A STUDY ON TIME UTILISATION BY EMPLOYEES OF MOOPLY CL FACTORY AT HARRISONS MALAYALAM LIMITED

by
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(2014-31-114)

MAJOR PROJECT REPORT

Submitted in partial fulfillment of the requirements for the post graduate degree of

MBA IN AGRIBUSINESS MANAGEMENT

Faculty of Agriculture

Kerala Agricultural University

COLLEGE OF CO-OPERATION, BANKING AND MANAGEMENT

VELLANIKKARA, THRISSUR-680656

KERALA, INDIA

2016

Declaration

DECLARATION

I, hereby declare that this project report entitled **"A STUDY ON TIME UTILISATION BY EMPLOYEES OF MOOPLY CL FACTORY AT HARRISONS MALAYALAM LIMITED"** is a bonafide record of work done by me during the course of project work and that it has not previously formed the basis for the award to me of any degree/diploma, associateship, fellowship or other similar title of any other University or Society.

Vellanikkara
19-08-2016

SURUTHI SUNIL
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Certificate

CERTIFICATE

Certified that this project report entitled **"A STUDY ON TIME UTILISATION BY EMPLOYEES OF MOOPLY CL FACTORY AT HARRISONS MALAYALAM LIMITED"** is a record of project work done independently by Ms. Suruthi Sunil under my guidance and supervision and that it has not previously formed the basis for the award of any degree, fellowship, or associateship to her.

Vellanikkara
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I, the undersigned members of the advisory committee of Ms.Suruthi Sunil, a candidate for the degree of **MBA in Agribusiness Management**, agree that the project work entitled **"A STUDY ON TIME UTILISATION BY EMPLOYEES OF MOOPLY CL FACTORY AT HARRISONS MALAYALAM LIMITED"** may be submitted by Ms. Suruthi Sunil, in partial fulfillment of the requirement for the degree.

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Growing Legacies

HARRISONS MALAYALAM LIMITED

15th June 2016

MSS : EC

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Miss. Suruthi Sunil (2014-31-114), MBA student of Kerala Agricaltural University, College of Co-Operation, Banking & Management, Vellanikkara, Kau P.O, Thrissur-680 656, was permitted to do project work on ***"A study on Utilisation of Time by Employees of Mooply CL Factory"*** *of M/s HARRISONS MALAYALAM LIMITED. She has successfully completed the Project Work and submitted the copy of Project Report to the Management.*

For HARRISONS MALAYALAM LIMITED

(M.S SHEEJA)

Head – HR & Administration

Acknowledgement

ACKNOWLEDGEMENT

I humbly bow my head with infinite gratitude before almighty for all his blessings showered on me throughout my life and above all for the help extended tome through various known and unknown hands during the course of my project work.

I consider this as a moment of great delight to express my gratitude to all those who have lent me a helping hand, directly or indirectly in the completion of my work. I have no hesitation to declare that the outcome of the project is the culmination of the collective wisdom and encouragement of elites to whom I owe its credibility, however I will be failing in my duty if I do not endorse a few.

I express my heartfelt and sincere gratitude to ***Dr. V S Sukumaran****, Associate Senior Faculty, KILA Campus, Thrissur for his valuable guidance, support and tireless patience and incomparable concern during my project, even in the midst of his busy schedules. I sincerely acknowledge the effort he had taken and encouragement provided all through the process of doing this project.*

I wish to express my profound sense of gratitude and solemn indebtedness to ***Prof. (Dr.) Molly Joseph,*** *Associate Dean, for her enduring patronage and encouragement throughout my academic career.*

I reckon with inner heart, my deep sense of gratitude and solemn indebtedness to ***Prof. Philip Sabu****, Retired Director, MBA-ABM, for his care, support and constant guidance throughout my academic period.*

I remain grateful to ***Dr. E G Ranjit Kumar,*** *Director, MBA (ABM) and* ***Dr A M Jose,*** *Associate Director and placement officer for their advices, great guidance and inspiration throughout my academic career.*

I am highly gratitude to the officers of Harrisons Malayalam Limited especially HR Manager ***Ms. Sheeja M S****, Assistant HR Manager* ***Mr.Anish,*** *Factory Manager* ***Mr.Cherin,*** *Asst Manager* ***Mr.Bijinesh,*** *Factory Officers* ***Goplakrishnan*** *and* ***Arun,*** *Chemists* ***Jibin, Tigi and Anitha*** *for arranging all the necessary arrangements for me and all other employees for their wholehearted co-operation and support given during the course of my project work.*

The lifeblood of academic research is the library and I have been fortunate in getting support and co-operation from the staff of the library in College of Co-operation, Banking and Management, Kerala Agriculture University. I convey special thanks to our librarian ***Mr. K P Sathian*** *for all the support that he has shown.*

I wish to express my sincere thanks to all the teaching and non-teaching staffs of CCBM for their immense support and guidance extended during the college days especially Omana chechi and Nimisha chechi.

Last, but not least, I express my heartfelt sense of gratitude to my venerable and beloved parents, relatives and all my friends for their prayer, blessings, care and encouragement rendered to me throughout my project period, without which this report would not have been a reality.

Suruthi Sunil

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Design of the Study

Chapter - 1

DESIGN OF THE STUDY

1.1 Introduction

Harrisons Malayalam Limited (HML) is the most successful integrated agricultural operation in South India. One of the oldest - with a history that goes back over hundred and fifty years - it has been a pioneer in corporate farming and has, over this period, established and run plantations for Tea, Rubber, Cocoa, Coffee and a wide variety of Spices. Today the company cultivates about 14,000 ha and processes produce from other farmlands in its neighborhood. Rubber, Tea and Pineapple, respectively on 7,400 ha, 6,000 ha and 1000 ha of own farmland give the company its primary products .With a production of about 9,000 tons of Rubber, 20,000 tons of tea and 25,000 tons of Pineapple, HML is South India's largest agriculture operation. Mooply CL Factory of HML is a rubber factory which collects latex from individuals, rubber societies, Rubber Board companies and dealers and converts it into centrifuged latex according to customer specification.

A study on utilisation of time by employees is significant in an organisation in order to determine the success and performance of a company. This happen because, time is the measurement tools the level of company's performance. The measurement of the product or service successful would be known through the time study and time standard by work sampling and workers complaint. It shows that time is the most important thing in determining company's performance and develop the operation level of the company. Time is defined as a component that used in measurement system to arrange events, compare duration time of an event and measure the motion of work element. Time is the huge thing in religion, philosophy and science, but it is define in a situation without controversy, that could be avoid consistently because it suits all kind of field.

Mooply CL Factory of Harrisons Malayalam is in necessitate to know how the employees of the factory spend their time in several activities and this study observes each employee involved in factory operations and in production floor.

1.2 Statement of the problem

Mooply Rubber Estate in Thrissur is one of the main factories for processing latex of Harrisons Malayalam Limited. Here latex is taken from their own plantations and from individuals for processing. From the arrival of latex to the conversion of latex to centrifugal latex a long process is involved. The employees of Mooply Rubber Estate have raised issues regarding the insufficient workforce to complete the task. Thus a time study was done in this factory to know the utilisation of time spent by each employee on each task.

1.3 Objectives of the study

i. To know the utilisation of time spent on each task

ii. To record how much time is being devoted to each task.

1.4 Methodology

1.4.1 Sample design

Since the population of the study is limited the study will be census method.

Table 1.1 Number of samples for study

Designation	Number
Manager	1
Assistant manager	1
Factory officer	1
Assistant factory officer	1
Chemist	3
Supervisors	2
Electrical foreman	1
Mechanical foreman	1
Total	**11**

1.4.2 Method of data collection

Primary and secondary sources of data were collected for the purpose of this study.

- Primary data was collected by observing the employees task directly and interpreting what was observed with the active clarification of the person being observed, interviews was conducted with the employees when appropriate, and /or with other people who are present in the employees environment who knows them well.
- Secondary data was collected from the registers, records and files of Mooply CL Factory and through reading printed materials such as research journals, reference books related to research this subject, all previous research findings and articles needed to ensure the accuracy of the information, to enhance interpretation and understanding, and to produce high quality research. Information from Internet sources are also utilized in the best possible in the conduct of this study.

1.4.2 Data processing and analysis

Data collected through direct observation was processed and analysed with the help of tables and charts. The tables depict the time taken by employee for each day and charts show the total time spent for each activity.

1.5 Key observations made

Time taken by

1.5.1 Manager for

1. *Overall Management*
2. *Monitoring works*
3. *Discussion*
4. *Verifying records*
5. *Phone calls*

1.5.2 Assistant Manager

1. *New Product Development*
2. *Internal Audit*
3. *Instructions to Chemist*

1.5.3 Factory Officer

1. *Muster*
2. *Instructions*
3. *ERP entry*

1.6.4Assistant factory officer

1. *ERP entry*
2. *Store*
3. *Lab*

1.6.5 Chemist

1. *Ammonia*
2. *VFA*
3. *DRC*
4. *Cenex Standard Analysis*

1.6.6 Supervisor

1. *Weighing vehicles*
2. *Entering details*
3. *Supervision*

1.6.7Electrical foreman

1. *Electrical works*
2. *Instructions*

1.6.8Mechanical foreman

1. *Mechanical works*
2. *Instructions*

1.6 Scope of the study

Time study encompasses the development oriented activities of the organization through effective evaluation of performance, by predicting the level of output that may be achieved and by uncovering problems and creating solutions. The organisation will be able to know about how the employees' utilise their time and will help the company in making future decisions.

1.7 Limitation of the study

1. Since production is low the tight schedule of work could not be observed
2. Employees work could not be observed from the start to end of their work.

1.8 Chapterisation

The study has been designed into the following chapters:

Chapter -1 -- Design of the Study

Chapter -2 -- Review of Literature

Chapter -3 -- Harrisons Malayalam Limited - A Profile

Chapter -4 -- Time Utilisation by employees–An Analysis

Chapter -5 -- Summary of Findings and Suggestions

Chapter - 2

Review of Literature

Chapter - 2

REVIEW OF LITERATURE

A comprehensive review of the past studies is useful to formulate concepts, methodological issues relevant to the study and tools of analysis to be used for any research. Such a review could provide a frame of reference for the present study and serve as a point of literature for the future empirical investigation. This part of the study is an attempt to review the available literature in the area of direct observation and time study..

Koehler, Kenneth G(1992) found that the time study analysis required to dividing the worker's task into simple basic movements, removing the useless movements, identifying and timing the quickest motion paths and types and using the time taken to perform these activities as the standard time for completing the tasks. In the constructive time study, the elementary movements required in any activity were grouped together in different combinations. These were recorded and indexed so that this knowledge repository can be used to determine the time required to execute similar tasks in any job or factory setting. The results of these time studies done by Taylor are the Principles of Scientific Management.

Taylor and Steele (1996) concluded that observation is way of gathering data by watching behavior, events, or noting physical characteristics in their natural setting. Observations can be overt (everyone knows they are being observed) or covert (no one knows they are being observed and the observer is concealed). The benefit of covert observation is that people are more likely to behave naturally if they do not know they are being observed. However, you will typically need to conduct overt observations because of ethical problems related to concealing your observation. Observations can also be either direct or indirect. Direct observation is when you watch interactions, processes, or behaviors as they occur; for example, observing a teacher teaching a lesson from a written curriculum to determine whether they are delivering it with fidelity. Indirect observations are when you watch the results of interactions, processes, or behaviors; for example, measuring the amount of plate waste left by students in a school cafeteria to determine whether a new food is acceptable to them.

Keith Davis (1999) has rightly pointed out that, "An organization should identify their short-run and long-run employee needs examining their corporate strategies". This statement helps us understand that one should always adopt a situational approach to be more effective. Another most important conclusion is that it is the corporate strategies and objectives that set a planning horizon.

Barnes (2000) concluded in his study that time and motion studies are a core set of tools which are used by the managers in the industrial sector to enhance the performance or the operational efficiency. This is done by breaking down the work into simpler units and setting the execution benchmarks. This can be used in conjunction with the wage –incentive model which helps in increasing employee motivation. The time and motion studies were initially used to improve productivity in manufacturing units but later saw tremendous use even in the service industries.

Oke(2006), concluded in his paper that the time study concept in a production process is modeled mathematically. The modeling was developed with the application of differential calculus to the elements of the production systems that have significant effect on the output production from the system. This paper has argued for a need by current production managers or work-study engineers to embrace more quantitative approaches in the determination of time standards.

Heilman and Kennedy-Phillips (2011) The fundamental difference between organizational assessment using either effectiveness or efficiency measuring methods lays in the fact, that effectiveness is much broader perspective, which takes into account quality, creation of value added, employee satisfaction, and output interaction with the social and economic environment. While efficiency measures the relationship between inputs and outputs or how successfully the inputs are being transformed into outputs.

Liou & Borcherding (2011)reported that time study is a work measurement technique for recording the times and rates of working for the elements of a specified job carried out under specified conditions and for analyzing data so as to determine the time necessary for carrying out the job at a defined level of performance.

Mathis & Jackson(2012) reported that term "non–intrusive" is often used to characterize direct observation. Users do what they normally do without being disturbed by the observers. One of the advantages of this method is that users can be observed in the environment where the system is normally used. This is why direct observation is said to have high face validity, also referred to as external validity or ecological validity. However, one must always be aware of the possibility of the so called "Hawthorne Effect"; the fact that people usually perform better under observation because of the attention paid to them.

Galer (2012) reported that human resource audit is a systematic examination and analysis of an organizational workforce in an effort to create an understanding of the current staffing situation. The HR audit compares the past with the present labour specifications to identify trends and patterns in multiple aspects, including turnover, training, absence, and diversity. An HR audit can identify key information about HR operations, including how well they work, and where improvement may be needed. It is an extremely useful tool in HR planning. The information provided in an audit or skills inventory can be useful in identifying a number of workforce trends.

Lawrence S. Kleiman (2013) points out that it is necessary to analyse past trends in manpower activities and sift the significant points while preparing a forecast. This requires an understanding of the concept of the time series. A time series is a set of observed values recorded at intervals of time - 'data classified chronologically' - for example, monthly absenteeism rates. The recording of such a casual relationships between different variables - for example, is there a positive correlation between absence and age or length of service? or with prediction of future.

Drury C. G (2013) conducted a study on direct observation and found that direct observation does not allow observers to interfere in the users normal interaction with the products, which is of advantage for ensuring that realistic usage is observed, but is also of disadvantage in that the observer has to interpret what they observe without the active clarification of the person being observed, and that in addition they cannot control the experiences the person faces. This lack of control means that the observer may not see the user's responses to rarely occurring events which may be of interest and for this reason direct observation often needs to be used in conjunction with other techniques e.g. user trials. The final result from applying direct observation may be a list of problems with the product which can be used to provide improvements to the product being investigated.

Ferguson & David (2014) conducted a Time and motion study related to production rate and found that time and motion study an important aspect in business to determine the production rate. Another factor's that effect the production rate is raw material, operation cost, work force and others. All this factors will effect differently to each other. Even though, time is the most influence element this rate. Whether the motion time or the production rate, this element is taken care in any transaction in a company. When there is no time standard, any task could be finished out of pl In this study, the process that involved manpower in packaging process is determined and studied. While, a time standard is determined to know the time needed the process could be finished. In business, both of these elements are important to execute the maximum profitable production rate. Hence, with the application of Time and Motion Study the changes and improvement could be seen especially in cost and production matter. Time and Motion Study have the objective to eliminate work that is not required, the design method and the most effective procedure, which requires little effort, and in accordance with the individuals who use them. Moreover, it provides a method to measure job performance

Stuttaford & Genevieve (2014) reported that Time and motion studies can be used to determine the best possible method to perform the sub tasks in a worker's job. This is the original piece-rate compensation model to maximize the workers' productivity and to identify and train the employees on the basis of personality and skills analysis. The research on time study has evolved scientifically from the time of Taylor and Gilbert. Even in the current times, manufacturing companies still use the principles of time study to develop the best way of executing a particular task and thus increase the efficiency.

Jessica Iacono and Ann Brown (2014) have attempted to present the evidence in an unbiased and clear manner in a case example of participant observation. The study features a sample of vignettes of practice, from real life situations, quotes from company files, and a selection of photographs to illustrate concepts and substantiate statements. Care has been taken to fully display the evidence, and analyse the evidence objectively through within-case and cross-case analysis and pattern-matching, comparison with the extant literature, triangulation of data sources and of theories in order to satisfy methodological rigour, eliminate alternative interpretations and produce a compelling case. The reader is able to follow the researcher's argument, assess the validity of the findings, but form his/her own opinion.

Prof. Pramila. Adavi (2015) concluded that higher productivity in organizations leads to national prosperity and better standard of living for the whole community. Improving productivity through time and motion study is used in the manufacturing sector and allied industries. Work study consists of two aspects method study and work measurement which when applied effectively results to higher productivity. This paper deals with the use of work measurement for rebar placement activity and studying the performance of workers.

Mrs.D.Jaya kani and Ms.A.Saisathya (2015) conducted a Study on Performance Appraisal System at Wipro Infrastructure Engineering Pvt Ltd. After analysis it was found that human resources are the vital source of every organization. Every employee in an organization increases the productivity and goodwill of every company. An employee, being an individual is treated as assets in the organization. So the organization should mainly emphasis performance appraisal techniques and its development program. The process of appraising for doing their work effectively is known as performance appraisal system. It is very essential to understand and improve the employee's performance appraisal is the basis for HRD. It was viewed that performance appraisal was useful to decide upon employee promotion/transfer, salary determination and the like. Its roots in the early 20th century can be traced to Taylor"s pioneering Time and motion studies. Both the appraiser and appraise should realize the principle and use the tool of appraisal system in a constructive way for the prosperity of the organization. The performance appraisal technique prevailing in the organization is fair. If the suggested measures are taken into consideration it will help to increase the effectiveness of performance appraisal system.

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Chapter - 3
Harrisons Malayalam Limited- A Profile

Chapter - 3

HARRISONS MALAYALAM LIMITED – A PROFILE

3.1 Background and inception of the company

An integrated agriculture operation giant Harrisons Malayalam Limited is India's largest producer of rubber, South India's largest cultivator of Tea and perhaps the largest farmer of Pineapple in the region. It is also a major processor of other agricultural produce from neighboring farmlands. The company also produces smaller quantities of a variety of other exotic horticultural crops like Areca nut, Banana, Pineapple, Cardamom, Cocoa, Coffee, Coconut, Pepper and Vanilla as well as limited quantities of Organic tea and Spices.

Exotic horticulture being a labour intensive activity the company has been a major employer of people. It today has a workforce of about 15,000. Operating in rural India the company has been responsible in bringing economic activity to remote parts and providing basic amenities including healthcare to a population otherwise deprived of such support.

Over half of the workforce comprises of women. Equal status is accorded to them and they earn the same salaries as their male counterparts. HML is a company that has witnessed many seasons and weathered many storms. Today it is growing from strength to strength, taking advantage of the changing paradigm for agriculture in India for the improvement of agricultural sector.

HML is part of The RPG Enterprises, one of the largest business conglomerates in India with business interests ranging from tyres, cables, power transmission, telecommunications, pharmaceuticals ,specialty chemicals to retail and consumer marketing, hotel, tourism and entertainment .

3.2 Industry Profile

3.2.1 Rubber Industry

Joseph Priestley, in 1770, observed that a piece of a material was extremely good for rubbing of pencil marks on paper; hence the name "rubber" was given to that material. Later this material called rubber was used for many purposes around the globe and thus became a commercial product with much demand.

In India, commercial cultivation of natural rubber was introduced by the British planters, although the experimental efforts to grow rubber on a commercial scale in India were initiated as early as 1873 at the Botanical Gardens, Calcutta. The first commercial Heavea plantations in India were established at Thattekadu in Kerala in 1902.

The rubber industry in India is managed by the Indian rubber board and this is a statutory body constituted by the government of India with a view to ensure overall development in the rubber industry in India. There are two types of rubbers, natural rubber and synthetic rubber.

- The Size of the Indian Rubber Industry is: about 6000 unit comprising 30 large scale, 300 medium scale and around 5600 small scale and tiny sector units.
- Kerala is the leading producers of rubber, followed by Punjab and Maharashtra.
- Today Indian Rubber Industry consists of turnover of Rs.12000 crores.
- India is the world's largest producer and the third largest consumer of natural rubber.

3.2.2 Top Three Companies In Rubber Industry:

- Deluxe Rubber Industries.
- Madras Rubber Factory.
- Rubco.

3.2.2.1 Deluxe Rubber Industries:

Deluxe Rubber Industries is a leading supplier and manufacturer of all types of ebonite rollers and industrial rubber rollers for the past 40 years and the company has a long list of satisfied customers in different states of the country. Some of their products in the rubber industry include plastic machine roll, steel rolling mill roll, paper mill roll, textile roll, mini off-set printing and other printing rolls.

3.2.2.2 Madras Rubber Factor:

Madras Rubber Factor shortly and popularly called as MRF is a major manufacturer in the tire manufacturing industry in India and they are operating from their headquarters in the city of Chennai in Tamil Nadu. The company came into existence in the year 1949 and from the year 1952 they have ventured into the manufacture of tread rubber.

3.2.2.3 Rubco:

The Kerala State Rubber Co-operative Limited is shortly called as RUBCO and it is a market invention agency of government of Kerala for processing natural rubber directly from farmers. Right from its inception, the company has been acting as the major supplier of natural rubber to most of the popular tire companies not only in India, but also in foreign countries.

These companies contribute toward the development of rubber industry in India and in the rubber manufactured by these companies are consumed in the manufacture of different products like bicycles tires and tubes, footwear, automotive tire sector, latex, and camelback products, hoses and belts and several other products.

3.2.3 HML in Indian Rubber Market

In the early 1900's rubber was first planted on a commercial scale in India, as a major corporate in agriculture. Harrisons Malayalam took on the yet again pioneering work for yet another crop-having opened new areas for tea in the previous century.

Today the company has a total planted area of about 6000ha. This is spread over 10 estates. The Company produces 8.5 million kilograms from its own area and bought 1.5 million kilograms from neighboring holdings.

Rubber though tapped as latex, is processed into various rubber products a stabilized concentrated form of latex, smoked sheets, crepes and crumb/block rubber in a wide variety of grades.

HML is the industry leader in natural rubber production in India, having 10 rubber estates with a planted area of over 6666.91 hectares, located in prime rubber growing areas of the country. HML is the country's largest supplier of good quality natural rubber. The company has its own Research & development Centre, constantly supporting the plantation activities with regular leaf and soil analysis, fertilizer application management, research on new clones and tapping technology.

The company's current production of rubber is 8 million kgs per annum, with an average yield of over 1400kgs per hectare. HML enjoys the unique flexibility of production due to its well-developed facilities for manufacture of different grades and forms to suit any product mix. HML's focus has been on land and labor productivity, cost competitiveness materials and manufacturing, value addition, marketing and exports. The high yield, uniqueness in quality, unmatched product range and enviable product reputation have all enabled the company to sustain is leadership position in the market place over the past so many years.

3.2.4 Challenges to Rubber Industry

Our present challenges are with the small-scale units and major challenges are how they can cope up in the current scenario of:

- Global Competition
- Rising Fuel Cost
- Rising Raw Material Cost

3.3 Tea Industry

Tea in India is like a staple beverage and a day without it is impossible and incomplete. Indians prefer their steaming cup of tea because for them it acts as an energy booster and it is simply indispensable. This popular beverage has a lot of health benefits too as its antioxidants help to eliminate toxins and free radicals from the blood.

Originally tea is indigenous to the western and Northernparts of India. Commercial production of tea in India began after the conquest of large areas by the British East India Company, at which point large tracts of land were converted for mass tea production. The widespread popularity of tea as a recreational drink began in earnest in the 1920s, after a successful advertising campaign by the Tea Board and several mass promotion drives by the Government, using railway stations as a base.

The tea industry has expanded and grown tremendously over the years, making India the largest grower and producer of tea in the world. The tea production in India was 979,000 tonnes as of 2009. In terms of consumption, export and production of tea, India is the world leader. It accounts for 31% of the global production of tea. India has retained its leadership over the tea industry for the last 150 years.

The total turnover of this industry is roughly Rs.10, 000crores. Since 1947, the tea production in India has increased by 250%. There is a wide of tea offered by India, from Green Tea to CTC tea to aromatic Darjeeling tea and the strong Assamese tea, the range of tea available in India is unparalleled. Indians take a lot of pride in their tea industry because of the pre-eminence of the industry as a significant earner of foreign exchange and a significant contributor to India's GNP.

Today, India is one of the largest tea producers in the world, although over 70 percent of its tea is consumed within India itself. In this, India is also among the top 5 per-capita tea is consumers. A number of renowned teas, such as Assam and Darjeeling, also grow exclusively in India. The Indian tea industry has grown to own many global tea brands and has evolved into one of the most technologically equipped tea industries in the world. Tea production, certification, exportation, and all other facets of the tea trade in India are controlled by the Tea Board of India.

3.3.1 Modern Tea Production in India

India was the top producer of tea for nearly a century, but recently China has overtaken India as the top tea producer due to increased land availability. Indian tea companies have acquired a number of ironic foreign tea enterprises including British brands Tetley and Typhoo. India is also the world's largest tea drinking nation. As of 2013 the consumption of green tea in India was growing by over 50% a year. The major tea producing states in India are: Assam, West

Bengal, Tamilnadu, Kerala, Arunachal Pradesh, Himachal Pradesh, Karnataka, Sikkim, Manipur, Meghalaya, Orissa, and Bihar

3.3.2 Government and the Indian Tea Industry

The Indian tea industry as the second largest employer in the country has enjoyed the attention of the Indian government. When export sales went down, the government has been sympathetic to the demand of the industry and its cultivator. It has passed resolutions supporting the industry domestically and has also lobbied extensively with organizations like the WTO internationally

The Indian government took cognizance of the changed tea and coffee market and set up an Inter-Ministerial Committee (IMC) to look into their problems in late 2003. The IMC has recommended that the government share the financial burden of plantation industry on account of welfare measures envisaged for plantation workers mandated under the Plantation Labor Act 1951. Moreover, IMC has recommended to introduce means so that the agriculture income tax levied by the state governments can be slashed and the tea industry be made competitive.It has recommended that sick or bankrupt plantation estates should be provided with analogous level of relaxation for similarly placed enterprises/estates as are available to industries referred to BIFR.

A special Tea Term Loan (STTL) for the tea sector was announced by the Indian government in 2004. It envisaged restricting of irregular portions of the outstanding term/working capital loans in the tea sector with repayment over five to seven years and a moratorium of one year, which was to be on a case to case basis for large growers. The STTl also provides for working capital up to Rs.2 lakhs at a rate not exceeding 9% to small growers

3.3.3 Major Tea Producing Regions in India

Assam-

Assam Tea is a black tea produce from large-leaved of tea plants. The world's largest tea-growing region is situated in the side of great Brahmaputra River and receive high downfall during the monsoon. Tropical climate of Assam gives a unique feature to its tea, a malty taste for which this tea is well known in the world. Region of Cachar, lowlands of Assam and Barak

Valley are also produce small quantities of green and white teas. Assam is the only region with native tea plants in India and second in the world after southern region of China.

Darjeeling-

Darjeeling, the beautiful hill station of West Bengal, located in the Mahabharat range is known for major tourist destination along with its tea industry. The Himalayan city produces tea from small-leaved, which is known for its taste and aroma. Darjeeling tea is also known as black teas but now oolong and green teas are also becoming popular in the state to product; some area is also producing white teas. Each tea garden of Darjeeling produce teas of different characteristics in taste and aroma such as Arya, Badamtam, Ging, happy Valley Pussimbing and Kaley Valley.

Nilgiri-

Nilgiri is a District in the Tamil Nadu, and a mountain range spread across the Tamilnadu, Karnadaka as well as Kerala. Nilgiri tea is famous for its dark color, fragrant andflavored, Generally grown in the hills of the Nilgiris or bionatlue mountains of India is home to many beautiful hill stations like Ooty, Queen of hill station and Coonoor. Coonoor tea garden and Ooty tea gardens are famous as one of the popular tourist attraction.

Munnar

Tea county of Kerala, Munnar is famous hill station located on the majestic Western Ghats of India. The hill city is a range of mountains situated at the confluence of three mountain streams Madhurapuzha, Nallathanni and Kundlyrivers in the Idukki district. Scenic Tea gardens of Munnar are one of the major attraction along with beautiful flora and fauna around. Munnar is also known as one of the best monsoon destination in India destination in India. Teaplantation is spread from Munnar to Central Travancore and further south in state of Kerala. Apart from lush green hills and tea plantation Idukki is famous for its 168.91m tall arch dam, stands between the two mountains on the Periyar River known as Idukki Dam.

Himachal Pradesh-

In Himachal Pradesh, tea is grown in the Mandi and Kangradistncys over an area of 2,063 hectares. Kangra , known as "the valley of gods" is famous for its distinct flavoured tea.

Below the towering and exquisitely beautiful snow-clad Dhauladhar Mountain, tea has been grown on the gentle slopes of the outer Himalayas since 1949.

3.4 Major Challenges in the Industry

More than any other crop, tea plantations have changed the face of many countries. Tea has an ancient heritage, dating back, years. The tea sector faces unprecedented challenges, too big for any one company to tackle alone. The global consumption of TEA jumped 60% between 1993 and 2010. The future of Tea: A hero crop for 2030. The major challenges are:-

- Climate change.
- The effects of deforestation (from when the original forests were being replaced by the tea plant).
- Water shortage.
- Demands of fair wages from workers.
- Demographic changes.
- Resource constraints.
- Competition for land and productivity.
- Availability of labor and increase in mechanization.
- Balance of power across the supply chain.
- Emergence of new business models.
- Sustainability leadership in emerging economies.
- Consumer attitudes too food value.

3.5 HML Tea in the Indian Market

Tea was first planted in South India during 1800's. Initially tea was planted in areas seen as climatically similar to Assam and the Yunnan- primarly in then highlanda. These were over the next fifty years extended to lower elevations and a new agro climatic environment for tea established. Harrisons Malayalam Limited grows tea both in perhaps the highest elevation in the worlds as well as in low areas. As such, we are a producer of a wide variety of teas. Today the company produces about 20 million kg per annum, making it the largest producers of tea in South India.

The company produces about equal quantities of CTC and Orthodox teas and can shift production from one to the other depending on market needs. The company operates 10 Tea estates with a planted area of about 6000 ha and12Tea factories. The grades produced are Whole leaf, Broken, Fanning'sand Dust. The company also produces a limited quantity of Organic Orthodox/CTC teas from its Touamulla estate.

The local market prizes HML tea's and pays about the best prices for their marks. Their teas has won many accolades and at the first Golden Leaf India Awards in September 2005- a Tea Competition organized by the United Planter's Association of South India, the company was awarded for its tea's almost all the categories that the company competed in.

3.6 Company Profile

Harrisons Malayalam Limited (HML) is the most successful integrated agricultural operation in South India. One of the oldest - with a history that goes back over hundred and fifty years - it has been a pioneer in corporate farming and has, over this period, established and run plantations for Tea, Rubber, Cocoa, Coffee and a wide variety of Spices.

Today the company cultivates about 14,000 ha and processes produce from other farmlands in its neighborhood. Rubber, Tea and Pineapple, respectively on 7,400 ha, 6,000 ha and 1000 ha of own farmland give the company its primary products .

With a production of about 9,000 tonnes of Rubber, 20,000 tonnes of tea and 25,000 tonnes of Pineapple, HML is South India's largest agriculture operation. The company also produces smaller quantities of a variety of other exotic horticultural crops like Areca nut, Banana, Cardamom, Cocoa, Coffee, Coconut, Pepper and Vanilla as well as limited quantities of organic tea and spices.

Our operations are spread over 20 Estates, 8 rubber factories and 12 tea factories along with a number of blending and processing units in the three southern states of Kerala, Karnataka and Tamil Nadu. The product range includes both CTC and Orthodox Tea, Rubber in concentrated rubber latex, crepe, block and sheet rubber forms. Fresh Pineapple is the other large produce.

As a dominant player in tea exports from South India over its entire history,a position that it maintains even today, the company is a source for quality teas for all the big names in the Tea industry in Europe. Being the industry leader in natural rubber production, HML is known for its high quality natural rubber in the local and export markets. They give prime importance for quality.

Exotic horticulture being a labour intensive activity the company has been a major employer of people. It today has a workforce of about 15,000. Operating in rural India, the company has been responsible for bringing economic activity to remote parts of this region and providing basic amenities including healthcare to a population otherwise deprived of such support.

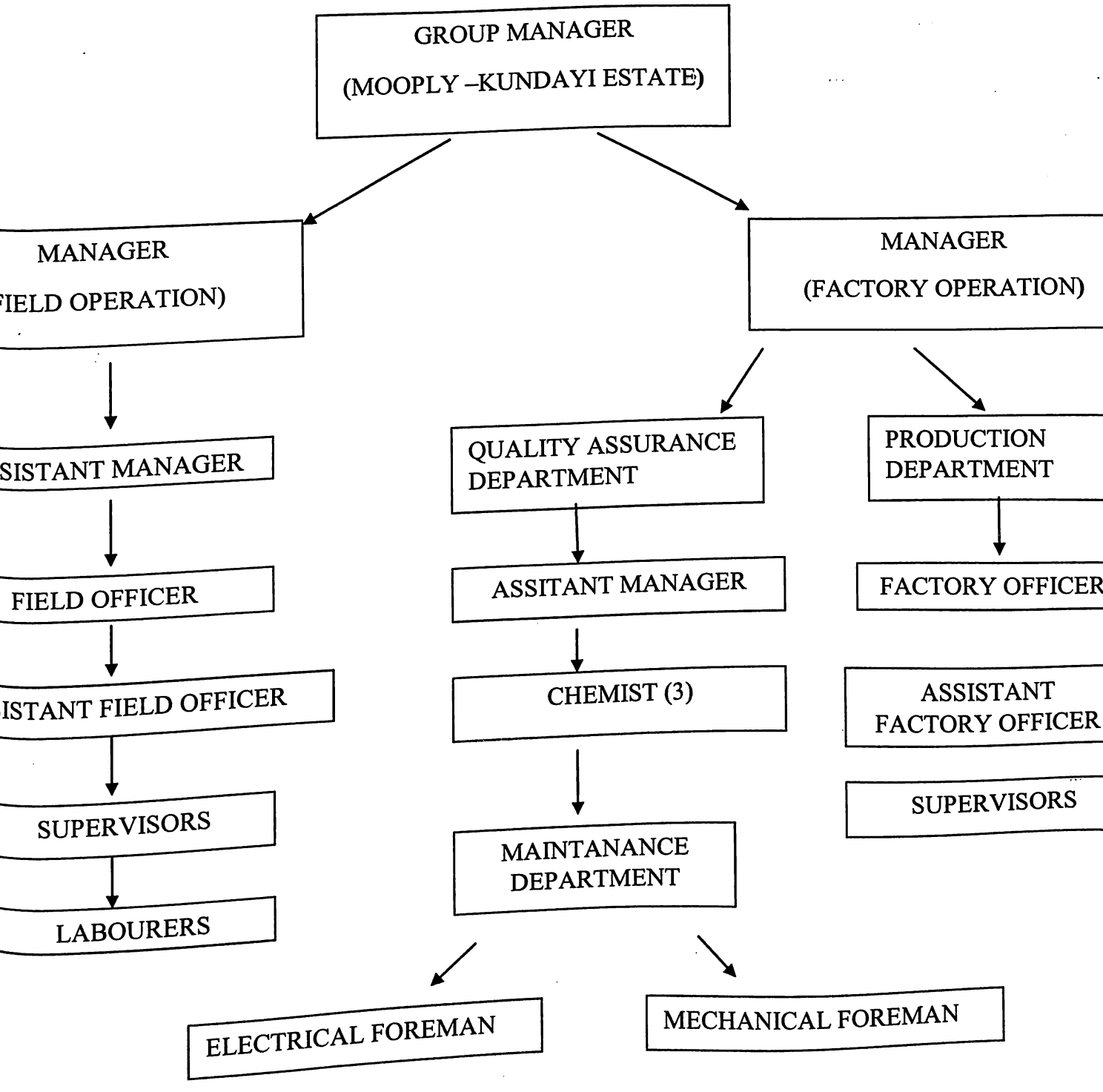
Over half of the workforce comprises of women. Equal status is accorded to them and they earn the same salaries/wages as their male counterparts. The company is part of RPG Enterprises one of the largest and well-respected industrial groups in India. The Group has a turnover of around Rs.73 Billion and interests in tyres, cables, power transmission, telecommunications, pharmaceuticals, specialty chemicals, retail and consumer marketing, hotel and tourism, entertainment and agri-business.

Listed on the National, Bombay and Cochin stock exchanges, HML has a paid up capital of Rs.184.50 million and a shareholder base of around 33,000.

3.7 Organisation Structure

Organization structure is the systematic arrangement of the people working for the organization to achieve predefined goal

ORGANISATIONAL STRUCTURE OF MOOPLY CL FACTORY



3.8 Objectives

- To build a successful and sustainable sector across the globe.
- To ensure fulfillment of departmental objectives.
- To expand export market to gulf countries.
- To sustain its leadership position in the market.

3.9 Products and Services

Harrisons Malayalam Limited operates its various businesses through independent divisions. The company has leveraged skills developed in one sphere of activity to complement the requirements of another. Over a period of time we have developed competence in all these areas. The various divisions are

- Tea
- Rubber
- Engineering and Services
- Trading & Exports

3.10 Human Resources

HML is one of the most exciting integrated agri-corporates to work with in this part of the world. The HR policies at HML revolve around the basic tenet of creating a highly motivated, vibrant & self-driven team. The Company cares for each & every employee and has in-built systems to recognize and reward them periodically.

Our work philosophy recognizes and encourages performance and we constantly strive to maintain a climate that nurtures ability and provides all round development of our employees - one in which they can grow and flourish.

The consolidated human resource policy focuses on selecting candidates with the right talent, capabilities and aptitudes from all sources - through campus placement programs and off-campus initiatives throughout the year at various locations. We also recruit experienced professionals from the industry at various mid-level and senior positions

We focus on induction, structured on the job training, developing and utilizing the full potential of recruits, clarifying expectations through job descriptions, education and development efforts. The skills and key competencies required for all positions of responsibility have been defined and these form the basis for advancement to higher positions.

Managers and supervisors constantly strive to achieve the highest standards of professional excellence and integrity. They encourage and motivate employees.

Periodic employee satisfaction surveys are carried out on the basis of which, areas of strength are reinforced and those of concern, are addressed.

HML also has the tremendous advantage of support from the RPG Group's HR department. Catering as it does to the needs of several thousand employees across several diverse industries, the RPG Group HR department encourages learning and development through:

1. Leadership Development Program designed in association with some of the best Management institutes in the world Like IIM (Banglore),IIM (Calicut),IIM (Ahmedabad)
2. Development Centers that map competencies and identify development needs
3. Freedom to identify your own training and development needs
4. Development Action Plans for Managers to bring cutting edge proficiency levels in managerial competencies
5. Rigorous cross-functional task force assignments to crack business challenges

The company believes in the overall development of the individual. H M L has always attracted young talent and advanced the best performers. The fact that most of the leaders of this industry in this part of the country been groomed and nurtured by the company stands testimony to this.

3.11 Rubber Marketing Department

Rubber industry was fragmented and small players were leading the market. They exploited the market by upholding rubber during the peak season and selling those at higher price. HML was the first company to emerge as a corporate into the rubber market. They mobilize latex from various sources and supplied according to the requirements. This reduced the exploitation of small players. HML is also keen in protecting the farmers through providing facilities to them. The barrels and transportation costs are being provided by the company itself and they give a base rate to farmers without exploiting them.

The USP of HML is bringing accuracy in weight and price. HML secures first position in providing quality rubber and they are keen in maintaining that position. They are indulged in good relationship with loyal customers.

There are five estates for HML Ltd in which three estates have factories functioning.

For 100 Kg of rubber produced,

88% - Latex (glouse, balloons, hose, thread, cycle tube glue etc.)

10% - Skim (floor mat, conveyor belt etc.)

1% - PRR (low quality chappals)

1% - Loss

Since production from own plantations is insufficient to meet the production capacity the company started procuring latex from other sources such as individuals , rubber societies, Rubber Board companies and dealers. The pricing of latex from these sources were fixed in terms of two operations. One is through providing fixed price and fixed quantity and the other one is through Rubber Board price. Rubber Board collects information from all rubber companies regarding their pricing of latex and calculates the average to determine the market price.

Since HML holds the number one position in quality standards, they quote a price higher than market price. This does not affect the customers who give prior importance to quality.

During the variations in demand and supply (due to seasonal variations), HML ensure that the requirements of end users are met duly. This is done through holding stock for the off season.

3.12 Commercial and Logistics Department

This department is centralized purchase department for both tea and rubber. 95% of the purchases take place through this department. Requirements of materials are dispatched from the estates to the head office. They collect information from registered suppliers and make negotiations based on four factors:

- Price
- Quality
- Delivery
- Payment

Based on these, the order is finalised and placed. This Material Receipt Report (MRR) is transferred to the accounts department in the form of soft and hard copy. Based on the payment it is released to the suppliers.

3.13 Awards and achievements

HML has been the recipient of many accolades and awards for its products and for the welfare work in the rural hinterland that it operates in.

At The Golden Leaf Indian Tea Award (TGLIA), organised by the Tea Board of Indian in March 2007 at Kochi, HML won the following awards fr the best tea quality in the following categories.

Wayanad Region

- Orthodox Leaf-Mayfield Estate.

High Range Region

- Orthodox Leaf - Lockhart Estate.

Bought Leaf Sector

- Orthodox Leaf - Terramia Factory

At The Golden Leaf Indian Tea Award (TGLIA), organized by the Tea Board of India in February 2006 at Dubai, HML won the following awards for the best tea quality in the following categories.

Wayanad Region

1) Orthodox Whole Leaf –Arrapetta Estate
2) Orthodox Fannings – Wentworth Estate

Travancore Region

1) CTC Leaf – Mongalaar Estate.
2) CTC Fannings – Moongalaar Estate.
3) Orthodox Leaf – Pattumalay Estate.

High Range Region

1) CTC Fannings – Surianalle Estate.

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At the inaugural Goldn Leaf South Indian Tea Competition, organized by the United Planters Assosiation of South Indian in September 2005, HML had pride of place when it won the largest number of awards for the best tea quality in a widw range of categories. These were:- High Range Region

1) CTC Leaf -Surianalle Tea Estate
2) CTC Dust -Surianalle Tea Estate

Travancore Region

1) CTC Fannings – Moongalaar Tea Estate
2) Orthodox Whole Leaf – Pattumalay Tea Estate
3) Orthodox Brokens – Pattumalay Tea Estate

Wayanad Region

1) Orthodox Dust – Arrapetta Tea Estate
2) Orthodox Whole Leaf - Wentworth Tea Estate
3) OrthodaxBrokens - Wentworth Tea Estate

The Federation of Indian Chambers of Commerce (FICCI) has, in recognition of efforts in the welfare of workers, given HML the Award for Corporate Initiative in the field of Family Welfare In 1990-1997 and 2000-2001

3.14 ISO Certification

Harrisons Malayalam has divisions for tea, rubber, spices, and horticulture crops, tissue cultures, engineering and services, marketing of branded consumer products, trading and exports, clearing and shipping. It produces about 20 million kg of tea annum through its 10 tea estates and 12 tea factories. It has 10 rubber estates producing 8.5 million kg of its own and processes another 1.5 million kg from others.

The company has 12 modern tea factories which include a new factory that incorporates the latest state of art technology with 4 line CTC capacity. The CTC tea production facilities of HML are ISO 14001-2004 certified –a reassurance of the highest quality standards maintained here are known for their liquor strength, flavor and color and have been widely accepted in the export as well as domestic markets. HML enjoys the unique flexibility to produce CTC and orthodox teas to meet with market demands.

The company engages in clearing and shipping activities with the merger of Harrison &Crossfieldand Malayalam plantations, has come out with a right issue in 1992 to part-finance its expansion and diversification projects. The company's factories i.e. Mooply, kumbazha centrifuge (Rubber factory) and Achoor factory are certified with ISO 14001-2004.

3.15 Future Expansion

- Entered in to a new venture that is making products by natural rubber, produced in their own estate. The brand name of that product is Footex it is adhesive (gum) utilized by chapel manufacturers.
- Company is also trying to enter into another new endeavor that is online marketing of tea through their website.

Chapter – 4

Time utilisation by employees-An Analysis

Chapter - 4

TIME UTILISATION BY EMPLOYEES- AN ANALYSIS

Mooply CL Factory of HML is a rubber factory which collects latex from individuals, rubber societies, Rubber Board companies and dealers and converts it into centrifuged latex according to customer specification. From the arrival of latex to the conversion of latex to centrifugal latex a long process is involved. The employees of Mooply CL Factory have raised issues regarding the insufficient workforce to complete the task. Thus a time study is done in this factory to know the utilisation of time spent by each employee on each task.

The time utilisation by employees of the Mooply CL factory was observed directly and interpreted what was observed with the active clarification of the person being observed, interviews was conducted with the employees when appropriate, and /or with other people who are present in the employees environment who knows them well. The data collected through direct observations were analysed and interpreted with the help of tables and charts.

4.1 Manager

The deputy manager administers the factory operations of Mooply CL Factory.

Table 4.1 Time taken by Manager to do each task

Work Activities	Time Taken
Verifying records*	2 hr 41 min
Phone calls	27 min
Discussion*	42 min
Overall management*	2 hr 16 min
Instructions*	41 min
Lunch break	52 min
Monitoring works*	2 hr 31 min
Work related visits*	50 min
Total	**11 hr**

Source: Primary data

***Verifying records**: The records that manager verifies include processing book, Own Latex Weighment, ETP Daily Monitoring Register, Water Consumption Monitoring Register, Cenex Analysis Register, Lab Correspondence Book, Bought DRC Analysts Register, Daily Purchase Register, Head Office MRR(Materials Receipt Register), Local MRR, Consumption Register, Weighment Register, Despatch Register

***Discussions:** regarding work with field officer, about suppliers with head of bought operations, about new product development with assistant manager and about tests in lab.

***Overall management:** Informing head office about the daily production activities and other issues in the factory, analysing stock inventory, non moving items, monthly wise details, shift wise output ,output efficiency, work details, Factory Cost analysis, operational analysis, dealing with bought operations, solving issues, maintaining good communication with workers and other office works.

***Instructions**: given to Factory Officer, assistant Factory Officer, Chemists, electrical and mechanical foreman and workers

***Monitoring works:** in latex dumping area, bowl washing area, packing area, Generator room, ETP works and tests in lab.

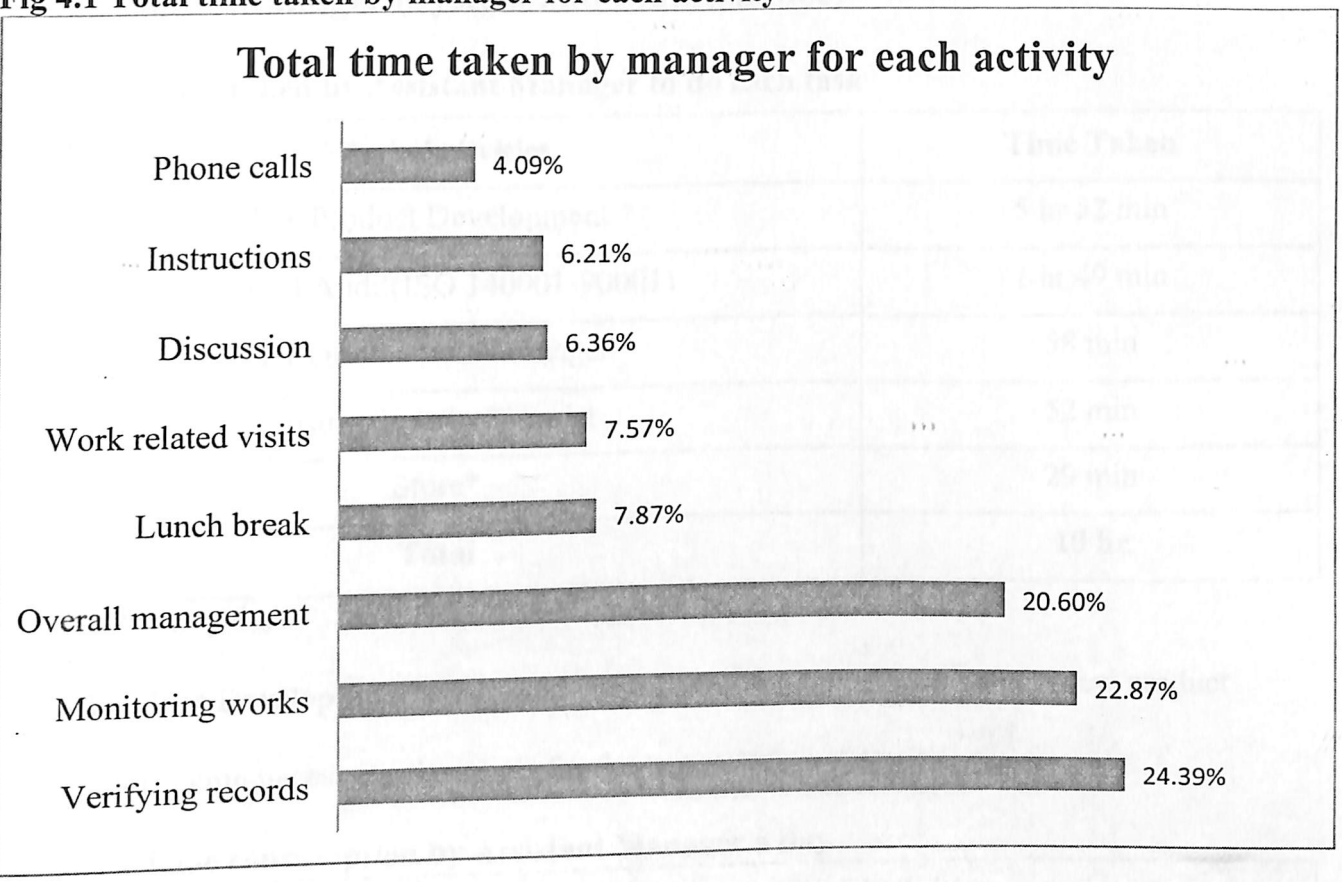
***Work related visits:** visit to office of Mooply estate for informing details of daily and monthly activities to Head office, for discussions with other group managers and for other office works.

Table 4.2 Time consumption by Manager a day

Time Taken	Activities
08:15 AM- 09:55 AM	Verifying records(Registers)
09:55 AM- 09:57 AM	Phone calls
09:57 AM- 10:05 AM	Discussion
10:05 AM- 10:10 AM	Records
10:10 AM- 12:30 PM	Overall Management
12:30 PM- 12:33 PM	Instruction
12:33 PM- 12:36 PM	Phone Calls
12:36 PM- 01:15 PM	Office
01:15 PM- 01:30 PM	Verifying records
01:30 PM- 02:00 PM	Discussion
02:00 PM- 02:55 PM	Lunch Break
03:00 PM- 03:07 PM	Inspection- Packing room
03.07 PM-03:15 PM	Discussion with Assistant Manager
03:15 PM-03:30 PM	Phone Calls
03:30 PM-03:50 PM	Monitoring Works
03:50 PM-04:18 PM	Verifying Records(Factory Cost Analysis)
04:18 PM-04:25PM	Phone Calls
04:25 PM-04:33 PM	Verifying Records
04:33 PM-04:40 PM	Instructions
04:40 PM-05:00 PM	Verifying Records

Source: Primary data

Fig 4.1 Total time taken by manager for each activity



Source: Primary data

The manager spends more than half of the office hours in the overall management of the factory, monitoring the hard work of workers and employees and analysing the records and registers of the factory. During the production hours he instructs the workers and teaches them how to do an exacting work. He maintains good communication with workers and subordinates, which makes him an approachable manager. Punctuality and quality of work is not compromised by him and a work done well by workers and subordinates are appreciated. Any divergence in the work is pointed out smoothly to them. He leaves for lunch merely after finishing all his duties and responsibilities.

4.2 Assistant Manager (System and Maintenance)

Table 4.3 Time taken by Assistant Manager to do each task

Work Activities	Time Taken
New Product Development *	5 hr 52 min
Internal Audit(ISO 140001-90001)	1 hr 49 min
Discussion with Manager	58 min
Instructions to Chemist	52 min
Store*	29 min
Total	**10 hr**

Source: Primary data

***New Product Development:** conducting tests in lab for the development of new product

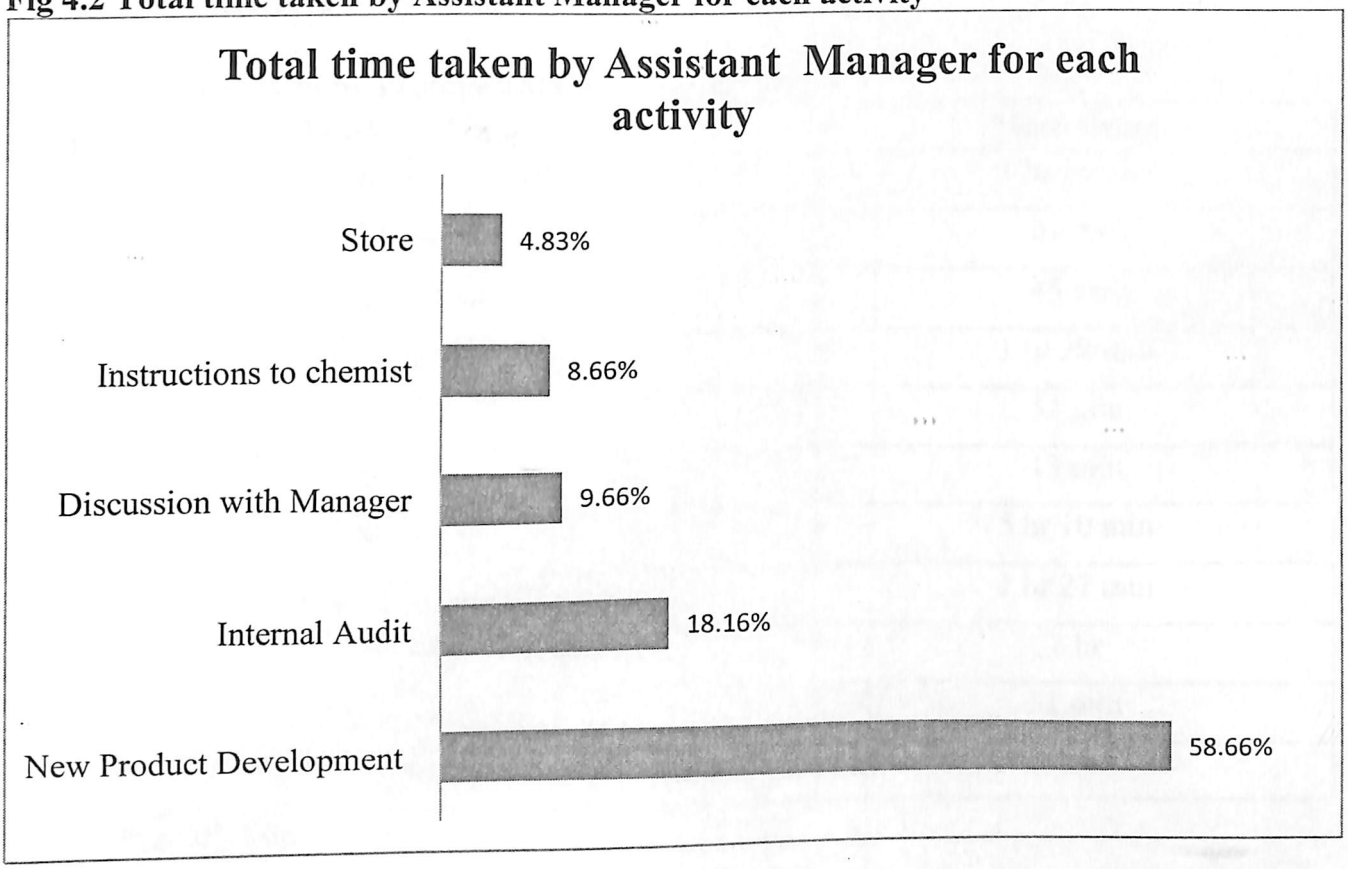
***Store:** for taking necessary chemicals for the test.

Table 4.4 Time consumption by Assistant Manager a day

Time	Activities
8:15 AM- 9.30 AM	Internal Audit(ISO 140001-90001)
9:30 AM- 9.45 AM	Instructions(Chemist)
9:45 AM- 10.08 AM	Internal Audit
10:08 AM- 10:11 AM	Instructions(Chemist)
10:11 AM- 12:14PM	New Product Development
12:14 PM- 12:32 PM	Store
12:32 PM- 12:53 PM	Discussion with Manager
12:53 PM- 03:10PM	New Product Development
03:10 PM- 03:22 PM	Store
03:22 PM- 03:50 PM	Discussion with Manager
03:50 PM- 05:00 PM	New Product Development

Source: Primary data

Fig 4.2 Total time taken by Assistant Manager for each activity



Source: Primary data

The assistant manager spends more than half of his working hours testing in lab for the development of new product and giving instructions to chemist. Conducting internal audit (ISO 140001-90001) is another deed for which the manager spends time.

.3 Factory Officer

Table 4.5 Time taken by Factory Officer to do each task

Work Activities	Time Taken
Planning for muster*	1 hr 10 min
Muster*	21 min
Instructions	45 min
Monitoring*	1 hr 29 min
Discussion*	54 min
Phone call	13 min
ERP entry*	5 hr 10 min
Attending issues*	1 hr 27 min
Break	2 hr
Other works	31 min
Total	**12 hr**

ource: Primary data

Muster: A meeting with the Factory Officer, Assistant Factory Officer and workers, where eneral works are assigned to workers by calling their names of workers

Planning for muster: identifying duties for the particular day, deciding how to and whom to llot the work by analysing the ability of the worker and categorizing work according to priority.

Monitoring: works done in ETP (Effluent Treatment Plant), Water Treatment System, kimming area, bowl washing

Discussion: reporting the results of monitored works to the manager, other work related iscussion with manager and office staffs.

ERP entry: Stock Balance and Physical Balance (2015-16), Payroll works and entering details rom all registers

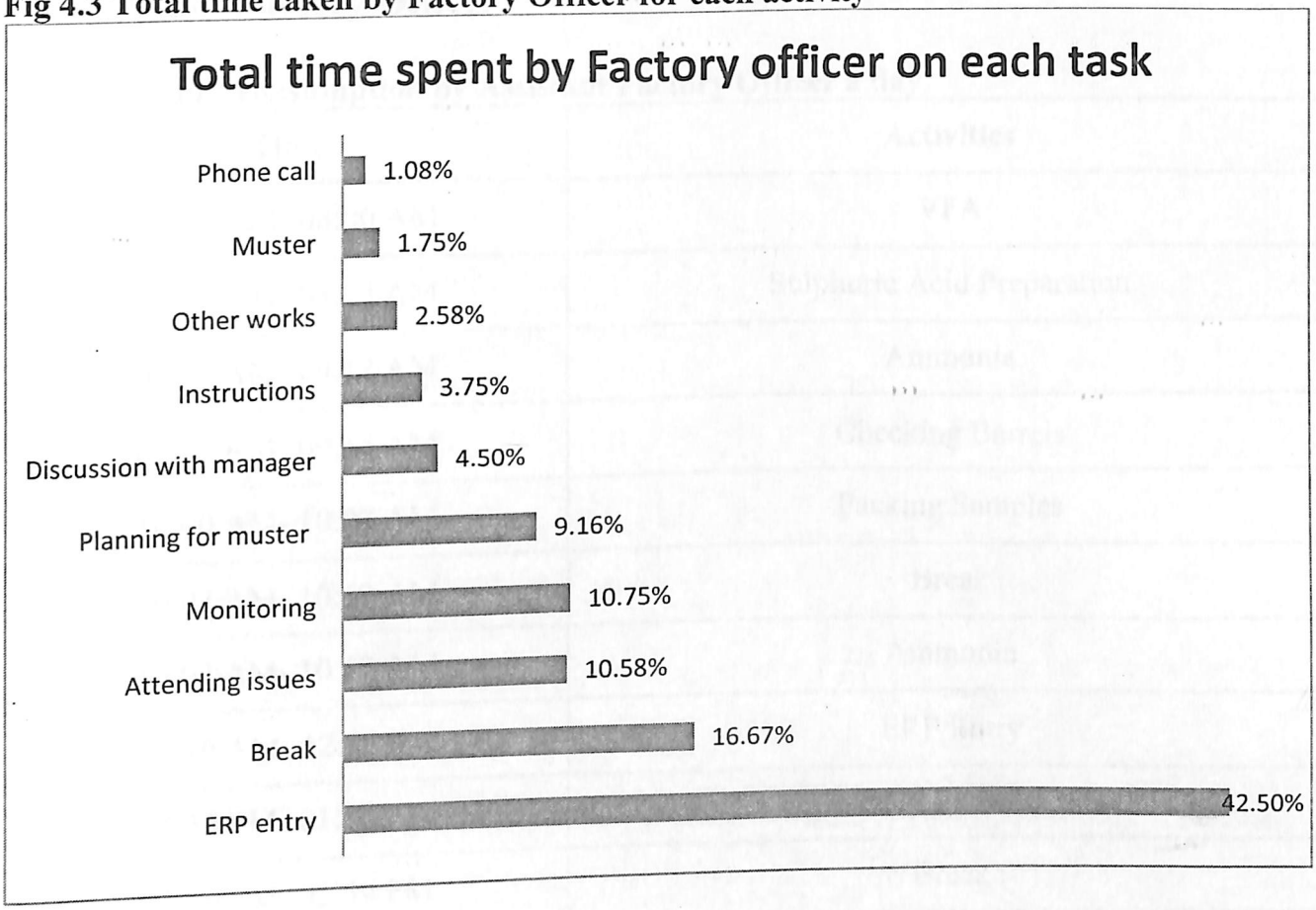
Attending issues: problems that occur between workers or during work are attended and solved mmediately

Table 4.6 Time consumption by Factory Officer a day

Time	Activities
06:20 AM- 07:10 AM	Planning for muster
07:10 AM- 07:20 AM	Giving instruction to worker
07:20 AM- 08:00 AM	Paper works
08:00 AM- 08:15 AM	Planning for muster
08:15 AM- 08:25 AM	Muster
08:25 AM-09:00 AM	Break
08:25 AM- 11:06 AM	ERP entry
11:06AM- 11:12 AM	Instructions to staff in office
11:12 AM-11:17 AM	Instructions to workers
11:17 AM-11:47 AM	Monitoring work done in ETP
11:47 AM- 12:01 PM	Addressing issues among workers
12:01 PM- 12:20 PM	Reporting to manager
12:20PM- 12:28 PM	Instructions to workers
12:28PM- 12:48 PM	Payment settling
12:48PM- 01:05 PM	Addressing issues of workers
01:05PM- 01:17PM	Phone calls
01:17 PM- 01:37 PM	Checking stock balance
01:37 PM- 02:16 PM	Discussion with manager
02:16 PM- 03:30 PM	Monitoring works
03:30 PM- 04:30 PM	Break
04:00 PM- 06:00 PM	ERP entry

Source: Primary data

Fig 4.3 Total time taken by Factory Officer for each activity



Source: Primary data

From the total time taken for each task, the Factory Officers give over 42 percent of his time for entering details in the ERP system. While planning for muster, the Factory Officer identifies works that are pending and allot the duties to the workers according to their ability. Instructions are given to the workers during the muster. The repair works of Effluent Treatment Plant are monitored and issues arising from such works are solved.

4.4 Assistant Factory Officer

Table 4.7 Time consumption by Assistant Factory Officer a day

Time	Activities
07:30 AM- 08:00 AM	VFA
08:00 AM- 08:23 AM	Sulphuric Acid Preparation
08:23 AM- 09:12 AM	Ammonia
09:15 AM- 09:55 AM	Checking Barrels
10:00 AM- 10.07 AM	Packing Samples
10:07 AM- 10:12 AM	Break
10:07 AM- 10:12 AM	Ammonia
10:19 AM- 12:35 PM	ERP Entry
12:35 PM- 01:36 PM	Payroll Works
01:36 PM- 01.59 PM	Break
01:59 PM- 02.50 PM	ERP Entry
02:50 PM- 03.02 PM	Weighing Latex
03:02 PM- 03:23 PM	Records
03:23 PM- 03.33 PM	Phone Call
03:33 PM- 04:02PM	Records
04:02 PM- 04:22 PM	Calculation Works
04:22 PM- 05:00 PM	Supervision
05:05 PM- 05:25 PM	Discussion
05:25 PM- 05:55 PM	Cenex Analysis

Source: Primary data

Table 4.8 Time taken by Assistant Factory Officer to do each task

Work Activities	Time Taken
ERP entry	3 hr 10 min
Break	1 hr 3o min
DRC(Dry Rubber Content)*	25 min
VFA(Volatile Fatty Acid)*	1 hr 20 min
Maintaining records*	1 hr 10 min
Testing Ammonia*	35 min
Discussion	20 min
Barrel checking*	15 min
Cenex Standard Analyse*	15 min
Total	**9 hr**

Source: Primary data

***DRC (Dry Rubber Content):** in this test quality of the rubber content is measured to determine the price of the rubber. It takes 12 minutes for coagulation and checking DRC and 6 hours for drying rubber.

***VFA (Volatile Fatty Acid):** this method is used to check whether the latex bought have, not more than 0.2 as VFA content in order to meet the standard requirements of HML. It takes 40 minutes to do this method.

***Maintaining records:**

***ETP Daily monitoring register:** amount of chemicals added for processing of waste water

***Water Consumption Monitoring Register**: recording amount of consumed water in main water tank and in machine floor.

***Cenex Analysis Register**: records of standardising rubber according to the requirements of the customer.

Given below is the process of standardisation of Cenex, where Ammonia should be 0.65 and DRC 60.04. If Cenex does not reach the standard after adding Lauric Acid, Mechanical Stability Test (MST) is done and if it is low, Lauric acid is added till Cenex meet the specified requirement.

Table 4.9 Cenex Analysis Register (11-4-2016)

Date	Time	Process	Result
11/4/2016	8.00 am	0.03% Lauric Acid added	
		Ammonia	0.53
		DRC	60.65
	1.50 pm	Ammonia	0.58
		DRC	60.46
12/4/2016	11.30 am	Ammonia	0.59
		DRC	60.23
	3.45 pm	**Ammonia**	**0.63**
		DRC	**60.05**

Source: Primary data

***Lab Correspondence Book:** Time taken for various work in the lab.

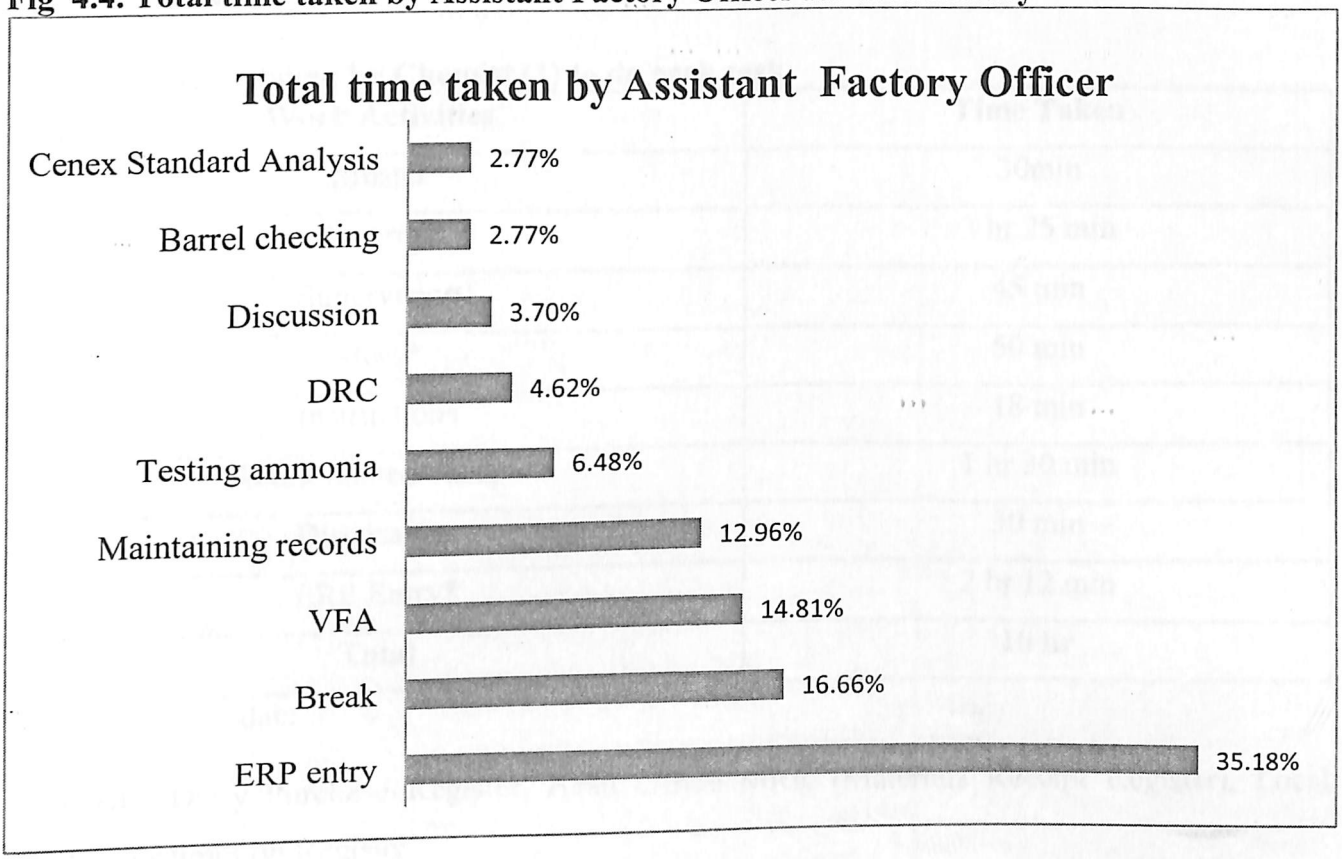
***Bought DRC Analysis Register**: determining the quality and price of the rubber

***Testing Ammonia:** this test takes 10-12 minutes to know how much Ammonia is present in the latex and determines how much is required to be added. Ammonia acts as a preservative to control the VFA.

***Barrel checking:** to ensure that the barrels do not contain any foul smell in order to decide whether to test sample for acceptance or rejection.

***Cenex Standard Analysis:** Cenex collected in tank undergoes VFA test to determine the amount of Ammonia to be added in the tank. Accordingly instructions are given to workers or supervisors.

Fig 4.4. Total time taken by Assistant Factory Officer for each activity



Source: Primary data

The Assistant Factory Officer (AFO) is involved in doing the task of an AFO and of a Chemist. Through maintaining records, involving in discussions and entering ERP he does the duty of AFO and through testing samples, Ammonia, VFA, DRC and Cenex Standard Analysis he is drawn to the responsibility of a Chemist.

4.5 Chemist

Mooply CL Factory consists of 3 Chemists who assists the QC (Quality Control) in charge in testing samples and standardisation of latex as per customer prerequisite.

CHEMIST (1)

Table 4.10 Time taken by Chemist (1) to do each task

Work Activities	Time Taken
Muster	30min
Records*	3 hr 25 min
Supervision	45 min
Store*	50 min
Instructions	18 min
Work related visits*	1 hr 30 min
Discussions	30 min
ERP Entry*	2 hr 12 min
Total	**10 hr**

Source: Primary data

***Records**: Daily Purchase Register, Head Office MRR (Materials Receipt Register), Local MRR, Consumption Register

***Store:** maintaining records of the store, giving orders according to the purchase needs of chemicals such as Lauric acid, Ammonium solution, Ammonia etc., issuing materials to the users

***Work related visits:** Due to the frequent repair works of the computer time is wasted by sending information's to Head Office from the main office of Mooply Rubber Estate.

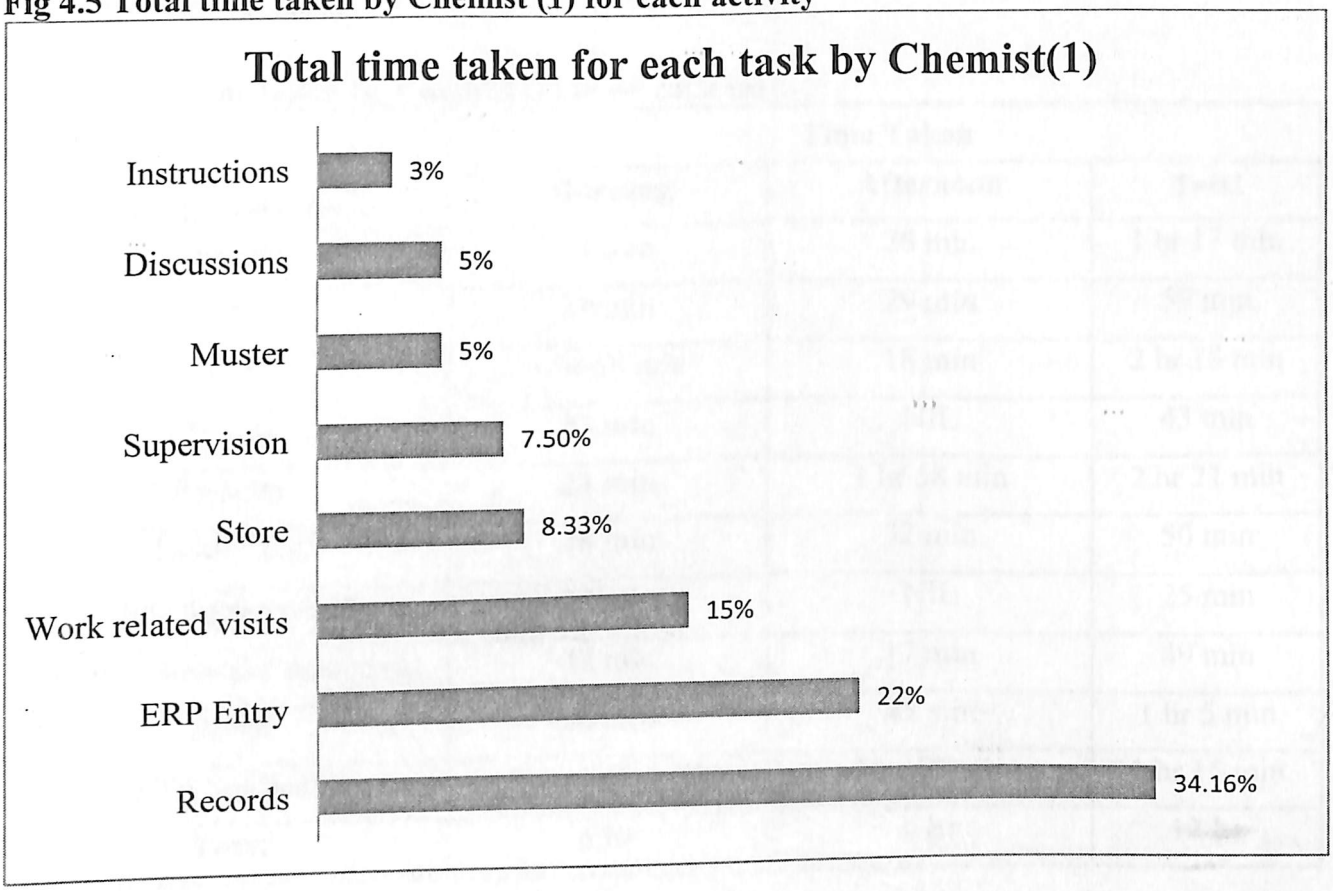
***ERP Entry:** details of purchase bills, settled bills, despatch documents, store details and production activities.

Table 4.11 Time consumption by Chemist (1) a day

Time	Activities
07:00 AM- 07:20 AM	Muster
07:20 AM- 08:00 AM	Records
08:20 AM- 08:10 AM	Muster
08:10 AM- 09:55 AM	Records
10:00 AM- 10:26 AM	Supervision
10:26 AM- 10:28 AM	Instructing workers
10:28 AM- 10:38 AM	ERP Entry
10:38 AM- 11:00 AM	Supervising works
11:00 AM- 11:55 AM	Records
12:00 PM- 12:30 PM	Went out to office(for bill settling)
12:35 PM- 12:40 PM	Store
12:40 PM- 12:55 PM	Discussion with manager
12:55 PM- 02:00 PM	Went to office
02:00 PM- 02:20 PM	Store
02:20 PM- 02:30 PM	Instruction to workers
02:30 PM- 02:45 PM	Store
02:45 PM- 03:45 PM	ERP entry
03:45 PM- 04:00 PM	Records
04:00 PM- 05:00 PM	ERP entry

Source: Primary data

Fig 4.5 Total time taken by Chemist (1) for each activity



Source: Primary data

He is holding the post of a Chemist and does the job of an Assistant Factory Officer and Store in Charge. While maintaining records and ERP entry becomes the core duty, supervising and instructing comes as secondary duty. Being in charge of the store, receiving request for purchases, ensuring receipt of materials from suppliers, issuing materials to user departments and ensuring minimum stock level of inventory become the responsibility of the Chemist.

4.6 Chemist (2 & 3)

Table 4.12 Time taken by Chemist (2) to do each task

Work Activities	Time Taken		
	Morning	Afternoon	Total
Ammonia	51 min	26 min	1 hr 17 min
DRC	30 min	29 min	59 min
VFA	1 hr 58 min	18 min	2 hr 18 min
Barrel	43 min	NIL	43 min
Records	23 min	1 hr 58 min	2 hr 21 min
Discussion	18 min	32 min	50 min
Slips for samples*	25 min	NIL	25 min
Cenex Standard Analysis	32 min	17 min	49 min
Break	20 min	45 min	1 hr 5 min
ETP Studies*	NIL	1 hr 15 min	1 hr 15 min
Total	**6 hr**	**6 hr**	**12 hr**

Source: Primary data

Table 4.13 Time taken by Chemist (3) to do each task

Work activities	Morning	Afternoon	Total
Ammonia	40 min	23 min	1 hr 3 min
DRC	35 min	24 min	59 min
VFA	1 hr 37 min	26 min	2 hr 3 min
Barrel	23 min	0	23 min
Records	20 min	42 min	1 hr 2 min
Discussion	10 min	23 min	33 min
Slips for samples	12 min	19 min	31 min
Cenex Standard Analysis	13 min	12 min	25 min
Break	20 min	40 min	1 hr
ETP Studies	0	1 hr 1 min	1 hr 1 min
Total	**4.5 hr**	**4.5 hr**	**9 hr**

Source: Primary data

4.14 Time consumption by Chemist (2 and 3) a day

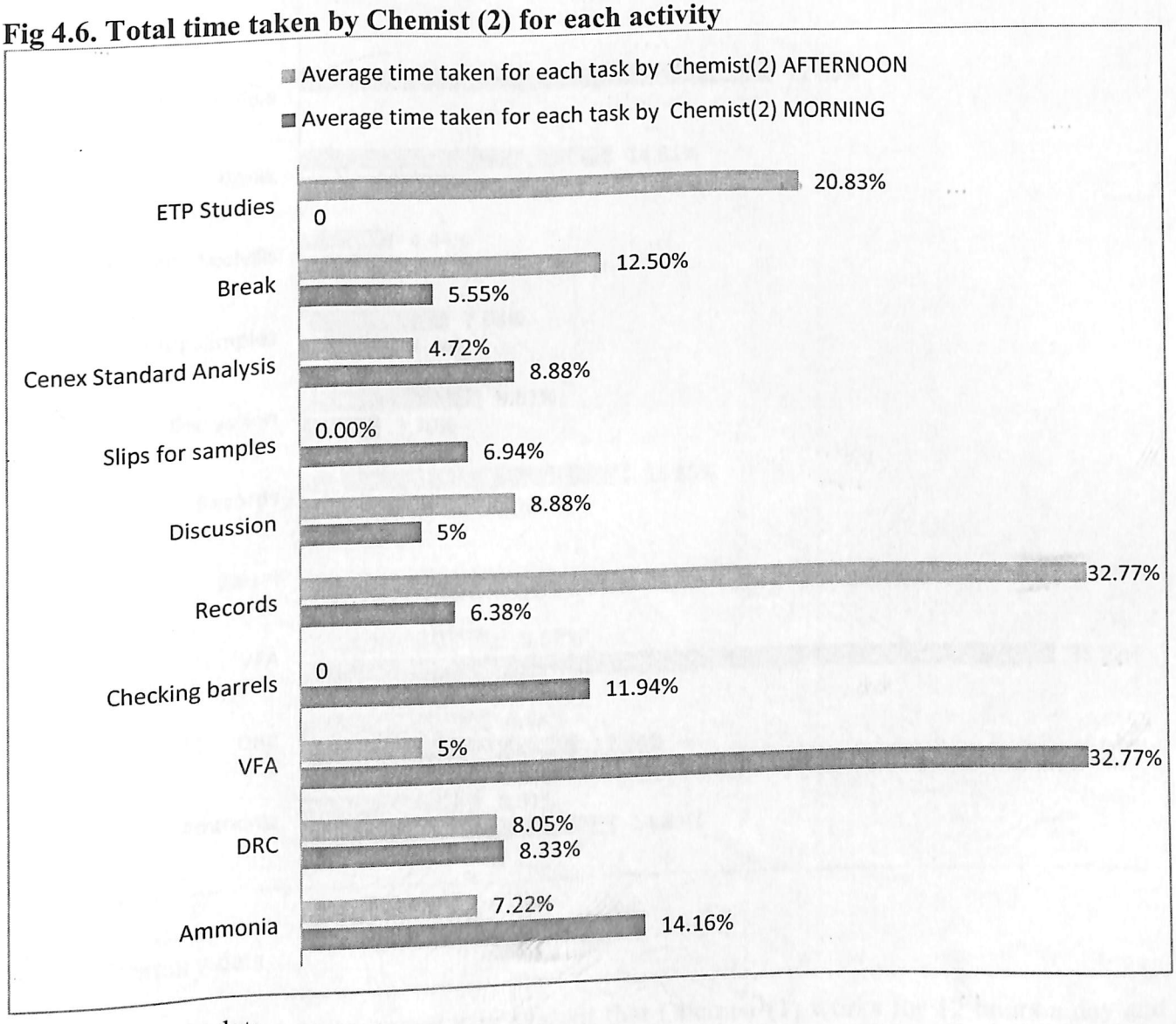
Time	Activities
07:30 AM- 08:12 AM	VFA
08:12 AM- 08:53 AM	Ammonia
08:53 AM- 09:15 AM	Discussion with assistant manager
09:15 AM- 09:30 AM	VFA
09:30 AM- 09:34 am	Register
09:34 AM- 09:45 AM	Ammonia
09:45 AM- 10:10 AM	Break
10:23 AM- 10:56 AM	VFA
10:56 AM- 11:45 AM	Records
11:45 AM- 11:50 AM	Tea
11:50 AM- 12:20 PM	Records
12:20 PM- 12:40 PM	Discussion with assistant manager
12:40 PM- 01:17 PM	Ammonia
01:17 PM- 01:46 PM	DRC
01:46 PM- 01:51 PM	Record
01:51 PM- 02:25 PM	Ammonia
02:30 PM- 03:16 PM	Cenex Standard Analysis
03:16 PM- 03:48 PM	Break
03:48 PM- 04:12 PM	Records
04:12 PM- 04:49 PM	Ammonia
04:49 PM- 05:15 PM	Ammonia

Source: Primary data

***Slips for samples:** writing suppliers code and date in the samples.

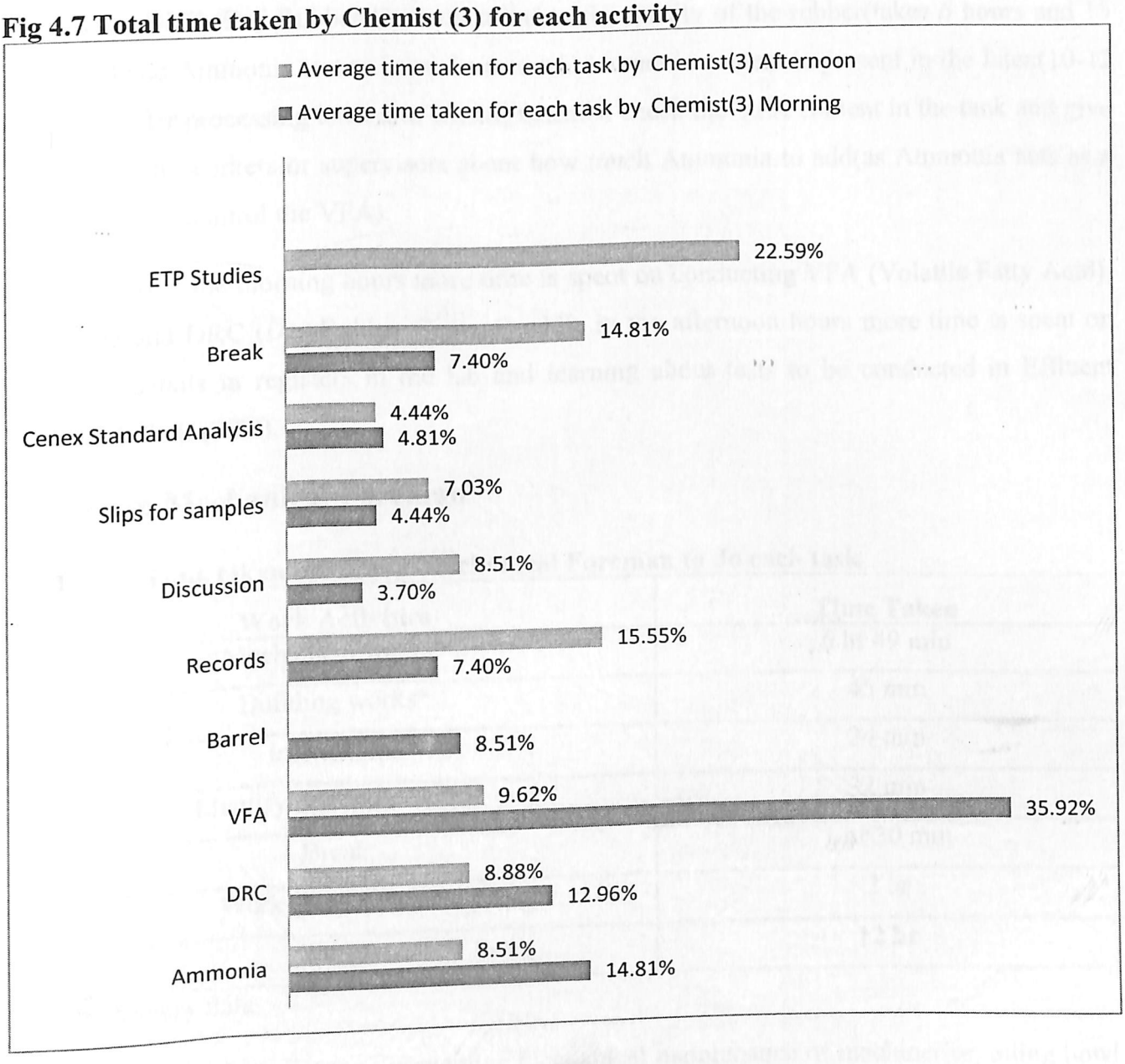
***ETP Studies:** time taken to learn about Effluent Treatment Plant and several tests to be done in ETP

Fig 4.6. Total time taken by Chemist (2) for each activity



Source: Primary data

Fig 4.7 Total time taken by Chemist (3) for each activity



Source: Primary data

From the chart given above it is evident that Chemist (1) works for 12 hours a day and chemist (2) 9 hours a day. The data collection period was during dry production phase where only few numbers of barrels reaches the factory. With a few samples for testing the working hours of Chemist becomes a tight schedule as they have to check the barrels first to ensure that the latex does not have any foul smell before dumping into the feed tank, then conducting VFA method to check whether latex meet the standard requirements of HML, if VFA is below 0.2, the sample is accepted (takes 40 min to conduct 1 VFA test)and if it is above the entire load is rejected as HML give prime importance for the quality of the product, the accepted sample have

to undergo DRC (Dry Rubber Content) to know the quality of the rubber(takes 6 hours and 15 minutes) and Ammonia test to know how much Ammonia content is present in the latex(10-12 minutes).After processing latex into Cenex, Chemist check the VFA content in the tank and give instructions to workers or supervisors about how much Ammonia to add(as Ammonia acts as a preservative to control the VFA).

During the morning hours more time is spent on conducting VFA (Volatile Fatty Acid), Ammonia and DRC (Dry Rubber Content) while in the afternoon hours more time is spent on recording details in registers in the lab and learning about tests to be conducted in Effluent Treatment Plant (ETP).

4.7 Group Mechanical Foreman

Table 4.15 Time taken by Group Mechanical Foreman to do each task

Work Activities	Time Taken
Mechanical works*	6 hr 49 min
Building works*	45 min
Instructions	24 min
Identifying repair works	32 min
Break	1 hr 30 min
Work related visits*	2 hr
Total	**12 hr**

Source: Primary data

***Mechanical works:** related to preventive mechanical maintenance of machineries, oiling bowl washing machine, repair works of vehicles and other mechanical works carried out in generator room.

***Building works:** supervising and working in the renovation works of the factory.

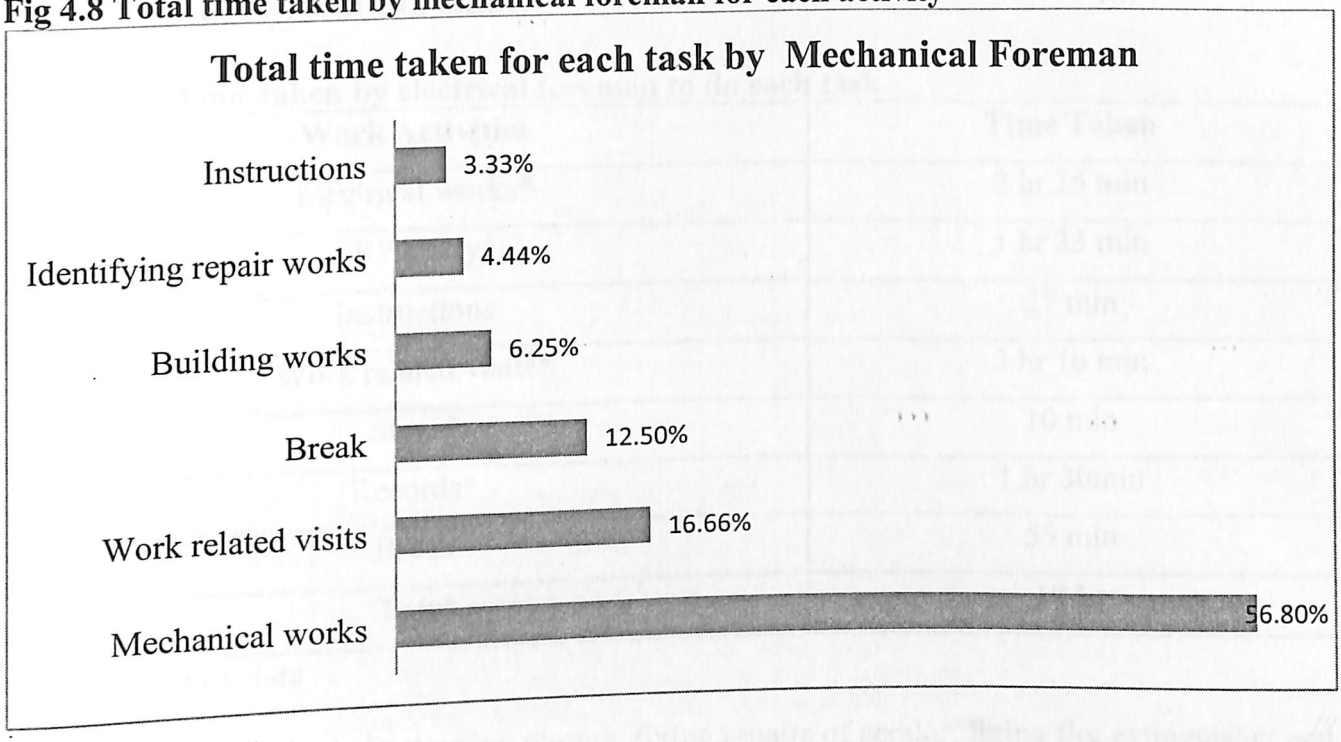
***Work related visits:** visit to purchase spare parts and for other mechanical works.

Table 4.16 Time consumption by Group Mechanical Foreman a day

Time	Activities
06:30 AM- 09:30 AM	Mechanical work of vehicle
09:30 AM- 09:57 AM	Building works of ETP
09:57 AM- 10:13 AM	Mechanical works
10:17 AM- 10:30 AM	Instructions
10:30 AM- 10:43 AM	Mechanical works
10:43 AM- 11:03 AM	Identifying problems
11:03 AM- 11:49 AM	Assembling exhaust fan
11:49 AM- 12:10 PM	Fitting exhaust fan
12:17 PM- 01:00 PM	Disposal of scrap
01:00 PM- 02:00 PM	Lunch break
02:00 PM- 02:30 PM	Mechanical work
02:30 PM- 04:10 PM	Went out(for vehicle test)
04:10 PM- 05:00 PM	Mechanical work

Source: Primary data

Fig 4.8 Total time taken by mechanical foreman for each activity



Source: Primary data

The mechanical foreman works 12 hours a day. His work is concentrated on attending breakdowns immediately. He is also involved in renovation work in the factory and disposes scrap generated during maintenance as per the guidelines of top management. He has 3 assistants to accompany the mechanical works.

4.8 Group Electrical Foreman

Table 4.17 Time taken by electrical foreman to do each task

Work Activities	Time Taken
Electrical works*	2 hr 15 min
ERP Entry*	1 hr 33 min
Instructions	27 min
Work related visits*	3 hr 1o min
Store*	10 min
Records*	1 hr 30min
Break	55 min
Total	**10 hr**

Source: Primary data

***Electrical works**: include cleaning motors, fixing repairs of aerator, fixing fire extinguisher and fire buckets, setting exhauster fan, motors, repair works of generator

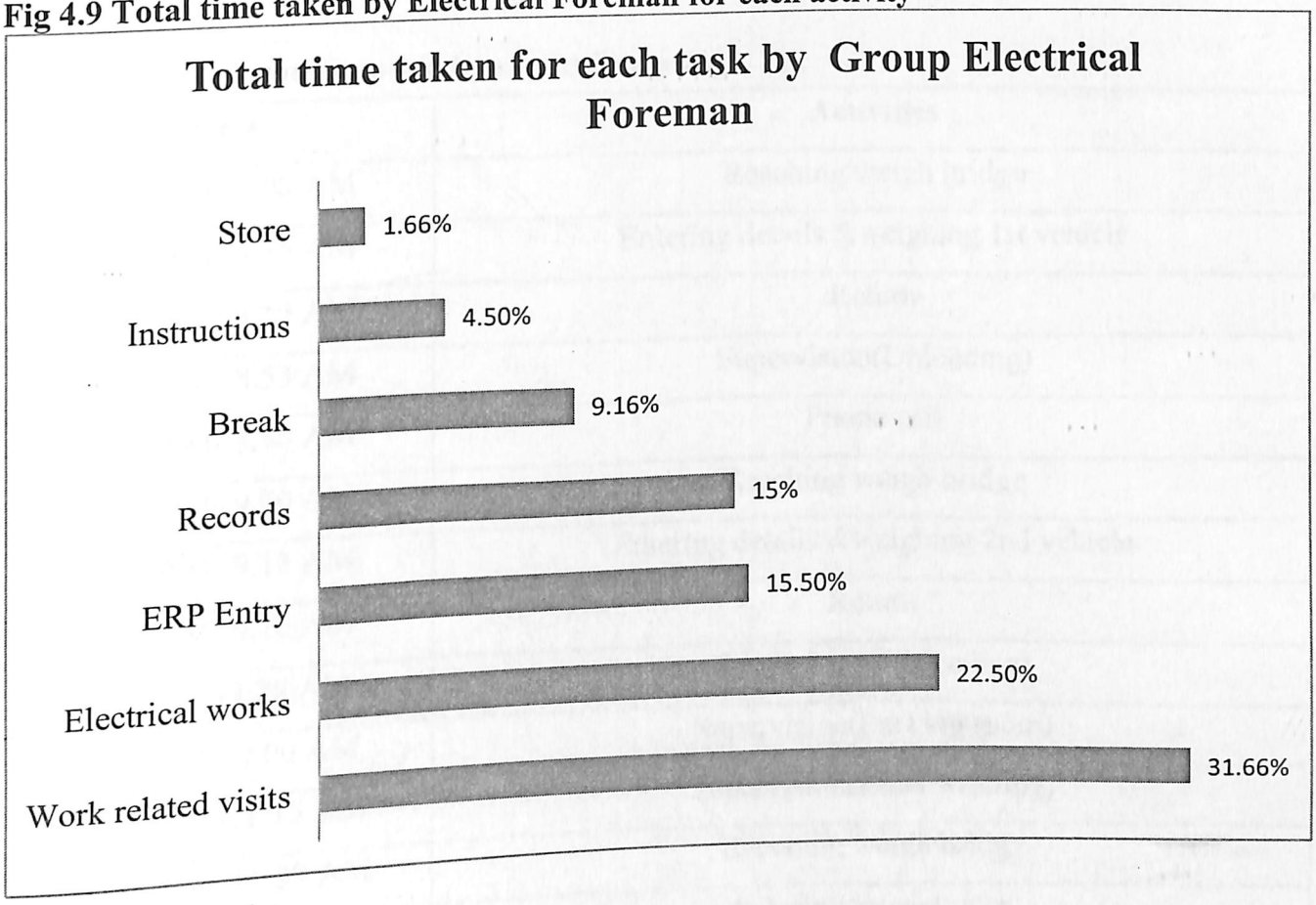
***ERP Entry:** entering details of despatch documents (which include test report from lab, pass to be shown in state boarders, number of barrels etc) and records maintained by electrical foreman

***Work related visits:** electrical works in other factories, works in bungalows and other visits.

***Store:** taking necessary things for electrical works

***Records:** KSEB and DG Daily Unit Register, KSEB and DG Monthly Unit Register, DG Set Log Book, Safety Meeting Record

Fig 4.9 Total time taken by Electrical Foreman for each activity



Source: Primary data

Group Electrical Foreman is the common Electrical Foreman for Mooply and Kundayi CL Factory. Any electrical repairs in the factories and bungalows are attended by him, there for 31 percent of his time is spent outside the factory. Instructions are given to two of his assistants during his absence. The electrical failures in the factory are immediately attended and 26.33 percent of operational hours are used up in maintaining records and entering details in ERP. Due to lack of staff for factory operations, he is also occupied in doing works other than his duties such as maintaining production records, payment works, preparing despatch documents etc.

4.9 Supervisor

Table 4.18 Time consumption by supervisor a day

Time	Activities
8:06 AM- 8.08 AM	Reaching weigh bridge
8:08 AM- 8.15 AM	Entering details &weighing 1st vehicle
8:15 AM- 8.17 AM	Return
8:17 AM- 8.53 AM	Supervision(Unloading)
8:53 AM- 8.56 AM	Phone call
8:56 AM- 9.00 AM	Reaching weigh bridge
9:00 AM- 9.13 AM	Entering details &weighing 2nd vehicle
9:13 AM- 9.16 AM	Return
9:16 AM-9:28 AM	Supervision(Unloading)
9:31 AM-10:00 AM	Supervision(Packing room)
10:00 AM-11:15 AM	Supervision(Bowl washing)
11:37 AM- 11:39 AM	Reaching weigh bridge
11:39 AM- 11:46 AM	Entering in computer
11:46 AM- 12:00 PM	Weighing 1st vehicle
12:04 PM- 12:06 PM	Entering in register
12:06 PM-12:17 PM	Weighing 3st vehicle
12:17 PM-12:21 PM	Entering details
12:21 PM-12:25 PM	Return
12:25 PM-01:19 PM	Supervision(Recycling Barrels)
01:19 PM-1:21 PM	Weighing 4th vehicle
01:32 PM-01:34 PM	Entering details
01:34 PM-01:55 PM	Supervision(Loading)
01:55 PM-03:00 PM	Lunch break
03:00 PM- 03:30 PM	Idle
03:30 PM- 04:00 PM	Records

Table 4.19 Time taken by supervisor to do each task

Work Activities	Time Taken
Reaching weigh bridge*	20 min
Entering details*	30 min
Weighing vehicle*	37 min
Supervision*	1 hr 48 min
Records*	1 hr 50 min
Break	1 hr
Labeling barrels	55 min
Idle time	1 hr
Total	**8 hr**

Source: Primary data

***Reaching weigh bridge:** the vehicle bearing latex is stopped in a weigh bridge (which is at the gate of the factory), to measure the weight of latex. The above mentioned is the time taken by the supervisor to reach the gate and return.

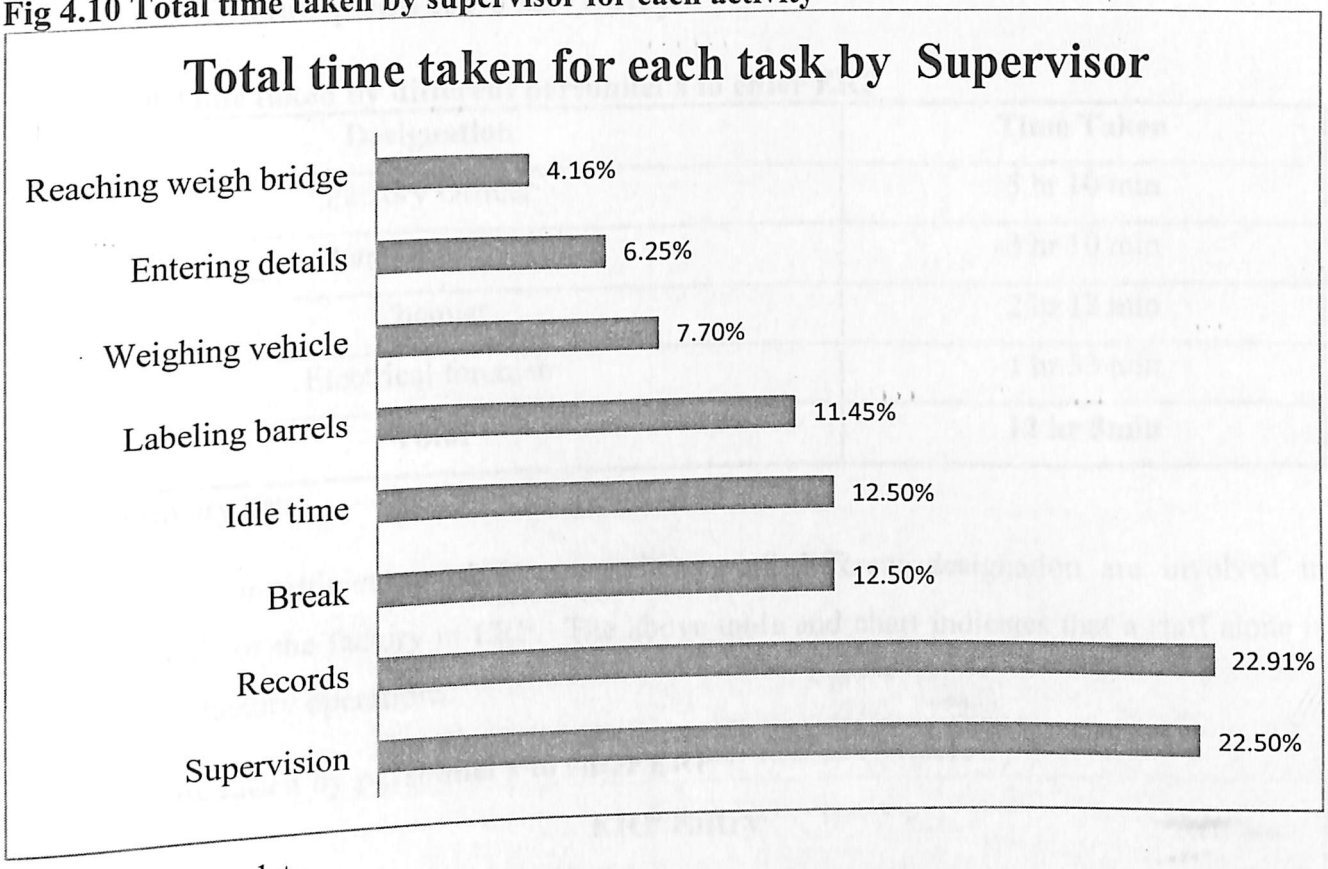
***Entering details:** details of the vehicle, product code, supplier code and transporter code are entered in computer and in register.

***Weighing vehicle:** the vehicles stopped at weigh bridge are checked to ensure that no fraudulence is done in the form of adding stones and other heavy materials to show gain in weight. The weight of vehicles that enter and exit the gate is measured and the difference is recorded as the weight of the latex.

***Supervision:** loading and unloading barrels, latex dumping, bowl washing, packing and painting area, skimming area

***Records:** Weighment Register, Despatch Register

Fig 4.10 Total time taken by supervisor for each activity



Source: Primary data

There are two supervisors in the factory where one supervisor's shift starts from 8.00 am to 4.00 pm and other starts from 2.00 pm to 10.00 pm. When a highest of four vehicles arrives with latex to the factory, it takes them 20 minutes (altogether) to reach the weighing bridge and return. It takes 30 minutes to enter details in the computer. 37 minutes is required to check and weigh the vehicle. It takes 55 minutes to inform the office about the supplier details such as vehicle code, product code, supplier code etc, getting labels for barrels to avoid confusion and labeling the barrels. 1 hour 48 minutes is spent on supervising, activities in dumping area, bowl washing area, packing room, loading and unloading of barrels. To clear the despatch documents and maintain records 1 hour 50 minutes is spent by the supervisor. 12.50 percent of working hours become idle time because during the afternoon hours there was no shift or no production and there were no latex vehicles arriving.

4.10 Time Consumption for ERP Entry

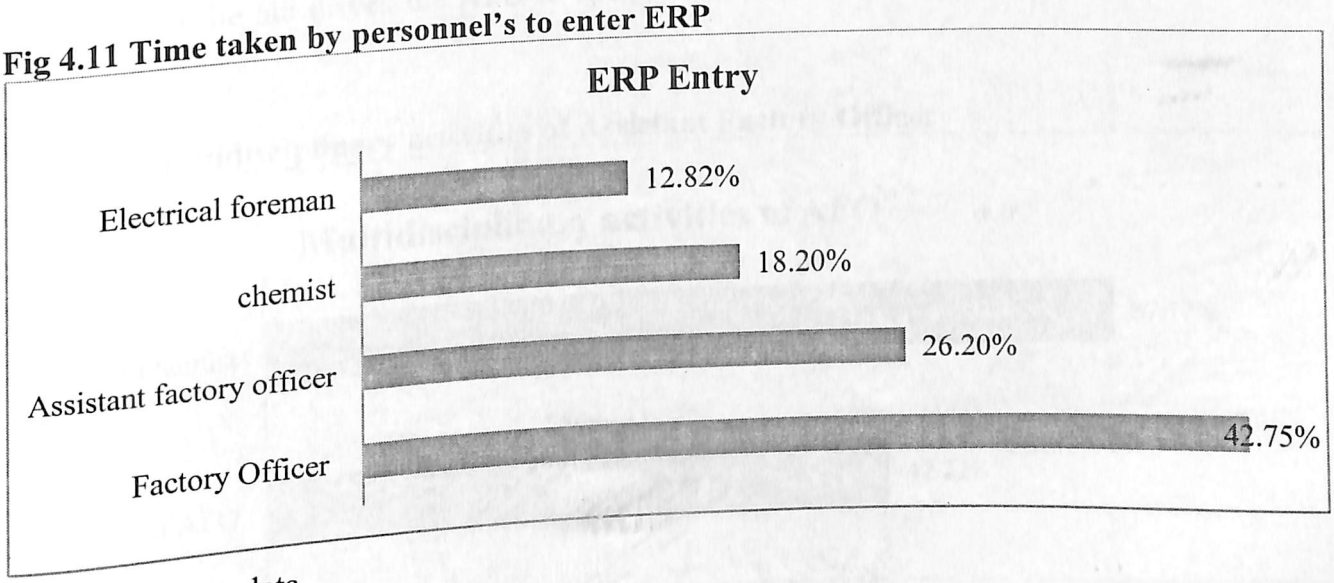
Table 4.20 Time taken by different personnel's to enter ERP

Designation	Time Taken
Factory Officer	5 hr 10 min
Assistant Factory Officer	3 hr 10 min
Chemist	2 hr 12 min
Electrical foreman	1 hr 33 min
Total	**12 hr 5min**

Source: Primary data

Due to insufficient workforce, employees of different designation are involved in entering details of the factory in ERP. The above table and chart indicates that a staff alone is necessary for factory operations.

Fig 4.11 Time taken by personnel's to enter ERP



Source: Primary data

4.11 Multidisciplinary Activities of Employees

4.11.1 Factory Officer

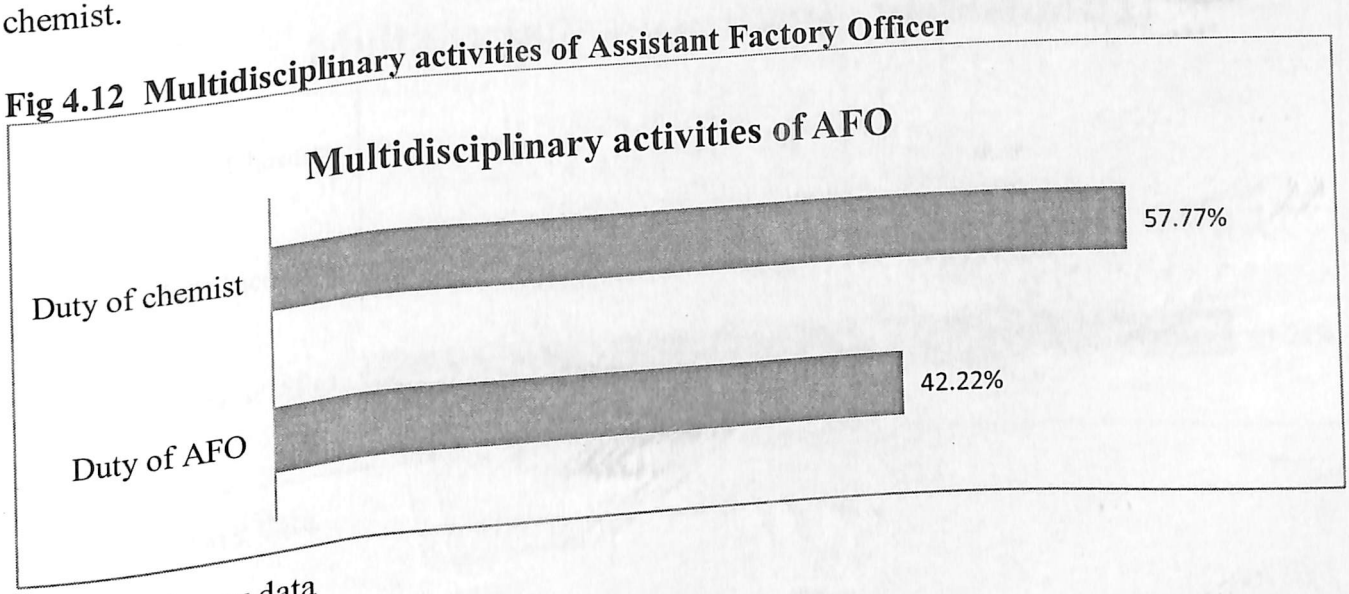
Table 4.21 Duty divided for Factory Officer

Duty divided	Time
Duty of AFO	3 hr 10 min
Duty of Chemist	4 hr 20 min
Total	7 hr 30 min

Source: Primary data

Being the Assistant Factory Officer (AFO) of Mooply CL Factory, only 42 percent out of the total working hours is spent for satisfying the responsibilities of an AFO. Insufficient workforce in the lab drives the AFO to spend the rest of the time, performing the duty of the chemist.

Fig 4.12 Multidisciplinary activities of Assistant Factory Officer



Source: Primary data

4.11.2 Chemist

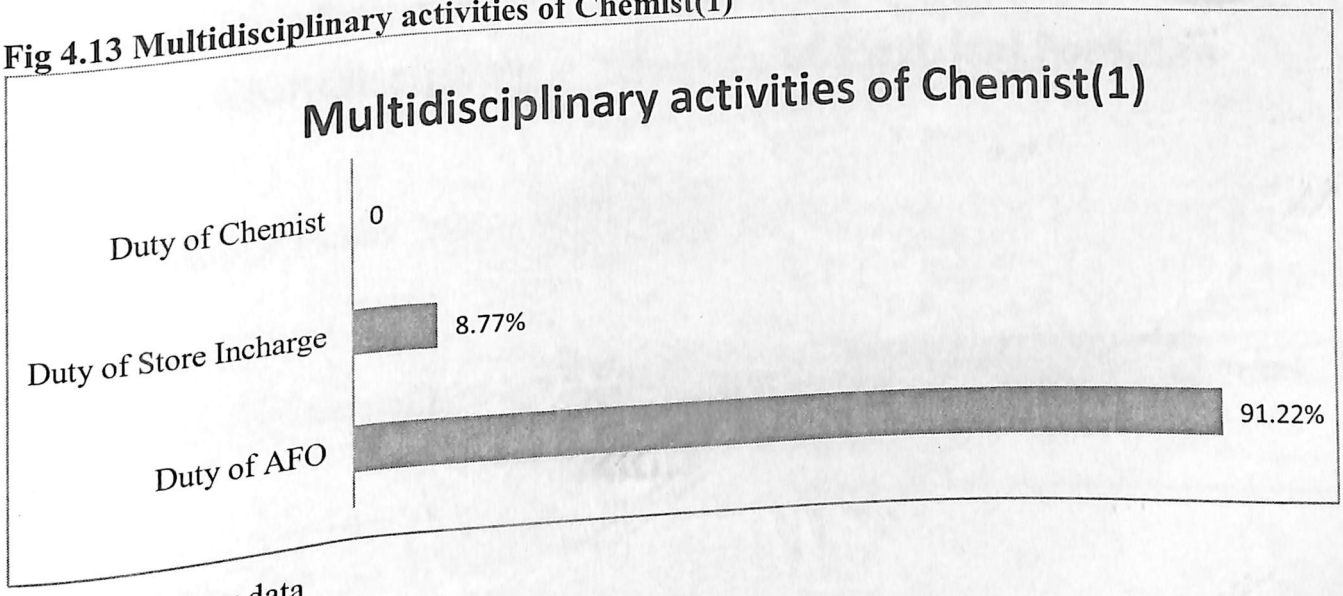
Table 4.22 Duty divided for Chemist

Duty divided	Time
Duty of AFO	8 hr 40 min
Duty of Store Incharge	50 min
Duty of Chemist	0
Total	9 hr 30 min

Source: Primary data

As the factory is short of member of staff for factory operations, the chemist plays the role of Assistant Factory Officer and Store Incharge. Being the Incharge of store he is held back with responsibilities.

Fig 4.13 Multidisciplinary activities of Chemist(1)



Source: Primary data

4.11.3 Electrical Foreman

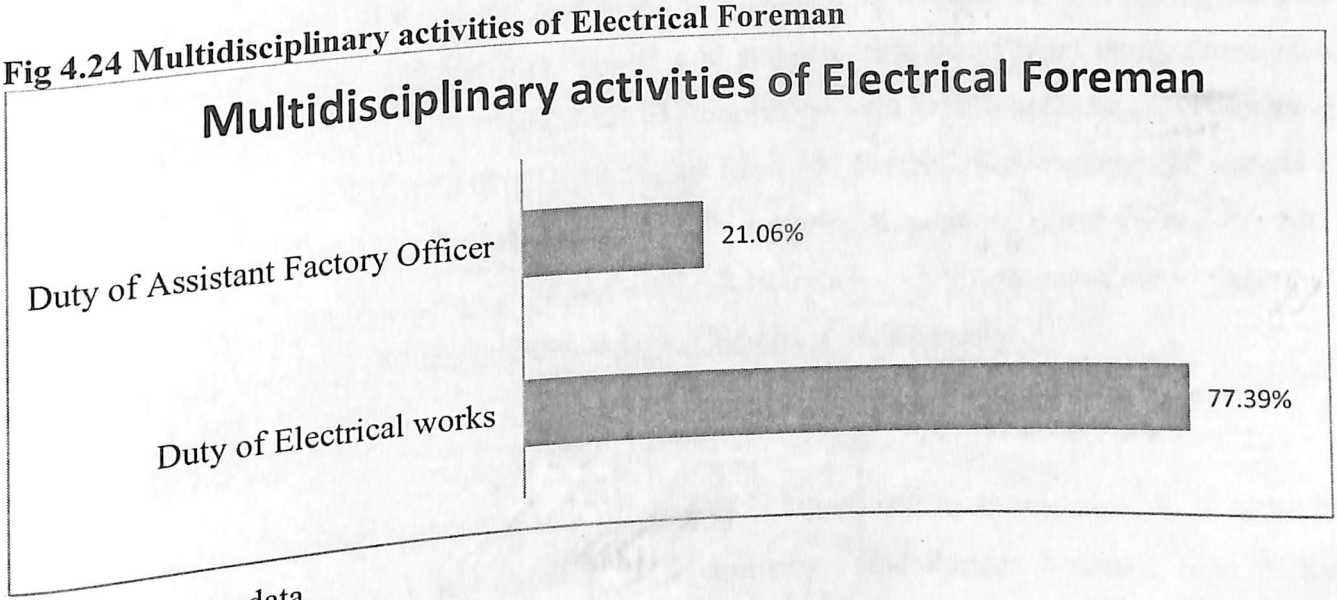
Table 4.23 Duty divided for Electrical Foreman

Duty divided	Time
Duty of Electrical works	7 hr 32 min
Duty of Assistant Factory Officer	2 hr 3 min
Total	**9 hr 35 min**

Source: Primary data

Being the Group Electrical Foreman of the factory, the foreman is not engaged only in electrical works but also the duty of an Assistant Factory Officer. The necessity in finishing works of factory operations force the Electrical Foreman to do the work.

Fig 4.24 Multidisciplinary activities of Electrical Foreman



Source: Primary data

4.12 Time Consumption in Lab

Table 4.24 Time taken for testing samples for 75-105 Barrels

Lab activities	Time
VFA	5 hr 20 min
Testing ammonia	2 hr 55 min
Cenex Standard Analysis	1 hr 29 min
DRC	2 hr 23 min
Barrel checking	1 hr 21 min
Records	4 hr 21 min
Slips for samples	56 min
Total	**17 hr 49 min**

Source: Primary data

The above table shows that 17-18 hours is expended by lab assistants in testing samples for a number of barrels varying from 75-105 and standardising centrifuged latex. From each barrel a sample of 2 each is taken and the tested samples are kept for 3 months to avoid any arise of contradiction from the suppliers. Two samples from 105 barrels means testing 210 sample a day. During the peak season, the number of barrels reaching the factory raises up to 500- 600. This gives 1000-1200 samples for testing a day. It becomes a very tight schedule to test 1000 samples with 2 Chemist working wholly and one Chemist working partly.

4.13 Conclusion

A study on utilisation of time by employees is significant in an organisation in order to determine the success and performance of a company. This happen because, time is the measurement tools the level of company's performance. Mooply CL Factory of Harrisons Malayalam is in necessitate to know how the employees of the factory spend their time in several activities and this study observes each employee involved in factory operations and in production floor and is analysed using charts and tables.

Chapter – 5

Summary of Findings and Suggestions

Chapter - 5

SUMMARY OF FINDINGS AND SUGGESTIONS

5.1 Summary

A study on utilisation of time by employees is significant in an organisation in order to determine the success and performance of a company. It shows that time is the most important thing in determining company's performance and develop the operation level of the company. Mooply CL Factory of HML is a rubber factory which collects latex from individuals, rubber societies, Rubber Board companies and dealers and converts it into centrifuged latex according to customer specification. A study on utilisation of time by employees of Mooply CL Factory was done to identify how the employees allot time for each of their activity. Each personnel was directly observed and the data was analysed and interpreted with the help of tables, charts and opinions. The following are the findings from the study.

5.2 Major Findings

5.2.1 *Manager*

The Manager utilise time resourcefully in all areas of management and wastage of time is zero. More than half of his office hours are spent on the overall management, monitoring the works and analysing the records and registers in the factory. Manager use up 11-12 hours a day administering factory operations.

5.2.2 *Assistant Manager(System and maintenance)*

The assistant manager spends more than half of his working hours testing in lab for the development of new product and giving instructions to chemist. Conducting internal audit (ISO 140001-90001) is another deed for which the manager spends time. He spend 10-12 hours in the factory.

5.2.3 *Factory Officer*

Five hours of Factory Officer's valuable working hours is spent on entering details in ERP system. The works in the factory is closely monitored by him and instructions are given as and when required. The renovation works of factory is headed smoothly under the guidance of the Factory officer and he spends 12- 13 hours working a day.

5.2.4 *Assistant Factory Officer*

To assist Factory Officer and Deputy Manager is the core duty of Assistant Factory Officer (AFO). In association with the duties of AFO, he is also committed to do the duties of a chemist as there is pressing needs in the lab which has to be completed in time. The short of chemist in lab makes AFO to spend more than 70 percent of his work time in the lab and he work for 9-10 hours a day.

5.2.5 *Chemist (1)*

The duty of chemist is assisting Quality Control Officer in the lab. The short of staff for factory operations thrust the chemist to assists the Factory Officer and he is also in charge of the store. Entering ERP, settling bills of purchases and payroll works are also done by the same person. 10-12 hours is spent by the chemist.

Assistant factory officer spends 70 percent of his work as chemist and chemist (1) spend 100 percent of his work as AFO and Store Incharge.

5.2.6 *Chemist (2 & 3)*

The 2 chemists in the lab is schedule tight with testing samples for deciding acceptance or rejection of a load, standardisation of Cenex in tank, maintaining registers of the lab and learning about ETP. Since hardly any number of barrels reach the factory afternoon (due to off season) maintaining registers and learning about ETP becomes the core duty during the afternoon hours. Testing samples by conducting, VFA, DRC and adding ammonia as a preservative to control VFA and standardising Cenex according to the customer specification through Cenex Standard Analysis are the main responsibilities during the morning hours. Spends 9-12 hrs

5.2.7 *Mechanical foreman*

Assisted by three workmen, mechanical foreman concentrates on attending breakdowns immediately, carrying out preventive mechanical maintenance as per schedule, disposing scrap generated during maintenance, and assisting renovation work in the factory as per the guidelines of top management.

5.2.8 *Group Electrical foreman*

Assisted by 2 workmen, electrical foreman attend the electrical breakdowns in Mooply and Kundayi CL Factory and in bungalows immediately. Due to the lack of personnel for factory operations, electrical foreman is engaged in payment of wages, preparing despatch documents, entering ERP etc.

5.2.9 *Supervisors*

There are two supervisors in the factory where one (temporary) supervisor's shift starts from 8.00 am to 4.00 pm while other starts from 2.00 pm to 10.00 pm. Due to lean production period the number of latex bearing vehicles was below five a day and three shift a day was reduced to one and some days there was no production. In the morning hours supervisors 10 percent of working hours is spent at the factory gate checking and weighing the vehicles and entering the details. Thus the supervisors are often idle during the afternoon hours.

Due to the frequent repair works of the computer time is wasted by sending information's to Head Office from the main office of Mooply Rubber Estate.

5.3 Suggestions

The study proposed some suggestions based on the observations and discussion with employees. Entering factory details in ERP system takes 12 hours a day. Recruitment of one member of staff for ERP entry would reduce the burden of Factory Officer, Assistant Factory Officer, Chemist and Electrical Foreman and they can give more attention to their core duties. It takes 17-18 hours to complete the tests of sample of barrels and standardisation of barrels a day where the number of barrels vary from 75-105. During the peak season the number of barrels reaching the factory vary from 500-600 which results in insufficient workforce in the lab to do the tests. Appointing temporary chemist during the peak seasons would help in meeting the vital requirements in the lab.

5.4 Conclusion

The study was conducted on time utilisation by employees of Mooply CL Factory, HML. From the study it was clear that every employee is utilising time to the utmost extent. The two chemists in lab face a tight schedule to complete their duties in time and one chemist assist the

Factory Officer in managing factory operations. Similar duty is performed by the Assistant Factory Officer and in addition he is driven to do the duties of a chemist due to the pressing requirements in the lab. Thus it is evident from the study that the chemist lab is here is insufficient workforce for handling factory operations and lab activities.

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