protectionism"*, Asian Survey, Vol.29, No.4.

The World Bank Finding Report of Mauritius International Competitiveness, 2000: *Simon Gray of the Industry and Energy Division, Central African and Indian Ocean Department, Africa Region, draws from (i) ESW, Mauritius: Technology Strategy for Competitiveness. Report No. 12518-Mau, 1994. Task Manager: Arnaud Dornel;*

and (ii) Project Preparation, Mauritius: Technical Assistance To Enhance Competitiveness Project. Report No. 12693 - MAS, 1994.

United Nations Industrial Development Organization report (UNIDO), 1998: "*International Yearbook of Industrial Statistics*", Publication.

United Nations Industrial Development Organization report (UNIDO), 2001: "*Sustainable development and Competitiveness*", study report prepared with the help of Ministry of Trade and Finance of Federal Democratic Republic of Ethiopia.

APPENDICES

Appendix 1: Questionnaire

General Introduction

Hello, I am a student from the Addis Ababa University. I am currently interviewing workers/operators/ of Adei Abeba Yarn Share Company researching their satisfaction with their jobs and other socio-economic and demographic attributes for the study of testing productivity and competitiveness of Ethiopian Textile Company. Though the answers are confidential and for my academic purposes only the results of this study can be used to recommend policy measures or strategies follow for the policy makers in the textile sector. Your co-operation in answering the following questions will be greatly appreciated.

The first question is useful for identifying the group of working place or the worker is in which stratum. For this study stratum V is not important because it contains indirect labor for production section so it does not affect directly the output of the company.

General Introduction

a) Name/Id of the worker _____

b) Code No. of the worker_____

[Code 01 = Stata I; Code 02 = Stata II; Code 03 = Stata III;

Code 04 = Stata IV; Code 05 = Stata V /Others /]

If the worker is code 05, then reject the question / Please, don't continue /

1. Type of work /at least for the past three years/

   1/ Garment operator (strata I)

   2/ Spinning operator (strata II)

   3/ Knitting operator (strata III)

   4/ Dying operator (strata IV)

2. Suitability of Working Area / Working Condition/

   a. Availability of suitable seat /Office, chairs and tables /

      1/ Very poor

      2/ poor

      3/ good

      4/ very good

   b. Availability of transportation

      1/ Very poor

      2/ poor

      3/ good

      4/ very good

   c. Availability of Insurance for medical, transportation and others

      1/ Very poor

      2/ poor

      3/ good

      4/ very good

   d. Availability of safety equipment in the company

      1/ No safety equipment

      2/ poor

      3/ good

      4/ very good

e. Availability of café /Meal provided/

1/ Very poor
2/ poor
3/ good
4/ very good

f. Availability of suitable toilet

1/ Very poor
2/ poor
3/ good
4/ very good

g. Availability of recreation area/ Gymnasium/

1/ Very poor
2/ poor
3/ good
4/ very good

3. Year of Employment in the company/ Year of work experience

1/ less than 5 years
2/ between 6-10 years
3/ between 11-15 years
4/ 16 years and above

4. Educational status

1/ Illiterate
2/ Literate

5. Marital status

1/ Married
2/ Single
3/ Widowed
4/ Divorced

6. How many Family members do you have?

1/ 1-3 Family members 2/ >3 Family members

7. Are you living in your own house? Yes / No

If No, where do you live?

1/ with family 3/ with other relatives

2/ Rental house 4/ other, please specify

8. How much salary you have been paid? /Existing wage pay/

1/ less than 300birr/month 3/ 501-700birr/month

2/ 301-500 birr/month 4/ >700 birr/month

9. Training facility /Have you ever taken training? /

a) Yes b) No.

If Yes, what type of training?

1/ on job training 3/ Outside the company

2/ in the company training center 4/ more than one of the above

10. Employee- Employer relationship (effects of the relationship)

1/ Very poor 3/ No Suggestion/ Neutral

2/ poor 4/ good

5/ very good

If it is poor or very poor, then are the following may the result of situation?

1/ Pressure from the Employee 3/lack of trained Professionals

2/ Unreliable Plan 4/other reason, Specify _____

11. Has the company recognized Labor Unions Yes/No_____

If Yes, how you satisfied by the union stands for employees?

1/ Very poor 3/ good

2/ poor 4/ very good

12. Employees absenteeism per month, Are you absent on your work frequently?

Yes or No

If Yes, what are the major reasons?

1/ illness 3/ low work ethics/Being unmotivated

2/ Laziness 4/ family responsibilities

13. Have you ever used or benefited from incentive system (performance based or output based payment) before?

Yes or No

If No, what will be your output? If a new incentive system is applied to the company,

1/ below current output 3/ no suggestion

2/ similar with current output 4/ above current output

14. Productivity measures /Standards of production/

T-shirt equivalent in pcs / Yarn in kg / fabric in kg/

Number of pcs /kg per labor per shift _____

15. Output per working hour for each stratum /Productivity measures /please fill one of the following for one employee/

a. Stratum I /Garment sector/

T-shirt Equivalent/ shift _____

b. Stratum II /Spinning sector/

Kilogram per shift _____

c. Stratum III /Knitting sector/

Kilogram per shift _____

d. Stratum IV /Dying sector/

Kilogram per shift _____

16. Remarks (Suggestion towards production of the company. What are the main problems that you face seriously in the company and about comments from customers/consumers about company's product?)

_____

Appendix 2: List of Variables in the study

$LP\ i = LP\ (WC_i, IS_i, EER_i, TR_i, EDUC_i, ABS_i, LR_i, MS_i, FS_i, HU_i, WE_i)$

where:

LP = Labor Productivity is the dependent variable and all values are zeros where employees productivity below the standard or ones where employees productivity above or equal to the standard,

WC_i = working condition existing in the company for an employee,

IS_i = application of incentive system is helpful to increase output,

EER_i = existing employee-employer relationship in the company is good or not good,

TR_i = Availability of training facility for each employee,

LR_i = existence of restrictions labor regulation in the company in terms of labor union stands for employees,

$EDUC_i$ = educational status of an employee,

ABS_i = employee absenteeism in work place repeatedly,

MS_i = Marital status of an employee,

FS_i = family size of an employee,

HU_i = Housing, employees living status, own house or not,

WE_i = Years of work experience of an employee,

$i = 1,\ldots,n$ (n = total number of sample observations)

Appendix 3: Summary of all variables in the study

Variable	Observation	Mean	Standard Deviation	Min	Max
lp |	176	.3977273	.4908249	0	1
wc |	176	.2215909	.4165021	0	1
is |	176	.6306818	.4839972	0	1
eer |	176	.875	.3316625	0	1
tr |	176	.3295455	.4713892	0	1
lr |	176	.5170455	.5011351	0	1
abs |	176	.2897727	.4549511	0	1
educ |	176	.9204545	.2713602	0	1
ms|	176	.8636364	.3441534	0	1
fs |	176	.2215909	.4165021	0	1
hu |	176	.1761364	.382023	0	1
we |	176	.1079545	.3112084	0	1

Appendix 4: Correlation Matrix of Independent Variables

	wc	is	eer	tr	lr	abs	educ
wc	1.0000						
is	0.0681	1.0000					
eer	0.2017	-0.1112	1.0000				
tr	0.1498	0.1608	0.1188	1.0000			
lr	0.1598	-0.1270	0.1504	-0.0723	1.0000		
abs	0.1115	0.0217	-0.0237	-0.0215	-0.0343	1.0000	
educ	0.0557	0.0361	-0.0476	0.0274	0.1361	0.1415	1.0000
ms	0.0525	0.1419	0.1001	0.0672	0.0136	0.1808	-0.1168
fs	0.0777	-0.0736	-0.0465	0.0334	0.0776	-0.0392	0.1063
hu	-0.0671	-0.1716	0.1297	0.0883	0.0290	0.0006	-0.0294
we	-0.0974	0.1145	-0.0900	0.0677	0.0431	-0.1415	0.1023

	ms	fs	hu	we
ms	1.0000			
fs	-0.2265	1.0000		
hu	0.0968	0.0406	1.0000	
we	-0.2352	0.2112	-0.1128	1.0000

Appendix 5: Annual Report of Adei Abeba Yarn Sh.Co.

1993EC Annual Report on Production Plan Vs Actual Achieved.

የ1993 በጀት ዓመት የምርት ዕቅድና ክንውን

የምርት ዓይነት	መለኪያ	ምርት በመጠን		ምርት በዋጋ		
		ዕቅድ	ክንውን	ዕቅድ	ክንውን	%
1. ድርና ማግ						
ቁጥር 10	በኪ.ግ	292,000	322,427	3,238,000	3,575,406	110
ቁጥር 18.5	በኪ.ግ	216,000	259,538	2,877,000	3,456,902	120
ቁጥር 21	በኪ.ግ	345,000	174,674	4,754,000	2,406,957	51
ቁጥር 6.5	በኪ.ግ	-	1,113	-	1,113	-
ድምር		**853,000**	**757,752**	**10,869,000**	**9,440,378**	**87**
2. ጋርመንት						
2.1 ለሃገር ወስጥ ገበያ						
የወንዶች ኮት ሸማዝና ሱሪ የደንብ ልብስ	በቁጥር	10,000	809	823,000	83,731	10
ቱታ	በቁጥር	10,000	3,291	390,000	126,210	32
ፒጃማ	በቁጥር	12,000	-	466,000		
የሥራ ካፖርት	በቁጥር	-	305	-	9,556	
ከአባለአበባ ጨርቅ የተሰራ ፍራ ሽ	በቁጥር	-	707	-	4,730	
ከአቡጀዲ ጨርቅ የተሰራ ትራስ	በቁጥር	-	1,762	-	12,686	
ከአቡጀዲ ጨርቅ የተሰራ ፍራ ሽ	በቁጥር	-	572	-	32,604	
ሽ ርጥ	በቁጥር	-	110	-	7436	
የሴቶች ኮት ሸሚዝና ቀሚስ	በቁጥር	2583	39	-	2053	
ልዩ ልዩ	በቁጥር	-	255		1789	
ድምር				**1,679,000**	**280,795**	**17**
2.2 ለወጭ ሀገር ገበያ						
ኤክስፖርት ሱሪ	በቁጥር	280,000	-	4,492,000	608,500	**14**
ኤክስፖርት ቁምጣ	በቁጥር	82,650	-	1,653,000	300,000	**18**
3. የስፌት አገልግሎት						
ልዩ ልዩ የስፌት አገልግሎት	በቁጥር	-	-	1,707,000	1,481,074	87
ድምር						
ጠቅላላ የልብስ ስፌት ሽያጭ ድምር				**9,531,000**	**2,670,369**	**28**
ጠቅላላ ድምር				**20,400,000**	**12,110,747**	**59.3**

Source: from AAYSC Annul Report, 1993

1993EC Annual Report on Sales Plan Vs Actual Achieved.
የ1993 በጀት ዓመት የሽያጭ ዕቅድና ክንውን

የምርት ዓይነት	መለኪያ	በመጠን		በዋጋ		
		ዕቅድ	ክንውን	ዕቅድ	ክንውን	%
1. ድርና ማግ						
ቁጥር 6.5	ኪ.ግ	-	1,117	-	18,131	-
ቁጥር 10	ኪ.ግ	292,000	292,590	4,224,000	4,238,940	101
ቁጥር 18.5	ኪ.ግ	216,000	313,740	3,508,000	4,569,823	130
ቁጥር 21	ኪ.ግ	345,000	157,140	5,893,000	2,372,814	40
ቁጥር 14	ኪ.ግ	1,200	49	-	927	
ድሮዊንግ ስላይቨር	ኪ.ግ	-	1,205	-	17,607	
ድምር		**854,200**	**765,841**	**13,625,000**	**11,218,240**	**82**
2. ልብስ ስፌት						
2.1 ለሃገር ወስጥ ገበያ						
ቱታ	በቁጥር	10,000	4,048	443,000	181,965	41
የወንዶችና የሴቶች የደንብ ልብስ	በቁጥር	10,000	5,753	925,000	191,606	21
ፒጃማ	በቁጥር	12,000	-	547,000	-	-
ልዩ ልዩ ምርቶች		-	11,154	-	224,407	-
ድምር		**32,000**	**20,955**	**1,915,000**	**597,977**	**31**
2.2 ለወጭ ሀገር ገበያ						
ኤክስፖርት ሱሪ	በቁጥር	205,000	33,320	3,788,000	608,500	16
ኤክስፖርት ቁምጣ	በቁጥር	75,000		811,000		-
ድ ም ር		**280,000**	**33,320**	**4,599,000**	**608,500**	**13**
3. የስፌት አገልግሎት						
የመከላከያ ሽሚዝና ሱሪ	በቁጥር	57,000	33,646	1,390,000	794,725	57
ኪዊልት ከቨርና ፒሎ ኬዝ	በቁጥር	-	6,453	-	23,300	-
ፒሎ ኬዝ	በቁጥር	-	376	-	436	-
ልዩ ልዩ የስፌት አገልግሎት	በቁጥር	36,000	32,491	230,000	140,917	61
ድምር		**93,000**	**72,966**	**1,620,000**	**959,378**	**59**
ጠቅላላ የልብስ ስፌት ሽያጭ ድምር		**405,000**	**127,241**	**8,134,000**	**2,165,855**	**27**
4. ልዩ ልዩ ሽያጮች						
ተረፈ ምርቶች	ኪ.ግ	-	-		268,371	-
ኬሚካልና ዳይስታፍ	ኪ.ግ	-	-		144,554	-
ልዩ ልዩ ሽያጭ		-	-		882,409	-
ድምር		-	-		**1,295,334**	-
ጠቅላላ ድምር				**21,759,000**	**14,679,429**	**67**

Source: from AAYSC Annul Report, 1993

1994EC Annual Report on Production Plan Vs Actual Achieved.

የ1994 በጀት ዓመት የምርት ዕቅድ ክንውን						
የምርት ዓይነት	መለኪያ	ምርት በመጠን		ምርት ዋጋ		
		ዕቅድ	ክንውን	ዕቅድ	ክንውን	%
1 ድርና ማግ	ኪ.ግ					
ቁጥር 10	ኪ.ግ	432,000	280,208	4,617,000	2,994,867	65
ቁጥር 18.5	ኪ.ግ	262,000	218,419	4,034,000	3,361,470	83
ቁጥር 21	ኪ.ግ	263,000	74,842	4,239,000	1,205,697	28
ድምር/1/		**957,000**	**573,469**	**12,890,000**	**7,562,034**	**59**
2 ልብስ ስፌት						
2.1 ለአገር ውስጥ ገበያ						
ፒጃማ	በቁጥር	9,000	-	373,000	-	-
ቱታ	በቁጥር	16,000	18,131	658,000	623,706	95
የደንብ ልብስ	በቁጥር	2,000	9,231	145,000	214,400	148
ልዩ ልዩ	በቁጥር	-	46,821	-	521,634	-
ድምር/2.4.2/		**27,000**	**74,183**	**1,176,000**	**1,359,740**	**115**
2.2 አገልግሎት/ስፌት						
ሸሚዝና ሱሪ /አረንጓዴ/	በቁጥር	13,000	17,392	179,000	268,706	150
ሸሚዝና ሱሪ /ሬንጀር/	በቁጥር	30,000	7,069	587,000	138,199	24
ቱታ	በቁጥር	24,000	6,044	108,000	33,423	31
ልዩ ልዩ	በቁጥር	-	15,814	-	11,346	-
ድምር/4.2.2/		**67,000**	**46,319**	**874,000**	**451,674**	**52**
2.3 /ለወጭ ሀገር /Export/						
ሱሪ	በቁጥር	153,000	10,031	4,013,000	229,509	6
ቁምጣ	በቁጥር	75,000	6,768	1,705,000	117,966	7
ድምር /2.4.2.3/		228,000	16,799	5,778,000	347,476	6
ድምር/2.1,2.2,2.3/		**322,000**	**137,301**	**7,828,000**	**2,158,890**	**28**
ጠቅላላ ድምር /1,2/		-	-	**20,718,000**	**9,720,924**	**47**

Source: from AAYSC Annul Report, 1994

1994 E.C. Annual Report on Sales Plan Vs Actual Achieved.

የ1994 በጀት ዓመት ዝርዝር የሽያጭ ዕቅድ አፈጻጸም						
የምርት ዓይነት	መለኪያ	ምርት በመጠን		ምርት ዋጋ		
		ዕቅድ	ክንውን	ዕቅድ	ክንውን	%
1 ድርና ማግ	ኪ.ግ					
ቁጥር 6.5	ኪ.ግ	-	200	-	3,300	-
ቁጥር 10	ኪ.ግ	432,000	288,450	6,480,000	4,246,281	60
ቁጥር 18.5		262,000	195,446	4,422,000	2,901,510	66
ቁጥር 21	ኪ.ግ	263,000	123,768	4,614,000	2,152,188	47
ድምር		**957,000**	**587,864**	**15,516,000**	**9,303,279**	**60**
2 ልብስ ስፌት						
2.1 ለአገር ውስጥ ገበያ						
ፒጃማ	በቁጥር	9,000	-	429,000	-	-
ቱታ	በቁጥር	16,000	21,967	763,000	894,141	117
የደንብ ልብስ	በቁጥር	2,000	8,182	168,000	222,004	132
ልዩ ልዩ	በቁጥር	-	25,820	-	450,611	-
ድምር		**27,000**	**55,978**	**1,360,000**	**1,566,755**	**115**
2.2 አገልግሎት/ስፌት						
ሸሚዝና ሱሪ /አረንጓዴ/	በቁጥር	13,000	16,000	291,000	5,146,000	177
ሸሚዝና ሱሪ /ሬንጀር/	በቁጥር	30,000	7,000	750,000	231,000	31
ቱታ	በቁጥር	24,000	4,082	157,000	22,435	14
ልዩ ልዩ	በቁጥር	-	15,887	-	19,714	-
ድምር		**67,000**	**43,569**	**1,198,000**	**787,749**	**66**
2.3 ለወጭ ሀገር /Export/						
ሱሪ	በቁጥር	153,000	-	4,389,000	-	-
ቁምጣ	በቁጥር	75,000	-	1,906,000	-	-
ድምር		**228,000**	-	**6,295,000**		
3. ልዩ ልዩ ሽያጮች						
	በኪ.ግ	-	71,824	-	592,026	-
	በቁጥር	-	26,217	-	44,233	-
	በሳጥን	-	4	-	701	-
የሱቅ ሽያጭ		-	-	-	842,006	-
የባዛር ሽያጭ		-	-	1,000,000	364,752	-
ድምር				1,000,000	1,843,718	184
ድምር /ልብስ ስፌት/		**322,000**	**197,592**	**9,853,000**	**4,198,222**	**43**
ጠቅላላ ድምር /1,2 3/				**25,369,000**	**13,501,501**	**53**

Source: from AAYSC Annul Report, 1994

1995EC Annual Report on Production Plan Vs Actual Achieved.

የ1995 በጀት ዓመት የምርት ዕቅድ ክንውን በመጠንና በዋጋ						
ዝርዝር	መለኪያ	በመጠን		በዋጋ		
		ዕቅድ	ክንውን	ዕቅድ	ክንውን	በ%
1. ድርና ማግ						
ቁጥር 1 ፋብሪካ						
ቁጥር 8.5	ኪ.ግ	-	116,000	-	322,274	-
.. 18.5	..	252,381	67,222	3,884,143	1,279,912	31
.. 20	..	252,381	103,401	4,068,381	1,520,116	43
ድ ም ር		**504,762**	**286,694**	**7,952,524**	**3,123,715**	**39.2**
ቁጥር 2 ፋብሪካ						
ቁጥር 10	ኪ.ግ	411,429	92,850	4,394,057	1,152,616	26.2
.. 18.5	..	252,381	67,222	3,584,143	1,279,912	35.7
.. 21	..	252,381	103,401	4,068,381	1,420,116	34.9
ድ ም ር		**916,190**	**263,544**	**12,046,581**	**3,854,057**	**32.0**
ድርና ማግ ጠ/ ድ ም ር		**1,420,952**	**466,403**	**19,999,105**	**6,977,772**	**34.9**
2. ልብስ ስፌት						
ቁጥር 1 ፋብሪካ						
ለሀገር ውስጥ						
ፖሎ	ቁጥር	7,804	3,078	317,675	83,504	25
ቲሸርት	ቁጥር	13,268	26,635	535,850	917,793	163
ልዩ ልዩ		-	-	-	913,517	-
ድ ም ር		-	-	**965,534**	**2,153,218**	**212**
ለውጭ ሀገር						
ፖሎ	ቁጥር	237,361	-	4,025,100	-	-
ቲሸርት	ቁጥር	116,470	-	1,252,947	-	-
ድ ም ር		-	-	**5,278,047**	-	-
ቁጥር 2 ፋብሪካ						
አረንጓዴ ሸሚዝና ሱሪ	ቁጥር	12,481	-	258,451	-	-
ፌንጀር ሸሚዝና ሱሪና ኮፊያ	ቁጥር	23,402	-	580,549	-	-
ቱታ	ቁጥር	18,721	236	126,510	1,850	1.5
የደንበልብስ	ቁጥር	1,560	9,854	30,042	20,295	67.6
ልዩ ልዩ		-	-	-	6,292	-

ድ ም ር		-	-	995,552	28,438	2.9
ለውጭ ሀገር						
ሱሪ	ቁጥር	237,361	-	3,025,100	-	-
ቁምጣ	ቁጥር	116,470	-	1,252,947	-	-
ድ ም ር		353,830	-	4,278,047	-	-
ልብስ ስፌት ጠ/ ድ ም ር		-	-	11,517,180	2,181,656	17
ጠቅላላ ድ ም ር		-	-	31,516,285	9,159,428	29.1

Source: from AAYSC Annul Report, 1995

1995 E.C. Annual Report on Sales Plan Vs Actual Achieved.

የ1995 በጀት ዓመት የሽያጭ ዕቅድ ክንውን በመጠንና በዋጋ						
		በመጠን		በዋጋ		ዋጋ
		ዕቅድ	ክንውን	ዕቅድ	ክንውን	በ%
የዕቃው ዓይነት	መለኪያ					
ቁጥር 1 ፋብሪካ						
1. ድርና ማግ						
ባለ 8.5	ኪ.ግ	93,823	52,235	1,191,550	1,310,253	-
ባለ 20 ካሉንት ካርድድ	ኪ.ግ	30,680	-	463,268	-	-
ባለ 20 ካውንት ኮምብድ		89,143	-	1,436,091	-	-
ድምር				3,090,910	1,310,253	42.4
ቁጥር 2 ፋብሪካ						
ባለ 10	ኪ.ግ	411,429	98,143	6,171,429	1,715,695	26
ባለ 18.5	ኪ.ግ	252,381	99,051	4,260,190	1,536,000	34
ባለ 21	ኪ.ግ	252,381	92,263	4,426,762	1,847,961	40
ድምር				14,858,381	5,398,140	35
ድርና ማግ ጠቅላላ ድምር				17,949,290	6,409,909	35.7
2. የተሰፉ ልብሶች						
2.1 የሀገር ውስጥ						
ፖሎ	በቁጥር	23,771	16,735	581,211	461,010	76
ቲ-ሸርት	በቁጥር	118,857	91,430	1,329,676	1,034,312	74
ድምር		-	-	1,910,888	1,495,322	78.3
2.2 ለውጭ ሀገር		-	-	-	-	-

ፖሱ	በቁጥር	95,086	-	2,020,571	-	-
ቲ-ሸርት	በቁጥር	475,429	-	5,082,514	-	-
ድምር		-	-	**7,103,086**	-	-
ቁ 1 ጠቅላላ ድምር		-	-	**9,013,973**	**1,495,322**	**16.6**
3. የተሰፉ ልብሶች						
3.1 የሃገር ውስጥ ሽያጭ						
የአዋቂ ፒጃማ	በቁጥር	7,804	1,269	352,732	50,002	14
ቱታ	በቁጥር	13,268	26,448	619,447	918,795	141
የደንብ ልብስ	በቁጥር	1,561	-	137,364	107,151	74
ልዩ ልዩ					1,567,498	-
ድምር				**1,109,543**	**2,705,003**	**243**
3.2 የውጭ ሃገር ሽያጭ						
ሱሪ	በቁጥር	237,361	-	4,619,048	-	-
ቁምጣ	በቁጥር	116,470	-	1,776,190	-	-
ድምር		-	-	**6,295,238**	-	-
ቁ 2 ጠቅላላ ድምር				**7,504,781**	**2,705,003**	**36**
ጠቅላላ ድምር		-	-	**34,468,044**	**10,610,234**	**30.8**

Source: from AAYSC Annul Report, 1995

1996EC Annual Report on Production Plan Vs Actual Achieved.

የ1996 በጀት ዓመት የምርት ዕቅድ ክንውን በመጠንና በዋጋ						
ዝርዝር	መለኪያ	በመጠን		በዋጋ		
		ዕቅድ	ክንውን	ዕቅድ	ክንውን	በ%
1. ድርና ማግ						
ቁጥር 1 ፋብሪካ						
ቁጥር 8.5	ኪ.ግ	-	16,886	-	171,438	-
.. 18.5	..	265,000	70,583	4,078,350	1,343,908	33
.. 20	..	265,000	108,571	4,271,800	1,911,122	45
.. 28	..	-	76	-	1,483	-
ድ ም ር		530,000	196,115	8,350,150	3,427,951	41
ቁጥር 2 ፋብሪካ						
ቁጥር 8.5	ኪ.ግ	-	16,886	-	171,438	-
.. 10	..	432,000	97,493	4,613,760	1,420,247	31
.. 18.5	..	265,000	70,583	4,078,350	1,343,908	33
.. 21	..	265,000	108,571	4,271,800	1,911,122	45
.. 40	..	-	76	-	1,483	-
ድ ም ር		962,000	293,607.80	12,963,910	4,848,198	37
ጠቅላላ ድ ም ር /ድርና ማግ/		1,492,000	489,723	21,314,060	8,276,149	39
2. ልብስ ስፌት						
ቁጥር 1 ፋብሪካ						
ለሀገር ውስጥ						
ፖሎ	ቁጥር	8,194.0	3,232.0	333,559	87,679	26
ቲሸርት	ቁጥር	13,931.0	27,967.0	562,642	963,683	171
ልዩ ልዩ		-	-	-	959,193	-
ድ ም ር				1,013,811	2,260,879	223
ለውጭ ሀገር						
ፖሎ	ቁጥር	249,229.0	-	4,226,355	-	-
ቲሸርት	ቁጥር	122,293.0	-	1,315,594	-	-
ድ ም ር			-	5,541,949	-	-
ቁጥር 2 ፋብሪካ						
አረንጓዴ ሸሚዝና ሱሪ	ቁጥር	13,105	-	271,374	-	-
ፌንጀር ሸሚዝና ሱሪ ኮፊያ	ቁጥር	24,572	-	609,576	-	-
ቱታ	ቁጥር	19,657	248	132,836	1,943	-
የደንብልብስ	ቁጥር	1,638	10,347	31,544	21,310	-
ልዩ ልዩ		-	-	-	6,607	-

ድ ም ር				1,045,330	29,860	2.9
ለውጭ ሀገር						
ሱሪ	ቁጥር	249,229	-	4,226,355	-	-
ቁምጣ	ቁጥር	122,293	-	1,315,594	-	-
ድ ም ር		371,522	-	5,541,949	-	-
ጠቅላላ ድ ም ር /ልብስ ስፌት/				13,143,039	2,290,739	17.4
ጠቅላላ ድ ም ር				34,457,099	10,566,888	30.7

Source: from AAYSC Annul Report, 1996

1996 E.C. Annual Report on Sales Plan Vs Actual Achieved.

የ1996 በጀት ዓመት የሽያጭ ዕቅድ ክንውን በመጠንና በዋጋ						
		በመጠን		በዋጋ		ዋጋ
		ዕቅድ	ክንውን	ዕቅድ	ክንውን	በ%
የዕቃው ዓይነት	መለኪያ					
ቁጥር 1 ፋብሪካ						
ድርና ማግ						
ባለ 8.5	ኪ.ግ	98,514	-	1,251,128	-	-
ባለ 20 ካሉንት	ኪ.ግ	32,214	-	486,431	-	-
ባለ 20 ካውንት ኮምብድ		93,600	-	1,507,896	-	-
ድምር			-	3,245,455	-	-
ቁጥር 2 ፋብሪካ						
1. ድርና ማግ						
ባለ 8.5	ኪ.ግ	-	16,848	-	313,408	-
ባለ 10	ኪ.ግ	432,000	103,050	6,480,000	1,801,480	27.8
ባለ 18.5	ኪ.ግ	265,000	104,004	4,473,200	1,612,800	36.1
ባለ 21	ኪ.ግ	265,000	96,876	4,648,100	1,940,359	41.7
ድምር		962,000	320,778	15,601,300	5,668,047	36.3
2. ልዩ ልዩ ተረፈ ምርት		-	-	-	28,674	-
3.ከስታንዳርድ ውጭ የሆነ ድርና ማግ	ኪ.ግ		37,324	-	223,941	-
ድርና ማግ ጠቅላላ ድምር				18,846,755	5,920,662	31.4
2. የተሰፉ ልብሶች						
2.1 የሀገር ውስጥ						
ፖሎ	በቁጥር	24,960	17,572	610,272	484,060	79.3
ቲ-ሸርት	በቁጥር	124,800	96,002	1,396,160	1,086,028	77.8
ሌሎች	-	-	-	-	222,329	-
የባዛር		-	-	-	10,185	-
የስፌት አገልግሎት			30,926		142,260	-

ድምር				**2,006,432**	**1,944,862**	**96.9**
2.2 ለውጭ ሀገር						
ፖሎ	በቁጥር	99,840	-	2,121,600	-	-
ቲ-ሸርት	በቁጥር	499,200	-	5,336,640	-	-
ድምር			-	**7,458,240**	-	-
የተሰፉ ልብሶች ቁ.1 ድምር				**9,464,672**	**1,944,862**	**20.5**
3. የተሰፉ ልብሶች						-
3.1 የሃገር ውስጥ ሽያጭ						-
የአዋቂ ፒጃማ	በቁጥር	8,194	1,332	370,369	52,502	14.2
ቱታ	በቁጥር	13,931	27,770	650,419	964,735	148.3
የደንብ ልብስ	በቁጥር	1,639	-	144,232	112,509	78.0
ልዩ ልዩ		-	-	-	1,740,373	-
የባዛር ሽያጭ		-	-	-	64,634	-
ድምር			-	**1,165,020**	**2,934,753**	**251.9**
3.2 የሃገር ውስጥ በአገልግሎት						
ሸሚዝ ሱሪና ቦፍያ/አገንጓዴ	በቁጥር	13,105	-	406,255	-	-
ሸሚዝና ሱሪ ኮፍያ/ሬንጀር	በቁጥር	2,472	-	810,843	-	-
ቱታ	በቁጥር	19,657	421	195,670	3,015	
የደንብልብስ	በቁጥር	1,638	-	39,312	3,316	
ልዩ ልዩ	በቁጥር		-		33,187	
ድምር			-	**1,452,980**	**39,518**	
3.3 የውጭ ሃገር ሽያጭ					-	-
ሱሪ	በቁጥር	249,229	-	4,850,000	-	-
ቁምጣ	በቁጥር	122,293	-	1,760,000	-	-
ድምር			-	**6,610,000**	-	-
4.ልዩ ልዩ ተረፈ ምርት					**600,015**	-
የተሰፉ ልብሶች ቁ.2 ድምር			-	**9,228,000**	**3,574,286**	**38.7**
ጠቅላላ ድምር				**37,539,427**	**11,439,810**	**30.4**

Source: from AAYSC Annul Report, 1996

1997EC Annual Report on Production Plan Vs Actual Achieved.

የ1997 በጀት ዓመት የምርት ዕቅድ ክንውን በመጠንና በዋጋ						
		በመጠን		በዋጋ		ክንውን
ዝ ር ዝ ር	መለኪያ	ዕቅድ	ክንውን	ዕቅድ	ክንውን	በ % በዋጋ
ቁጥር አንድ ፋብሪካ						
የተሰፉ ልብሶች						
የሀገር ውስጥ						
ፖሎ	በቁጥር	84,429	42,659	1,168,495	916,842	**78.5**
ቲሸርት	በቁጥር	422,143	98,596	4,293,191	1,223,389	**28.5**
ልዩ ልዩ አልባሳት	በቁጥር	-	-	-	1,474,677	
ልዩ ልዩ ሳምፕል	በቁጥር		423	-	-	
ድ ም ር				**5,461,686**	**3,614,908**	**66.2**
የውጭ ሀገር						
ፖሎ	በቁጥር	337,714	48,429	4,839,438	1,052,846	**21.8**
ቲሸርት	በቁጥር	5,463,221	35,084	18,017,049	387,339	**2.1**
ኤክስፖርት ቁምጣ ከነአላባሹ	በቁጥር	-	41,527	-	1,411,180	
ኤክስፖርት ሱሪ ከነአላባሹ	በቁጥር	-	30,379	-	2,092,382	
ኤክስፖርት በአገልግሎት	በቁጥር	-	-	-	363,585	
ኤክስፖርት ልዩ ልዩ	በቁጥር	-	-	-	10,515	
ድ ም ር				**22,856,487**	**5,317,847**	**23.3**
ጠቅላላ ድምር ቁጥር አንድ የተሰፉ ልብሶች				**28,318,173**	**8,932,755**	**31.5**
ቁጥር ሁለት ፋብሪካ						
የተሰፉ ልብሶች						
የሀገር ውስጥ						
የአዋቂ ፒጃማ	በቁጥር	18,121	1	409,531	36	**0.01**
ፖሎ	በቁጥር	-	9,905	-	151,783	**0.00**
ቱታ	በቁጥር	48,322	10,506	1,500,887	359,381	**23.94**
ቲሸርት	በቁጥር	-	18,497	-	158,203	
ካፖርት	በቁጥር	-	1,112	-	35,105	
የደንብ ልብስ	በቁጥር	15,101	125	987,057	5,760	**0.58**
ሸሚዝ	በቁጥር	-	120	-	1,589	
ቁምጣ	በቁጥር	32,214	1,678	411,061	7,632	**1.86**
ሱሪ	በቁጥር	12,081	459	193,168	21,257.0	**11.00**
ኮትና ሱሪ	በቁጥር	-	1,872	-	45,765.5	
የልጆች ሸሚዝና ሱሪ	በቁጥር	35,235	-	697,299	-	**0.00**
የልጆች ሸሚዝና ቁምጣ	በቁጥር	11,836	-	220,030	-	**0.00**
የልጆች ሰደሪያ ሸሚዝና ሱሪ	በቁጥር	17,215	-	464,799	-	**0.00**
የሴት ልጆች የተለያዩ	በቁጥር	13,088	-		-	**0.00**

አልባሰት				221,698		
ልዩ ልዩ ምርቶች			3,733		835,029	
ድ ም ር				**5,105,530**	**1,621,541**	**31.76**
የሀገር ውስጥ /አገልግሎት/						
ቱታ	በቁጥር	26,174	-	89,779	-	-
የደንብ ልብስ	በቁጥር	15,101	11,347	124,128	116,534	**93.88**
የመከላከያ ግሪን ሽሚዝ ሱሪና ኮፍያ	በቁጥር	14,094	-	181,953	-	-
የመከላከያ ሬንጀር ሽሚዝ ሱሪና ኮፍያ	በቁጥር	26,174	-	482,397	-	-
ልዩ ልዩ ምርቶች	በቁጥር	-	-	-	4,281	
ድ ም ር				**878,257**	**120,815**	**13.76**
የውጭ ሀገር						
ሱሪ	በቁጥር	304,027	-	5,440,020	-	-
ቁምጣ	በቁጥር	227,517	563	3,235,292	2,590	**0.08**
ድ ም ር				**8,675,312**	**2,590**	**0.02**
የውጭ ሀገር /አገልግሎት/						
ጀ/ንስ ሱሪ	በቁጥር	37,752	-	138,926	-	**0.00**
ወንፈ/ች ቁምጣ	በቁጥር	226,510	-	921,897	-	**0.00**
ድ ም ር			-	**1,060,823**	-	**0.00**
ጠቅላላ ድምር ቁጥር ሁለት የተሰፉ ልብሶች				**15,719,922**	**1,744,946**	**11.1**
ጠቅላላ ድምር የተሰፉ ልብሶች				**44,038,095**	**10,677,701**	**24.2**
ቁጥር አንድ ፋብሪካ						
ድርና ማግ						
ባለ 8.5	ኪ.ግ	408,264	262,544	5,025,731	3,583,726	**71.3**
ባለ 18.5	ኪ.ግ	188,614	105,200	2,915,966	1,963,032	**67.3**
ባለ 20 ክርድድ	ኪ.ግ	355,168	21,096	5,490,899	429,307	**7.8**
ባለ 20 ፖሊስተር	ኪ.ግ	-	398	-	8,099	
ባለ 10	ኪ.ግ	-	1,467	-	22,592	
ባለ 14	ኪ.ግ	-	3,303	-	53,508	
ባለ 18	ኪ.ግ	-	190	-	5,418	
ባለ 24	ኪ.ግ		111			
ድ ም ር		**952,046**	**394,198**	**13,432,596**	**6,065,682**	**45.2**
ቁጥር ሁለት ፋብሪካ						
ድርና ማግ						
ባለ 8.5	ኪ.ግ	214,732	-	3,055,632	-	**0**
ባለ 10	ኪ.ግ	365,221	187,499	5,273,794	2,387,477	**45**
ባለ 14.5	ኪ.ግ	211,410	4,717	3,116,177	72,777	**2**
ባለ 18.5	ኪ.ግ	205,369	214,105	3,571,372	2,544,452	**71**

ባለ 21	ኪ.ግ	193,289	142,666	3,440,540	2,481,664	72
ባለ 20 ከምብድ	ኪ.ግ	110,106	-	1,971,774	-	0
ድ ም ር		**1,300,127**	**548,987**	**20,429,289**	**8,986,370**	**44**
ድርና ማግ ድ ም ር				**33,861,885**	**13,552,052**	**40.0**
ጠቅላላ ድምር				**77,899,980**	**24,229,753**	**30.5**

Source: from AAYSC Annul Report, 1997

1997 EC Annual Report on Sales Plan Vs Actual Achieved.

የ1997 በጀት ዓመት የሽያጭ ዕቅድ ክንውን በመጠንና በዋጋ						
		በመጠን		በዋጋ		ክንውን
ዝ ር ዝ ር	መለኪያ	ዕቅድ	ክንውን	ዕቅድ	ክንውን	በ % በዋጋ
ቁጥር አንድ						
ድርና ማግ						
ባለ 8.5	ኪ.ግ	408,264	201,431	5,858,590	3,529,125	**60.2**
ባለ 18.5	ኪ.ግ	188,614	93,891	3,383,728	1,798,474	**53.2**
ሌሎች	ኪ.ግ	-	261,287	-	24,055	-
ድ ም ር		**596,878**	**556,609**	**9,242,318**	**5,351,654**	**57.9**
ድርና ማግ						
ባለ 8.5	ኪ.ግ	214,732	6,480,000	3,083,548	466,560	**15.1**
ባለ 10	ኪ.ግ	365,221	119,764	5,803,365	1,893,456	**32.6**
ባለ 18.5	ኪ.ግ	205,369	189,315	3,684,325	3,319,344	**90.1**
ባለ 21	ኪ.ግ	148,618	121,257	3,842,580	2,238,300	**58.2**
ባለ 14.5	ኪ.ግ	211,410	1,959	3,450,204	37,216	**1.1**
ሌሎች		-	-	-	61,557	
ድ ም ር				**19,864,022**	**8,016,433**	**40.4**
ድርና ማግ ድ ም ር				**29,106,340**	**13,368,087**	**45.9**
የተሰፉ ልብሶች						
የሀገር ውስጥ						
ፖሎ	በቁጥር	84,429	43,667	1,802,558	881,624	**48.9**
ቲሸርት	በቁጥር	422,143	73,069	4,778,656	1,357,583	**28.4**
ዳይድ ፖሎ	በሜትር	-	16,200	-	368,550	-
ማስፈጨ.ያና ማቅለሚያ አገልግሎት	በኪ.ግ	-	15,468	-	17,978	-
የሱቅ ሽያጭ	የተለያየ	-	23,094	-	1,116,287	-

የባዛር ሽያጭ	የተለያየ	-	7,293	-	78,757	-
ጀርሲ ብሊችድ	በኪ.ግ	-	230	-	8,500	-
ሌሎች	በቁጥር	-	22,717	-	423,416	-
ድ ም ር				**6,581,214**	**4,252,695**	**64.6**
የውጭ ሀገር						
ፖሎ	በቁጥር	337,714	27,600	5,221,054	436,671	**8.4**
ቲሸርት	በቁጥር	1,688,571	50,000	19,114,620	780,857	**4.1**
ፍሬንች ቴሪ	በቁጥር	-	17,964	-	769,162	-
ፍሬንች ቴሪ በአገልግሎት	በቁጥር	-	13,470	-	115,303	-
ፖሊስተር ቱታ በአገልግሎት	በቁጥር	-	16,884	-	146,889	-
ቱታ በአገልግሎት	በቁጥር	-	6,732	-	58,230	-
ሹራብ በአገልግሎት	በቁጥር	-	23,796	-	112,817	-
ቁምጣ ከነአላባሹ	በቁጥር	-	68,664	-	1,925,129	-
ድ ም ር				**24,335,674**	**4,345,058**	**17.9**
ልዩ ልዩ ሽያጭ ቁ.1		-	-	-	**2,369,098**	-
ጠቅላላ ድምር የተሰፉ ልብሶች ቁ.1				**30,916,888**	**10,966,851**	**35.5**
ቁጥር ሁለት						
የተሰፉ ልብሶች						
የሀገር ውስጥ						
የአዋቂ ፒጃማ	በቁጥር	18,121	245	468,603	10,300	**2.2**
ቱታ	በቁጥር	36,320	18,847	1,686,443	877,225	**52.0**
ካፖርት	በቁጥር	-	64	-	2,607	-
የደንብ ልብስ	በቁጥር	15,101	128	1,118,357	12,033	**1.1**
የልጆች ሸሚዝና ሱሪ	በቁጥር	35,055	-	797,719	-	-
የልጆች ሸሚዝና ቁምጣ	በቁጥር	11,836	-	256,484	-	-
የልጆች ሰደሪያ ሸሚዝና ሱሪ	በቁጥር	17,215	-	537,789	-	-
የሴት ልጆች የተለያዩ አልባሳት	በቁጥር	13,088	25	256,641	899	**0.4**
ቁምጣ	በቁጥር	32,214	1	463,893	24	-
ሱሪ	በቁጥር	12,081	7	219,383	217	**0.1**
ኮፍያ	በቁጥር	-	636	-	8,268	-
የባዛር ሽያጭ	የተለያየ	-	2,992	-	42,853	-
ልዩ ልዩ አልባሳት	የተለያየ	-	4,569	-	73,660	-

የሱቅ ሽያጭ	የተለያየ	-	15,506	-	635,876	-
ካኒተራ	የተለያየ	-	4,610	-	64,540	-
መለዋወጫዎች		-	2,393	-	296,146	-
ልዩ ልዩ በጨረታ የተሸጡ አልባሳት		-	3,916	-	26,811	-
ልዩ ልዩ ምርቶች		-	-	-	201,780	-
ድ ም ር				**5,805,312**	**2,253,239**	**38.8**
የሀገር ውስጥ /አገልግሎት/						
የመከላከያ ግሪን ሽሚዝ ሱሪና ክፍያ	በቁጥር	14,094	-	228,604	-	-
የመከላከያ ሬንጀር ሽሚዝ ሱሪና ክፍያ	በቁጥር	26,174	-	599,658	-	-
ቱታ	በቁጥር	26,174	50	113,336	519	**0.5**
የደንብ ልብስ	በቁጥር	15,101	10,073	169,128	123,018	**72.7**
ሌሎች	በቁጥር	-	-	-	130,063	-
ድ ም ር				**1,110,726**	**253,600**	**22.8**
የውጭ ሀገር						
ሱሪ	በቁጥር	604,027	-	11,542,964	-	-
ቁምጣ	በቁጥር	627,517	-	8,451,648	-	-
ድምር				**19,994,612**		-
የውጭ ሀገር አገልግሎት						
ጅንስ ሱሪ		37,752	-	174,413	-	-
ወንፈ.ት ቁምጣ		226,510	-	1,121,226	-	-
ድምር				**1,295,639**		-
ልዩ ልዩ ሽያጭ ቁ.2		-	-	-	1,702,690	-
ጠቅላላ ድምር ቁጥር 2				**23,406,289**	**4,209,529**	**18.0**
ጠቅላላ ድምር				**88,229,517**	**28,544,467**	**32.4**

Source: from AAYSC Annul Report, 1997

Declaration

I, the undersigned, declare that this thesis is my original work and has not been presented for a degree in any other university and that all sources of material used for the thesis have been fully acknowledged.

Declared by:

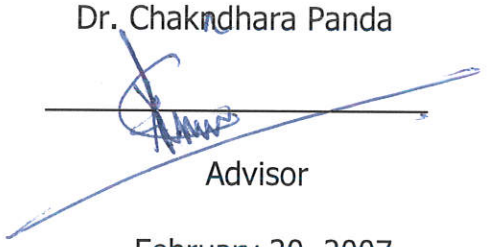
Aleme Worku

Candidate

February 20, 2007

Confirmed by:

Dr. Chakradhara Panda



Advisor

February 20, 2007