ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

THE IMPACT OF FARM PRODICTIVITY ON FACTORY CAPACITY UTILIZATION OF EAST AFRICAN AGRI BUSINESS PLC

BY

BEHAILU TADESSE

ID NO. SGS/0114/2006

MAY, 2015

ADDIS ABABA, ETHIOPIA

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THESIS SUBMITTED TO ST. MARY UNIVERSITY, SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION

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ACKNOWLEDGMENTS

First and for most, I would like to thank my Almighty God for His support throughout my life.

Next, I would like to thank Dr. Tesfaye Wolde, my advisor, who worked tirelessly in assisting me to have this work accomplished at the end.

Grateful thanks are extended to Ato Desalegn Woemago General Manager of Chewaka Tea Estate and East African Agri Business Plc, who have given me genuine cooperation while the study was conduct.

Finally, I thank my families who have assisted me throughout my career.

ACRONYMS

EAAB: East African Agri Business

Kg: Kilogram

NPK: Nitrogen, Phosphors and potassium

SNNP: Southern Nations and Nationalities People

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Abstract

The general objective of the research was to address the effect of farm productivity on the factory's production capacity utilization of East African Agri Business Plc. The study used survey method and a total of 30 questionnaires were distributed to selected 30 employees and 100% were properly filled and returned and also all selected employees were interviewed. Both qualitative and quantitative measurement methods are used. The method planned for the study was descriptive statistical analysis for interpretation and discussion. This study identified that, there is a crop loss of 1,323,777Kgs, which is equivalent to 294,172.67Kgs of made tea, and this production loss will have a 10% down time influence on the factory processing capacity. Even if every farm activity has its own influence, the major factors for decreasing the farm yield as indicated and verified from the study are plucking standard and fertilizer application. The farm is highly water dependent and the company is expecting this water only from rain. due to this fact the farm product is decreased and the factory down time relatively increased. From field observation, the researcher identified the plant mortality and it is another cause for farm product decrease. Therefore, based on the findings the researcher has recommended that the field management should always submit expected crop delivery, the company should design and implement irrigation project, the company should exert its maximum effort on the plucking standard, the company should find and work together without growers.

Key words; *Productivity, Capacity utilization*

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Productivity is the measure of production efficiency. At the national level it captures the economy's ability to integrate its physical and human resources to generate output and income. Productivity growth refers to an increase in the value of outputs produced for a given level of inputs over a given period of time. (Productivity Comission, 2009), submission No. 20 page 1.

Productivity is often confused with production. Productivity is the measure of how efficient the production process is, irrespective of standalone quality or quantity of output, or the standalone quality or quantity of inputs in the production process. The productivity will rise when inputs in the production process are optimally utilized to achieve greater levels of output. (Productivity Comission, 2009), submission No. 16 page 3.

A number of different factors can cause agricultural productivity to increase or decrease. Productivity can be measured at different levels: from broad economy and industry level to very specific process or employee levels (Bernolak, 1977). It is important to note that productivity is not an absolute measure, but rather a reflection of the ratio between inputs and outputs. Some factors, like weather, are out of control of the farm product producers. Unusual weather patterns, such as drought, a prolonged rainy season, early or late frosts, and other factors, can ruin crop and bring productivity down. The capacity of a given farm also an important factor. Soil cannot be forced to produce beyond capacity, although there are methods that can be used to improve production capacity, such as fertilizing to add nutrients to the soil so that it can support more crop production.

Measuring productivity is a complex statistical process which includes numerous steps that aim at making data comparable over time and across enterprises and countries (O' Mahony and Timmer, 2009). Agricultural productivity is typically measured by output per unit of land or per worker. However, improving agricultural productivity requires more than focusing on high yields, but also how those yields were attained through a given combination of processing machine.

Tea processing is the method in which the green leaves from the tea plant are transformed in to the dried leaves for brewing tea. The categories of tea are distinguished by the process they undergo. In its most general form, tea processing involves different manners and degree of oxidation of the leaves, stopping the oxidation, forming the tea and drying it.

Being one of pioneer private companies, which is engaged on agro processing business sector, East African Agri Business Plc, is the case, which my research has given emphasis on farm productivity and processing factory efficiency to improve its performance and for the benefit of the company.

East African Agri Business Plc is a private company which is engaged in tea manufacturing, blending, packing and marketing business. The company has two strategic business units: Chewaka Tea Estate in SNNP and Dukem Tea Blending and Packing Factory in Dukem. Even if the company is a major market player in local packed tea market with its well established products like Anbessa Tea and Good morning Tea, it requires very hard work to enter in to tea bag market where the market size is increasing year to year due to urbanization, income level growth and more cafeterias established in the major cities of the country. The tea estate has 541 hectares of tea plantation and two lines processing factories with annual processing capacity of 3000 tons of made tea. Currently, the estate is produced 7,196,973kgs of green leaf and 1,599,327kgs of made tea.

This research was aimed to assess and describe the effects of the farm productivity on the processing factory efficiency of East African Agri Business Plc and ultimately on the company's total production performance. On top of this, as a production development tool has not been well researched by the company, it has influenced the researcher's decision to focus the issue as a research idea.

1.2 STATEMENT OF THE PROBLEM

Developing the farm productivity of the company in order to meet the achievable result of the farm activities for a better results through efficient utilization of resources in the tea plantation development and harvesting process is one of the focusing area in East African Agri Business Plc. Simultaneously, the company has focused on efficient utilization of the processing factory

using the farm product as an input and converting in to the final product which is finished good (made tea). Hence, the current farm green leaf productivity is not sufficient for full utilization of factory's attainable processing capacity. However, the farm can produce more than which it produces currently and can be reduced down times of the processing factory. Therefore, the impact of this mis much between the farm production and factory's production capacity has not been evaluated and not properly assessed. In addition to this the farm is depending on rain water(rain fed) and within the twelve months in a year three months January, February and March especially on that area there is high dry season and no water can be found. This research is designed to assess the problems related to farm productivity and its impact on factory capacity utilization of East African Agri Business Plc.

1.3 BASIC RESEARCH QUESTIONS

The research was designed to find answers to the following questions:

1. How the farm production process is managed?
2. What are the challenges that affect the factory capacity during the production process?
3. What are the factors that affect the quantity of farm product?
4. How do assess implementation of agricultural practices that affects farm productivity?

1.4 OBJECTIVE OF THE STUDY

East African Agri Business Plc is engaged on harvesting tea green leaf at its own farm and send to the factory for further process to produce the final product which is made tea. Even if the process is there, the mis much between farm input and factory processing capacity have never been evaluated. Therefore, the general objective of the research was to assess the farm productivity and its impact on the factory's production capacity.

The specific objectives of the study are:

- To evaluate the farm productivity on peak harvesting season and dry harvesting period.
- To asses down time of the processing factory during the production process.

- To asses the impacts of different factors on the farm which affects the farm product.
- To evaluate impacts of farm production on processing machine during peak production season and dry production season

1.5 HYPOTHESIS

The following are null hypothesis and alternative hypothesis of the study.

Null Hypothesis (Ho): There is no significant difference for the green leaf to made tea conversion (Ho: the mean consumption of the green leaf to produce 1kg of made tea is=4.5kg).

Alternative Hypothesis (H1): There is significant difference for the green leaf consumption to produce 1kg of made tea (H1: the mean consumption of the green leaf to produce 1kg of made tea is greater or less than 4.5kg).

1.6 SIGNIFICANCE OF THE STUDY

As this research is conducted using scientific research technique and evaluation criteria, the writer believes that findings of this study could help East African Agri business plc to evaluate the effect of farm productivity on the factory processing machine capacity and to give emphasis on how to increase the farm production specially during dry seasons. As the issue is not well researched so far, the study could motivate other writers interested in the area to conduct in-depth study. Furthermore other organizations could adopt recommendations of this study for practice.

1.7 SCOPE OF THE STUDY

Agricultural productivity is typically measured by output per unit of land or per worker. However, improving agricultural productivity requires more than just focusing on high yields, but also how those yields were attained through a given combination of processing machine. Tea processing is one of the agricultural activities and has its own feature from harvesting of green leaf to producing processed made tea. Even if different tea estates are there in country, the study does not cover all these tea estates rather it has limited on East African Agri Business Plc. Chewaka Tea Estate located at SNNP.

1.8 ORGANIZATION OF THE PAPER

The study is organized in to five chapters. Accordingly, the first chapter deals with the introduction part of the study; the second chapter focuses on the details of related literature of the study; the third chapter discusses the details of the methodology of the study; the fourth chapter focuses on data presentation and analysis. Finally, chapter five presents the summary of conclusions and recommendations.

CHAPTER TWO

LITRATURE REVIEW

In this chapter, relevant literatures related to the study topics are reviewed. This involves bringing the the theories and conceptual reviews that are used in the study.

2.1 Overview of productivity

Productivity is perhaps one of the most important and influential basic variables governing economic production activities (Singh et al.,2000; Tangen ,2005). While high productivity can be significant source of competitive advantage for companies Grossman (1993), it also contributes to the general well-being of a society.

Productivity is the measure of production efficiency. At the national level it captures the economy's ability to harness its physical and human resources to generate output and income. According to Bernolak (1997), productivity means " how much and how good we produce produce for the resource used" Productivity growth refers to an increase in the value of outputs produced for a given level of inputs, over a given period of time. In a very general sense, the best way to think about productivity is by thinking of production you can have increased production due to a more efficient use of those inputs or a combination of both of those things. In a growth, accounting framework can measure productivity by looking at the ratio of output to one or more inputs.

The main theoretical approach to studying productivity is based on formal growth theory, where output growth is expressed as a function of growth in inputs and growth in the efficiency with which inputs are transformed in to outputs.

2.2 PRODUCTION

Production function is that part of an organization, which is concerned with the transformation of a range of inputs in to the required outputs (products) having the requisite quality level. Production is defined as “the step by step conversion of one form of material in to another form through chemical or mechanical process to create or enhance the utility of the product to the

user". Thus, production is a value addition process. At each stage of processing, there will be value addition. Elwood Buffa defines production as “a process by which goods and services are created".

2.3 PRODUCTION SYSTEM

The production system of an organization is that a part which produces products of an organization. It is the activity where by resources, flowing with in a defined system, are combined and transformed in a controlled manner to add value in accordance with the policies communicated by management.

The production system has the following characteristics:

1. Production is an organized activity, so every production system has an objective.
2. The system transforms the various inputs to useful outputs.
3. It does not operate in isolation from the other organization system.
4. There exists a feedback about the activities, which is essential to control and improve system performance.

Production system can be classified as Job shop, Batch, Mass and Continuous systems.

2.4 JOB SHOP PRODUCTION

Job shop production are characterized by manufacturing of one or few quantity of products designed and produced as per the specification of customers within prefixed time and cost. In a Job-Shop every job may have a separate processing sequence. “Job-Shop has a typical arrangement for the case of varied production of most jobbing types and batch types” (Hitomi, 1996). The distinguished feature of this low and high variety of products, it comprises of general-purpose machines arranged in to different department. Each job demands unique technological requirements, demands processing on machines in a certain sequence.

2.5 BATCH PRODUCTION

Batch production is defined as “a form of manufacturing in which the job passes through the functional departments in lots or batches and each lot may have a different routing". It is

characterized by the manufacture of limited member of products produced at regular intervals and stocked awaiting sales.

2.6 MASS PRODUCTION

Manufacture of discrete parts or assemblies using a continuous process are called mass production. This production system is justified by very large volume of production. The machines are arranged in a line or product layout. Product and process standardization exists and all outputs follow the same path. Presently, mass customization has emerged as a way to combine the advantages of both customization and mass production (Pine, 1993).

2.7 CONTINUOUS PRODUCTION

Production facilities are arranged as per the sequence of production operations from the first operations to the finished product. The items are made to follow through the sequence of operations, through material handling devices such as conveyors, transfer of devices etc.

2.8 PRODUCTION MANAGEMENT

Production management is a process of planning, organizing, directing and controlling the activities of production function. The point has been made that proper measurement goals are those that focus as much on communication as on evaluation and targets (Haapasalo et al., 2006). It combines and transforms various resources used in production subsystem of the organization in to value added product in a controlling manner as per the policies of the organization.

E.S.Buffa defines production management as " production management deals with decision making related to the production processes so that the resulting good or services are produced according to specifications, in the amount and by the schedule demanded and out of minimum cost". The objective of the management is to produce goods or services of right quality and quantity at the right time and manufacturing cost.

2.9 PRODUCTIVITY IMPROVEMENT AND OPERATION STRATEGY

Tangen (2002) mentioned that performance measure criteria must be driven by strategic objectives and the measures must provide timely feedback. The imperative resulting from the cost leadership strategy and some types of segmentation strategies that emphasize cost and the concepts of the experience curve, all coupled with the amplifying effects of productivity increase differences, an operation strategy that emphasizes all kinds of productivity improvements seems essentials. Depending on the particular industry, this may mean large investments in plant and equipment, with particular emphasis on advanced process technology.

Productivity improvement is an imperative in operations strategy for all firms. In order to remain competitive, a firm must continually seek ways of reducing costs: profits are the difference between price and costs, and prices are not normally under the direct managerial control. This applies even to those firms operating in a sheltered domestic environment. For those firms operating in global markets, productivity improvement needs to become a managerial religion, in part because strong foreign competitors are giving so much attention to it but also because of the amplification of productivity differences through the exchange rate.

Performance measurement is defined as the process of quantifying the efficiency and effectiveness of action (Tangen, 2003). It is largely through operations strategy that productivity improvement becomes implemented. If the basic positioning of the type of productivity system mismatches the market, then productivity improvement is hampered by an inappropriate system. The wrong technology can be a result, or job and processes may be poorly designed to achieve market objectives. The system for planning, scheduling, and control may be mismatched, together with all kinds of operating decisions. Productivity improvement cannot be left to the experience curve phenomenon, as something that will simply happen as volume cumulates. It must be managed as a conscious part of operation strategy.

2.10 CAPACITY

Johanson (1968) defines the capacity "the maximum amount that can be produced per unit of time with existing plant and equipment, provided that the availability of variable factors of production is not restricted". Capacity is the limiting capability of a productive unit to produce

with in a stated time period, normally expressed in terms of output units per unit of time. Capacity is the maximum level of output eacch plant in a given industry can achieve with in the normal work schedule, considering the normal downtime and assuming the sufficient inputs to operate machinery and equipment are available (Corrado and Mattey, 1997). But capacity is an elusive concept because it must be related to the intensity with which a facility is used.

The long-range operation strategy of an organization is expressed to a considerable extent by capacity plans. Given long-range prediction of demand, we must generate capacity requirements. It is unlikely that these capacity needs will be uniform throughout the productive system. A balance of capacities of subunits exists that reflects the discrete nature of capacity.

2.10.1. MEASURE OF CAPACITY

According to Saikia (2012), simple indicator like the output gap based on designed capacity are used to measure capacity utilization. When output units are relatively homogeneous, capacity units are rather obvious. When output units are more diverse, it is common to use a measure of the availability of the limiting resources as the capacity measure.

Identifying the size and timing of projected capacity gaps provides an input for the generation of alternative plans. We may plan to meet demand either by providing the expected required capacity or partially utilized alternative sources, or we may absorb some lost sales. We can provide the needed capacity in smaller increments as it is needed or in larger increments that may involve initial slack capacity. We may enlarge existing facilities, establish new producing locations for the additional capacity, or relocate the entire operation.

2.11 TEA PLANT

Desalegn woemago (1990) stated that the most important factors of growing tea are acidic soil, suitable temperature, good rainfall distribution and good skilled cultural practices. The soil PH and its texture are the decisive factors. The tea plant cannot grow in neutral soil (the most suitable PH range is between 4.5-5.6 and the texture clayed loam). The tea plants need even distribution of rainfall. Monthly rainfall distribution to grow tea without irrigation must be on average 120-150mm. If it is less than this range, of uneven distribution, the tea plants will badly suffer from water stress and there will be yield decrease.

The young plants will die due to lack of sufficient water. Inactive shoot (banjhi) will occur and color of the plant will be changed to yellowish or even brown if drought occurs. Hence, growth will be stopped or become stagnant or it may be altogether dormant. A suitable temperature for tea is from 10-27 degree centigrade at a daily average temperature of more than 30 degree centigrade the plant suffers from stress and farther increase in the amount of transpiration causes physiological disturbance.

2.12 GREEN LEAF HARVESTING PROCESS

1. PLUCKING

Desalegn W. (2012) indicated that economically important part of the tea bush consists of the terminal tender shoot, made up of the succulent stem and one to three leaves and a bud, which protrude above the plucking table or surface. Plucking is the periodic harvesting of the young shoots, normally a bud and two to three leaves, above the plucking table and is either done by hand or mechanically (Tennakoon, 2007).

A number of important considerations must be born in mind when tea bushes are plucked:

1. To provide factory with regular flow of leaf which is of suitable quality for processing
2. To ensure that young tea flush grows as uniformly as possible up on the surface of the plucking table.
3. To maintain the table in a suitable condition and at the convenient height for plucking
4. Not to tax the tea bush beyond its means, but to ensure that a sufficient depth of maintenance foliage is always present.
5. Tea pluck in accordance with the seasonal dictates of the climate and the manner in which the bush reacts to changes in weather.

2. WHEN NEEDS LIGHT AND HARD PLUCKING?

The yield of green leaf of any particular time or season is determined at the moment of each plucking by the foregoing of the bush (Hari Prasad, 2001). If conditions are unfavorable but bushes are not dormant, it is likely that light plucking becomes necessary. On the other hand during peak periods of yield brought on by alternate rain and sunshine short plucking interval

because of very high yield exceptional profuse(in large amount) of each it may even be necessary to pluck right down to fish leaf.

Thus, light plucking ensures that an adequate maintenance foliage is left o the bush, but if it is to light then the plucking table rises rapidly and potential crop will be wasted by allowing together with the increased temperature, it will become necessary to pluck hard, and in the event of There Learning is a continuous process that not only enhances existing capabilities but also leads to pluck able leaf to remain on the bush.

On the other hand hard plucking cannot be continued indefinitely because at some stage new maintenance foliage must be allowed to develop in order to replace the old which is no longer effective leaf that drops off.

3. PLUCKING TABLE

A good plucking table presents a well-packed smooth even and flat surface up on which shoots come away uniformly. The surface should be kept parallel to the ground and adjacent rows of bushes should, as far ground variations permit, not contain bushes prominently taller than their neighbors. To regulate smoothness of the plucking table surface over the field as a whole, a long thin straight stick should be used. It should, if possible straddle (across) at least three adjacent rows and be pressed down light on the table surface. Plucking labor should get in to the habit of placing their sticks across adjacent rows and not parallel to them.

4. PLUCKING STANDARD

Desalegn W. (2012) found that it is impossible for any plucker to pluck consistently 100% two leaf and bud or three leaf and bud. There will be a certain amount of one and a bud hard banjhi etc.

Plucking standard refers to the fineness or coarseness of the plucked shoots. The apical bud and the first leaf influence the quality of made tea positively, coarse fractions such as the second and the third leaves and the internodes below them depress quality, but economics of tea cultivation necessitates harvesting crop shoots comprising a certain so called coarse fractions which varies in different tea growing areas.

Kumau (2008) said that there are two processes involved in tea harvesting: fine plucking 9 and course plucking, fine plucking standard, which involves plucking only the first two leaves and bud; the higher the quality course plucking involves plucking more than two leaves. Crops shoots could be categorized as immature and coarse shoots in relation to the shoots of prescribed standard. Crops shoots with lesser number of leaves than the prescribed standard is immature shoots with more leaves than the prescribed standard and coarse banjhis could be termed as coarse shoots. Certain amount of immature shoots as also coarse shoots are invariably along with shoots, greater proportion of immature shoots in the harvest leads to crop loss, while a high amounts of coarse shoots affect the quality. Considering these aspects, it could be recommended that the plucking should comprise about 80% of two leaf and a bud (standard shoots) 10% three and bud 10% soft banjhi immature shoots and others. This requires inspection by the responsible field staff on site and along the lines of pluckers sorting out un wanted leaf.

5. PLUCKING ROUND INTERVALS

Long plucking intervals and mechanical plucking was argued to have reduced tea yields and produced coarser leaf than short plucking intervals and hand plucking respectively (Owour and Odhiambo,1993).

The alterations (changes) in interval between plucking rounds, necessary from time to time, become a local matter of visual inspection. The plucking round length should be adjusted according to the rate growth of bushes shoots.

6. ORGANIZATION OF PLUCKING ROUND

The harvesting of green leaf is the most important task faced by field management. The processing of tea is the reason for the existence of the tea plantation and the organization of harvesting to insure an acceptable standard process able leaf requires daily attention and constant supervision.

In order to harvest the leaf and transport it to the factory it is essential that the plucking force and management have a program to follow, otherwise the plucking will soon become disorganized and get out of control.

2.13 MEASURING PARAMETERS FOR PRODUCTIVITY AT THE FARM LEVEL

1. The productivity of the land

1.1 Farm overall yield in kg/ha.

Hari Prasad (2001) discussed that total tea made (without waste) divided by total tea area (registered area minus up rooted area) recorded at the end of first flush, second flush and main crop are also useful. Comparison with recent years on the same indicates current management standards.

A chart on squared paper, giving figure for several years is a ready reference for the effectiveness of garden work. The farm yield figures can be marked on the same chart, thereby indicating at a glance whether crop increases due to yield increase or area extension.

1.2. Sectional (Field) yields in kg/ha.

The green leaf plucked in a field converted in to made tea with the conversion factors actually achieved at the time divided by the field net area. Field yields by giving the performance of individual fields, indicated the effects of the various practices used in these fields.

Yield figures can show the effect of fieldwork only if two conditions are fulfilled.

a. Detailed records of what actually happened in each field. and

b. By weighing the leaf from each field separately.

2. The productivity of employees

Plucking accounts for about 20% of the total cost of production and accounts for about 60-70% of the total labour deployment in the garden (Saikia and Sarma , 2011). Bore (2009) state that

cost of labour was challenging the economic viability of sustaining the tea industry. Over all labor, productivity can be expressed in terms of produced kg of tea. Man-day (MD). In this connection, Monday does not mean a day worked by man or woman, but a man-day on the book. This is days worked plus leave plus sickness plus absence of all labor employed. This annual computation indicates the standards of organization, equipment and deployment of the human resources of the whole farm. In labor-intensive industry, it is a fundamental ratio.

2.1 Plucking productivity can be measured by:

Kg green leaf/MD

The ratio must be one of the details of the daily leaf report recorded separately for each daily squad. That is, the group working under one supervisor. Averages for separate division must be recorded daily, these ratios indicates the standards of organization time keeping, transport arrangement and motivation, in short the general efficiency of the most important operation on a tea farm.

Manday/ha

Hannula (2002) has stated that organizations must be able to continuously increase their productivity in order to stay profitable. Daily the man days used and the hectare plucked must be recorded; the ration shows how mach area is covered by each pluckier, that is plucking progress field by field.

2.2. Processing productivity can be shown as kg tea processing MD.

Processing man days are all these used in leaf transport, withering green leaf processing, fermenting drying, sorting and packing. The ratio, which must be recorded daily, indicates the packing of factory organization and equipment.

3. The Productivity of Machinery and Methods

3.1. Factory through put can be measured as kg/factory hr.

Efficiency and effectiveness, are somewhat cross-functional in regard to performance, profitability and productivity (Tangen, 2005). They measure and compare the actual amount of used resources to the minimum level that is theoretically required, and view the actual output in relation to the expected output respectively (Grünberg, 2004).The ratio should be taken for each day production divided by the actual number of hours it took to process that quantity, not for short-term test. This ratio particularly its maximum and minimum levels is a guide both for daily manning decisions and for long term planning. Conversion ratio in terms of percentage of made tea/green leaf is not a productivity ratio as such, but an important measurement. It is influenced by climate the accuracy of all weighments and the standard of leaf handling.

4. The productivity of Management

4.1. The effectiveness of Management

Productivity is a relative concept: it cannot be said to increase or decrease unless a comparison is made that focuses on a certain point in time, or on changes that have taken place over a period of time (Bernolak, 1997). The productivity of management can only be measured by the effect it has on the level and trend of the entire ratio listed. Effective management improves ration. The study of management effectiveness must start with the question of whether reliable productivity records are kept up to date and are known to those concerned. The second question is whether the three wings of management, the supervisory, the executive and the directive are working together. If the directive wing does not produce plan outlines and finance, if the executive wing does not organize program implementation, if the supervisory wing does not ensure the quantity and quality of farm and factory operations, then the three wings taken together as the management team cannot really be effective.

4.2. The productivity of Knowledge

According to Drucker (1999) learning and improving the quality of knowledge work are important issues for the productivity of knowledge work. Over the decades, the productivity of the tea industry as a whole has improved steadily; therefore, any farm not taking part in this general improvement must be expected to head for “sickness". Doing what was done the year before is not an adequate guide, because better result than the previous year's are needed.

The main point is that there must be continuous improvements of technical and management expertise. The ratio at which knowledge is found, introduced and utilized is a direct measure of management productivity.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

The main objective of the study is assessing the impact of farm productivity on the factory capacity utilization of EAAB. To this effect, this chapter involves the research design and method employed. To get a reliable answer for each question of this research: various sources of data, methods of sampling, procedures of data gathering, method of data analysis and measurement of data were employed.

3.1 RESEARCH DESIGN

The method planned for the study was descriptive statistical analysis for interpretation and discussion. In addition, diagrams & percentages are used to present the result of the study. This research method help in describing and determining how the effect of farm productivity influenced the processing factory efficiency. Descriptive type of research method is used in determining the frequency with which an event could occur. Both the quantitative and qualitative measurement methods are used. The qualitative measurement help to interpret ideas which are gathered through interview and open ended questions while the quantitative measurement method help to interpret ideas which is gathered through close ended questions.

3.2 SOURCE OF DATA

In order to achieve its objectives the research has used both primary and secondary data. The primary data were collected through questionnaires and interview from employees of the company. The secondary data was obtained from the company documentation, relevant books, articles and journals.

3.3 SAMPLE DESIGN AND SIZE

Survey method was used for this study and interviewed all elements of population. From farm 22 staffs are selected: 12 supervisors, 3 farm technicians, 3 unit farm heads, 3 farm assistants and 1 agronomist. From processing factory, 8 staffs are selected who works in different position: 2 supervisors, 2 withering trough workers, 1 weighbridge operator and 3 processing

factory operators. In addition to the above-mentioned staffs, the researcher has taken different data from 2 managers, 1 from factory and 1 from farm.

3.4 PROCEDURE OF DATA COLLECTION

The Data collection method was gathering information for farm productivity and processing factory capacity and the way how production process is performed by the farm Section and processing factory section using both primary and secondary data. The primary data was collected from managers and employees who are working in the farm like unit farm managers, field workers, supervisors and pluckers simultaneously, from factory like withering trough operator, production head, weighbridge supervisor through questionnaires and interview.

Primarily, the following data are collected from all elements of the population through questionnaire and interview for the farm productivity.

- Quantities of green leaf production,
- Farm inputs,
- Farm production interval (plucking round),
- Means of production (manual or machinery),

Second, farm and processing factory productivity survey was performed to find data on the production process of different varieties of tea bushes and factory. The survey was conducted once a day for the consecutive three days through the following manner.

- Before the start of the plucking activity.
- During the plucking process.
- When weight of green leaf is measuring.
- When green leaf is loading and transporting to the factory.
- When green leaf delivery is performing and weighing by the factory.
- During the production process of the factory.

Finally, each unit farm productivity and how this farm product influence the processing factory efficiency are evaluated. In order to evaluate this impact the following key elements has been taken in to consideration;

- Total green leaf produced by the farm,
- Duration which the factory has taken to process and finish the green leaf to made tea.

The whole purpose here was to see the improvement of farm productivity and to utilize the processing capacity of the factory based on the given standard.

3.5 RELIABILITY

A pre-test was conducted with 27 respondents 11 from factory and 16 from farm section before the questionnaire was revised to avoid inapplicable questions, ambiguous wording, and the questionnaires appropriateness. Clear instructions were provided at the beginning of the sections. After pre-testing and further revisions, the survey questionnaire was distributed and used to collect data. An alpha score of higher than 0.70 is generally considered to be acceptable, while an alpha score of higher than 0.80 is considered a good measure of reliability (Nunnally, 1978). Moreover, a reliability measuring instrument does contribute for validity. Finally, the reliability questionnaire has been tested by using Cronbach Alpha. Therefore, as indicated in table 3.1 and 3.2 the SPSS result shows that the questionnaire's reliability for the factory is .918 Cronbah's Alpha. The alpha value of the items varies from .892 to .921 and the questionnaire's reliability to the farm is .892 Cronbach' s Alpha. The alpha value of the items varies from .880 to .902 indicating an acceptable overall reliability.

Table 1 Reliability taste table (SPSS Result)

Case processing Summary (FACTORY)

Reliability Statistics

Cronbach's Alpha	N of Items
.918	11

Item/Factor	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
The farm management of EAAB always submit daily expected crop delivery to the factory management	.599	.912
Leaf coming to the factory is weighed, assessed for quality and then spread on the troughs	.452	.901
The factory and field weight of green leaf are always similar	.529	.910
Always sacks will be on trays to avoid any damage to the leaf by crushing and are loaded with adequate aeration of the leaf	.698	.918
The optimum moisture removal is maintained and measured by the factory during withering process	.721	.921
There is planned and regular machinery maintenance by the company	.408	.901
When manufacturing start, the metering of leaf to the cutting stream is always accurate and no pile up of leaf	.424	.913
The company uses minimum loading of leaf, minimum fan and warm air application	.561	.899

Item/Factor	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Trough records are always indicating the field that the leaf has come from and the number of sacks of leaf contained in the trough as well as the time the trough was filled and the leaf count	.631	.901
Humidity checks are always recorded by the company as soon as spreading is complete	.543	.893
Daily proper measurement is always taken by the factory to check the daily made tea produced	.722	.892

Source: own Survey, 2015

Table 2 Reliability taste table (SPSS Result)

Case processing Summary (FARM)

Reliability Statistics

Cronbach's Alpha	N of Items
.892	16

Item/Factor	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
During the production process of the green leaf, the company is strictly follow proper plucking standards	.462	.892
Company's plucking comprises about 80% of two and bud, 10% three and bud and 10% soft banjhi immature shoots	.591	.893

Item/Factor	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
EAAB deploys adequate work force (pluckers) for harvesting the green leaf.	.652	.892
Crops shoots are categorized by the company as immature and coarse shoots in relation to the shoots of prescribed standards	.782	.891
The company plucking table is a well packed smooth even and flat surface up on which new shoots come away uniformly	.671	.888
The surface of farm plucking table is parallel to the ground and adjacent row of bushes	.651	.902
Long thin straight sticks are always using by the pluckers in harvesting process to maintain the plucking table.	.491	.892
Plucked green leaf are always protected from hest and are not spoiled before reaches the factory	.561	.880
There are temporary storage (leaf sheds) at convenient collection plots	.672	.892
The plucking round length is adjusted according to the rate growth of bushes shoot	.781	.891
The plucking force and management have a program to harvest the green leaf and transport it to the factory	.562	.881
Proper and timely application of fertilizer will be made by the company	.632	.901
The company apply NPK fertilizer as required to the tea plant to increase the yield	.567	.881
The company uses both manual and chemical methods to control weeds	.781	.892

Item/Factor	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
EAAB is considering the optimum time of pruning towards the end of the peak growing period, which is coincides with the start of the dry season	.781	.889
Green leaves are transported to the factory with great care containers without leaves compressing by the weight of other leaf above	.378	.891

Source: own Survey, 2015

3.6 METHOD OF DATA ANALYSIS

Facts gathered through the assessment survey were summarized in to two categories: farm operation workers response and factory operation workers response, and they are analyzed using descriptive statistics. Monthly green leaf production is analyzed to see the percentage increase or decrease in the processing factory capacity. On the other hand, result of the separate questionnaire are analyzed in two ways.

Responses for questions related to farm operation activities are analyzed using descriptive statistics and related to the percentage increase/decrease in total production capacity of the processing factory by using regression method.

Responses for open-ended questions are analyzed qualitatively and compared to results of the correlation analysis to ensure consistency of responses.

3.7 MEASUREMENT

The first dependent variable, green leaf production has been measured in terms of plucking standard, plucking table regulation, after green leaf handling, interval between plucking round, applications of fertilizer, weed control, time of pruning, weighing of green leaf, transporting of the green leaf. Each competency has measured using the following 5 ordinal values: 1= strongly disagree; 2 = disagree; 3 = neutral; 4=agree; 5 = strongly agree.

The second dependent variable, factory-processing capacity was measured in terms green leaf reception and spreading, withering, cutting, fermentation, drying and packing of made tea production process.

3.8 ETHICAL CONSIDERATION

The researcher treated all the information given by employee kept confidentially without disclosing the respondents' identity and would not be used for any personal interest. Furthermore, the questionnaires were distributed for all selected participants. Lastly, all secondary source were quoted to keep the rights of ownership of all materials.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATIONS

This chapter presents the results of the data analysis. The first section of this chapter provides demographic profiles of the final survey respondents. The second part of this chapter deals with the analysis of the different questions in the questionnaires and interview.

4.1 GENERAL INFORMATION ABOUT RESPONDENTS

The following table shows the summary of respondents' gender composition

Table 3 Gender of Respondents

Item	Statements		Male	Female	Total
1	Gender of the respondents	Frequency	21	9	30
		Valid percent	70%	30%	100%

Source: own Survey, 2015

As shown above in table 1 about 70% of the respondents were male and the remaining 30% are female respondents. Therefore, it can be understood that the respondents' gender distribution has been dominated by male respondents.

The following table shows the summary of respondents' educational level

Table 4 Educational level of the Respondent

Item	Statements		others	12th complete	Diploma or Degree	Masters	Total
1	Educational level of the respondents	Frequency	4	6	19	1	30
		Valid percent	13.33%	20.04%	63.33%	3.30%	100%

Source: own Survey, 2015

Regarding educational status of the respondents, as shown above from table 2, 3.3% of the respondents were at masters degree level, 63.33% of the respondents were diploma and degree holders, 20.04% were 12 completed and the remaining 13.33% of the respondents are below 12th grade respectively.

The following table shows the summary of respondents' work experience in the organization.

Table 5 Work Experience of the Respondents

Item	Statements		Less than one year	2-5 years	Above 5 years	Total
1	Work experience of the respondents	Frequency	0	4	26	30
		Valid percent		13.33%	86.67%	100%

Source: own Survey, 2015

Regarding work experience of the respondents, as shown on the above table 3, 86.67% of the respondents have served the company above 5 years and 13.33% have 2-5 years experience. Therefore, majority of the respondents have long period of experience and that contribute the reliability of information that provided by the respondents.

The following table shows the respondents' position in the organization.

Table 6 Position of the Respondents in the Organization

Item	Statements		Non Managerial	Managerial	Total
1	Position of the respondents in the organization	Frequency	26	4	30
		Valid percent	86.67%	13.33%	100%

Source: own Survey, 2015

According to the data shown in the above table 4, 13.33% of respondents have worked at managerial position but the rest 86.67% are non managerial position and this indicating that almost all respondents have direct relationship with the specific operation,

4.2 DATA ANALYSIS PERTAINING TO THE STUDY

4.2.1 FACTORY

For each question, a 5-point Likert scale was used: (Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree). As indicated in the table below, even if the respondents in the factory section were eight and below the standard, it was mandatory to the researcher to check the reliability of the responses against interview questions.

Table 7 Green Leaf reception and spreading

Item	Statements		strongly disagree	Disagree	Neutral	Agree	Strongly fagree	Total
1	The farm management of EAAB is always submit daily expected crop delivery to the factory management.	Frequency			3	1	4	8
		Valid percent			37.50 %	12.50%	50.00%	100%
2	Leaf coming to the factory is weighed, assessed for quality and then spread on the troughs.	Frequency			2	1	5	8
		Valid percent			25.00 %	12.50%	62.50%	100%
3	The farm and factory weight of green leaf is always similar.	Frequency	4	3	1			8
		Valid percent	50.00%	37.50%	12.50 %			100%
4	Always sacks that contained the green leaf are on trays to avoid any damage to the leaf by crushing and they are loaded with adequate aeration of leaf.	Frequency			3	2	3	8
		Valid percent			37.50 %	25.00%	37.50%	100%
5	Humidity checks is always be recorded by the company as soon as spreading is complete.	Frequency			2	2	4	8
		Valid percent			25.00 %	25.00%	50.00%	100%
6	Trough records should always indicating the field that the leaf has come from and number of sacks of leaf contained in the trough as well as the time the trough was filled and the leaf count	Frequency			3	3	2	8
		Valid percent			37.50 %	37.50%	25.00%	100%

Source: own survey, 2015

Concerning the question which was raised about submission of daily crop delivery to the factory management by the farm, 62.5% of the respondents said the farm management has submitted the daily expected crop delivery to the factory management. On the other hand 37.5% of the respondents were neither agree nor disagree on the submission of daily expected crop delivery information. Therefore, we can say that there is smooth information communication between farm and factory management.

Regarding leaf weight, assessment and spreading question, 75% of the respondents have answered the leaf coming to the factory is properly weighted, assessed and spread by the factory. 25% of the respondents were neutral. From this result the weight, assessment and spreading activity is properly managed by the factory.

Employees were asked for the farm and factory weight of green leaf is always similar, 87.5% of the respondents said it is not similar and the remaining 12.5% of the respondents are neither disagree nor agree. Hence, we can understand that the green leaf weight at farm level and factory gate level is not similar.

For the question related to sacks that contained the green leaf are on trays to avoid any damage to the leaf by crushing and they are loaded with adequate aeration, 62.5% of the respondents said that there is always proper handling of sacks and adequate aeration is given to the leaf. On the other hand 37.5% of respondents were neutral. From this result we can say that there is proper handling of sacks and adequate aeration for the leaf to avoid the leaf damage.

Considering the question for humidity check, 75% of the respondents confirmed that there is proper humidity check by the factory and the remaining 25% were neutral. Therefore, we can identify that there is proper humidity check by the factory.

For the question related to trough records is always indicating the field that the leaf has come from and number of sacks that leaf contained in the trough as well as the time for trough filling and leaf count, 62.5% of the respondents said that each activity related with this question is well managed by the factory and the remaining 37.5% of the respondents were neutral. Hence, we can say that any activity related to this question is well managed.

Table 8 The Optimum moisture removal

Item	Statements		strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
1	The optimum moisture removal is maintained and measured by the factory during withering process.	Frequency			1	3	4	8
		Valid percent			12.50 %	37.50 %	50.00%	100 %

Source: own Survey, 2015

Regarding the question on the optimum moisture removal is maintained and measured by the factory during withering process, 87.5% of the respondents have agreed that the optimum moisture removal is maintained and measured during withering process and the remaining 12.5% of the respondents are neither agree nor disagree. From this point of view it can be easily understand that there is proper activity is maintained related to moisture removal and measurement during withering process.

Table 9 Planned and regular machinery maintenance

Item	Statements		strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
1	There is planned and regular machinery maintenance by the company.	Frequency				2	6	8
		Valid percent				25.00%	75.00%	100 %

Source: own Survey, 2015

Employees have been asked for planned and regular machinery maintenance by the company, and 100% of the respondents have confirmed that there is planned and regular machinery maintenance by the company.

Table 10 Cutting process on the factory processing capacity

Item	Statements		strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
1	When manufacturing starts, the metering of leaf to the cutting stream should always be accurate and no pile up of leaf	Frequency			3	3	2	8
		Valid percent			37.50 %	37.50 %	25.00%	100 %
2	It is necessary to use minimum loading of leaf, minimum fan warm air application.	Frequency			2	6		8
		Valid percent			25.00 %	75.00 %		100 %

Source: own Survey, 2015

Regarding the question for the metering of leaf when manufacturing starts to the cutting stream is always accurate and no pile up of leaf, 62.5% of the respondents are agreed there is always accurate metering of leaf to the cutting stream and no pile up of leaf where as 37.5% of the respondents were neutral. Therefore, we can identify that there is accurate metering of leaf to the cutting stream and no pile up of leaf.

Concerning the question which was raised about it is necessary to use minimum loading of leaf, minimum fan warm air application, 75% of the respondents have agreed to use the minimum loading of leaf, minimum fan warm air application. The remaining 25% of respondents are neither agree nor disagree. From this result we can say that employees are aware for the necessity of minimum loading of leaf and minimum fan warm air application.

From the questionnaires indicated above in different tables and from the responses by the employees it can be reached and seen clear result. The aim of these questions was to check whether there is a challenge to the factory during the production process or there are causes to reduce the factory capacity utilization during the day-to-day factory operation. According to the responses given by the respondents, it has ascertained that there is no down time related to factory operation and no challenge has been occurred during the production process on the factory capacity utilization.

Table 11 In order to produce one Kg of made tea, how many Kgs of green leaf does the company uses?

	Frequency	Percent	Valid Percent	Cumulative Percent
4.00	3	37.5	37.5	37.5
4.50	1	12.5	12.5	50.0
5.00	4	50.0	50.0	100.0
Total	8	100.0	100.0	

Source: own Survey, 2015

For the question raised to check the green leaf consumption in order to produce 1kg of made tea, 37.5% of the respondents said that the company consumed 4kgs of the green leaf to produce 1kg of made tea. On the other hand 12.5% of the respondents have said only 4.5kgs of green leaf is consumed and the rest 50% of the respondents replied that the factory consumed 5kgs of green leaf to produce 1kg of made tea. Having the above responses in mind, the following one sample statistics and one sample test was drawn in order to see the hypothesis test of the study regarding conversion rate of the green leaf to made tea.

Table 12 T-Test

One-Sample Statistics

Statements	N	Mean	Std. Deviation	Std. Error Mean
In order to produce one Kg of made tea, how many Kgs of green leaf does the company uses?	8	4.5625	.49552	.17519

Source: own Survey, 2015

Table 13 One-Sample Test

	Test Value = 4.50					
Statements	T	Df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
In order to produce one Kg of made tea, how many Kgs of green leaf does the company uses?	.300	7	.773	.05250	-.3618	.4668

Source: own Survey, 2015

In order to see the T- test to check the conversion rate of green leaf consumption to produce one Kg of made tea having test value of 4.5Kg of green leaf which is taken as a standard with 95% confident interval of difference as indicated in the table (significance level) drops at 0.773 and this result tells us it is greater than 0.05 . There for, we accept our null hypothesis which says the production of one kg of made tea is equal to 4.5 kgs of green leaf, it is statistically insignificant and 4.5Kg of green leaf to 1Kg made tea is acceptable.

4.2.2 FARM

This part covers the data presentation and analysis on farm productivity. As illustrated below and using survey method, sample selection 22 employees were selected and all questionnaires were properly filled and returned by the respondents.

Table 14 Plucking Standard

Item	Statements		strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
1	During the production process of the green leaf, the company is stictly followed proper plucking standards	Frequency	10	4	6	2		22
		Valid percent	45.50%	18.20%	27.30%	9.00%		100%
2	Company's plucking should be able to comprise about 80% of two and bud, 10% three and bud and 10% soft banjhi immature shoots.	Frequency	12	3	3	4		22
		Valid percent	54.60%	13.60%	13.60%	18.20%		100%
3	EAAB is deploying adequate work force (pluckers) for harvesting maximum Kgs of green leaf.	Frequency	12	3	4	3		22
		Valid percent	54.60%	13.60%	18.20%	13.60%		100%
4	Crops shoots are categorized as immature and course shoots in relation to the shoots of prescribed standards	Frequency	4	12	3	3		22
		Valid percent	18.20%	54.60%	13.60%	13.60%		100%

Source: own Survey, 2015

Concerning to the question raised about the plucking standards which the company applied during, 63.7% of the respondents have answered there is no proper plucking standards were maitained during the production process of the green leaf. 9% of the respondents have agreed that the company is followed proper plucking standards and the remaining 27.3% of the respondents are neutral. Therefore, from the result we can say that proper plucking standards have not followed by the company.

Regarding the question companies plucking should be able to comprise about standards of the green leaf, 68.2% of the respondents are not familiar for this green leaf standard. 18.2% of the respondents have agreed and the remaining 13.6% of the respondents are neither agree nor disagree. Hence, we can identify that pluckers are not aware of the type of the green leaf that should be plucked.

Employees were asked about deployment of adequate work force for harvesting maximum Kgs of green leaf, and about 68.2% of the respondents replied that there is no adequate work force deployment by the company. 13.6% of the respondents have agreed for adequate deployment of work force. On the other hand, 18.2% of the respondents are neutral. Even if 13.6% of the respondents have agreed, majority of the respondents have confirmed that there is no adequate deployment of work force. Having this result in mind, we can say that there is inadequate work force deployment.

Regarding the question raised for crop shoots are categorized as immature and course shoots in relation to the shoots of prescribed standards, 72.8% of the respondents have answered the crop shoots are not categorized as per prescribed standards. 13.6% of the respondents have agreed that there is crop shoots categorization. On the other hand, 13.6% of the respondents have no idea regarding crop shoots categorization. Hence, we can say that the crop categorization process is adequately maintained by the company.

Table 15 Plucking Table Management

Item	Statements		strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
1	The company plucking table is well packed smooth even and flat surface up on which new shoots come away uniformly	Frequency		4	4	8	6	22
		Valid percent		18.20%	18.20%	36.30%	27.30%	100%
2	The surface of the farm plucking table is parallel to the ground and adjacent row of bushes	Frequency		4	6	4	8	22
		Valid percent		18.20%	27.30%	18.20%	36.30%	100%
3	Long thin straight sticks are always necessary to use by the pluckers in harvesting process to maintain the plucking table flat.	Frequency		4	4	10	4	22
		Valid percent		18.20%	18.20%	45.50%	18.20%	100%

Source: own Survey, 2015

Regarding the question raised for plucking table is well packed even and flat surface up on which new shoots come away uniformly, 63.6% of the respondents said that the plucking table

is well packed and smooth. On the other hand 18.2% of the respondents are disagree and the remaining 18.2% are neutral. Even if majority of the respondents have agreed the plucking table is well packed and smooth even and flat, we can say that there is a gap for managing proper handling of plucking table in order to be well packed even and flat surface.

Employees were asked for the surface of the farm plucking table is parallel to the ground and adjacent row bushes. From the total respondents 54.5% have answered that the farm plucking table is parallel to the ground and adjacent row of bushes and 18.2% of the respondents are disagree. The remaining 27.3% of the respondents are neither agree nor disagree. Therefore, it indicated that the surface of the farm plucking table is not adequately managed to be parallel to the ground and adjacent row of bushes.

Concerning the question for long thin straight sticks are always necessary to use by pluckers, 63.7% of the respondents have agreed to use always long thin straight sticks. On the other hand 18.2% of the respondents are disagree and 18.2% are neutral. Even if majority of the respondents are aware to use long thin straight stick, some other workers are still not aware. Therefore, we can say that awareness creation related to the usage of long thin straight stick should be given to all pluckers.

More than 80% of respondents answered plucking table management has an effect on the production and 18.5% are disagree but, majority of the respondents answer can be taken and it indicating that plucking table management is another factor and needs emphasis.

Table 16 Green Leaf Handling

Item	Statements		strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
1	Plucked green leaf should always be protected from heat and should not spoiled before reaches the factory.	Frequency			2	5	15	22
		Valid percent			9.10%	22.70 %	68.20%	100 %
2	There must be temporary storage at convenient collection plot	Frequency			2	9	11	22
		Valid percent			9.10%	40.90 %	50.00%	100 %

Source: own Survey, 2015

Regarding the question raised above for plucked green leaf should always be protected from heat and should not spoiled before reaches the factory, 90.9% of the respondents replied that plucked green leaf should be protected and they are aware for the green leaf that can be spoiled by the heat before reaching the factory. Other 9.1% of the respondents are neither agree nor disagree. Therfore, we can say that proper protection of the green leaf from heat is maintained by the farm section.

Regarding the question raised above in the table for temporary storage at convenient collection plot, 90.9% of the respondents have agreed for the temporary storage availability and 9.1% of the respondents are neutral. Hence, we can say that if employees have agreed on availability of temporary storage at convenient collection plot, this can tell us the green leaf handling activity is well managed by the farm section.

Table 17 Plucking Round

Item	Statements		strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
1	The plucking round length of the farm is adjusted according to the rate growth of bushes shoot.	Frequency			2	12	8	22
		Valid percent			9.10%	54.50%	36.40%	100%
2	The plucking force and management have a discussion program for the harvesting process of the green leaf and transport to the factory.	Frequency			4	16	2	22
		Valid percent			18.20%	72.70%	9.10%	100%

Source: own Survey, 2015

Concerning the question raised for the plucking round length should be adjusted according to the rate growth of bushes shoot, 90.9% of the respondents said that the plucking round length is adjusted according to the growth of bushes shoot. Other 9.1% of respondents are neither agree nor disagree. Therefore, we can say that the plucking round length of the farm is managed according to the rate growth of bushes shoot.

For the question raised in the above table regarding the plucking force and management have a discussion programmed for the harvesting process of the green leaf and transport to the factory, 81.8% of the respondents said that there is a discussion and the remaining 18.2% of the respondents are neutral. From this result, we can identify that there is a discussion regarding the harvesting process between the plucking force and the management.

Table 18 Fertilizer Applicaton

Item	Statements		strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
1	Proper and timely application of fertlizer is maintained by the company.	Frequency	8	8	6			22
		Valid percent	36.4%	36.4%	27.3%			100%
2	The company uses NPK fertilizer to increase the farm yield.	Frequency	12	7	3			22
		Valid percent	54.6%	31.8%	13.6%			100%

Source: own Survey, 2015

Regarding the question raised for maintaining proper and timely application of fertilizer, 72.8% of the respondents replied that there is no proper and timely fertilizer application is maintained by the company and the rest 27.3% of the respondents are neutral. Hence we can say that proper and timely fertilizer application was not maintained by the company.

Concerning the question above in the table about the company uses NPK fertilizer to increase the farm yield, about 86.4% of the respondents have answered there is no NPK fertilizer application on the farm and the remaining 13.6% of the respondents are neither agree nor disagree. Hence, we can identify that there is no NPK fertilizer application made by the company.

Table 19 Manual and Chemical Methods of Weeding to Control Weeds

Item	Statements		strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
1	It is used both mannual and chemical methods of weed control by the company.	Frequency				5	17	22
		Valid percent				22.70%	77.30%	100%

Source: own Survey, 2015

For the question raised above on the use of manual and chemical methods of weed control, 100% of the respondents have agreed that the company is using both methods of weed control.

Table 20 East African Agri Business should considered the optimum time of pruning towards the end of the peak growing period, which is coincides with the start of the dry season.

Item	Statements		strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total
1	The optimum time of pruning towards the end of the peak growing period, which is coincides with the start of the dry season should be considered.	Frequency			4	10	8	22
		Valid percent			18.20%	45.50%	36.30%	100%

Source: own Survey, 2015

Regarding the question raised for time of pruning towards the end of the peak growing period which is coincides with the start of the dry season should be considered, 81.8% of the respondents have answered there should be optimum time of pruning which is coincides with the start of the dry season and will keep it regular time for growing and give the required product and the rest 18.2% of the respondents are neither agree nor disagree. Based on the result, we can say that employees are familiar with the activities related to time of pruning which coincides with the start of the dry season.

Table 21 Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.857[a]	.734	.586	4283.82894

Source: own Survey, 2015

a. Predictors: (Constant), Weed Control, Fertilizer Application, Plucking Standard, Plucking Interval, Plucking Table

From the model summary table R square result shows independent variables influence on dependent variable and we can identify that the dependent variable farm production is influenced by independent variables such as weed control, fertilizer application, plucking standard, plucking interval.

Table 22 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	454993440.692	5	90998688.138	4.959	.019[b]
	Residual	165160713.341	9	18351190.371		
	Total	620154154.032	14			

Source: own Survey, 2015

a. Dependent Variable: p3qn3a

b. Predictors: (Constant), Weed Control, Fertilizer Application, Placking Standard, Plucking Interval, Plucking Table

The anova table shows the regression model fitness and we can identify that from the result of the significant level the model is fit.

Table 23 Coefficients

Model	Un standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-33330.910	21024.326		-1.585	.147
Plucking Standard	12424.678	4915.057	.724	2.528	.032
Plucking Table	-13500.413	8296.106	-.498	-1.627	.138
Plucking Interval	-7306.966	3808.379	-.574	-1.919	.087
Fertilizer Application	1861.192	2266.502	.194	.821	.034
Weed Control	15275.983	6648.110	.808	2.298	.047

Source: own Survey, 2015

a. Dependent Variable: p3qn3a

The table indicating that the significant level of plucking standard and fertilizer application are statistically insignificant these two independent variables have much more influence on farm product, which means with standardized coefficients, the plucking standard (Beta=0.724) has a significant ($p \leq 0.032$) positive effect on the green leaf production. On the other hand, fertilizer application (Beta=0.194) has a significant ($p \leq 0.034$) positive effect on the farm green leaf production. Therefore, the company should give much more emphasis for these two factors, which are, influenced the dependent variable farm production.

Table 24 Correlations

		p3qn3a	Plucking Standard	Plucking Table	Plucking Interval	Time of Pruning	Weed Control	p3qn3bbynoofdays
p3qn3a	Pearson Correlation	1	.696**	.030	.350	.006	.413	-.384
	Sig. (2-tailed)		.004	.916	.201	.984	.126	.195
	N	15	15	15	15	15	15	13
Plucking Standard	Pearson Correlation	.696**	1	.216	.518*	-.143	-.018	-.086
	Sig. (2-tailed)	.004		.334	.014	.527	.938	.780
	N	15	22	22	22	22	22	13
Plucking Table	Pearson Correlation	.030	.216	1	-.156	-.164	-.315	.208
	Sig. (2-tailed)	.916	.334		.487	.466	.154	.494
	N	15	22	22	22	22	22	13
Plucking Interval	Pearson Correlation	.350	.518*	-.156	1	.233	.661**	.212
	Sig. (2-tailed)	.201	.014	.487		.296	.001	.488
	N	15	22	22	22	22	22	13
Time of Pruning	Pearson Correlation	.006	-.143	-.164	.233	1	.341	.312
	Sig. (2-tailed)	.984	.527	.466	.296		.120	.300
	N	15	22	22	22	22	22	13
Weed Control	Pearson Correlation	.413	-.018	-.315	.661**	.341	1	.123
	Sig. (2-tailed)	.126	.938	.154	.001	.120		.689
	N	15	22	22	22	22	22	13
Fertilizer Application	Pearson Correlation	.576*	.529*	.010	.280	-.529*	.041	-.144
	Sig. (2-tailed)	.025	.011	.965	.206	.011	.856	.640
	N	15	22	22	22	22	22	13

Source own Survey 2015

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

If the Pearson correlation is positive, the dependent variable and independent variables are positively correlated on the other hand if the person correlation is negative the dependent variable and independent variables are negatively correlated. Hence, when we see from the correlation table above having 1% level the plucking standard is strongly and positively correlated with the dependent variable farm production simultaneously having 5% level the fertilizer application is again strongly and positively correlated with dependent variable which is farm product.

4.3 Analysis of the qualitative data obtained from Interview.

The interview was made after the questionnaire has been fully collected and analyzed so the interview was designed to support and identify answers on the results of the questionnaire. The interview was held specifically with the unit farm Heads, field workers, supervisors and production Head. The purpose of the interview was to understand the major challenges that affects the farm productivity and also aimed to collect information regarding the challenges which affect the factory processing capacity utilization other than the farm productivity.

4.3.1 Plant population per hectare

According to the interview held with unit farm heads regarding the plant population per hectare, they said it depends on the spacing between plants and under the company's condition they adopted two types of spacing:

- If the space is 140 X 75 cm, the plant population will be 9500 bushes per hectare and,
- If the space is 120 X 60cm, the plant population will be 13888 bushes per hectare.

According to their response both spacing are recommendable but, evidences ascertained that close spacing has better advantage for suppressing weeds, decreasing erosion, better utilization of nutrient and decreasing water evaporation. Plants may die due to various causes, it may be disease or different types of mechanical damage, drought and planting error. Hence, from the total planted seedlings in some fields plant mortality has occur and they have a plan to infill the vacant places in order to replace the dead plants and to increase the farm yield.

4.3.2 Green leaf production per hectare

From the interview held with the field supervisors concerning to how many kilograms of green leaf can be produced from one hectare of land and, they said the company is producing at an average 13,303 Kilograms of green leaf but if all farm productivities are implemented properly, the green leaf production can be reach to 15750 Kilograms per hectare. The report which is produced by the company as indicated above in table 26 also shows the green leaf currently produced by the company.

4.3.3 Hectare of land covered by the plant

The question has been raised for hectare of land covered by the plant and they told the researcher 541 hectares of land has already covered by the plant and the yield is producing from this coverage only but the total green leaf collected from 541 hectares of land is not sufficient to use factory's full capacity. Having 15750 kilograms of green leaf production per hectare is the maximum capacity, it will cover only 63.1 percent production capacity of the processing factory. Therefore, in order to use the remaining 36.9 percent of processing factory capacity, there should be additional 316.14 hectares of land to cover the remaining green leaf gap.

4.3.4 Consistency of green leaf production

From the interview held with field workers and production heads for consistent green leaf production throughout the year, they said the production quantity is affected by the weather. According to their response, the peak months for harvesting the green leaf are October, November and December on the other hand January, February and March are severely dry seasons in the surrounding area and therefore, because of shortage of water the farm green leaf product will go down but during the remaining periods the production will be average. Hence, the farm is rainwater dependent and unless other solution is implemented. Irrigation is the best solution to solve problem of the water because there is a big river, which crosses the farm otherwise, the situation will continue the same.

Figure 1

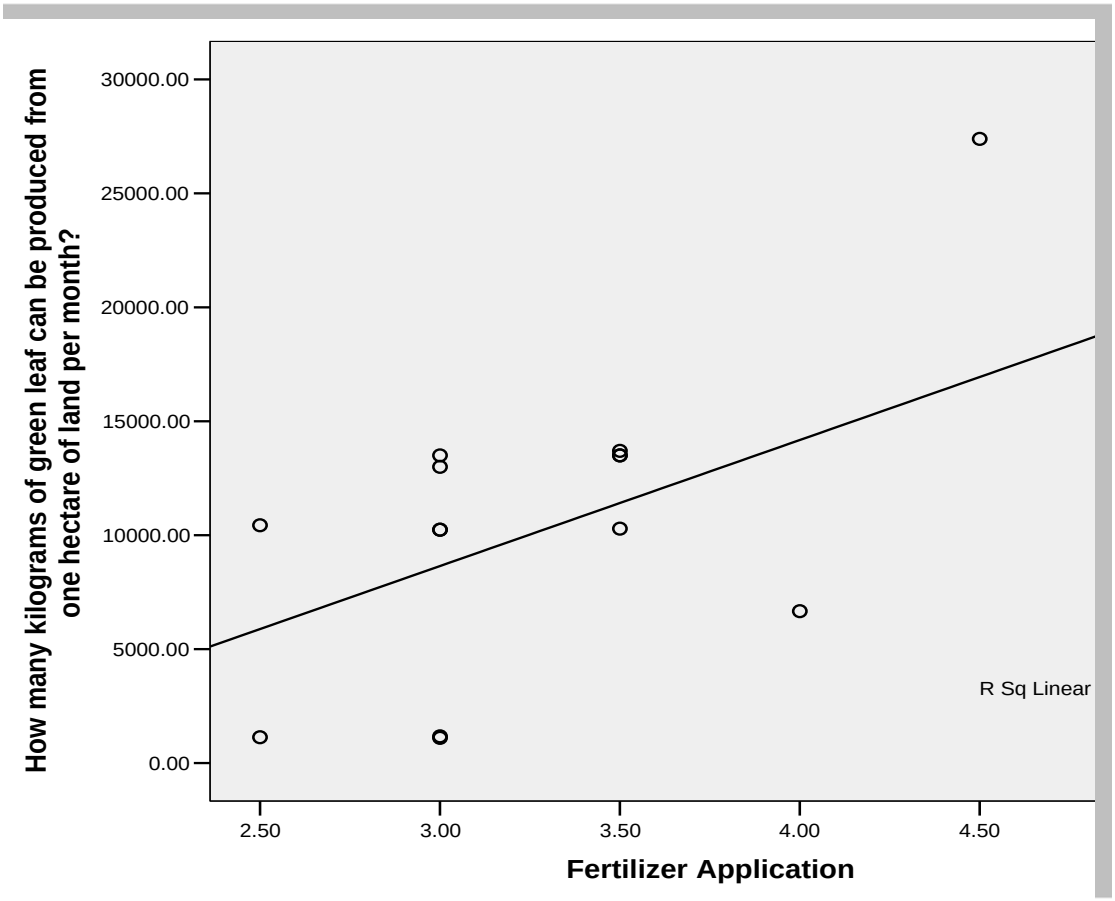
How many kilograms of green leaf can be produced from one hectare of land per month?
30000.00
25000.00
20000.00
15000.00
10000.00
5000.00
0.00
R Sq Linear
2.50
3.00
3.50
4.00
4.50
Fertilizer Application

Figure 2

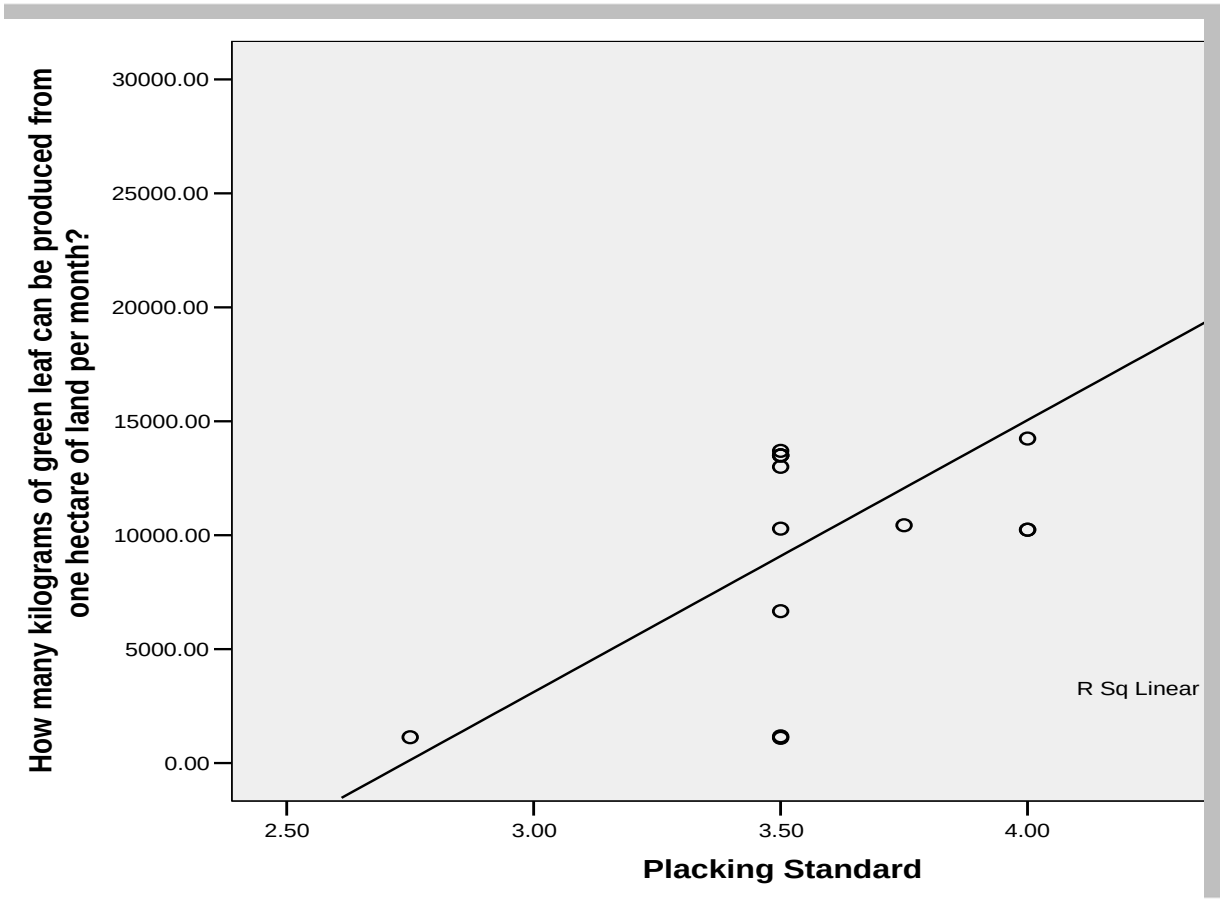
How many kilograms of green leaf can be produced from one hectare of land per month?
30000.00
25000.00
20000.00
15000.00
10000.00
5000.00
0.00
2.50
3.00
3.50
4.00
Placking Standard
R Sq Linear

Table 25

EAST AFRICAN AGRI BUSINESS PLC

GREEN LEAF PRODUCED AND CONVERTED TO MADE TEA REPORT

FROM JULY 2014 TO JUNE 2015

MONTH	UOM	GREEN LEAF PRODUCED	CONVERSION RATE	PRODUCED MADE TEA	FACTORY CAPACITY	GAP/DIFFERENCE
JULY	Kg	599,748.00	4.50	133,277.00	250,000.00	(116,723.00)
AUG	Kg	599,748.00	4.50	133,277.00	250,000.00	(116,723.00)
SEPT	Kg	599,748.00	4.50	133,277.00	250,000.00	(116,723.00)
OCT	Kg	719,697.00	4.50	159,933.00	250,000.00	(90,067.00)
NOV	Kg	719,697.00	4.50	159,933.00	250,000.00	(90,067.00)
DEC	Kg	719,697.00	4.50	159,933.00	250,000.00	(90,067.00)
JAN	Kg	479,798.00	4.50	106,622.00	250,000.00	(143,378.00)
FEB	Kg	479,798.00	4.50	106,622.00	250,000.00	(143,378.00)
MARCH	Kg	479,798.00	4.50	106,622.00	250,000.00	(143,378.00)
APRIL	Kg	599,748.00	4.50	133,277.00	250,000.00	(116,723.00)

MONTH	UOM	GREEN LEAF PRODUCED	CONVERSION RATE	PRODUCED MADE TEA	FACTORY CAPACITY	GAP/DIFFERENCE
MAY	Kg	599,748.00	4.50	133,277.00	250,000.00	(116,723.00)
JUNE	Kg	599,748.00	4.50	133,277.00	250,000.00	(116,723.00)
		7,196,973.00		**1,599,327.00**	**3,000,000.00**	**(1,400,673.00)**
				0.53	**100.00**	**(0.47)**

Source Company's Farm Production Report 2015

As per company's report, other secondary data and interview made with farm management, the farm can have a capacity to produce 3500 Kg of made tea per hectare and this is equivalent to 8,520,750Kgs of green leaf but as indicated from the above report in the year 2014/15 the farm actual product will be 7,196,973Kgs only. From this fact, there is a crop loss of 1,323,777Kgs, which is equivalent to 294,172.67Kgs of made tea, and this production loss will have a 10% down time influence on the factory processing capacity.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Based on the results of data analysis in the previous chapter, the following summary of major findings, conclusions and recommendations are drawn.

5.1 SUMMARY OF FINDINGS

Factors which influence the farm productivity, even if every farm activity has its own influence, the major factors for decreasing the farm yield as indicated and verified by the above analysis are plucking standard and fertilizer application. On the other hand, the weather itself plays significant role in the production process of green leaf. The farm is highly water dependent and the company is expecting this water only from rain. Hence, in the months of January, February and March there is severely dry season in the surrounding area, no water can get from rain, and the farm product will go down simultaneously, the factory down time relatively increasing. From field observation, the researcher identified the plant mortality and discussed with the farm management and they confirmed that these fields should be in filled by the seedlings otherwise it will be even a cause for farm product decrease.

5.2 CONCLUSIONS

From the above description and analysis of facts, the following conclusions can be drawn. Productivity growth refers to an increase in the value of output produced for a given level of input over a given period of time. The productivity will rise when inputs in the production process are optimally utilized to achieve greater levels of output. A number of different factors can cause agricultural productivity to increase or decrease. Developing the farm productivity of the company in order to meet the achievable result of the farm activities for a better results through efficient utilization of resources in the tea plantation development and harvesting process should be one of the focusing area in East African Agri Business Plc. Simultaneously, the company should focus on efficient utilization of the processing factory using the maximum farm product as an input and converting in to the final product which is finished good (made tea). Hence, the current farm green leaf productivity is not sufficient for full utilization of factory's attainable processing capacity. From this research it is identified that the farm can

produce more than which it produces currently and can be reduced down times of the processing factory. From the above analysis, it has clearly identified that major factors, which influenced the farm production, are plucking standard and fertilizer application but it does not mean that other factors have no contribution to increase or decrease the product. However, the following major activities are the main findings and which are factors to decrease the farm green leaf product and needs emphasis to work on it.

- ✓ The application of fertilizer to any crop is an important operation and also an economic question. All agricultural plants need balanced nutrients for healthy growth and resistance of the body. Supplying balanced mineral and organic fertilizer is very important to increase yield and quality. The analysis part of this study is indicating that one of the main factor which influence the farm product is fertilizer application. Hence, from the discussion and interview made with farm management it is identified that there is shortage and inconsistent fertilizer application.

- ✓ A number of important consideration must be borne in mind when tea bushes are plucked. Because they are the need to provide the factory with a regular flow of leaf which is suitable quality and quantity for processing. Plucking standard refers to the fineness or coarseness of the plucked shoots. Greater proportion of immature shoots in the harvesting process leads to crop loss. The harvesting of the green leaf is the most important task faced by the field management. The plucking standard of tea is the reason for the existence of the tea plantation and organization of harvesting to insure acceptable standard process able leaf requires daily attention and constant supervision. If pluckier succeed to catch up fields on determined time of plucking round, it may facilitate puckers to pluck standard type of leaf and gives possibility to complete estimated area and supply to factory sufficient amount of green leaf.

- ✓ Even distribution of rainfall throughout the year has a great influence on the plant as well as on the green leaf production. From the observation and secondary data and also confirmed by the management, during the months January, February and March there is severe drought. Hence, the product will go down due to shortage of water.

5.3 RECOMMENDATIONS

The following recommendations can help the company to take appropriate measure.

- The field management should always submit expected crop delivery to the factory management and it helps to plan and organize the processing activity.

- The company should design and implement irrigation project to supply adequate water during the dry season in order to reduce the green leaf loss.

- The harvesting of leaves and maintenance of the tea bushes have most significant role to play in crop yield and also plucking round can give maximum return in terms of both in production quality and quantity. There for, the company should have the standard plucking system and should exert its maximum effort in order to utilize it effectively.

- In order to fill the gap between farm product(green leaf) and factory processing capacity, the company must be focused on finding other farmers in the surrounding who needs to plant tea as out grower and can by the green leaf from them for both parties benefit.

- The production capacity of processing factory is 3000ton per annum and assuming the current 541 hectare of tea farm produces at 4000kgs made tea per hectare the capacity utilization of processing factory will 72% and hence, additional land is required to utilize idle capacity in the future.

BIBILIOGRAPHY

- Collinson Grant (2011) *Managing productivity*: Produced and Published by Collinson Grant, Ryecroft, Aviary Road, Worsley, Manchester M282WF July, 2011
- Desalegn Woemago (1990) Tea Cultural Practice and Implementation in Ethiopia: *A Guidance hand out for tea growers* (planters)
- De Vries, K. and McClafferty, B. (2013) Increasing Tea Productivity through improved nutrition: *A call to action*, Centre for Development, Wageningen University and Research Centre July,2013
- Dr. P. Sivapalan and Dr. R. Hardter (1994) Integrated crop Management in TEA: *Towards Higher Productivity, Tea research Institute-Colombo, Sirilanka April 26-27,1994*
- Elwood S. Buffa and Rakesh K. Sarin (1987): *Modern Production/Operation Management*, 8th edition, published by John Wiley and Sons.
- Ephraim W. Chirwa and Jonathan Kydd (2006): Farm Level Productivity in Small Holder Tea Farming in Malawi, *Working paper NO. 2006/03*
- Everett E. Adam and Jr. Ronald J. Ebert (2004) *Production and Operations Management*: Concepts, Models, and Behavior 5th edition
- Hari Prasad (2001) Peak season capacity conformance practice in processing Orthodox Tea, *TRIBHUVAN UNIVERSITY JOURNAL*, Nepal, Volume XXIII, No.1, June 2001.
- Jayamanne V.S. and Wijeratne Mahinde (2002) Adoptability of New Technology in the small Holdings Tea Sector in the low country of Sri Lanka: *Journal of Agricultural and Rural Development in the Tropic and Subtropics*, Volume 103, No. 2,2002 page 125-131.
- Kongkiti Phusavat (2013) *Productivity Management in an Organization:* Measurement and Analysis, Published by ToKnowPress, Bangkok, Celje, Lublin
- Lawrence R. Klein (1973*)* *Capacity Utilization:* Concept Measurement and Recent Estimates, University of Pennsylvania

- Nick Bloom and Stephen Dorgan (2007) *Management Practice and Productivity*: Why they matter, Published by Mikinsey and Company July, 2007
- PAUL S. ADLER (1987) *A plant productivity measure for high tech manufacturing*: Industrial Engineering and Engineering Department, Stanford University, Stanford,California 94305-4024
- Piero Iori and Reginaldo Borbosada Silva (2014) What Drives Decline Productivity in Ageing Tea Plantation, soil physical properties or soil nutrient status, *Journal of Agricultural Science* Volume 2, Issue 1(2014), 22-36, published by Science and Education Centre of North America
- R. Gupta and S.K.Dey (2010) Development of A Productivity Measurement Model For Tea Industry, *Journal of Engineering and Applied Science*, Asian Research Publishing Network.
- S. Anil Kumar and N. Suresh (2008), *Production and Operations Management* with skill Development, Caselets, and Cases, New Age International (P) limited, Publishers, New Delhi 2nd edition,
- Singh, s. (2000) Multinational corporations and Agricultural Development: A study of contract farming in the India Punjab, *Journal of International Development*
- Spring Sigapore (2011) *A Guide to Productivity Measurement*: Published by Spring Singapore Solaries, 1 Fusionopolis Walk (2011)
- S.N. Chary (2000) *Production and Operation Management* 2nd edition
- Wang, Junwen (2010) Quality Analysis in Flexible Manufacturing System With Batch Production, *University of Kentucky Doctoral Dissertations, Paper 51*.

ANNEX

SAINT MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

GENERAL MBA PROGRAM

Dear Respondents:

The main objective of this questionnaire is to gather data and opinion of respondents on Farm productivity impact on factory processing capacity utilization. The data and opinion will be used for writing a research paper for partial fulfillment of General MBA.

Your faithful and quick response will make the research fruitful. The information, which you provide, will be kept confidential. I shall indeed appreciate your cooperation in the conduct of this research by your retuning the completed questionnaire as soon as possible.

Note:

- Please do not write your name
- For objective questions tick the one you choose
- For subjective one, try to give precise and to the point response by writing on the space provided.

PART I GENERAL QUESTIONS (FARM)

1. Gender

   ☐ Male ☐ Female

2. Educational Background

   ☐ 12th Complete ☐ Diploma/Degree ☐ Masters

   ☐ Other, please specify_____

3. Experience in the organization

   ☐ For less than a year ☐ 2-5 years ☐ above 5 Years

4. Position in the organization

   ☐ Managerial position ☐ Section Head ☐Non managerial position

5. How long have you been working in your current position.

   ☐ Less than 1 year ☐ 1-3 years ☐ More than 3 years

PART II SPECIFIC QUESTIONS

(OBJECTIVE QUESTIONS)

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	Question	**1**	**2**	**3**	**4**	**5**
1	During the production process of the green leaf, the company is strictly followed proper plucking standards.					
2	Company's plucking should be able to comprise about 80% of two and bud, 10% three and bud and 10% soft banjhi immature shoots.					
3	EAAB is deploying adequate work force (pluckers) for harvesting maximum Kgs of the green leaf.					
4	Crops shoots are categorized as immature and coarse shoots in relation to the shoots of prescribed standards.					
5	The company-plucking table is well-packed smooth even and flat surface up on which new shoots come away uniformly.					
6	The surface of farm plucking table is parallel to the ground and adjacent row of bushes.					
7	Long thin straight sticks are always necessary to use by the pluckers in harvesting process to maintain the plucking table flat.					
8	Plucked green leaf should always be protected from heat and should not spoiled before reaches the factory.					
9	There must be temporary storage (leaf sheds) at convenient collection plots.					

		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
	Question	**1**	**2**	**3**	**4**	**5**
10	The plucking round length should be adjusted according to the rate growth of bushes shoot.					
11	The plucking force and management should have a discussion program to harvest the green leaf and transport it to the factory.					
12	Proper and timely application of fertilizer is maintained regularly by the company.					
13	The company uses NPK fertilizer as required to the tea plant to increase the yield.					
14	It will be better to use both manual and chemical methods of weed control by the company.					
15	The optimum time of pruning towards the end of the peak growing period, which is coincides with the start of the dry season should be considered by the company.					

INTERVIEW QUESTIONS

1. How many plant population density per hectare are in the farm?

_____

_____

2. How many kilograms of green leaf can be produced fron one hectare of land?

_____

_____

3. How many hectares of land is covered by the plant? _____

4. Does the company harvest the green leaf consistently throughout the year?

_____

SAINT MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

GENERAL MBA PROGRAM

Dear Respondents:

The main objective of this questionnaire is to gather data and opinion of respondents on Farm productivity impact on factory processing capacity utilization. The data and opinion will be used for writing a research paper for partial fulfillment of General MBA.

Your faithful and quick response will make the research fruitful. The information which you provide will be kept confidential. I shall indeed appreciate your cooperation in the conduct of this research by your retuning the completed questionnaire as soon as possible.

Note:

- Please do not write your name
- For objective questions tick the one you choose
- For subjective one, try to give precise and to the point response by writing on the space provided.

PART I GENERAL QUESTIONS (FACTORY)

1. Gender

   ☐ Male ☐ Female

2. Educational Background

   ☐ 12th Complete ☐ Diploma/Degree ☐ Masters

   ☐ Other, please specify_____

3. Experience in the organization

   ☐ For less than a year ☐ 2-5 years ☐ above 5 Years

4. Position in the organization

   ☐ Managerial position ☐ Section Head ☐Non managerial position

5. How long have you been working in your current position.

☐ Less than 1 year ☐ 1-3 years ☐ More than 3 years

PART II SPECIFIC QUESTIONS

(OBJECTIVE QUESTIONS)

		Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
	Question	**1**	**2**	**3**	**4**	**5**
1	The farm management of EAAB is always submit daily expected crop delivery to the factory management.					
2	Leaf coming to the factory is weighed, assessed for quality and then spread on the troughs.					
3	The factory and field weight of green leaf is always be similar.					
4	Always sacks that contained the green leaf are on trays to avoid any damage to the leaf by crushing and they are loaded with adequate aeration of the leaf.					
5	The optimum moisture removal is maintained and measured by the factory during withering process.					
6	There is planned and regular machinery maintenance by the company.					
7	When manufacturing starts, the metering of leaf to the cutting stream should always be accurate and no pile up of leaf.					
8	It is necessary to use minimum loading of leaf, minimum fan and warm air application.					
9	Trough records should always indicating the field that the leaf has come from and the number of sacks of leaf contained in the trough as well as the time the trough was filled and the leaf count.					
10	Humidity checks should always be recorded by the company as soon as spreading is complete.					

PART II SPECIFIC QUESTIONS

1. In order to produce one Kg of made tea, how many Kgs of green leaf does the company uses?

_____

DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Dr. Tesfaye Wolde . All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

_____ _____

Name Signature

St. Mary's University

MAY 2015

Addis Ababa

ENDORSEMENT

This thesis, titled "THE IMPACT OF FARM PRODUCTIVITY ON FACTORY CAPACITY UTILIZATION OF EAST AFRICAN AGRI BUSINESS PLC" has been submitted to St. Mary's University, School of Graduate Studies for MBA program with my approval as a university advisor.

_____ _____

Advisor Signature

St. Mary's University

May 2015

Addis Ababa