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**A STUDY ON THE PERCEPTION OF EMPLOYEES TOWARDS  
TOTAL QUALITY MANAGEMNT  
AT MOOPLY CL FACTORY OF HARRISONS MALAYALAM  
LIMITED**

by  
**ANJALI C A**  
(2014-31-115)

**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*

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## DECLARATION

I, hereby declare that this project report entitled “**A STUDY ON THE PERCEPTION OF EMPLOYEES TOWARDS TOTAL QUALITY MANAGEMENT AT MOOPLY CL FACTORY OF HARISSONS MALYALAM 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  
18-08-2016

  
ANJALI C A  
(2014-31-115)

*Certificate*

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## CERTIFICATE

Certified that this project report entitled "A STUDY ON THE PERCEPTION OF EMPLOYEES TOWARDS TOTAL QUALITY MANAGEMENT AT MOOPLY CL FACTORY OF HARISSONS MALYALAM LIMITED" is a record of project work done independently by Ms. Anjali C A 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  
19-08-2016

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## CERTIFICATE

We, the undersigned members of the advisory committee of Ms. Anjali C.A., a candidate for the degree of **MBA in Agribusiness Management**, agree that the project work entitled "**A STUDY ON THE PERCEPTION OF EMPLOYEES TOWARDS TOTAL QUALITY MANAGEMENT AT MOOPLY CL FACTORY OF HARISSONS MALYALAM LIMITED**" may be submitted by Ms. Anjali C A, in partial fulfilment of the requirement for the degree.

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Growing Legacies



**HARRISONS MALAYALAM LIMITED**

7

15<sup>th</sup> June 2016

MSS : EC

**TO WHOMSOEVER IT MAY CONCERN**

*This is to certify that Miss. Anjali C.A (2014-31-115 ), MBA student of Kerala Agricultural University, College of Co-Operation, Banking & Management, Vellanikkara, Kau P.O, Thrissur-680 656, was permitted to do project work on "A study on the perception of Employees towards Total Quality Management" at 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*

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*Anjali C A*

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*Chapter - 1*

*Design of the Study*

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## Chapter – 1

# DESIGN OF THE STUDY

### 1.1 Introduction

In today's global competition and economic liberalization, quality has become one of the important factors for achieving competitive advantage. Total Quality Management is a management approach that originated in the 1950's and has steadily become more popular since the early 1980's. Total quality management (TQM) is a firm-wide management philosophy of continuously improving the quality of the products/services/processes by focusing on the customers' needs and expectations to enhance customer satisfaction and firm performance.

Total Quality is a description of the culture, attitude and organization of a company that strives to provide customers with products and services that satisfy their needs. The culture requires quality in all aspects of the company's operations, with processes being done right the first time and defects and waste eradicated from operations. For example Toyota motors implemented TQM in their company based on the concept of "customer first", Kaizen meaning continuous improvement and "total participation" which means the involvement and input of all employees. The results of these are well-known: not only did Toyota start making high quality cars in the world but by 1980 they dominated the import market.

Total Quality Management, TQM, is a method by which management and employees can become involved in the continuous improvement of the production of goods and services. It is a combination of quality and management tools aimed at increasing business and reducing losses due to wasteful practices. TQM views an organization as a collection of processes. It maintains that organizations must strive to continuously improve these processes by incorporating the knowledge and experiences of workers. The simple objective of TQM is "Do the right things, right the first time, every time".

Implementation of total quality management helps the companies to identify weaknesses, faults, areas for improvement and strengths. This gives the company the ability to set standards, make adjustments as needed and to offer greater value overall to their customer base. Although the approach to solving quality issues varies with different programs, the goal remains the same – to create a high quality, high-performing product or service that meets and exceeds internal and

external customer expectations. When companies focus on quality management, they create a plan for success.

## **1.2 Statement of the problem**

The change in consumer behaviour has made most producers of goods and services to tailor their products to meet the requirement of potential buyers. Thus, most organisations are concerned about how to satisfy their customers through improved products which is tailored to meet or exceed the expectation of customers. Even as organisations strive to meet customer's expectation, there still exist some flaws in the process involved in product delivery. As the companies tend to adopt a total quality management ideology, it will increase customer satisfaction with the product offerings. The improvement in quality can result in increased market share and profitability.

An employee must be happy with his job for they are a crucial part of an organisation in implementing its strategy and be well informed as to how they affect customers; this can lead to a great performance in the company. A successful TQM environment requires a committed and well-trained work force that participates fully in quality improvement activities. Such participation is reinforced by reward and recognition systems which emphasize the achievement of quality objectives. Only if the employees from lower grade; i.e. from workers to middle level and top level are aware of the TQM practises and its advantages, company can thrive among the competitors and achieve customer satisfaction.

Thus a study is conducted at Mooply CL Factory of Harrisons Malayalam to know the employees perception towards TQM and how far the employees are involved in TQM activities.

## **1.3 Objectives**

The objectives of this study were:

1. To study how far the employees are involved in TQM activities.
2. To find out how far HML is adaptable for the implementation of TQM.



## 1.4 Methodology

### 1.4.1 Sample Size and method of sampling

Since the population of the study is limited the study used census method.

**Table 1.1 shows the number of samples for study**

Designation	Number
Manager	1
Assistant manager	1
Factory officer	1
Assistant factory officer	1
Supervisors	2
Electrical foreman	1
Mechanical foreman	1
Workers	20
Total	28

### 1.4.2 Types and sources of data

For the purpose of the study both primary and secondary sources are used.

The perception of the various categories of employees towards the TQM implementation in Harrison's Malayalam Ltd was collected using means of structured interview schedule. The secondary data required for the study constitute the current quality control measures existing in the company and Total Quality Management practises adopted by competitive firms will be gathered from Journals, Articles, Magazines etc. As a part of secondary data, details of TQM project they successfully implemented in 2014 is being examined and it is given in detail in the appendices. These project shows the employees involvement in TQM activities.

### 1.4.3 Data analysis

Appropriate statistical tools like Perception index and percentages are used in order to analyse the personal variables and parameters determining the perception of employees towards implementation of Total Quality Management in HML.

The level of perception of the employees was analysed on the basis of 16 selected parameters for the middle-low level employees and 14 parameters for workers. These parameters include various statements which are graded in Five point Likert scale. The scores allotted for the responses are in the following manner.

Responses	Score
Strongly Agree (SA)	5
Agree (A)	4
No Opinion (NO)	3
Disagree (DA)	2
Strongly Disagree (SD)	1

Based on these scores, index of each parameter and statements were calculated. The index for both workers and Top-middle level employees are calculated separately. The formula for calculating index is:

$$\text{Index for the statement} = \frac{\text{Total score obtained for the statement}}{\text{Maximum obtainable score for the statement}} \times 100$$

$$\text{Maximum obtainable score for the statement} = \frac{\text{Maximum score obtainable for the opinion} \times \text{Total number of respondents}}{\text{Total number of respondents}}$$

When the individual index was calculated, the next step is to find out the overall index of the parameters. It is calculated using the formula:

$$\text{Overall index for a parameter} = \frac{\text{Total score obtained for the statement} \times 100}{\text{Maximum score} \times \text{Number of respondents} \times \text{Number of statements}}$$

The level of perception was categorised as High, Good, Moderate, Poor and Very poor based on the index obtained.

Index	Level of Perception
>80	High
60-79	Good
40-59	Moderate
20-39	Poor
< 20	Very poor

## 1.6 Observations to be made

### 1.6.1 Middle and low level employees

1. Quality consciousness
2. Quality assurance system & operation in the organisation
3. Quality certification in the organisation
4. waste control practices
5. Preventive maintenance in the organisation
6. Quality standards followed in the organisation
7. Employees feedback system
8. Training
9. Motivation
10. Cost of quality
11. Collection of information
12. Technology adopted by the company
13. Product rejection
14. Customer importance
15. Continuous improvement
16. Supplier's relationship

### 1.6.2 Workers

1. Awareness of Total Quality Management
2. Working environment in the organisation
3. Skills and knowledge
4. Motivation

5. Training by the management
6. Team-work
7. Management recognises suggestions
8. Decision taking
9. Communication
10. Quality certification
11. Waste control measures
12. Customer focus
13. Product rejection
14. Technology

**1.6 Scope of the study**

The study covers the perception of the employees about Total Quality Management in HML. The study helps the company to evaluate the current quality control practices prevailing in the company with respect to their product and process and thus can able to implement suitable quality control practises in order to compete with the products of the competitors.

**1.7 Limitations**

- Employees of the organization may hide the fact.
- The management did not agree to disclose all the confidential data.
- It is only possible to contact with the employees during their relaxation time.

**1.8 Chapterisation**

This Project report is divided into five main chapters.

- i. Chapter 1 is *Design of the Study*. This chapter gives the details about the statement of the problem, objectives, methodology, observations, scope of the study, and limitations of the study.
- ii. Chapter 2 is *Review of Literature*. This chapter gives the brief summary of various works carried out related to the present study.

- iii. Chapter 3 is *Harrisons Malayalam Ltd- a profile*. This chapter gives the full profile of Harrisons Malayalam Ltd.
- iv. Chapter 4 is *Perception of employees towards TQM – an analysis*. In this chapter the various data collected from the survey has been analysed and inferred.
- v. Chapter 5 is *Summary of findings, Suggestions and Conclusion*. This chapter gives the summary of findings, suggestions for the company and the conclusion of the project.

*Chapter - 2*

*Review of Literature*

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## Chapter – 2

### REVIEW OF LITERATURE

A review of past research helps in identifying the conceptual methodological issues relevant to the study. This would enable to collect information and subject them to sound reasoning and meaningful interpretation. A brief review of the earlier research work related to this present study is presented in this chapter. Many studies were conducted on the topic employee perception and TQM practices. Few of them are listed here.

Crosby (1979) defined steps for quality improvement, including the zero-defect philosophy. Crosby's essential points in his definition of quality are (1) It is necessary to define quality (2) One must know what the requirements are and be able to translate these requirements into measurable product or service and (3) it is necessary to measure the characteristics of a product or service to determine whether it is of high quality.

Deming (1982) proposed his 14 principles to improve quality in organizations. His essential arguments are (1) quality must be defined in terms of customer satisfaction (2) Quality is multi-dimensional where it is impossible to define quality the quality of a product or service in terms of a single characteristic or agent.

Ishikawa (1985) emphasized the importance of quality circles as a method to achieve Continual improvement. Ishikawa makes it clear that consumer's needs and requirements change continuously, therefore the definition of quality is ever changing and the price of the product or service is an important part of its quality.

Deming (1986) argued that rewards needs to be tied to team work or department rather than individual. The failure of organisations to implement the rewards to group might lead to internal competition amongst employee and this will have a negative impact on team performance which TQM promotes.

Juran (1986) noted that whereas the 20th century became famous for world productivity, the 21st century would become well recognized as the "century for quality." Juran defined quality as "fitness for use."

Sparrohe (1989) analysed eight critical success factors as those things that must go right in order to ensure the successful implementation of TQM. They are: top management leadership, role of quality department, training, product design, supplier quality management, process management, quality data reporting, and employee relations.

Collinson et al (1992) identified seven factors critical to quality process: influence, responsibility/authority, innovativeness, desire to change, satisfaction, teamwork, and common vision/benchmarking.

Juran and Gryna (1993) stressed that training and development are a key factor in any quality continuous improvement program, enhancing that employees should be provided with the main skills and knowledge compatible with the role they are concerned with, searching higher commitment levels towards quality improvement, and in the last instance, higher levels of efficiency and effectiveness.

Hackman and Wageman (1994) stated that TQM is a management approach to improve the effectiveness, flexibility and competitiveness of a business as a whole. The techniques of TQM can be applied throughout the departments of a company so that people from different departments, with different priorities and abilities will be able to communicate and help each other.

Dale (1994) on his own assessment claims that the adoption of incompatible quality approach by organisations results in the failure of TQM implementation, he further stressed that the delegation of quality leadership by managers might lead to the development of TQM bureaucracies that are ineffective like other functional departments. TQM is an approach that enables the organizations in order to improve their competitiveness, increased effectiveness for the whole organization.

Rousseau (1995) posits that training and development should not be seen as a one-time event but a lifelong process. Many organisations recognise today that due to the massive changes taking place in the business world, booster shots of training and development are needed throughout employee careers. This will help them to acquire the necessary skills to initiate improvement strategies that would add value to customers.

Mahew (1996) noted that constant improvement in the effectiveness of operation is essential but not a sufficient factor for organisation to be profitable. Implementation of TQM



further ensures that organisations change how they perform activities so as to eliminate inefficiency, improve customer satisfaction and achieve the best practice. There is a need for management to drive the ideology of TQM process in order to encourage employees to follow and also to prove to them about management's commitment to quality.

Dale (1997) emphasized that employees are in the best position both to recognize problems and to find improvements, if they are interested, and sufficiently empowered to take steps to make improvements.

Arvinder and Michael (1997) For TQM to be institutionalized, employees at all levels need to be trained, empowered, and rewarded for teamwork. Above all, the top management needs to create an environment that fosters learning, open communication, teamwork, to achieve better organizational performance through TQM. People-based strategies requires more than cosmetic changes, implying high commitment in doing things differently, such as training employees in multiple skills, organizing workers in teams, instituting suggestion systems, organizing problems' solving mechanisms like quality circles, and so forth.

Geirhybein (1998) observes that a typical scenario in most organisations is that senior management of the organisations treat quality management implementation with scepticism, lack of enthusiasm, marked unwillingness to commit resources, and a short term perception. The core objective of TQM is to guarantee that every employee is conscious that he belongs to an internal continuous chain of customer-supplier relationships and that his full involvement is essential for quality improvement.

Campbell (1999) found that teamwork in the organization provides employees cooperation among each other and among other departments which increases self-efficacy and ultimately leads towards job satisfaction among employees. Teamwork contributes to the generation of improvements that are proposed by employees. To them, the proposed improvements have a way of changing the attitudes of employees that are resistance to change.

Collard (2000) highlighted that a total quality management strategy was most effective when supported by significant training, founding support for the frequently claimed prescription that more training is helpful in TQM's implementation, since there is a strong commitment to

TQM principles, otherwise investment and commitment to training will not have significant impact on firms' earnings.

Rehman (2001) stresses TQM provides a vision that focuses on everyone in the organization to be involved in the improvement of quality. The pursuit of quality improvement is not only requested by the market but also driven by the need to survive. Employees' involvement may provide the foundation for quality efforts and strategy development, and ensure that practices implemented conform to quality requirements that are followed by everyone in the organization.

Antonioni et al (2002) states that the successful implementation of TQM will result in improved employee involvement, improved communication, increased productivity, improved quality and less rework, improved customer satisfaction, reduced costs of poor quality, and improved competitive advantage.

Fran (2002) the philosophy underlying the implementation of a TQM strategy is to see organisational customers and clients as the vital key to organisational success. Organisations with TQM strategy see their business through the eyes of their customers and clients and then measure their organisations performance against customer/client expectations.

Stah (2002) Total Quality Management (TQM) is a strategy that embodies the belief that the management process must focus on integrating the customer – driven quality throughout an organisation. Employees 'involvement/commitment, and quality training and development are key factors for TQM's successful implementation. Increasingly, companies' - shift toward philosophies focused on quality continuous improvement like TQM, lead firms to develop and implement initiatives directed at employees' training and development.

Besterfield (2004) defined TQM as both a philosophy and a set of guiding principles that represent the foundation of a continuously improving organization. It is the application of quantitative methods and human resources to improve all the processes within an organization and exceed customer needs now and in the future.

Lewis (2004) TQM stresses continuous improvement of product quality and service delivery while taking into cognisance the reality that in order to achieve this goal, employee

relations needs to be equally addressed, as the customer cannot get the satisfactory service delivery from ill- motivated employees.

Slerming (2007) noted that TQM has a strong predictive power against quality performance but however, the harmonization of other implementation of the TQM techniques is appropriate for enhancing the organizational performance.

Scheurich (2007) said that TQM helps in improving the quality of products and also reduces the scrap, rework and the need for buffer stock by establishing a stable production process. He argued that TQM will reduce the cost of production and time of production. Many other TQM practices such as training, information system management, relationship with suppliers etc. have a positive impact on operational performance.

Campbell (2013) the study reveals that the managers' mind set and management policy are more consistent with Taylor's scientific theory. According to Taylor employees are likely to work harder when they are being pressurized and supervised closely to ensure the maximum expected output from them.

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*Chapter - 3*

*Harrisons Malayalam Limited – A  
Profile*

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## Chapter - 3

# HARRISONS MALAYALAM LIMITED – A PROFILE

### 3.1 Background and inception of the company

An integrated agriculture operation giant Harrison's 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 its 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 Northern parts 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-**

Nilgiris 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 and flavored, 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- primarily in then highlands. 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 and 12 Tea factories. The grades produced are Whole leaf, Broken, Fanning's and 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

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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.

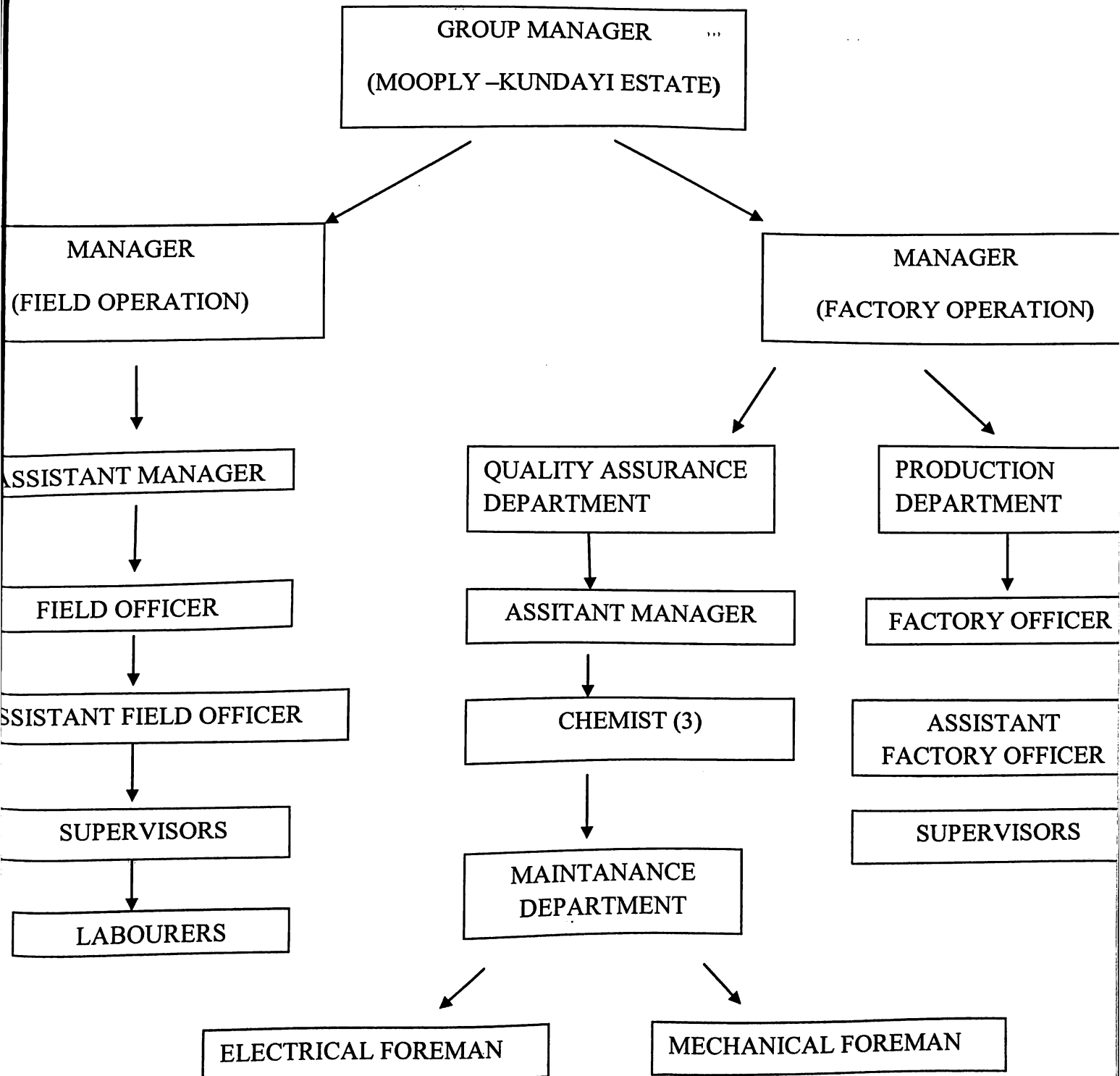


### 3.7 Organisation Structure

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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

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- 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

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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 India in March 2007 at Kochi, HML won the following awards for 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.

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

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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 & Crossfield and 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*

*Perception of employees towards*

*TQM*

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## **PERCEPTION OF EMPLOYEES TOWARDS TOTAL QUALITY MANAGEMENT – AN ANALYSIS**

### **4.1 Introduction**

To study the Perception of the employees towards the TQM in HML, information on its determinants were collected from the employees of Mooply Rubber Factory of HML, Thrissur.

The primary data regarding the perception of both Middle-low level employees and Workers were collected by pre-structured questionnaires. Several parameters that are used for the study are analysed in order to find out the employee's perception regarding the Total Quality Management in the organization. The analysis of the responses that gathered during the collection of the primary data is given below.

### **4.2 Socio-economic profile of middle-low level employees**

This section presents the empirical findings on the analysis of socio-economic characteristics of the middle-low level employees. Socio-economic factors describe the characteristics of the educational background, age and period of working in the company.

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**Table 4.1 Socio-economic profile of middle-low level employees**

Particulars	Number of employees
<b>1.Age (Years)</b>	
20-30	3 (37.5)
30-50	3 (37.5)
50 and above	2 (25)
<b>2.Gender</b>	
Male	8 (100)
Female	0
<b>3.Educational qualification</b>	
Matriculate	1 (12.5)
Higher secondary	1 (12.5)
Under graduate	6 (75)
Post graduate	0
<b>4.Period of working</b>	
Below 1 year	2 (25)
1-5 years	3 (37.5)
5-10 years	0
More than 10 years	3 (37.5)

*Source: Primary data collected through structured interview schedule.  
 Figures in brackets denote percentage to total.*

## 1. Age

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Out of the sample of middle-low level employees interviewed, most of them are below 50 years, which constitute 37.5% from age group 20-30 and 30-50 each. Remaining twenty five per cent of people are above 50 years.

## 2. Gender

In case of gender wise classification of the middle-low level employees, it is clear that only male employees are there in the Mooply CL factory.

## 3. Educational qualification

Regarding the educational qualification of middle-low level employees, seventy-five per cent of the employees possess under graduation degree. Respondents with higher secondary education are 12.5 per cent of the total population. 12.5 per cent constitutes the matriculation qualification also. There is no one with post-graduation. This indicates that the employees at HML seem to be well educated.

## 4. Period of working

A total of 20 per cent of the employees are working in the company below 1 year up to five year period. A total of 37.5 per cent of the employees are working in the company from 1 to 5 years and more than ten years period. The employees are experienced people.

### 4.3 Parameters for finding out middle-low level employee perception

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**Table 4.2 Quality consciousness**

Sl no	1	2
<b>Statements</b>	Need for strong awareness of Total Quality Management concept	Quality grading is prevailing in the organization
<b>SA</b>	5	5
<b>Score</b>	25	25
<b>A</b>	2	2
<b>Score</b>	8	8
<b>NO</b>	0	1
<b>Score</b>	0	3
<b>DA</b>	1	0
<b>Score</b>	2	0
<b>SD</b>	0	0
<b>Score</b>	0	0
<b>Total Score</b>	35	36
<b>Index</b>	87.5	90
<b>Perception level</b>	High	High

*Source: Primary data collected through structured interview schedule.*

From the table it is clear that the employees of HML have strong awareness of Total Quality Management Concept. The total score of the statement is 35, which indicate the perception level is high. For the second statement, the total score obtained is 36 which imply that the perception level is high. The employees agreed that HML is having quality grading for the products.

**Table 4.3 Quality assurance system and operation**

Sl no	1	2
<b>Statements</b>	Need for awareness of the quality assurance system prevailing in the organisation	The current quality assurance system is sufficient for the products
<b>SA</b>	4	2
<b>Score</b>	20	10
<b>A</b>	4	4
<b>Score</b>	16	16
<b>NO</b>	0	0
<b>Score</b>	0	0
<b>DA</b>	0	2
<b>Score</b>	0	4
<b>SD</b>	0	3
<b>Score</b>	0	3
<b>Total Score</b>	36	30
<b>Index</b>	90	75
<b>Perception level</b>	High	Good

*Source: Primary data collected through structured interview schedule*

From the table it is clear that the employees are highly aware of the quality assurance system prevailing in the organisation. The quality assurance system in HML includes raw material inspection, final product evaluation, sample testing, DR content examining etc. For the second statement i.e., the current quality assurance system is sufficient for the products, the employees' perception is good.

**Table 4.4 Quality Certification**

SI no	1	2
<b>Statements</b>	There is necessary for the Quality certification for a cenex manufacturing company	The present quality certification in the company is enough to capture a strong position in the market
<b>SA</b>	3	4
<b>Score</b>	15	20
<b>A</b>	4	4
<b>Score</b>	16	16
<b>NO</b>	1	0
<b>Score</b>	3	0
<b>DA</b>	0	0
<b>Score</b>	0	0
<b>SD</b>	0	0
<b>Score</b>	0	0
<b>Total Score</b>	34	36
<b>Index</b>	85	90
<b>Perception level</b>	High	High

*Source: Primary data collected through structured interview schedule*

From the table it is clear that the perception level of the employees regarding the statement there is necessary for the quality certification for cenex manufacturing company is high. This indicates that the employees very well know the importance of quality certification in their organisation (HML). The second statement's total score is 36 implies that the perception level of employees are high. HML is having ISO 9001: 2008 and ISO 14001:2008 certification at the latest. In employee's point of view, these certifications are enough to capture a strong position in the market.

**Table 4.5 Waste control**

Sl no	1	2
<b>Statements</b>	The current waste control measures in the organisation are sufficient for waste production of the products	Aware of waste control measures like Poka yoke or 5s japan philosophy
<b>SA</b>	4	2
<b>Score</b>	20	10
<b>A</b>	4	4
<b>Score</b>	16	16
<b>NO</b>	0	0
<b>Score</b>	0	0
<b>DA</b>	0	2
<b>Score</b>	0	4
<b>SD</b>	0	0
<b>Score</b>	0	0
<b>Total Score</b>	36	30
<b>Index</b>	90	75
<b>Perception level</b>	High	Good

*Source: Primary data collected through structured interview schedule*

From the table it is clear that the employees perception level is high regarding the first statement. This implies that the organization's waste control measures are enough for the liquid and solid wastes generated during the production process. HML has Liquid waste management plant for treatment of liquid waste during the processing. Also for solid wastes like skim, proper control measures are there and they are decreasing the skim amount through TQM practices ie., PDSA cycle. The employees have awareness regarding the waste control measures like Poka yoke which focus on mistake proofing mechanism and 5s philosophy focus on Sort, Stabilize, Shine, Standardize and Sustain that improves safety, work efficiency, productivity and ownership. The company follows 5S philosophy as a part of TQM implementation.

**Table 4.6 Preventive maintenance**

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Sl no	1	2
<b>Statements</b>	Proper care and servicing by personal for the purpose of maintaining equipment are working well in the company	Planned maintenance actions are done for the prevention of breakdown and failure of equipment before it actually occurs.
<b>SA</b>	6	6
<b>Score</b>	30	30
<b>A</b>	2	2
<b>Score</b>	8	8
<b>NO</b>	0	0
<b>Score</b>	0	0
<b>DA</b>	0	0
<b>Score</b>	0	0
<b>SD</b>	0	0
<b>Score</b>	0	0
<b>Total Score</b>	38	38
<b>Index</b>	95	95
<b>Perception level</b>	High	High

*Source: Primary data collected through structured interview schedule*

From the table it is clear that the perception level of the employees regarding both the statements is high as the index of both the statements is above 80. For the purpose of maintenance of equipment, proper care and servicing is done by the personal in order to prevent the hindrance during the production process. Also planned maintenance actions are done for the prevention of breakdown and failure of equipment before it actually occurs.



**Table 4.7 Quality standards**

Sl no	1	2
<b>Statements</b>	Standard quality techniques are following in the organisation	Advanced technologies for the improvement of the product are preferred
<b>SA</b>	4	2
<b>Score</b>	20	10
<b>A</b>	4	5
<b>Score</b>	16	20
<b>NO</b>	0	0
<b>Score</b>	0	0
<b>DA</b>	0	1
<b>Score</b>	0	2
<b>SD</b>	0	0
<b>Score</b>	0	0
<b>Total Score</b>	36	32
<b>Index</b>	90	80
<b>Perception level</b>	High	High

*Source: Primary data collected through structured interview schedule*

From the table it is clear that the total score of the first statement is 36 imply that the employees' perception of the statement standard quality techniques are following in the organisation is high. Standard quality techniques like scheduling inputs for the production like raw materials, ingredients, and staff required, clearing materials, water requirements etc., safety of the products and product quality are properly done in HML. The perception level is high for the statement advanced technologies for the improvement of the product are preferred as the organization focus on customer needs and improved products.

**Table 4.8 Employees' feedback system**

Sl no	1	2
<b>Statements</b>	Any Suggestions from employees are taken care off	Employees opinion are considered in the decision taking of the company
<b>SA</b>	2	3
<b>Score</b>	10	15
<b>A</b>	5	4
<b>Score</b>	20	16
<b>NO</b>	0	0
<b>Score</b>	0	0
<b>DA</b>	1	1
<b>Score</b>	2	2
<b>SD</b>	0	0
<b>Score</b>	0	0
<b>Total Score</b>	32	33
<b>Index</b>	80	82.5
<b>Perception level</b>	High	High

*Source: Primary data collected through structured interview schedule*

From the table, it is clear that for both the statements, the perception level of middle-low level employees is high. This indicates that management is treating the employees well. Any suggestions from the employees are taken into consideration by the management also the opinions from the employees are considered in decision taking of the company.

**Table 4.9 Training**

SI no	1	2
<b>Statements</b>	The organisation encourages and provides resources for training	Quality enhancement training program is being conducted in the organization
<b>SA</b>	4	4
<b>Score</b>	20	20
<b>A</b>	3	2
<b>Score</b>	12	8
<b>NO</b>	1	1
<b>Score</b>	3	3
<b>DA</b>	0	1
<b>Score</b>	0	2
<b>SD</b>	0	0
<b>Score</b>	0	0
<b>Total Score</b>	35	33
<b>Index</b>	87.5	82.5
<b>Perception level</b>	High	High

*Source: Primary data collected through structured interview schedule*

From the table, it is clear the middle-low level employees' perception level regarding the statement the organisation encourages and provides resources for training is high. This indicates that HML encourages their employees and facilitates the resources for the training. As the perception level of the employees regarding the second statement is high, it shows that the quality enhancement training programmes are organised in the company for the employees to pace with the new quality techniques.

**Table 4.10 Motivation**

SI no	1	2
<b>Statements</b>	Employee achievements are shared and promoted	Performance is recognized and rewarded
<b>SA</b>	5	4
<b>Score</b>	25	20
<b>A</b>	2	3
<b>Score</b>	8	12
<b>NO</b>	1	1
<b>Score</b>	3	3
<b>DA</b>	0	0
<b>Score</b>	0	0
<b>SD</b>	0	0
<b>Score</b>	0	0
<b>Total Score</b>	36	35
<b>Index</b>	90	87.5
<b>Perception level</b>	High	High

*Source: Primary data collected through structured interview schedule*

The table shows that the perception level of the statement employee achievements are shared and promoted is high. This indicates that the management is properly promoting the employees if they made any achievements. The perception level of second statement is also high which implies that management is giving proper rewards and recognition to the employees if they have made good performance.

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**Table 4.11 Cost of Quality**

Sl no	1	2
<b>Statements</b>	The cost of raw materials affects the quality	The company's personal financial interest effect the quality
<b>SA</b>	0	0
<b>Score</b>	0	0
<b>A</b>	4	1
<b>Score</b>	16	4
<b>NO</b>	0	1
<b>Score</b>	0	3
<b>DA</b>	2	6
<b>Score</b>	4	12
<b>SD</b>	2	0
<b>Score</b>	2	0
<b>Total Score</b>	22	19
<b>Index</b>	55	47.5
<b>Perception level</b>	Moderate	Moderate

*Source: Primary data collected through structured interview schedule*

From the table, the perception level indicate moderate which means that both the statements are having score in between 40-59. The cost incurred for the procurement of the raw materials used in the processing does not affect the quality of the product. Also the personal financial interest of HML does not affect the quality. This implies that HML is not compromising on the quality of their products when any condition of hike in the cost of raw materials or having any financial crises.

**Table 4.12 Collection of information**

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<b>Sl no</b>	<b>1</b>
<b>Statements</b>	Proper collection and analysis of data are done to improve quality
<b>SA</b>	3
<b>Score</b>	15
<b>A</b>	4
<b>Score</b>	16
<b>NO</b>	1
<b>Score</b>	3
<b>DA</b>	0
<b>Score</b>	0
<b>SD</b>	0
<b>Score</b>	0
<b>Total Score</b>	34
<b>Index</b>	85
<b>Perception level</b>	High

*Source: Primary data collected through structured interview schedule*

From the table, it is clear that the perception level of the employees regarding the statement proper collection and analysis of data are done to improve quality is high. From the company's aspect the internal study is properly done by the management or higher level employees in order to improve quality. Internal analysis helps to identify what are the necessary changes during the process overcoming the drawbacks that happened earlier.

**Table 4.13 Technology**

SI no	1	2	3
<b>Statements</b>	Automated machines are used in the processing	Ready to adopt new technology for the improvement of the product	Continuous process improvement methods are adopted for the products
<b>SA</b>	1	1	3
<b>Score</b>	5	5	15
<b>A</b>	4	6	4
<b>Score</b>	16	24	16
<b>NO</b>	0	1	1
<b>Score</b>	0	3	3
<b>DA</b>	3	0	0
<b>Score</b>	6	0	0
<b>SD</b>	0	0	0
<b>Score</b>	0	0	0
<b>Total Score</b>	27	32	34
<b>Index</b>	67.5	80	85
<b>Perception level</b>	Good	High	High

*Source: Primary data collected through structured interview schedule*

From the table, it is clear that HML is using automated machines for the processing since the perception level of middle-low level employees is good. From the employees point of view HML is ready to adopt new technologies for the improvement of the product which is clear from the perception level. The perception level of the employees regarding the third statement, Continuous process improvement methods are adopted for the products, indicates that continual improvements are made in the each stage during the process.

**Table 4.14 Product rejection**

Sl no	1	2
<b>Statements</b>	Product rejection in the aspect of quality is high in the company	Corrective action is taken immediately for product rejection
<b>SA</b>	0	4
<b>Score</b>	0	20
<b>A</b>	0	3
<b>Score</b>	0	12
<b>NO</b>	1	1
<b>Score</b>	3	3
<b>DA</b>	4	0
<b>Score</b>	8	0
<b>SD</b>	3	0
<b>Score</b>	3	0
<b>Total Score</b>	14	33
<b>Index</b>	35	87.5
<b>Perception level</b>	Poor	High

*Source: Primary data collected through structured interview schedule*

From the table, it is clear that as the perception level of the statement, product rejection in the aspect of quality is high in the company, is poor, the products of HML are not facing rejection from the customers. Corrective actions are taken immediately if any such rejection occurs which is clear from their perception level.



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**Table 4.15 Customer importance**

Sl no	1	2	3	4
<b>Statements</b>	Organisation is committed to satisfy the customers' needs and wants	Proper methods are used for the identification of changing needs of the customers	Customers do complain about your Products	Your organisation responds quickly to customers complaints
<b>SA</b>	6	6	0	6
<b>Score</b>	30	30	0	30
<b>A</b>	2	2	1	2
<b>Score</b>	8	8	4	8
<b>NO</b>	0	0	0	0
<b>Score</b>	0	0	0	0
<b>DA</b>	0	0	5	0
<b>Score</b>	0	0	10	0
<b>SD</b>	0	0	2	0
<b>Score</b>	0	0	2	0
<b>Total Score</b>	38	38	16	38
<b>Index</b>	95	95	40	95
<b>Perception level</b>	High	High	Moderate	High

*Source: Primary data collected through structured interview schedule*

From the table, it is clear that HML is committed to satisfy the needs and wants of the customers. Also HML uses proper methods for the identification of the changing needs of the customers. HML have direct contact with the customers and inquire their requirements frequently. If any complaints are there from the customers, HML take it as feedback and responds quickly to the complaints by taking necessary corrective action at the time of production.

**Table 4.16 Continuous Improvement**

Sl no	1	2
<b>Statements</b>	Management always delivers the latest technology for contributing to the application of TQM	Emphasis on continuous improvement has been applied in all operations and at all levels
<b>SA</b>	4	5
<b>Score</b>	20	25
<b>A</b>	3	2
<b>Score</b>	12	8
<b>NO</b>	0	1
<b>Score</b>	0	3
<b>DA</b>	1	0
<b>Score</b>	2	0
<b>SD</b>	0	0
<b>Score</b>	0	0
<b>Total Score</b>	34	36
<b>Index</b>	85	90
<b>Perception level</b>	High	High

*Source: Primary data collected through structured interview schedule*

From the table, it is clear that Management always delivers the latest technology for contributing to the application of TQM and aware to the value of updating. Second statement reveals the perception as high and it is because company gives emphasis on continuous improvement that has been applied in all operations at all levels. It is evident from the TQM projects they have done successfully and is still being continued with good results.

**Table 4.17 Supplier Relationship**

Sl no	1	2
<b>Statements</b>	Company depends on relatively few dependable suppliers who are evaluated and selected based on their capability and commitment	Conducts periodic examinations of the materials supplied to ensure conformity with the standard specifications
<b>SA</b>	5	8
<b>Score</b>	25	40
<b>A</b>	2	0
<b>Score</b>	8	0
<b>NO</b>	0	0
<b>Score</b>	0	0
<b>DA</b>	1	0
<b>Score</b>	2	0
<b>SD</b>	0	0
<b>Score</b>	0	0
<b>Total Score</b>	35	40
<b>Index</b>	87.5	100
<b>Perception level</b>	High	High

*Source: Primary data collected through structured interview schedule*

Supplier relationship is well maintained by the company. Company depends on relatively few dependable suppliers who are evaluated and selected based on their capability and commitment to product, service quality and value for money. This is clear from the perception level of employees as it indicates high. The second statement, Conducts periodic examinations of the materials supplied to ensure conformity with the standard specifications, seems to be high with full score. It shows that the company is strictly following the standard specifications well.

**Table 4.18 Perception index of middle- low level employees**

Sl.No	Parameters	Perception Index	Perception Level
1	Quality consciousness	88.5	High
2	Quality assurance system & operation in the organisation	82.5	High
3	Quality certification in the organisation	87.5	High
4	waste control practices	82.5	High
5	Preventive maintenance in the organisation	95	High
6	Quality standards followed in the organisation	85	High
7	Employees feedback system	81.25	High
8	Training	85	High
9	Motivation	88.5	High
10	Cost of quality	51.25	Moderate
11	Collection of information	85	High
12	Technology adopted by the company	77.5	Good
13	Product rejection	61.25	Good
14	Customer importance	81.25	High
15	Continuous improvement	87.5	High
16	Suppliers' relationship	93.75	High
<b>OVERALL PERCEPTION INDEX</b>		82.07	High

The table 4.18 reveals that Middle-low level employees' perception level of only one parameter is Moderate, which is Cost of quality. It indicates that cost of raw materials does not affect the quality. It is a good result i.e., at any cost they maintain the quality of the product.

Technology and product rejection got the perception level good. Product rejection is not there in HML and if any such cases occur, they will take corrective action immediately. In the opinion of employees, technology from the employee point of view HML is ready to adopt new technologies for the improvement of the product which is clear from the perception level. More emphasis should be given to technology.

The perception level of the parameters like quality consciousness, quality assurance system & operation in the organisation, quality certification in the organisation, waste control practices, preventive maintenance in the organisation, quality standards followed in the organisation, employees feedback system, training, motivation, customer importance, suppliers' relationship, continuous improvement and collection of information shows high. This indicates that employees are having good awareness of the total quality management concept and they agree that quality grading prevailing in the organisation is good.

The employees have awareness regarding the quality assurance system in the organisation and they agreed that the current quality assurance system is sufficient for the products. HML is having a clear quality vision and the employees are properly communicated about their vision. Suggestions and feedback from the employees are taken care off by the management well. When any employee performs well, it is considered by the organisation and good rewards are given accordingly. HML adopted continuous improvement methods for the products and automated machines are used in the processing. The parameters are waste control practices, Benchmarking, Cost of quality and Collection of information. From the employee's opinion, it is clear that the current waste control measures in the organisation are adequate for the waste generated in the unit. The employees have knowledge about the waste control measures like Poka yoke or 5s Japan philosophy which focus on Sort, Straiten, Shine, Standardize and Sustain. The employees of the organisation revealed that the Company's personal financial interest does not affect the quality of the product and the company does not compromise on quality even at times cost of the raw material become high. Proper collection and analysis of the data are regularly done to improve the quality of the products of the HML.

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The overall perception of employees regarding the implementation of Total Quality Management in HML is high.

#### 4.4 Socio-economic profile of workers

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This section presents the empirical findings on the analysis of socio-economic characteristics of the workers. Socio-economic factors are both social and economic factors that describe the characteristics of the educational background, age and period of working in the company.

**Table 4.19 Socio-economic profile of workers**

Particulars	Number of employees
<b>1.Age (Years)</b>	
20-30	8 (40)
30-50	8 (40)
50 and above	4 (20)
<b>2.Gender</b>	
Male	14 (70)
Female	6 (30)
<b>3.Educational qualification</b>	
Matriculate	12 (60)
Higher secondary	5 (25)
Under graduate	2 (10)
Post graduate	1 (5)
<b>4.Period of working</b>	
Below 1 year	2 (10)
1-5 years	5 (25)
5-10 years	5 (25)
More than 10 years	8 (40)

*Source: Primary data collected through structured interview schedule.  
Figures in brackets denote percentage to total.*

## 1. Age

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Out of the 20 sample population of workers interviewed, 30-50 aged people are forty per cent. Another forty per cent of people are above the age of 50. This indicates major population of the workers in HML Ltd comes above the age of 30.

## 2. Gender

In case of gender wise classification of the workers, male workers are more. They constitute seventy per cent of the total population. This infers that the majority of workers at HML are males.

## 3. Educational qualification

Regarding the educational qualification of workers, from the total of 20, 12 workers which constitute sixty per cent of the workers possess matriculate education. Only ten per cent which constitute two workers are having undergraduate degree. Only one of the workers is having a post-graduation. This indicates that the workers at HML seem to be less educated as they are doing jobs that required less skills compared to the top-middle level employees. UG and PG holders are chemists.

## 4. Period of working

From the total of 20, forty per cent of the workers are working in the company for more than 10 years period. Twenty five per cent of the workers are working in the company in between 1-5 years and also 5-10 years. Only ten per cent are working below 1 year. This indicates that most of the workers are having greater experience with the company as their working period is above 10 years.



#### 4.5 Parameters for finding out middle-low level employee perception

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**Table 4.20 Awareness of TQM**

SI no	1	2
<b>Statements</b>	Familiar with the term Total Quality Management	Quality with respect to product is only considered in TQM
<b>SA</b>	2	1
<b>Score</b>	10	5
<b>A</b>	7	4
<b>Score</b>	28	16
<b>NO</b>	0	12
<b>Score</b>	0	36
<b>DA</b>	9	3
<b>Score</b>	18	6
<b>SD</b>	2	0
<b>Score</b>	2	0
<b>Total Score</b>	58	63
<b>Index</b>	58	63
<b>Perception level</b>	Moderate	Good

*Source: Primary data collected through structured interview schedule.*

From the table, it is clear that the perception level of the workers regarding the first parameter is moderate. The workers are not very well familiar with the Total Quality Management concept. Most among the workers have no opinion on the second statement. They are not aware of the need and importance of TQM in the organization.

**Table 4.21 Working environment**

SI no	1	2
<b>Statements</b>	I'm satisfied with the security that my job provides me	The working condition creates a learning environment in the organization
<b>SA</b>	2	2
<b>Score</b>	10	10
<b>A</b>	10	2
<b>Score</b>	40	8
<b>NO</b>	0	16
<b>Score</b>	0	48
<b>DA</b>	3	0
<b>Score</b>	6	0
<b>SD</b>	5	0
<b>Score</b>	5	0
<b>Total Score</b>	61	66
<b>Index</b>	61	66
<b>Perception level</b>	Good	Good

*Source: Primary data collected through structured interview schedule*

From the table, it is clear that the score lies in between 60-79 which implies that the perception level regarding the two statements are good. The workers in HML are not fully satisfied with the security of the job. For the second statement, the working condition creates a learning environment, it is clear that majority of the workers have no opinion regarding the second statement.

**Table 4.22 Skills and knowledge**

SI no	1	2
<b>Statements</b>	The company is utilising the skills and knowledge of the workers well	Company gives the platform to develop your skills well
<b>SA</b>	3	2
<b>Score</b>	15	10
<b>A</b>	11	7
<b>Score</b>	44	28
<b>NO</b>	2	8
<b>Score</b>	6	24
<b>DA</b>	4	3
<b>Score</b>	8	6
<b>SD</b>	0	0
<b>Score</b>	0	0
<b>Total Score</b>	73	68
<b>Index</b>	73	68
<b>Perception level</b>	Good	Good

*Source: Primary data collected through structured interview schedule*

From the table, it is clear that the perception level of workers regarding both the statements is good. This indicates that in the workers point of view, the company is utilising the skills and knowledge of the employees well and HML is giving the workers a platform to develop their skills.

Table 4.23 Motivation

Sl no	1	2	3
<b>Statements</b>	Appreciation in terms of promotion or wages are given on achievement	Performance is recognized and rewarded	Salary is a means of motivation in the company
<b>SA</b>	2	2	2
<b>Score</b>	10	10	10
<b>A</b>	12	5	2
<b>Score</b>	48	20	8
<b>NO</b>	0	0	10
<b>Score</b>	0	0	30
<b>DA</b>	6	5	3
<b>Score</b>	12	10	6
<b>SD</b>	5	8	3
<b>Score</b>	5	8	3
<b>Total Score</b>	75	48	57
<b>Index</b>	75	48	57
<b>Perception level</b>	Good	Moderate	Moderate

*Source: Primary data collected through structured interview schedule*

Perception regarding the first statement of the workers is good. Appreciation in terms of promotion or wages is given on achievement of the worker when more work is done by them which result in more production in less time. Last two statements got perception level moderate. Proper rewards are not being given to them. Salary given is not the means of motivation of the workers. Workers are given salary on the daily basis according to the production in the company. They are not satisfied with the salary they get. In their opinion, proper pay is not there for their work.

**Table 4.24 Training**

Sl no	1	2	3
<b>Statements</b>	Training on statistical quality tools to measure the variations is conducted in the organisation	Quality enhancement training program is being conducted in the organization.	The organisation encourages and provides resources for training
<b>SA</b>	1	1	2
<b>Score</b>	5	5	10
<b>A</b>	2	0	7
<b>Score</b>	8	0	28
<b>NO</b>	0	9	3
<b>Score</b>	0	27	9
<b>DA</b>	14	10	8
<b>Score</b>	28	20	16
<b>SD</b>	3	0	0
<b>Score</b>	3	0	0
<b>Total Score</b>	44	52	63
<b>Index</b>	44	52	63
<b>Perception level</b>	Moderate	Moderate	Good

*Source: Primary data collected through structured interview schedule*

The workers perception level on the first statement is Moderate. This indicates that the workers are not given proper training on the quality tools by the management. Adequate training should be provided to workers also along with the higher level of employees. As the perception level of the workers regarding the second statement is moderate, it shows that there is the need for the quality enhancement training programme in the company for the workers. From the table, it is clear the workers perception level regarding the third statement is good. This indicates that HML encourages their workers and facilitates the resources for the training but those trainings are general ones.

**Table 4.25 Team-work**

SI no	1	2
<b>Statements</b>	The organisation promotes teamwork and cooperation among each other	Teams are framed to solve quality issues and other problem
<b>SA</b>	5	3
<b>Score</b>	25	15
<b>A</b>	13	4
<b>Score</b>	52	16
<b>NO</b>	2	10
<b>Score</b>	6	30
<b>DA</b>	0	3
<b>Score</b>	0	6
<b>SD</b>	0	0
<b>Score</b>	0	0
<b>Total Score</b>	83	67
<b>Index</b>	83	67
<b>Perception level</b>	High	Good

*Source: Primary data collected through structured interview schedule*

The score obtained for the first statement and the perception level high indicate that HML promotes team-work and cooperation among the employees. The perception level of workers regarding the second statement is good. It indicates that in order to solve the issues arises in the company; suitable teams are framed by the management among the workers itself.

**Table 4.26 Management recognises suggestions**

SI no	1	2
<b>Statements</b>	Suggestions from the workers are considered by the management	Suggestion for improvement in the organisation are discussed among the workers and implemented
<b>SA</b>	3	6
<b>Score</b>	15	30
<b>A</b>	5	14
<b>Score</b>	20	56
<b>NO</b>	0	0
<b>Score</b>	0	0
<b>DA</b>	9	0
<b>Score</b>	18	0
<b>SD</b>	3	0
<b>Score</b>	3	0
<b>Total Score</b>	56	86
<b>Index</b>	56	86
<b>Perception level</b>	Moderate	High

*Source: Primary data collected through structured interview schedule*

From the table, it is clear that the perception of the workers regarding the first statement is moderate. In the case of workers, their suggestions are not considered by the management. Even though their suggestions are not considered, they can take part in discussions. The perception level of the workers regarding the second statement is high which implies that suggestion for improvement in the organisation are discussed among the workers and implemented.

**Table 4.27 Decision taking**

SI no	1	2
<b>Statements</b>	Workers and other higher level employees are treated equally by the management	Equal participation is done among all levels of employees if any decision is taken
<b>SA</b>	6	0
<b>Score</b>	30	0
<b>A</b>	4	7
<b>Score</b>	16	28
<b>NO</b>	2	2
<b>Score</b>	6	6
<b>DA</b>	3	6
<b>Score</b>	6	12
<b>SD</b>	5	5
<b>Score</b>	5	5
<b>Total Score</b>	63	51
<b>Index</b>	63	51
<b>Perception level</b>	Good	Moderate

*Source: Primary data collected through structured interview schedule*

From the table, it is clear that workers and other higher level employees are treated equally by the management as the perception level of the workers is good. Here also some workers have different opinion. Equal treatment will generate a sense of belongingness and help to create commitment to the organisation. But the moderate perception level of the second statement indicates that equal participation among all levels of the employees are not there if any decision is taken with respect to the company. The higher level employees are given priority in case of decision making in the organisation than workers.



Table 4.28 Communication

Sl no	1	2
<b>Statements</b>	Freedom for workers to say any difficulties in the work to the management	Proper corrective measures are taken by the management in case of any issues in the work
<b>SA</b>	12	6
<b>Score</b>	60	30
<b>A</b>	6	6
<b>Score</b>	24	24
<b>NO</b>	2	5
<b>Score</b>	6	15
<b>DA</b>	0	3
<b>Score</b>	0	6
<b>SD</b>	0	0
<b>Score</b>	0	0
<b>Total Score</b>	90	75
<b>Index</b>	90	75
<b>Perception level</b>	High	Good

*Source: Primary data collected through structured interview schedule*

As the perception level of first statement is high, it implies that management has given freedom for the workers in case of any difficulty in their work and can report freely to the management anytime. The perception of the statement proper corrective measures are taken by the management in case of any issues in the work is good. This indicates that the management takes care of workers' problems as the problem of the company and proper actions are taken in case of any issues in the work. Some of the workers opined that sometimes the management is just hearing the problem and not properly takes care.

**Table 4.29 Quality certification**

Sl no	1	2
<b>Statements</b>	There is necessary for the Quality certification for a cenex manufacturing company	The present quality certification in the company are good enough for ensuring the quality of products
<b>SA</b>	2	2
<b>Score</b>	10	10
<b>A</b>	11	8
<b>Score</b>	44	32
<b>NO</b>	7	10
<b>Score</b>	21	30
<b>DA</b>	0	0
<b>Score</b>	0	0
<b>SD</b>	0	0
<b>Score</b>	0	0
<b>Total Score</b>	75	72
<b>Index</b>	75	72
<b>Perception level</b>	Good	Good

*Source: Primary data collected through structured interview schedule*

Table shows that workers are aware of the necessity of having the quality certification for acenex manufacturing company. Some have no idea about its need or purpose. The second statement's total score is 72 and it implies that the perception level of employees is good. At present HML is having ISO 14001:2008 and ISO 9001:2008 certification.

**Table 4.30 Waste control**

Sl no	1	2
<b>Statements</b>	The current waste control measures in the organisation are sufficient for waste production of the products	Aware of waste control measures like Poka yoke or 5s Japan philosophy
<b>SA</b>	13	0
<b>Score</b>	65	0
<b>A</b>	7	4
<b>Score</b>	28	16
<b>NO</b>	0	0
<b>Score</b>	0	0
<b>DA</b>	0	3
<b>Score</b>	0	6
<b>SD</b>	0	13
<b>Score</b>	0	13
<b>Total Score</b>	93	35
<b>Index</b>	93	35
<b>Perception level</b>	High	Poor

*Source: Primary data collected through structured interview schedule*

From the table it is clear that the workers' perception level is high regarding the first statement. This implies that the organization's waste control measures are enough for the liquid and solid wastes generated during the production process. But they are not aware of the waste control measures of Japan philosophy. Workers of lab know them very well but other workers are not familiar with those measures.

**Table 4.31 Customer focus**

Sl no	1	2
<b>Statements</b>	Organisation is committed to satisfy the customers' needs and wants	Proper methods are used for the identification of changing needs of the customers
<b>SA</b>	10	11
<b>Score</b>	50	55
<b>A</b>	8	6
<b>Score</b>	32	24
<b>NO</b>	2	3
<b>Score</b>	6	9
<b>DA</b>	0	0
<b>Score</b>	0	0
<b>SD</b>	0	0
<b>Score</b>	0	0
<b>Total Score</b>	88	88
<b>Index</b>	88	88
<b>Perception level</b>	High	High

*Source: Primary data collected through structured interview schedule*

From the table, it is clear that HML is committed to satisfy the needs and wants of the customers. Also HML uses proper methods for the identification of the changing needs of the customers. Workers are aware that company is customer-centric.

**Table 4.32 Product rejection**

Sl no	1	2
<b>Statements</b>	Product rejection in the aspect of quality is high in the company	Corrective action is taken immediately for product rejection
<b>SA</b>	0	3
<b>Score</b>	0	15
<b>A</b>	0	... 12 ...
<b>Score</b>	0	48
<b>NO</b>	2	2
<b>Score</b>	6	6
<b>DA</b>	8	0
<b>Score</b>	16	0
<b>SD</b>	10	3
<b>Score</b>	10	3
<b>Total Score</b>	32	72
<b>Index</b>	32	72
<b>Perception level</b>	Poor	Good

*Source: Primary data collected through structured interview schedule*

From the table, it is clear that as the perception level of the statement product rejection in the aspect of quality is high in the company is poor, the products of HML are not facing rejection from the customers. Corrective actions are taken immediately if any such rejection occurs which is also clear from their perception level. Some opined that they disagree second statement also because such a situation is not yet happened there.

**Table 4.33 Technology**

SI no	1	2
<b>Statements</b>	Automated machines are used in the processing	Advanced technologies for the improvement of the product are preferred
<b>SA</b>	0	0
<b>Score</b>	0	0
<b>A</b>	2	3
<b>Score</b>	8	12
<b>NO</b>	2	15
<b>Score</b>	6	45
<b>DA</b>	18	2
<b>Score</b>	32	4
<b>SD</b>	0	0
<b>Score</b>	0	0
<b>Total Score</b>	46	61
<b>Index</b>	46	61
<b>Perception level</b>	Moderate	Good

*Source: Primary data collected through structured interview schedule*

From the table, it is clear that HML is using manpower as well as machines for the processing since the perception level of the workers is moderate. The perception level of the workers is good for the statement advanced technologies for the improvement of the product are preferred. Even though it shows good, most of the workers have no idea whether advanced technologies are being used or not.

**Table 4.34 Perception Index of workers**

SL.NO	PARAMETERS	PERCEPTION INDEX	PERCEPTION LEVEL
1	Awareness of TQM	60.5	Good
2	Working Environment	63.5	Good
3	Skills and Knowledge	70.5	Good
4	Motivation	60	Good
5	Training	53	Moderate
6	Team-Work	75	Good
7	Management Recognises Suggestions	71	Good
8	Decision Taking	57	Moderate
9	Communication	82.5	High
10	Quality Certification	73.5	Good
11	Waste Control	64	Good
12	Customer Focus	88	High
13	Product rejection	52	Moderate
14	Technology	53.5	Moderate
OVERALL PERCEPTION INDEX		66.6	Good

The table 4.34 reveals that workers perception level of certain parameters is Moderate. So HML should give more emphasis on these parameters in order to make the organisation ready to implement Total Quality Management in all aspect. The parameters are training, decision making, product rejection and technology. From the workers opinion, training for the workers regarding the statistical quality tools or quality enhancement training programmes is not conducted in the organisation. Equal participation is not among all levels of employees if any decision is taken. In the workers point of view, advanced technologies are not used in the company. Product rejection also got moderate perception level which indicates that products are not rejected by the customers.

The perception level of the parameters like Awareness of TQM, Working Environment, Skills and knowledge, Motivation, Team-Work, Management recognises suggestions, Quality

Certification and Waste control shows Good. Even though perception level is good, some parameters are just covered moderate level.

The workers are not very well familiar with the Total Quality Management concept. The workers in HML are not fully satisfied with the security of the job. The company is adopting the right policy to ensure quality from the view point of the workers and the rules and regulations of HML focus on the quality of the products. Company is utilising the skills and knowledge of the employees well and HML is giving the workers a platform to develop their skills. Performances of the Workers are appreciated and motivation in terms of wages is given to the workers by the management. The management encourages the team-work and cooperation among each other. The organisation always motivates the employees. The organization's waste control measures are enough for the liquid and solid wastes generated during the production process. But they are not aware of the waste control measures of Japan philosophy.

In the table, index of only two out of 14 parameters i.e. customer focus and communication show High perception which means that customers are being properly cared by the company and also workers have the freedom to communicate with the management at any time.

The overall perception of workers regarding the implementation of Total Quality Management in the HML is good.



*Chapter – 5*  
*Findings, Suggestions and*  
*Conclusion*

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## FINDINGS, SUGGESTIONS & CONCLUSION

### 5.1 Major Findings

#### 5.1.1 Middle-low level employees

The major findings of the study relating to the perception of middle-low level employees are as follows:

1. Middle-low level employees have enough knowledge about the quality certification like ISO 9001, ISO 14001 etc. and the importance of quality certification for a centrifuged latex (cenex) manufacturing company.
2. HML follows standard quality techniques for their products and for the improvement of the product advanced technologies.
3. Middle-low level employees have good awareness of the total quality management concept. Raw material used for the processing are assessed and sorted by checking DRC.
4. The employees agreed that the current quality assurance system is sufficient for the products. HML have a clear quality vision and the employees are properly communicated about their vision.
5. The organisation encourages and provides resources for training of the Middle-low level employees regarding the quality.
6. HML adopted continuous improvement methods for the products.
7. When any employee performed well, it is considered by the organisation and good rewards are given accordingly.
8. HML quickly responds to the customers' needs.
9. Quality enhancement training programmes are organised in the company for the employees to pace with the new quality techniques.
10. The employees are not have knowledge about the waste control measures like Poka yoke or 5s Japan philosophy which focus on Sort, Straiten, Shine, Standardize and Sustain.
11. The Company's personal financial interest does not affect the quality of the product and the company has never compromise on quality even at times the cost of the raw material become high.

12. Proper collection and analysis of the data are done to improve the quality of the products of the HML.

### **5.1.2 Workers**

1. The workers are not very well familiar with the Total Quality Management concept and they are not aware of the need and importance of TQM in the organization.
2. HML is not using fully automated machines for the processing.
3. The workers are not fully satisfied with the security of the job.
4. The working condition does not create a leaning environment for them.
5. The workers are aware of the quality assurance mechanism in the organisation and the company is using the quality standards for ensuring the quality.
6. Performances of the Workers are appreciated and motivation in terms of wages is given to the workers by the management.
7. The management encourages the team-work and cooperation among each other.
8. Workers are not satisfied with the salary they get. In their opinion, proper pay is not there for their work.
9. Workers and higher level employees are treated equally by the management.
10. Equal participation among all levels of the employees are not there if any decision is taken with respect to the company.
11. The workers are free to say any difficulty in the work to the management. But they are not properly recognised.
12. The workers do not have knowledge about the waste control measures like Poka yoke or 5s Japan philosophy.

### **6.2 Suggestions**

From the discussion with the employees and workers and from their opinion, certain suggestions are proposed.

1. All levels of employees should be familiarised with the Total Quality Management concept then only the implementation of total quality management is successful.
2. Training regarding the statistical quality tools is to be provided for both the middle-low level employees and workers.



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3. Familiarise all levels of employees with the waste control measures like 5s or poka yoke so that it improves work efficiency, productivity and quality of products.
4. Suggestions or any report on difficulties from workers should be taken care off then only they workers sincerely feel that their part is important for the company's growth.

### 6.3 Conclusion

From the study of the employees perception regarding the implementation of Total Quality Management in HML, it can be concluded that by considering several parameters like awareness of TQM, quality consciousness, training, motivation etc., the middle-low level employees and workers perception regarding these parameters are above good. Both middle-low level employees and workers are aware of the quality assurance mechanism prevailing in the organisation. Also they are aware of the quality standards to be used. The employees in HML very well know the need of quality certification like ISO for their company. Considering all these the awareness of employees towards TQM techniques are good. Most of the parameters considered are supporting Total Quality Management practices. The middle-low level employees are having more awareness regarding the different parameters considered in Total Quality Management compared to the workers.

HML has adopted continuous process improvement methods for the products. ie continual improvements are made in the each stage during the process. Sample testing of the product is done before it reaches to the market for sales. PDSA cycle, Ishikawa diagram etc. are used in the company's TQM projects in each year.

It is clear from the study that HML uses TQM concepts and techniques well. Management should make sure that involvement of low level workers is as important as other workers and employees. They also have to be aware of the importance of TQM. Successful implementation of TQM is possible only when each and every one of the company, from the top management to the low level worker, have a clear idea about the concept of TQM and also its needs and importance. So the study reveals that even though the employees and workers of HML take part in TQM activities, workers are not aware of the concept. Hence HML is not fully adaptable for the implementation of TQM i.e., implementation of TQM is not successful in HML

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*Appendix*

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APPENDIX-I  
KERALA AGRICULTURAL UNIVERSITY  
COLLEGE OF CO-OPERATION, BANKING AND MANAGEMENT



A STUDY ON THE PERCEPTION OF EMPLOYEES TOWARDS THE  
IMPLEMENTATION OF TOTAL QUALITY MANAGEMENT  
AT MOOPLY CL FACTORY OF HARRISONS MALAYALAM LTD

INTERVIEW SCHEDULE FOR EMPLOYEES

SOCIO-ECONOMIC PROFILE

- 1. Name:
- 2. Age
  - a) 20-30
  - b) 30-50
  - c) 50 and above
- 3. Sex : Male  Female
- 4. Educational qualification
  - a) Matriculate
  - b) Higher secondary
  - c) Under graduate
  - d) Post graduate
- 5. How long u have you been working in this company?
  - a) Below 1 year
  - b) 1-5 years
  - c) 5-10 years
  - d) More than 10 years

**PARAMETERS FOR FINDING OUT EMPLOYEE PERCEPTION**

**1. Quality consciousness**

I. Strong awareness of Total Quality Management concept

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. Quality grading is prevailing in the organisation

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

**2. Quality assurance system and operation**

I. The current quality assurance system is sufficient for the products

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. The current plant capacity is sufficient for storage of the product

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

### 3. Quality certification

I. There is necessary for the Quality certification for a cenex manufacturing company

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. The present quality certification in the company is enough to capture a strong position in the market

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

### 4. Waste control

I. The current waste control measures in the organisation are sufficient for the waste generation of the products.

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. Aware of waste control measures like Poka yoke or 5s japan philosophy

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

## 5. Preventive maintenance

I. Proper care and servicing by personal for the purpose of maintaining equipment are working well in the company

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. Planned maintenance actions are done for the prevention of breakdown and failure of equipment before it actually occurs

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

## 6. Quality standards

I. Standard quality techniques are following in the organisation

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. Advanced technologies for the improvement of the product are preferred

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

## 7. Employees feedback system

- I. Any Suggestions from employees are taken care off
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree
- II. Employees opinion are considered in the decision taking of the company
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree

## 8. Training

- I. The organization encourages and provides resource for training.
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree
- II. Quality enhancement training program is being conducted in the organization.
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree

**9. Motivation**

I. Employee achievements are shared and promoted

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. Performance is recognized and rewarded

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

**10. Cost of Quality**

I. The cost of raw materials affects the quality

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. The company's personal financial interest affect the quality

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree



## 11. Collection of information

I. Proper collection and analysis of data are done to improve quality.

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

## 12. Technology

I. Automated machines are used in the processing

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. Ready to adopt new technology for the improvement of the product

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

III. Continuous process improvement methods are adopted for the products.

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

### 13. Product rejection

I. Product rejection in the aspect of quality is high in the company

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. Corrective action is taken immediately for product rejection

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

### 14. Customer importance

I. Organisation is committed to satisfy the customers' needs and wants

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. Proper methods are used for the identification of changing needs of the customers

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

III. Customers do complain about your Products

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

IV. Your organisation responds quickly to customers complaints

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

**15. Continuous Improvement**

I. Management always delivers the latest technology for contributing to the application of TQM

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. Emphasis on continuous improvement has been applied in all operations and at all levels

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

**14. Supplier Relationship**

I. Company depends on relatively few dependable suppliers who are evaluated and selected based on their capability and commitment to product, service quality and value for money

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. Conducts periodic examinations of the materials supplied to ensure conformity with the standard specifications

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

Other comments/suggestions if any: \_\_\_\_\_

\_\_\_\_\_

**THANK YOU FOR YOUR CO-OPERATION**

## APPENDIX-II

### KERALA AGRICULTURAL UNIVERSITY COLLEGE OF CO-OPERATION, BANKING AND MANAGEMENT



### A STUDY ON THE PERCEPTION OF EMPLOYEES TOWARDS IMPLEMENTATION OF TOTAL QUALITY MANAGEMENT AT MOOPLY CL FACTORY OF HARRISONS MALAYALAM LTD INTERVIEW SCHEDULE FOR WORKERS

#### SOCIO-ECONOMIC PROFILE

1. Name:

2. Age

a) 20-30

b) 30-50

c) 50 and above

3. Sex : Male

Female

4. Educational qualification

e) Matriculate

f) Higher secondary

g) Under graduate

h) Post graduate

5. How long u have you been working in this company?

e) Below 1 year

f) 1-5 years

g) 5-10 years

h) More than 10 years

## PARAMETERS FOR FINDING OUT WORKERS PERCEPTION

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### 1. Awareness of TQM

- I. Familiar with the term Total Quality Management
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree
- II. Quality with respect to product is only considered in TQM
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree

### 2. Working environment

- I. I'm satisfied with the security that my job provides me
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree
- II. The working condition creates a learning environment in the organization.
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree

### 3. Skills and knowledge

- I. The company is utilising the skills and knowledge of the workers well
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree

II. Company gives the platform to develop your skills well

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

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#### 4. Motivation

I. Performance is recognized and rewarded

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. Appreciation in terms of promotion or wages are given on achievement

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

III. Salary is a means of motivation in the company

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

#### 5. Training

I. Training on statistical quality tools to measure the variations is conducted in the organisation.

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. Quality enhancement training program is being conducted in the organization.

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree

- e) Strongly disagree
- III. The organisation encourages and provides resources for training
- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

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## 6. Team-work

- I. The organisation promotes teamwork and cooperation among each other.
- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree
- II. Teams are framed to solve quality issues and other problem
- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

## 7. Management recognises suggestions

- I. Suggestions from the workers are considered by the management
- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree
- II. Suggestion for improvement in the organisation are discussed among the employees and implemented.
- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree



**8. Decision taking**

- I. Workers and other higher level employees are treated equally by the management
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree
- II. Equal participation is done among all levels of employees if any decision is taken
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree

**9. Communication**

- I. The employees share knowledge and expertise with the other employee
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree
- II. Freedom for workers to say any difficulties in the work to the management
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree
- III. Proper corrective measures are taken by the management in case of any issues in the work
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree

**10. Quality certification**

- I. There is necessary for the Quality certification for food processing company
  - a) Strongly agree
  - b) Agree
  - c) No opinion

- d) Disagree
- e) Strongly disagree

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II. The present quality certification in the company are good enough for ensuring the quality of products

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

## 11. Waste control

I. The current waste control measures in the organisation are sufficient for waste production of the products

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. Aware of waste control measures like Poka yoke or 5s japan philosophy

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

## 12. Customer focus

I. Proper methods are used for the identification of changing needs of the customers

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

II. Organisation is committed to satisfy the customers' needs and wants

- a) Strongly agree
- b) Agree
- c) No opinion
- d) Disagree
- e) Strongly disagree

**13. Product rejection**

- I. Product rejection in the aspect of quality is high in the company
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree
- II. Corrective action is taken immediately for product rejection
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree

**14. Technology**

- I. Automated machines are used in the processing
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree
- II. Advanced technologies for the improvement of the product are preferred
  - a) Strongly agree
  - b) Agree
  - c) No opinion
  - d) Disagree
  - e) Strongly disagree

Other comments/suggestions if any: \_\_\_\_\_

\_\_\_\_\_

**THANK YOU FOR YOUR CO-OPERATION**

## APPENDIX-III

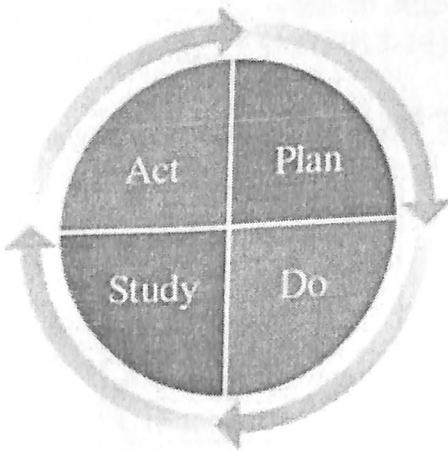
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### TQM Project

Total quality management ensures that every single employee is working towards the improvement of work culture, processes, services, systems and so on to ensure long term success. Management has decided to implement TQM in Factory operations of Mooply C L factory. As a part of TQM activities, each year one TQM project is being carried out and the projects in 2014 and 2015 were 'to improve skim 1 grade % from 63 to 90%' and 'to improve cemenex efficiency from 87.5% (2013-14) to 89.00%'. They follow PDSA Cycle of Walter Shewhart in their projects. They used Cause and effect diagram of Kaoru Ishikawa to find out the root causes for problems.

### PDSA Cycle

The PDSA Cycle is a systematic series of steps for gaining valuable learning and knowledge for the continual improvement of a product or process. Also known as the Deming Wheel, or Deming Cycle, the concept and application was first introduced to Dr. Deming by his mentor, Walter Shewhart of the famous Bell Laboratories in New York.



The cycle begins with the Plan step. This involves identifying a goal or purpose, formulating a theory, defining success metrics and putting a plan into action. These activities are followed by the Do step, in which the components of the plan are implemented, such as making a product. Next comes the Study step, where outcomes are monitored to test the validity of the plan for signs of progress and success, or problems and areas for improvement. The Act step closes the cycle, integrating the learning generated by the entire process, which can be used to adjust the goal, change methods or even reformulate a theory altogether. These four steps are repeated over and over as part of a never-ending cycle of continual improvement.

**Ishikawa Diagram**

Ishikawa diagrams (also called fishbone diagrams, cause-and-effect diagrams, or Fishikawa) causal diagrams created by Kaoru Ishikawa (1968) that show the causes of a specific event. Common uses of the Ishikawa diagram are product design and quality defect prevention to identify potential factors causing an overall effect. Each cause or reason for perfection is a source of variation. Causes are usually grouped into major categories to identify these sources of variation. The categories typically include

- People: Anyone involved with the process
- Methods: How the process is performed and the specific requirements for doing it, such as policies, procedures, rules, regulations and laws
- Machines: Any equipment, computers, tools, etc. required to accomplish the job
- Materials: Raw materials, parts, pens, paper, etc. used to produce the final product
- Measurements: Data generated from the process that are used to evaluate its quality
- Environment: The conditions, such as location, time, temperature, and culture in which the process operates

This cycle is being followed by Mooply CLF of HML Ltd for their TQM projects in 2014 and 2015. The projects were to improve skim 1 grade % from 63 TO 90% and improve cenex efficiency from 87.5% (2013-14) to 89.00%.

**Typical Composition of TQM Team**

Level	Department				
	A	B	C	D	E
Manager	•				
Assistant manager		•			
Officer			•		
Supervisor				•	
Worker					•

**Mooply CLF - 01.04.2014**

Topic:

To improve Cenex Efficiency from 87.5% (2013-14) to 89.00%.

Time schedule: 1<sup>st</sup> April 2014 to 30<sup>th</sup> June.14

No. of TQM meetings held: Four

First meeting - April 2<sup>nd</sup> 2014

Second meeting - 15<sup>th</sup> April 2014

Third meeting - 5<sup>th</sup> May 2014

Fourth meeting - 27<sup>th</sup> May 2014

Final meeting - 30<sup>th</sup> June 2014

### **Total Quality management System**

Total quality management ensures that every single employee is working towards the improvement of work culture, processes, services, systems and so on to ensure long term success. Management has decided to implement TQM in Factory operations of Mooply C L Factory.

#### Importance to Improve on Cenex Efficiency percentage:

The sale price variance between cenex and Skim Crepe is about Rs 80 to 85 per kg.

Reduction in skim results in reduced use of H<sub>2</sub>SO<sub>4</sub> and better ETP operations.

Delay in processing as Skim crepe is avoided

#### **Total Quality management activities can be divided into four categories:**

- I. Plan
- II. Do
- III. Check/Study
- IV. Act

Also referred as PDCA (PDSA) cycle.

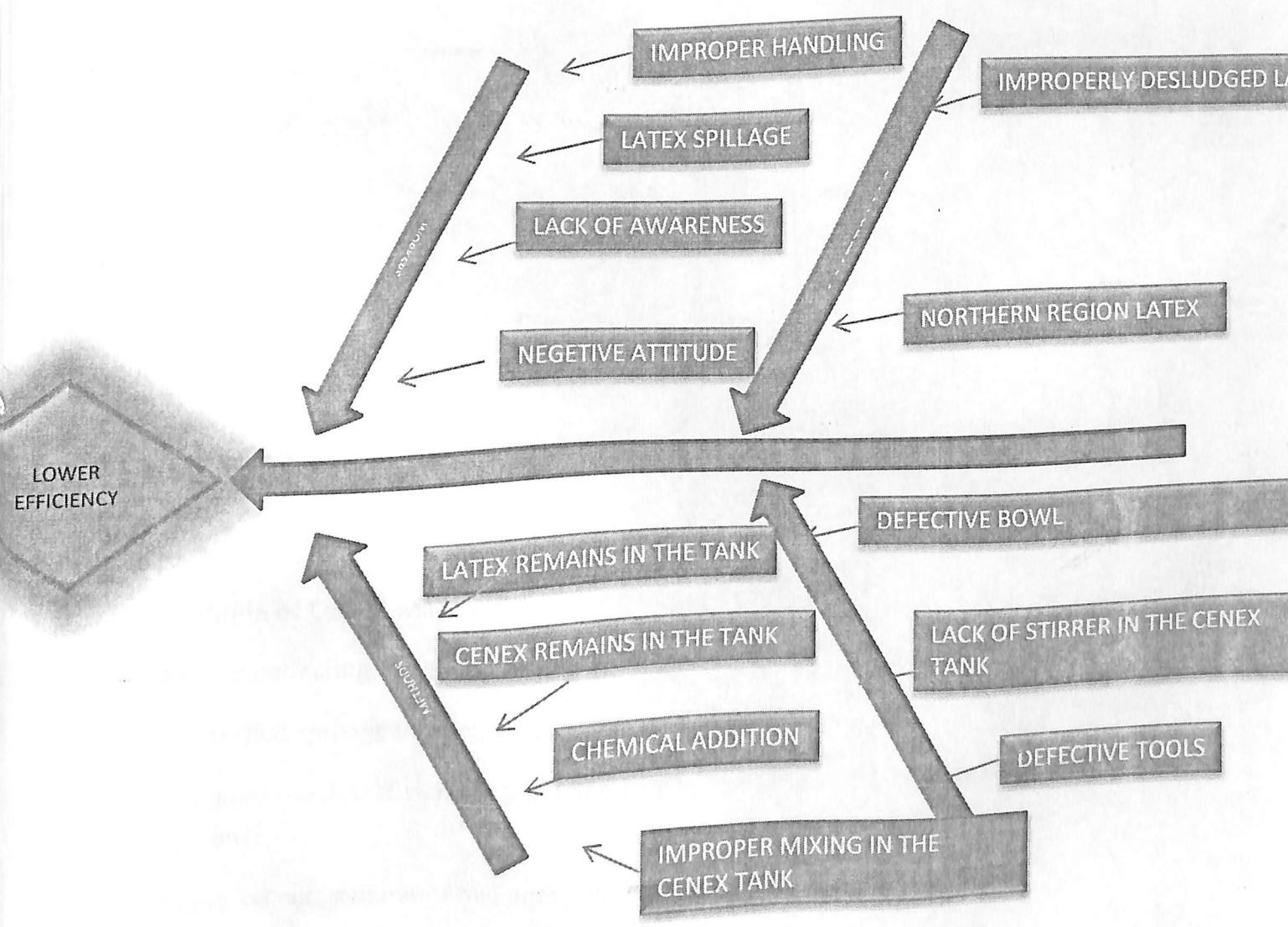
#### **Planning Phase: Management has identified an area which needs improvement in Cenex Efficiency**

The first meeting held on 02nd April 2014. Dy Manager of Factory Operation took an awareness class regarding the importance of quality as well as grade percentage and he emphasized the rate difference between higher grades and lower grades.

The major causes identified for the lower Cenex Efficiency are as follows

- 1 Improper de sludging of Latex
- 2 100% of latex not fed in to the machine due to gradient in the reception tank
- 3 Spillage from the machine
- 4 Improper machine handling and Bowl washing
- 5 Defects on the Bowl
- 6 Lack of proper monitoring and supervision
- 7 Cenex remaining in the cenex tank after packing

**Causes and Effect Diagram –Lower Efficiency**



### TQM COMMITTEE – CLF MOOPLY

Division	Project Leader	Team members
MOOPLY CLF	Mr.B.C.Das, Gr.Manager	Mr.Cherin P.A (Dy .Manger, Factory operations)
		Mr.Bijinesh B (Assistant Manager)
		Mr. Ouseph K.D (Dy Personal Manager)
		Mr. Gopalakrishnan. (Asst Factory Officer)
		Mr. Rajesh (Chemist)
		Mr. Girish N (Assistant Factory Officer)
		Mr. Arun (Trainee)
		Mr Rasheed (Supervisor)
		C/R No .3577 Sathar
		C/R No.2819 Kumaran
		C/R No.2817 Ali UH
		C/R No.2816 Sajeevan
		C/R No.2774 Sivan

#### Doing phase

1. Addition of DAHP Made effective by proper monitoring.
2. Started collecting remaining latex and feeding 100% from the reception tank.
3. Controlled spillage through strict supervision in the machine floor.
4. Replaced the defective bowl hood of one machine with an old one collected from kumbazha CLF.
5. Replaced one separator bowl with a new one.



6. Repaired the bowl hood of one machine internally.
7. Awareness class conducted involving engineers from alfa laval regarding safe handling and machine operations.
8. At the time of washing cenex tank, collected the first wash and dumped in the latex reception tank.

**Studying phase**

Efficiency percentage Before and after TQM Project				
Month	Cenex	Skim	Low Grades	Loss
Before TQM	87.48	8.66	3.02	0.83
Apr-14	88.05	8.87	1.88	1.2
May-14	88.9	8.2	1.7	1.2
Jun-14	88.99	8.24	1.57	1.2
Jul-14	88.8	8.46	1.56	1.19
Aug-14	88.75	8.5	1.58	1.17
Sep-14	87.95	9.31	1.58	1.16
Oct-14	87.56	9.68	1.58	1.18
Nov-14	87.46	9.76	1.6	1.17
Dec-14	87.49	9.74	1.6	1.19
Jan-15	87.49	9.74	1.58	1.19
Feb-15	87.5	9.74	1.58	1.19
Mar-15	87.29	9.93	1.59	1.19
Apr-15	88.00	9.24	1.58	1.18
May-15	88.45	8.53	1.80	1.21
Jun-15	88.78	8.35	1.67	1.20



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### **Action phase**

This phase closes the cycle, integrating the learning generated by the entire process, which can be used to adjust the goal, change methods or even reformulate a theory altogether. Evaluated results and keep continuing the cycle with success. These four steps repeated over and over as a part of a never-ending cycle of continual improvement.