

**A STUDY ON SOCIO- ECONOMIC CONDITIONS OF RUBBER  
TAPPING WORKERS WITH SPECIAL REFFERANCE TO IGARNADU  
PANCHAYATH KOLANCHERRY**

*Dissertation submitted to the*

**MAHATMA GANDHI UNIVERSITY**

*In partial fulfillment of the requirement for the award of Degree of*

**MASTER DEGREE OF ARTS IN ECONOMICS**

By

**NEENU O V**

**Reg No: AM14ECO008**

Under the guidance of

**DR.MARY LIYA C A**



**DEPARTMENT OF ECONOMICS  
ST TERESAS COLLEGE(AUTONOMOUS)  
ERNAKULAM  
MARCH 2016**

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**2015-16**



## CERTIFICATE

This is to certify that the dissertation titled "A STUDY ON SOCIO – ECONOMIC CONDITIONS OF RUBBER TAPPING WORKERS WITH SPECIAL REFERENCE TO IGARNADU PANCHAYATH KOLANCHERRY, submitted in partial fulfilment of the requirement of MA Degree in Economics to the Mahatma Gandhi University, Kottayam is a record of bona fide research work done under my supervision and guidance.

*Nirmala*

Head of the Department

**Dr.NirmalaPadmanabhan**

*MaryLiya*

Guide & Supervisor

**Dr.MaryLiya C.A**



## DECLARATION

I hereby declare that the dissertation entitled "A STUDY ON SOCIO -ECONOMIC CONDITIONS OF RUBBER TAPPING WORKERS WITH SPECIAL REFERENCE TO IGARNADU PANCHAYATH KOLANCHERRY" submitted by me for the M.A Degree in Economics is my original work.

*Mary Liya C A*

Signature of the supervisor

**Dr. Mary Liya C A**

*Neenu O V*

Signature of the Candidate

**Neenu O V**



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St. Teresa's College (Autonomous)

Ernakulam



NEENU O.V

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# **CHAPTER-1**

## **INTRODUCTION**

## **1.1 INTRODUCTION**

The economic development of any country depends to a considerable extent on the performance and prosperity of the agriculture sector. Agriculture is a back bone of the Indian economy. As India has varying climate condition ranging from tropic to sub climates, a variety of agriculture crops are cultivated in various parts of the country.

The history of rubber plantation in India starts from the first decade of the 20<sup>th</sup> century, precisely from the year 1902. The crop was introduced in the country by the European planters. They were the first to start and manage commercially viable rubber estate. Later the Indian framers realized the advantage of rubber commercially viable crop and hence they also started its cultivation.

Rubber is an important plant only for world economic strategies but also for the use of human kind. The more social development, the more requirements of products made of rubber for people utilization is increasing every day. Natural latex is one of the important raw materials available for making various kinds of products in heavy industries such as, motor vehicle industry, kitchenware and house ware. In our daily life we can always involving with product made of rubber. Remember that day today life of people in civilized countries is bound with rubber from birth to death. Rubber is significantly economic plant of Thailand. Rubber tree, including seeds and plantation are beneficial for all kind of use, increasing more income and employment opportunity of Thai agriculturist. At .present, Thai agriculturists are proud to have their plantation increasing in total every year. Plantation is easy to control and look after, save cost and time for its growth. Not like other plants, rubber products have long grown with its best outcome year after year. According to above result, Thailand is the largest land of rubber plantation in the world.

Rubber plays an important role in the industrial and economic development of the country. Rubber plantations provide the principal raw material required for manufacture of around 35,00rubber products ranging from toy balloons to tires of giant earthmoving equipments. India is the fourth largest consumer of natural rubber.

Rubber is primarily grown in the states of Kerala and adjoining Kanya-Kumari District of Tamil Nadu, which are the traditional rubber growing areas of the country. Both areas are geographically and agro-climatically suitable for rubber cultivation. Besides this, rubber is also grown in Tripura, Assam, Meghalaya, Mizoram, etc.

Rubber plantations are spread over 5.78 lakh hectares in 16 states of the country. The production of rubber is dominated by smallholdings, which account for 91 per cent of the total production and 88 per cent of the area with an average holding size of 0.5 hectare. There are nearly 0.7 million people engaged in this rubber plantations as workforce either directly or indirectly.

## **1.2 OBJECTIVES**

- To study the socio economic conditions of rubber tappers with special reference to Igarnadu Panchayath Kolancherry
- To study the wage condition of rubber tappers.

## **1.3 REVIEW OF LITERATURE**

According to SathyaSundaram (2003) rubber is hailed as the modern “KALAPVRISHS” a tree with every part of economic importance. It is a versatile raw material used in the manufacture of a wide range of product. This plantation crops provides livelihood for about a million families. This rubber tree also provides some by products like rubber wood, honey and rubber seed oil.<sup>1</sup>

Umadevi (1989) examined the short run and long run response of natural rubber to price movement. The attempt in this study was to fit supply function for rubber with Indian data. She concluded that the producers are influenced by the past six year's price in their planting decision and that they positively respond to price.<sup>2</sup>

Mohan K G (2000) in this recent article clearly explained the importance aspects of high yielding varieties and its increasing role in the rubber cultivation among small growers.<sup>3</sup>

Krishnan kutty P N and HaridasanV(1976) provided some ideas on the family budget of rubber plantation workers. The main objective of the study was to examine the living conditions of plantation workers. The major conclusions are that 6.1 percent of the expenditure of the plantation workers is incurred on food articles and net difference between income and expenditure of families surveyed was found to be positive.<sup>4</sup>

The marketing problems of rubber, particularly those of small holdings were examined by Reddy (1950), an officer of the former madras government instance of rubber board.

The marketing problems of rubber were examined by Reddy (1950). This study was mainly concerned with problem of small holdings sector. It emphasized the need for an efficient marketing organization in the small holding sectors.<sup>5</sup>

A K Krishna Kumar (2005) an overall view of the change that have occurred from earlier period to present time in the rubber production and processing are systematically given in rubber grower companion.<sup>6</sup>

P T Bauer (1948) made one of the earliest and comprehensive studies on rubber. The growth of industry, distribution of area under rubber, Establishment of international rubber regulation, plantation labours and prospects of industry in the world were the main area of study.<sup>7</sup>

T M Abdulla (1968) in the report on the rubber small holdings economics enquiry committee stated that, government of India had appointed the small holdings economics committee to study the problems of the rubber plantation sector in 1967. Although they had studied some general problems connected with the industry, the enquiry was mainly confined to the condition of the small holders.<sup>8</sup>

According to John C K (1950) the evolution of technology in the rubber economy of Kerala and, its development in various stages of rubber cultivation and production are widely discussed and analysed in the hand book of national rubber.<sup>9</sup>

According to TilekeRatne and Nagawala(1955) the use of the rain guard enabled not only to maximize natural rubber production but also to reduce seasonal unemployment of the rubber tappers.<sup>10</sup>

Pushpa Rajah (1995) in one of his articles, compared the Malaysian Rubber Research institute to other institutes elsewhere. He points out that Malaysia has given more importance to the protection of environment and the innovations in labour-saving techniques in rubber cultivation. He states that future of Malaysian Rubber Industry will brighten up only by hg rubber cultivation a less labor-intensive system particularly in tapping. The study predicts that in the near future, the approach to rubber as a monocarp solely for latex will slowly phase out. Then rubber will be planted for the timber as a primary product and latex will be an important by-product.<sup>11</sup>

According to S. Viswanath(1996) Thailand attained its position as the top producer of natural rubber in the world mainly due to the responsible programmes implemented by the Thai Rubber Research Institute. The basic problem facing this industry is the unawareness of growers about new technology and processes in rubber cultivation and production. To mitigate this problem, the Rubber Research Institute is planning to set up an international rubber training centre to develop qualified human resources.<sup>12</sup>

K.J. Mathew (1996) is of the opinion that many long term and short term measures are needed for the bright future of the rubber economy of Kerala. In this regard, he suggested the expansion of rubber cultivation to non-traditional areas, replanting of existing areas and the productivity enhancement of mature holdings. He concluded that all these can be possible only through the adoption of scientific tapping and improved ago-management practices.<sup>13</sup>

Kanbur and Morris (1980) have made an effort of study the measurement of cycles of natural rubber prices prevailing in the important market of the world. The study reveals the existence of cycles of thirty months.<sup>14</sup>

K T George (1992) has conducted a field study for estimating the impact of input subsidy among **smallholdings in Kottayam district. The study observed that there exists a wide inter-regional variation between subsidy and employment generation and showed the increasing scope for popularizing potential benefits from individual inputs. For a analysing the result, he followed a multi-stage random sampling method covering 5 regions and 207 member growers attached to 25 Rubber Producers Societies (RPS).**<sup>15</sup>



## **1.4 IMPORTANCE OF THE STUDY**

Kerala has a long tradition in the cultivation of plantation crops. Rubber, tea, coffee and cardamom are the major plantation crops in Kerala. Now the state represents 45 percent of the total area under plantation crops in the country. Rubber plantation had its beginning in India during the first decade of the present century. Kerala holds a dominant position both in the area of cultivation as well as in the production of natural rubber in India. Kerala at present has more than 85 percent of the total cultivation and nearly 93 percent of the total production of natural rubber in India.

Rubber cultivation and production is not an easy and simple avocation. It needs a large and professional labour force during its whole lifetime existence. Tapping of rubber trees is not only a skilled job but also highly labour intensive. Tapping is normally continued for 10-20 years; depending on how fast accessible the bark is consumed. The rate of bark consumption will depend on the skill of the tapper, clone and age of the tree, fertility of the soil, climatic conditions and the rate of adoption of improved tapping practices.

Even though more than 10 folds of tapper in the rubber estate are working in the small holdings; there is the absence of well-defined wage rate or working conditions. Moreover, the problems of rubber tapper in the smallholdings have not been seriously taken into consideration even by the institution connected with rubber.

Thus, the actual force behind the glittering development of small holding rubber sector has not been given adequate consideration in the rubber related studies. Hence, this micro level study assumes importance.

## **1.5 METHODOLOGY**

### **1.5.1 Area of study**

The area selected for the present study was confined to Igarnadu panchayath, Kolenchery

### **1.5.2 Selection of sampling**

This study is primarily based on the data collected from 50 rubber tappers in Igarnadu Panchayath – Kolancherry

### **1.5.3 Source of data**

Both primary and secondary data were collected for the research. This study is mainly based on primary data collected using a structured questionnaire. The important sources of secondary data are magazine, journals, websites etc.

### **1.5.4 Method of analysis**

Data are analyzed using simple statistical tool such as percentage, charts, graph etc.

### **1.5.5 Period of study**

All data's were collected during the period from 2015-2016

## **1.6 CHAPTER SCHEME**

This study organized four chapters.

Chapter 1: Deal with Introduction, objectives, review of literature, importance of study, Limitations.

Chapter 2: An over view

Chapter 3: Consist of analysis of the questionnaire and its interpretation.

Chapter 4: Deals with major findings and recommendations, conclusion

## **1.7 LIMITATIONS**

- Area of study is limited to IgarnaduPanchayath – Kolancherry.
- Some tappers were reluctant to give correct information about income.

## **CHAPTER 2**

# **AN OVERVIEW ON RUBBER CULTIVATION**

## 2.1 BACK GROUND OF RUBBER CULTIVATION

*Hevea Brasiliensis* is a large tropical tree in the Euphorbiaceae (spurge family) native to South America (the Brazilian and Bolivian region covering Amazon and Orinoco river basins), which produces a milky sap (latex) that is the primary source of natural rubber. Although some wild-grown trees are still tapped for their sap, most commercial production now comes from rubber tree plantations in southern and southeastern Asia (including Indonesia, Malaysia, and Sri Lanka), as well as western Africa. Other species that contain latex that may be used for natural rubber production include gutta-percha (*Palaquium gutta*), rubber fig (*Ficus elastica*), and Panama rubber tree (*Castilla elastica*), although none are used to the same extent as *H. brasiliensis*.

The rubber tree may grow to 30 m (100 ft) or more where it occurs in the wild, although plantation trees generally reach heights of around 17 m (60 ft). The thick, leathery leaves, up to 60 cm (24 in) long, are compound, with 3 elliptic leaflets, each with entire (unserrated) margins and prominent secondary veins. The inflorescence is a many-flowered panicle (a much-branched cluster), up to 16 cm (6.5 in) long, with a small white petal-less female flower in the center, surrounded by small 5-lobed or dissected male flowers. The fruit is a large ellipsoidal capsule, usually 3-valved and 5 to 6 cm in diameter (2 to 2.5 in), containing gray-brown, flattened ellipsoidal seeds.

The sap, which can be harvested from the inner bark when the tree reaches 6 or 7 years, is obtained by tapping—cutting the bark and letting the sap drip out, then coagulated. Amazonian natives had long used the natural rubber that naturally forms from the latex, including making balls used in early games, but the untreated rubber would become soft and sticky in the heat, and brittle in the cold. This problem was remedied by the chemical process known as vulcanization, developed by Charles Goodyear in the 1840s, which allows rubber to remain firm but flexible in all temperatures. Vulcanization allowed natural rubber products to become commercially successful, and promoted commercial plantations in tropical areas in Asia and Africa.

In 2010, 11 countries accounted for 92% of global production of natural rubber from *H. brasiliensis*: Cambodia; China; India; Indonesia; Malaysia; Papua New Guinea; Philippines; Singapore; Sri Lanka; Thailand; and Vietnam. Natural rubber is not produced in significant amounts in its native South

America, because trees there are widely affected by South American leaf blight, caused by the fungus *Microcyclus ulei* (Ascomycota). Synthetic rubber, which is processed from petroleum and was developed during the 1920s through 1940s, now makes up roughly 70% of the rubber manufactured worldwide, but natural rubber continues to have important uses in manufacturing and textiles.

## **2.2 ORIGIN AND HISTORY OF RUBBER**

Natural rubber from the latex yielding trees *Hevea* and *Castilla* was known to South American Indians in early times (pre-Columbian era). Latex was allowed to evaporate naturally and processed into usable articles (such as balls used in ritualistic games). "Caoutchouc", the world first used to describe the condensed juice of the *Hevea* tree, was the French spelling of an indigenous term for "weeping wood". Natural rubber was first scientifically described in 1735 by C.-M. de la Condamine, a member of a French geographic expedition to South of the masticator and the vulcanization process (see the table below for an overview of major technical achievements in the rubber industry). Demand for rubber grew rapidly with the invention of the solid and later the pneumatic rubber tire and the demand for rubber insulation by the electrical industry.

With a view to spreading rubber cultivation, seeds of the *Hevea brasiliensis* were smuggled from Brazil to the United Kingdom in 1876 America. In 1770 the English chemist Joseph Priestley found that it could be used to rub out pencil marks (the term "rubber" was thus coined). Other applications gradually developed for waterproof shoes and clothes.

The world rubber industry began to develop in the 1800s, with the invention at the instigation of the British India Office. Seedlings were raised at Kew Gardens and then shipped to Ceylon (Sri Lanka) and Singapore, where H.N. Ridley, director of the Singapore Botanic Gardens, introduced new horticultural and tapping methods. Seeds of the rubber tree were later brought to other tropical regions, especially the Malay area and Java and Sumatra, marking the origin of the rubber plantation industry in Asia.

After Ridley, the next important progress was made in the Netherlands colonial territory of the East Indies (Indonesia), where more sophisticated breeding techniques (selecting high-yielding trees as a source of seedlings for new plantings and bud grafting -that is, vegetative propagating chosen materials) were introduced. A notable fact in the early 1900s was also the emergence of production by smallholders, which produced rubber as one amongst several crops. Despite its original commercial development as a plantation



crop, by the mid-1930s natural rubber production was evenly split evenly between estates and smallholdings. The monopoly position of natural rubber as the only kind of industrial elastomer remained virtually unchallenged until World War II (WWII). The origins of synthetic rubber can be traced to the 19th century, when research on the chemistry of natural rubber led to the isolation of isoprene, the chemical compound from which natural rubber is polymerized. During World War I, under the stimulus of the blockade by the Allies, German scientists produced a crude synthetic rubber, and during the 1920s and '30s several polymerizing processes were first developed in Germany, in the Soviet Union, the United Kingdom, and the United States. However, it was not until WWII that synthetics started to be produced on a large scale. Western Europe and the United States were cut off from their main sources of NR, and turned to the domestic chemical industry to increase SR capacity. By the early 1960s synthetic rubbers had overtaken natural rubber in volume.

### **2.3 History of rubber plantation in India**

Ever since the beginning of commercial cultivation of natural rubber (NR) in India during the early 20th century, the planters in Travancore, Cochin and Malabar regions in Southern India had been experiencing the necessity for research on problems of rubber planting and upkeep. Initially, the scientific department of the United Planters' Association of Southern India (UPASI) was largely responsible for the initiative in research on rubber. On their request, the Madras Government appointed a scientific officer in 1909 to strengthen research activities on rubber. Subsequently, experiment stations were established in Mundakayam, Thenmalai and Moopley for addressing agronomic and mycological problems concerning rubber. Consequent to the rubber slump and falling revenue of rubber estates, Thenmalai and Moopley experiment stations were closed down in 1926 and the Mundakayam station in 1932. Since then, for over two decades, the Indian rubber plantation industry had had been without any organized research support.

When the Indian Rubber Board was established on the 19th April 1947 to look after the rubber plantation industry in the country, its functions as defined under the Rubber Act, 1947 included the development of the NR industry by devising suitable promotional measures, undertaking scientific, technological and economic research etc. Even after the establishment of the Rubber Board, there were only two scientific officers namely, the Rubber Production Commissioner (RPC) and a Field Officer, and their work confined mainly to advisory services and distribution of selected planting materials.

The importance of research on rubber was recognized by the Rubber Board as early as in 1949, when the Board in its sixth meeting had resolved that it should establish its own research stations at suitable places in the plantation districts of Travancore - Cochin. This meeting approved the appointment of Sri. K.N. Kaimal as the Rubber Production Commissioner. As per the request of the Rubber Board, the Indian Tariff Board which was entrusted by the Government of India in 1950 with the task of examining the cost of production of raw rubber and determining the fair price of various grades, was asked to examine the different aspects of protection necessary for the speedy development of the industry. The Tariff Board in its report dated 28th March 1951 recommended establishment of an All India Rubber Research Institute on a scale comparable to the existing research organizations in the main rubber producing countries. The scheme included the appointment of a Director, Rubber Production Commissioner, Rubber Chemist, Botanist, Pathologist, etc Soil Chemist and a few Assistant Chemists, Assistant Pathologists.

On the request of the Government of India, the Indian Council of Agricultural Research (ICAR) examined the recommendations of the Tariff Board and rejected the scheme as out of proportion with the requirements and suggested for a small laboratory and essential staff (Pathologist, Junior chemist and Junior Botanist) to investigate local problems. ICAR also recommended the establishment of a 100 acre experiment station and also an isolated seed garden of 15 acres for the production of high yielding seeds. The Rubber Board also rejected the Tariff Board's proposals as unsuitable for the requirement and being beyond its resources. The Tariff Commission, in their report dated 27th October 1952 recommended for the implementation of the revised scheme as suggested by the ICAR for the proposed research station.

Meanwhile the Rubber Board on 27th March 1954 approved a research scheme prepared by the Rubber Production Commissioner for the establishment of a Rubber Research Institute with an Experiment Station, with a financial outlay of Rs.10 lakhs and the Government approved the same in June 1954. According to the scheme, the new Institute was to have four research divisions namely, Agronomy, Botany, Pathology and Chemistry. Each Division was to have a research officer and a research assistant and a small experiment station for field experiments. A beginning was made in 1955 by establishing the Institute at the rented premises of Ancheril Buildings of the Rubber Board in Kottayam town with a temporary laboratory. The foundation stone of the Rubber Research Institute of India (RRII) building was laid on 4th February 1956 in the suburbs of Kottayam.

During the early years, RRII had only three divisions namely, Agronomy, Botany and Pathology. Agronomy and Botany divisions had senior officers only for short periods. Due to lack of enough laboratory space and supporting staff, the Rubber Research Scheme 1954 could not be implemented fully. The Agronomy and Botany Divisions collected data pertaining to the response of clones to manuring and locations respectively. Subsequently the different Divisions were transferred to the RRI building in 1962, when its construction was completed. The Chemistry and Rubber Technology (C&RT) Division started functioning with the appointment of a Deputy Director on 1st June 1963. Other senior officers of C&RT and Agronomy Divisions were also appointed during June 1963.

The Publicity Section of the Administration Department and the Extension Wing of the Development Department of the Rubber Board were put under the control of the Director in 1964. The Library functioning under the Administration Department since its beginning was also transferred to the administrative control of the Director from 1st June 1964.

The Economic Research unit, which was functioning as part of the RRII since 1968 and later as part of the Rubber Production (RP) and Rubber Processing Departments, became the Agricultural Economics Division of the RRII in September 1986. In 1976, the Biochemistry unit functioning under the C&RT Division was transferred to the Plant Physiology unit of the Botany Division. The full-fledged Plant Physiology and Exploitation Division started functioning in 1978 and the Biotechnology Division in December 1985. The C&RT Division was renamed as Rubber Chemistry, Physics and Technology (RCPT) Division in 1986. The Germplasm Division was established in February 1989 and the posts created in the Botany Division during 1978 for germplasm work were transferred to the new Division.

When the research component of the World Bank Project was implemented in 1994, the organization set up of RRII has been changed with the creation of 28 new posts under the scheme.

#### **2.4 Natural Rubber Cultivation in India**

The British started the commercial cultivation of natural rubber in India. They began the experiments in this direction in Botanical Gardens of Calcutta from 1873. Industrial-based natural rubber plantation was started in Tattakkad, Kerala in 1902. J.J. Murphy, J.A. Hunter, K.E. Nichol, and C.M.F. Boss started this cultivation under the name of Periyar Syndicate (George Tharian, et.al., 1997) It was the time of World War II, that the British recognized the needs and possibilities of natural rubber cultivation in India, especially for

strategic and security purposes. Realizing this situation, natural rubber growers produced good yield. This was an eye-opener for the government to recognize the importance of natural rubber in the strategic sector of defence too. After the world war, due to the constant pressure from the side of natural rubber growers, the Rubber Board got formed in 1947 (P. Mukundan Menon 2002).

## **2.5 Indian rubber industry**

Since the establishment of the first rubber goods manufacturing unit in 1921 at Kolkata, the Indian rubber industry has maintained its forward march, particularly during the post-independence period. It has achieved overall expansion through increase in the range of products manufactured, in the number of units, in technological sophistication and self-sufficiency. Besides catering to the entire domestic demand, the industry is breaking new barriers on the export front. It projects tremendous growth in the 21st century. The factors responsible for this phenomenal expansion are vast internal market, rapid industrialization, on-going economic reforms, and improved living standards of the masses.

India is the fourth largest producer of natural rubber and second largest consumer of natural rubber; and fifth largest consumer of natural rubber and synthetic rubber together in the world. India is the world's largest manufacturer of reclaim rubber. India is first in productivity of natural rubber. The per capita consumption of rubber in India is only 990 gms. Against 9 to 16 kilos in Japan, USA and Europe. This envisages tremendous growth prospects of the industry in the years to come. With around 6000 units comprising 30 large scale, 300 medium scale and around 5670 SSI / tiny sector units, manufacturing 35000 rubber products, employing directly 400 hundred thousand people, including around 22000 technically qualified support personnel. The Indian Rubber Industry plays a core sector role in the Indian national economy. The industry has certain distinct advantages like - an extensive plantation sector; indigenous availability of the basic raw materials, like natural rubber, synthetic rubber, reclaim rubber, carbon black, rubber chemicals, fatty acids, rayon, and nylon yarn and so on; large domestic market; availability of cheap labor; training facility in various technical institutes ;improved living standards of the masses.

If these ground support help the Indian rubber industry to poise for an all round development and a quantum jump in production and technology up gradation in near future. The wide range of rubber products manufactured by the Indian rubber industry comprises all types of heavy duty earth moving tires, auto tires, tubes, automobile parts, footwear, beltings, hoses, cycle tires and tubes, cables and wires, camelback,

battery boxes, latex products, pharmaceutical goods, besides molded and extruded goods for mass consumption. The products manufactured also cover hi-tech industrial items. The important areas which the industry caters to include all the three wings of defense, civil, aviation, aeronautics, railways, agriculture, transport as also textiles, engineering industries, pharmaceuticals, mines, steel plants, ports, family planning programmes, hospitals, sports, i.e. practically to every conceivable field.

India rubber industry is basically divided into two sectors - tire and non-tire. The tire sector produces all types of auto tires, conventional as well as radial tires and exports to advanced countries like USA, EU etc.

The non-tire sector comprises the large, medium scale, small scale and tiny units. I produce high technology and sophisticated industrial products. The small-scale sector accounts for over 50% of production of rubber goods in the non-tire sector. The Indian rubber products have been exported to around 190 countries in the world including USA, Russia, UK, Bangladesh, Italy, Nepal, Germany, Oman, France, Saudi Arabia, UAE, African countries etc. and exports have gone up manifold. The yardstick to measure the growth rate of the industry is rubber consumption. Besides yearly consumption of rubbers - natural, synthetic and reclaim, there are other raw material slike carbon black, rubber chemicals, tire cords, plasticizers, process oils, zinc oxide, Stearicacid, titanium dioxide, and other miscellaneous chemicals which are mostly available indigenously. This apart, almost all types of major rubber machinery are being manufactured in the country. Natural Rubber is produced from the crop harvested from rubber plantations both in the latex form as well as in the field coagulum form. Latex is a milky white dispersion of rubber in water and field coagulum is the auto coagulated latex on that aping panel (tree lace) and the collection cups (shell scrap and cup lumps). Both the latex and field coagulum harvested from rubber plantations being highly susceptible to degradation by contamination on keeping, have to be processed into marketable forms that will allow safe storage and marketing.

## **2.6 Natural Rubber Cultivating States of India**

Pradesh Natural Rubber cultivating regions of India is divided into two: traditional and non-traditional. Kerala and Tamil Nadu constitute the traditional area. The non-traditional area consists of the North East states of India such as Tripura, Assam, Nagaland, Manipur, Mizoram, Arunachal Pradesh and other states such as 61 Karnataka, Andaman and Nicobar Islands, Goa, Maharashtra, Orissa, West Bengal and Andhra Pradesh.



## **2.7 Indian natural rubber**

The Rubber Board is an organization constituted under the Rubber (Production and Marketing) Act, 1947 and working under the aegis of Ministry of Commerce & Industry, Government of India, with an objective to promote and facilitate production, processing and marketing of natural rubber. Indian Natural Rubber is the brand owned and promoted by the Rubber Board and registered under section 30 of Indian Trade Mark Act. As part of improving the marketing efficiency of natural rubber, the Board facilitates domestic and export marketing of rubber by providing financial and functional assistance. The brand Indian Natural Rubber is promoted with a view of differentiating the natural rubber exported from the country on its consistent quality parameters in line with international standards. The Board undertakes stringent measures to ensure that the products marketed under the brand conform to the specified quality standards. Brand certification procedure is meticulously framed to ensure the quality of each bale or bundle inspected. Branding ensures confidence among the buyers in the international market on the quality of the rubber imported from India, which will be an add-on to other factors like product availability and price, which mainly influence the purchase decision.

## **2.8 Rubber Research Institute of India (RRII)**

As the natural rubber has become a vital industrial raw material in the country, to encourage natural rubber plantation and production, rubber board established Rubber Research Institute of India (RRII) in 1955. The growth and development of rubber is possible only when proper researches and experiments are carried out in this field. RRII concentrates on the improvement of production, productivity, the development of new type of cloned rubber plants, and to improve high yield potential from the existing area of plantation, timely basis. RRII also made the primary processing technology more effective and also developed the crop protection strategy, in order to increase the acceptance and demand of Indian rubber in the market. RRII was successful in achieving the most part of it through the constant effort done in the last 60 years. The rubber clone, RRII 105, is one of the major contributions that RRII has given to the Indian rubber production sector. This new rubber clone is more efficient in overcoming the climatic variations and diseases and provides improved yield quality thereby giving increases in production. RRII was able to provide agro-management techniques, and recommends discriminatory fertilizer utilization after soil and leaf analysis.

## **2.9 The rubber board**

The Indian Rubber Board was constituted under the Rubber (Production and Marketing) Act, 1947. This act was passed on the recommendation of an adhoc committee appointed by the Government of India in 1945 and it came into force on 19 April 1947. The Rubber Production and Marketing (Amendment) Act of 1954 made certain changes in the constitution of the Board and amended its name as "The Rubber Board". This act came into force on 1st August 1955. The Rubber Act was further amended by the Rubber Amendment Act 1960 which made certain alterations in the rate and procedure of collection of con rubber. It was again amended by the Rubber (Amendment) Act 1982 to enable the Central Government to appoint a part-time Chairman/whole time Chairman for the Board and an Executive Director on whole time basis (if considered necessary by the Central Government) to exercise such powers and perform such duties as may be prescribed or delegated to him by the chairman. This Act came into force on 23rd October 1982.

The Chairman who is the administrative head of the Board, exercises control over all the nine departments .Viz. Administration, Rubber Production, Research, Rubber Processing & Product Development, Statistics & Planning, Finance & Accounts, Training, Market Promotion and Licensing & Excise duty. Publicity & Public Relations, Planning, Internal Audit & Vigilance Divisions function directly under the Chairman.

## **2.10 Rubber in Kerala**

Kerala is the leading rubber plantation state in India. It accounts to 92 percent of the country's total natural rubber production. This crop was brought to India during the reign of British. Most of the hilly regions in Kerala grow rubber especially North Kerala region is concentrating on rubber plantation. It has become the main source of income for many farmers without any doubt. .

Among the districts in Kerala, Kottayam is the leader in the rubber production. Hence this region is also known as 'Land of latex'. Kottayam's 15% of the total industrial units are involved in rubber production only. Meenachil and Kanjirappilly Taluks possess the largest area under rubber plantation.

Rubber Board, a central government research institution is located at Kottayam. A common facility service centre, training centre and field testing laboratory for rubber – plastic industries has set up at hanganassery.

Also a central government production cum training centre is situated at Ettumanoor. Recently Rub co opened a factory at Pampady. MRF Ltd (Vadavathoor), Midas Rubber Pvt Ltd (Ettumanoor) and Intermix factory (Neezhoor) are some of the rubber based industries settled in Kerala. Ranni is one of the 5 taluks in

Pathanamthitta district. It is one of the largest taluks in Kerala. It is also nick named as "The Queen of the Eastern Hill Lands". It is also famous as the number one rubber producing taluk in Kerala. Ranni is blessed with its climatic conditions like high humidity and heavy rain which favors the growth of rubber crops in this hilly terrain. Ezhmattor is the village which has the highest cultivation of rubber. This village is also a part of Pathanamthitta district.

Due to the increase in demand rubber plantations are spreading across many districts in Kerala. If coconut was a major income of Keralites, the situation has changed a lot these days. The major reason for the boom in rubber industry is only because of the increase in number of cars each and every day. But now a setback has arisen due to the insufficiency of tapping workers. Another problem is that the non-availability of land for expanding the cultivation. Also the unrestricted import of rubber from other countries is growing as a great challenge in the rubber cultivation.

### **2.11 History of rubber and importance in Kerala**

Rubber had long been in historical plant. Since Columbus has discovered America in 1495(509 Years ago ). Red Indian, ancient tribe of south of America, called it 'Caoutchoue' meaning 'crying tree'. The reason is that when It is cut off with knife or sharpen tools, its natural latex automatically comes out as a tear of tree Red Indian made the use of rubber tree and natural latex for their kitchen

Ware and daily living such as disc, bowl, bottle and simple shoe. The way they made simple shoe was to immerge their foot to natural latex, lifted up their leg and waited until it dried. Followed such manner several times; they could them get softly underneath shoe for we as wearing a comfortable sock. Before group of European adventures leaving south America for home, how people brought them some pieces of rubber from Para city located on the basin of Amazon river south America. While staying at home, found that when they erased pencil trace from paper it came out easily. Therefore, name of rubber or Para rubber was then reorganized by and well known to public worldwide.

Rubber is an important plant only for world economic strategies but also for the use of human kind. The more social development, the more requirements of products made of rubber for people utilization is increasing every day. Natural latex is one of the important raw materials available for making various kinds of products in heavy industries such as, motor vehicle industry, kitchenware and house ware. In our daily life we can always involving with product made of rubber. Remember that day today life of people in

civilized countries is bound with rubber from birth to death. Rubber is significantly economic plant of Thailand. Rubber tree, including seeds and plantation are beneficial for all kind of use, increasing more income and employment opportunity of Thai agriculturist. At present, Thai agriculturists are proud to have their plantation increasing in total every years. Plantation is easy to control and look after, save cost and time for its growth. Not like other plants, rubber products have long grown with its best outcome year after year. According to above result, Thailand is the largest land of rubber plantation in the world.

India is one among top ten rubber producing countries. Kerala state is trading rubber plantation state in India. Most of the malanaadu and idanaadu areas of Kerala state are growing rubber. Years back people used to plant coconut in this field. But Today people plant rubber trees instead as it gives a daily income, researchers made at the research centre at puthupally, in KOTTAYAM district have produce good varieties of rubber plants giving a very good field. This plant which was brought to India during the British rule, has spread all Kerala and other parts of India and providing daily income to the growers as well as the workers. With presently rapid growth, most of the countries are improving and expanding their business in the field of agriculture, heavy industrial factories and commercial industries back to 1945 – 1954, 'Para' is an utmost element made for the growth of the world, especially automobile, transportation, communication and industries. We can ensure that 'Para' is as thermometer to indicate the economic growth of the country. It also indicates the growth of developed or undeveloped countries. Therefore, it is shown directly as a significant millstone of the growth of developed countries.

Research and development of rubber used in industrial factories Europe have been expanding every quickly. People can bring natural latex to prepare their rain coat, producing rubber sheet and seals for engine, medical equipment, doctor's equipment sport ware gift and toys. However, large quantity of rubber in tire industries, service of transportation and communication urge rubber industries to aware of the demand and supply. Demand is increasing every day. One say's civilized man travels by rubber. It is true because some airline industries use the use of rubber to produce specific airplanes tire as high technology. Moreover, rubber is only natural material available for making furniture foam for bed and sofa for people comfortable living delicate parts, machinery and life saving equipment. List of items made of rubber consist of: rubber eraser, sock tire, glove, balloon and doll and sport equipment. Life saving on board ship and air craft, rubber continuous supply in the world for over 30 years. It serves better benefit to all kinds of people use.

## **2.12 Rubber Industry**

### **2.12.1 Natural Rubber**

Rubber and its products have become an indispensable part of our lives. There isn't a single day in our lives passing without using any of the rubber products. Rubber is a polymer, which is a word that is derived from the Greek meaning 'many parts'. India is the fourth largest producer of rubber in the world. Its uses and importance can be traced back to the invention of automobiles. It has been described as the nature's most versatile vegetable crop by National Geographic.

Rubber can be made out of latex. *Hevea brasiliensis*, also known as the Para rubber tree is the main source of latex. The first scientific study of rubber was done by Charles de la Condamine. It was first used by the people of Amazon. Later its popularity flourished and spread across different parts of the world.

### **2.12.2 Synthetic Rubber**

Synthetic rubber was first developed by Bouchardat. This gave a real break in the usage of rubber across world. This discovery mainly helped in the production of motor vehicle tires. Thus the demand for tires made of synthetic rubber increased tremendously. It is artificial elastomer. Synthetic rubber constitutes one third of the total production of rubber.

## **2.13 Natural Rubber Cultivation in Kerala**

The British has started industrial-based cultivation of natural rubber in Kerala in 1902. The British planters concentrated in the development of natural rubber cultivation. As a result, a lot of rubber estates came into being in Kerala. Periyar Syndicate, Malankara Rubber and Produce Company, Vaniampara Rubber Company were the major rubber plantation companies of those times. Realizing its potential, many cultivators in Kerala turned their attention to natural rubber. Thus small-scale rubber plantations and private rubber estates came into being. Moreover, many big estates got divided, resulting in numerous small holdings and marginal natural rubber cultivators. Today a major portion of natural rubber cultivation in Kerala comes from these small holdings and they have become a major influencing power in it in India. Thus natural rubber cultivation spread extensively in Kerala. The climatic conditions, especially the equatorial monsoon climate and the salient geographical features of Kerala are very suitable for the

cultivation of natural rubber. The improved yield quality and productivity of natural rubber made it the most important plantation crop of Kerala.

### 2.14 Rubber tapping

The rubber plant is not a native plant of India. The rubber plant was introduced in India by the Dutch colonialists.



They cultivated rubber in Indonesia and as the climate in Kerala is similar to that in Indonesia they introduced the crop here as well. The Rubber plant (its botanical name is *Hevea brasiliensis*) produces sticky, white latex that is collected and processed to produce natural rubber. A rubber plant can be first tapped after it has grown at least 7 years. It is possible to tap a rubber tree for over 20 years. The main characteristics of the rubber trees are their straight trunks and smooth green leaves. The rubber tappers harvest the rubber by making a long curving cut on the outer bark of the trunk of the rubber tree. When the cut is made the latex from the tree seeps through the cut surface and flows down the cut into a container probably a coconut shell or a cup, tied to the tree by the rubber tapper. Daily morning the rubber tapper checks the cup tied to each tree and collects the latex.

## CHAPTER -3

# ANALYSIS OF SOCIO ECONOMIC CONDITIONS OF RUBBER TAPPERS IN IGARNADU PANCHYATH



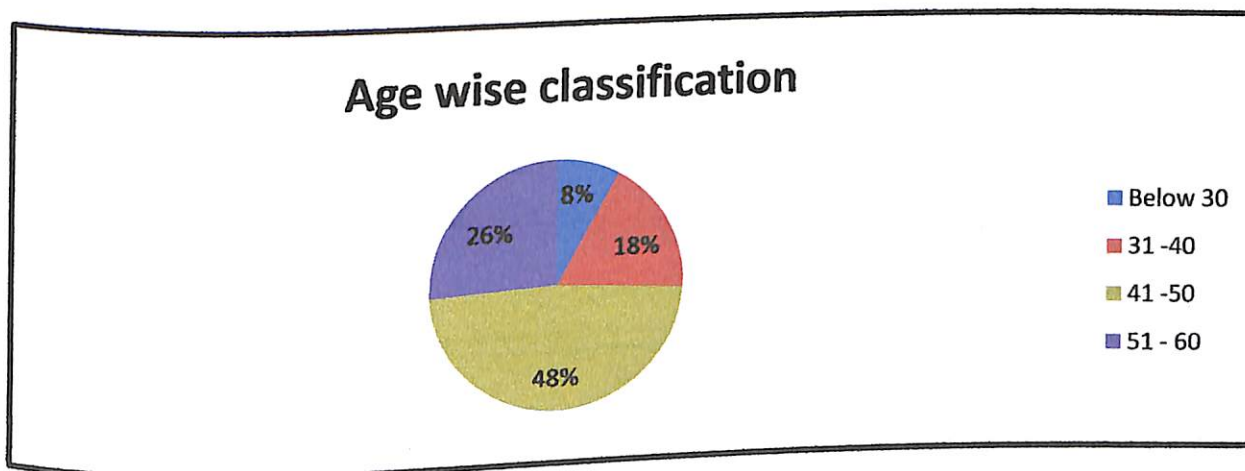
This study was conducted at Igarnadu panchayath.50 tappers working in the panchayath was selected for collecting the data

**Table 3.1 Age wise classification**

Age	No of tappers	Percentage
Below 30	4	8
31 -40	9	18
41 – 50	24	48
51 -60	13	26
Total	50	100

Source :primary data

**Figure 3.1 Age wise classification**



Source: primary data

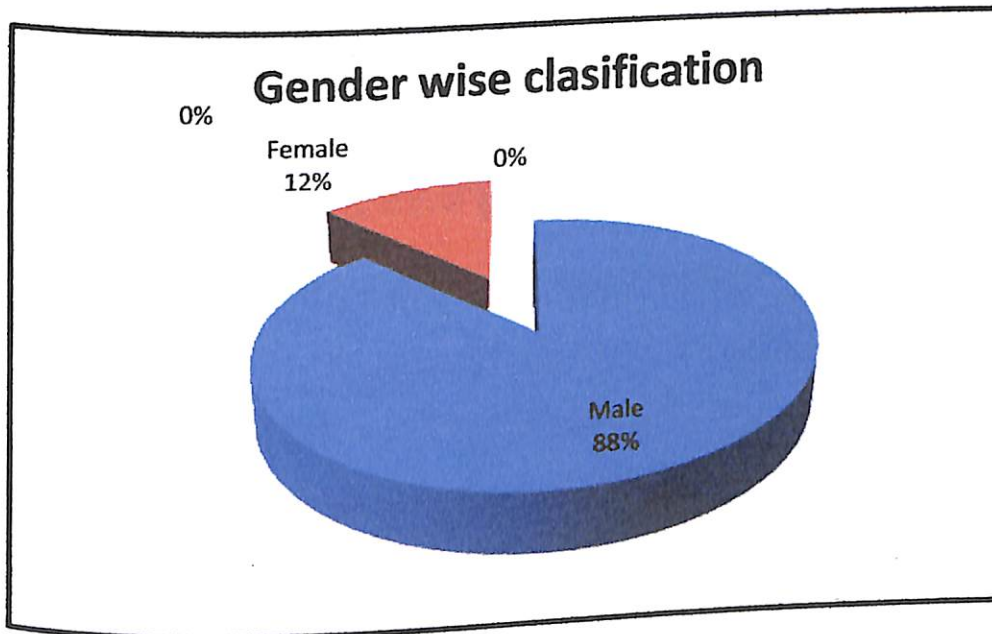
The above table and figure shows that 48% of tappers in sample the belonging to the age group to 41 – 50 and 26 per cent belongs to the age group of 51 – 60 and 18% belongs to the age group of 31 – 40. Only few workers are below 30. The age group below 30 were not interested in tapping and they search for better jobs.

**Table 3.2 Gender wise classifications**

Gender	No of tappers	Percentage
Male	44	88
Female	6	12
Total	50	100

*Source: primary data*

**Figure 3.2 Gender wise classifications**



*Source: primary data*

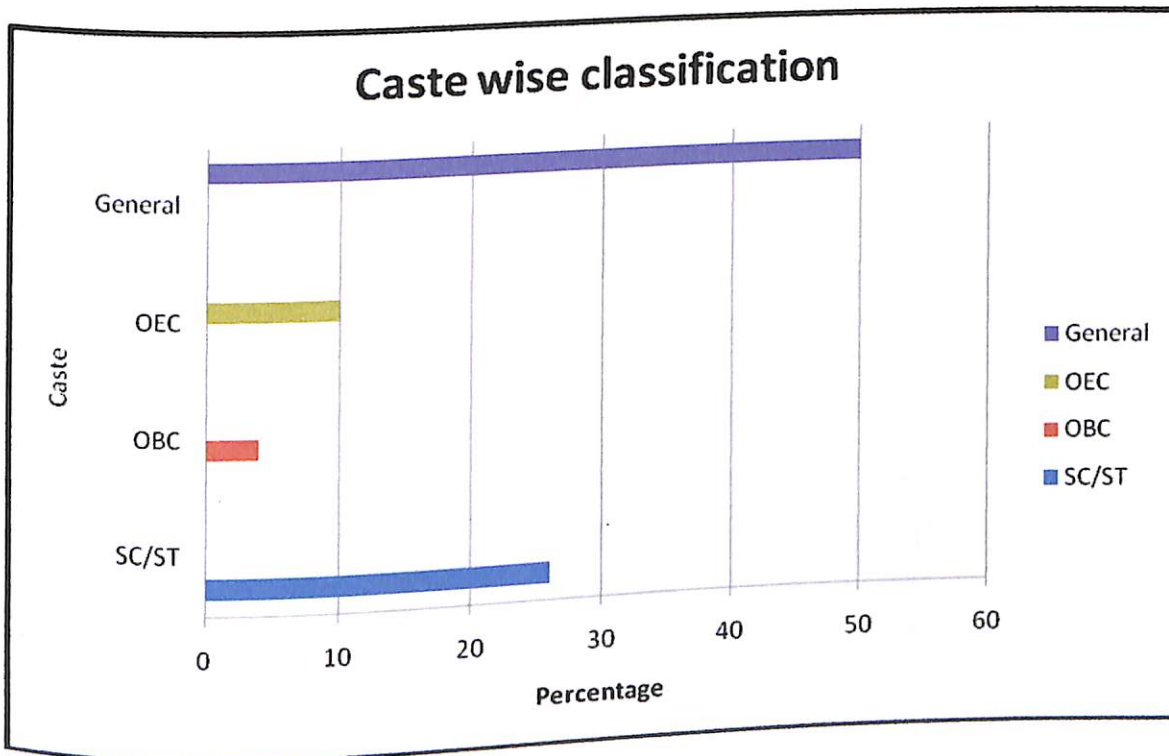
The above study showed that, 88% male workers and 12% female workers. Majority were male workers as they were highly organised.

**Table 3.3 Caste wise classifications**

Castes	No of tappers	Percentage
SC/ST	13	26
OBC	2	4
OEC	10	10
General	25	50
Total	50	100

Source: primary data

**Figure 3.3 Caste wise classification**



Source: primary data

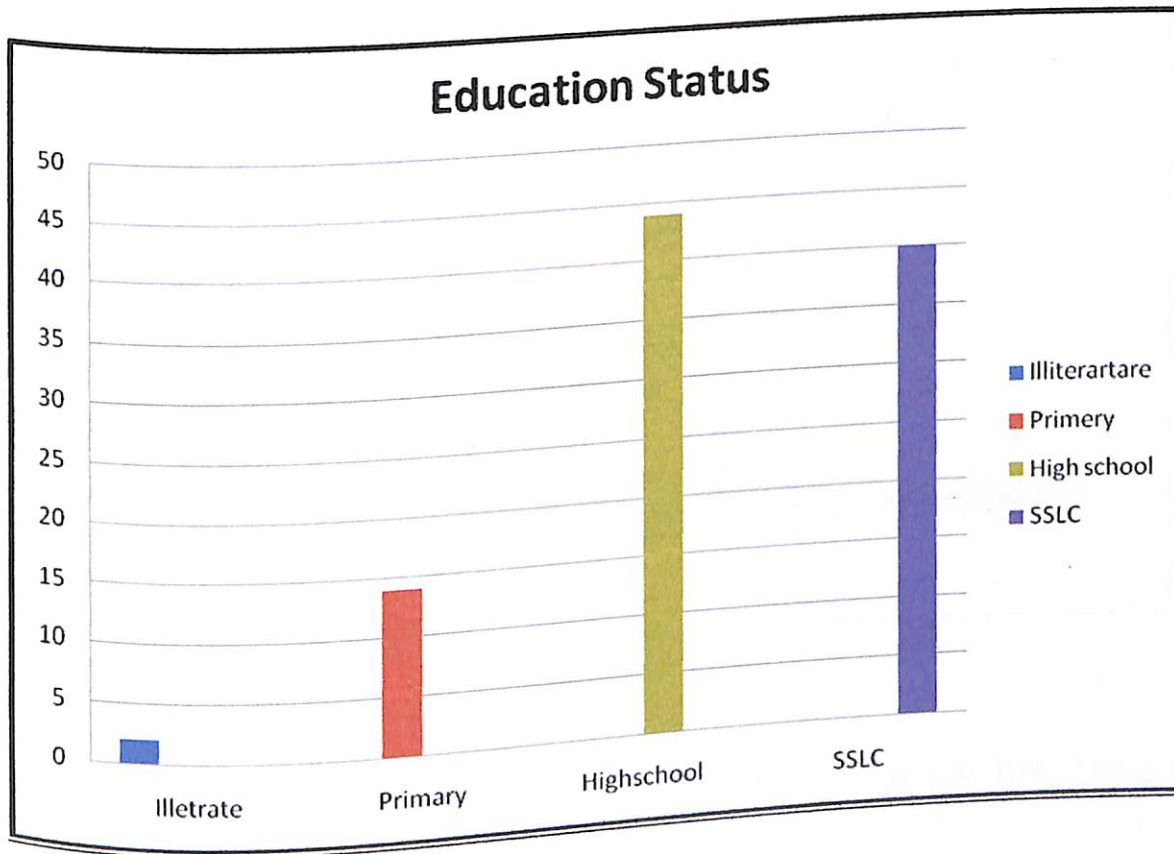
The study reveals that majority of the workers (50%) belong to the General community while there are 26% of the workers belongs to SC/ST category and 10% of the workers belongs to OEC category and there are 4% workers who belongs to OBC community.

**Table 3.4 Educational status**

Education Status	No of respondent	Percentage
Illiterate	1	2
Primary	7	14
High school	22	44
SSLC	20	40
Total	50	100

Source: primary data

**Figure 3.4 Educational status**



Source: primary data

Educational status of the tappers has been analysed. More than 90 percent of the sample population are literate. 40% has SSLC and 44% have High school and 14% have primary and 2% are illiterate. That is majority of the workers have completed their basic education.

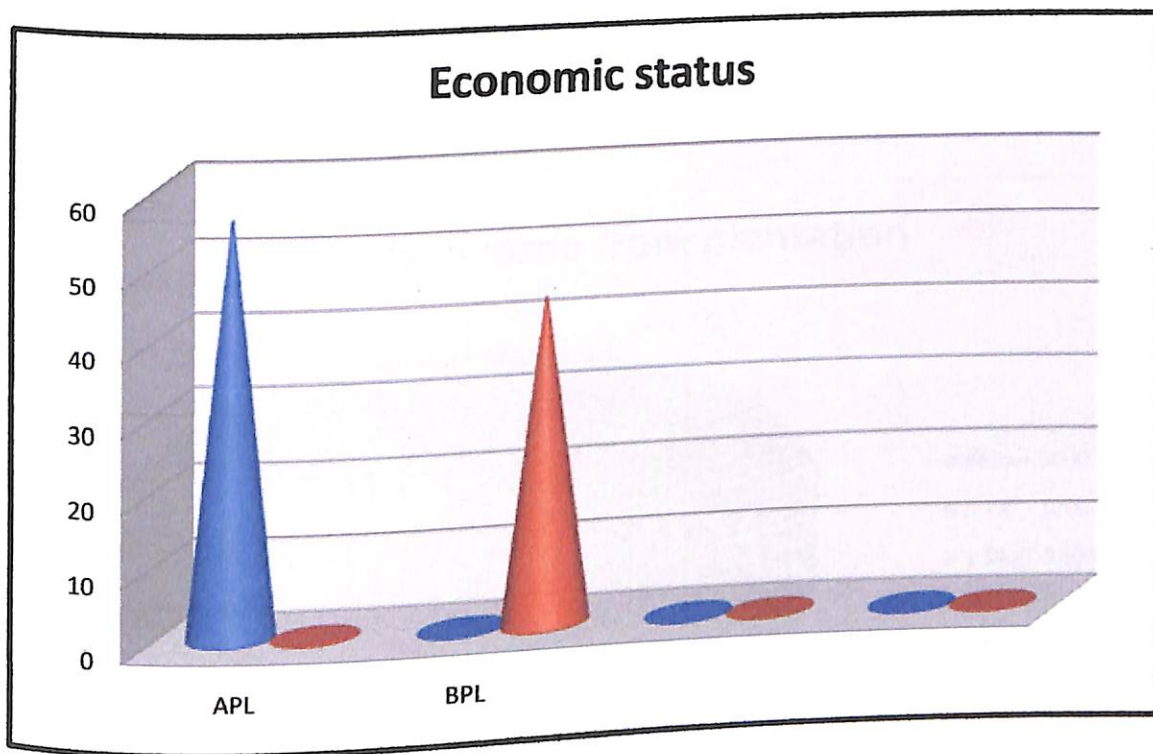


**Table 3.5 Economic statuses**

Economic Status	No of respondent	Percentage
APL	28	56
BPL	22	44
Total	50	100

*Source: primary data*

**Figure 3.5 Economic status**



*Source: primary data*

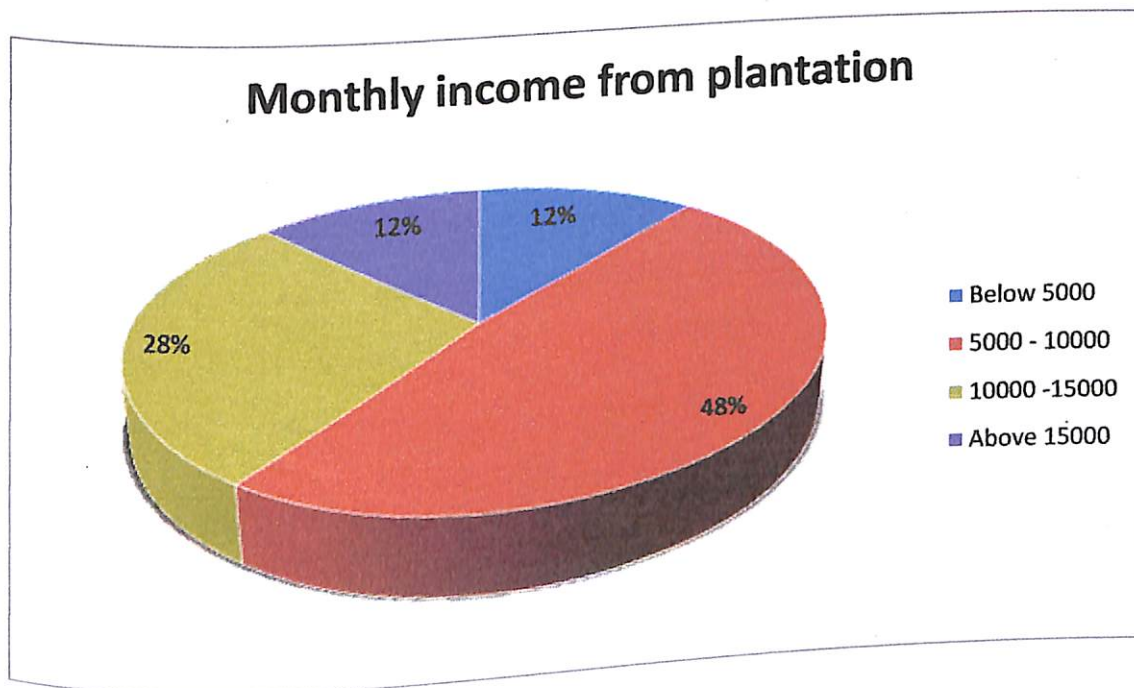
Regarding the economic status, 56% workers are APL and 44% workers are BPL. That is majority of the workers belong to the above poverty line category.

**Table 3.6 Monthly Income from plantation**

Monthly income from plantation	No of respondent	Percentage
Below 5000	6	12
5000 – 10000	24	48
10000 - 15000	14	28
Above 150000	6	12
Total	50	100

*Source: primary data*

**Figure 3.6 Monthly Income from plantation**



*Source: primary data*

The findings regarding the monthly income from plantation in a month show that, 12% of workers have a monthly income below 5000 and 48% of workers have 5000 – 10000 and 28% of workers have 10000 -15000 and 12% workers have Above 15000. That is most the workers get a minimal or subsistence wage compared to other employment.

**Table 3.7 Savings of workers**

<b>Category</b>	<b>No of respondent</b>	<b>Percentage</b>
Yes	50	100
No	0	0
Total	50	100

*Source: primary data*

The above table shows that 100 per cent of the workers have the habit of saving. That is all of the respondents are having savings.

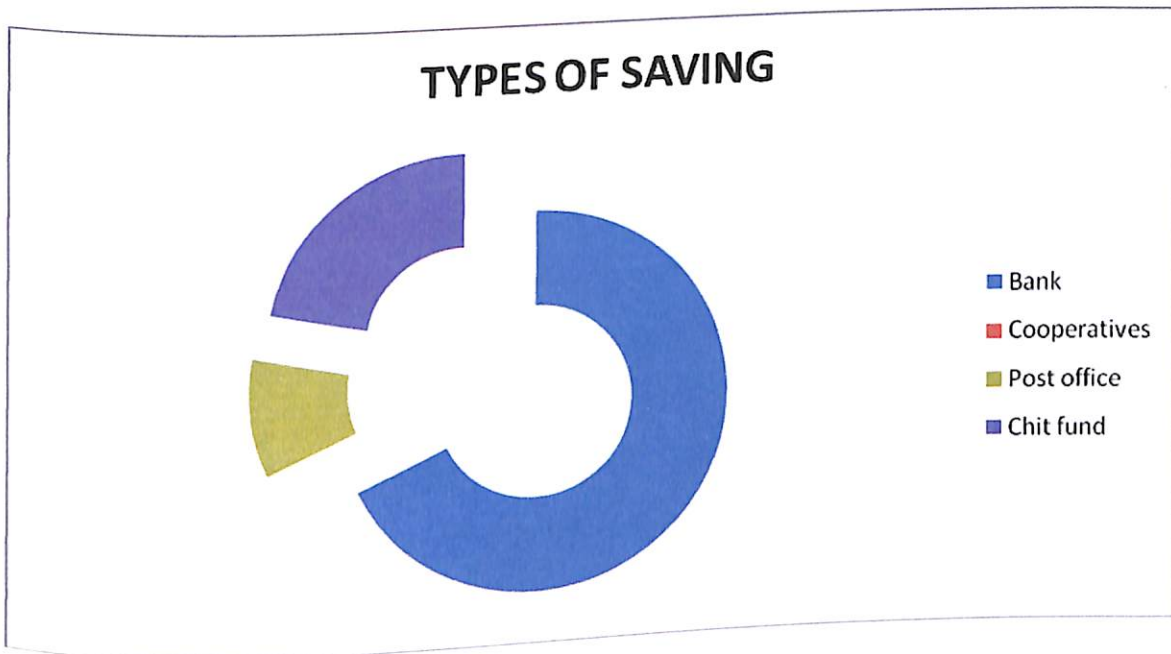


**Table 3.8 Types of Saving**

Type of saving	No of respondent	Percentage
Bank	34	68
Cooperatives	0	0
Post office	5	10
Chit fund	11	22
Total	50	100

Source: primary data

**Figure 3.8 Type of saving**



Source: primary data

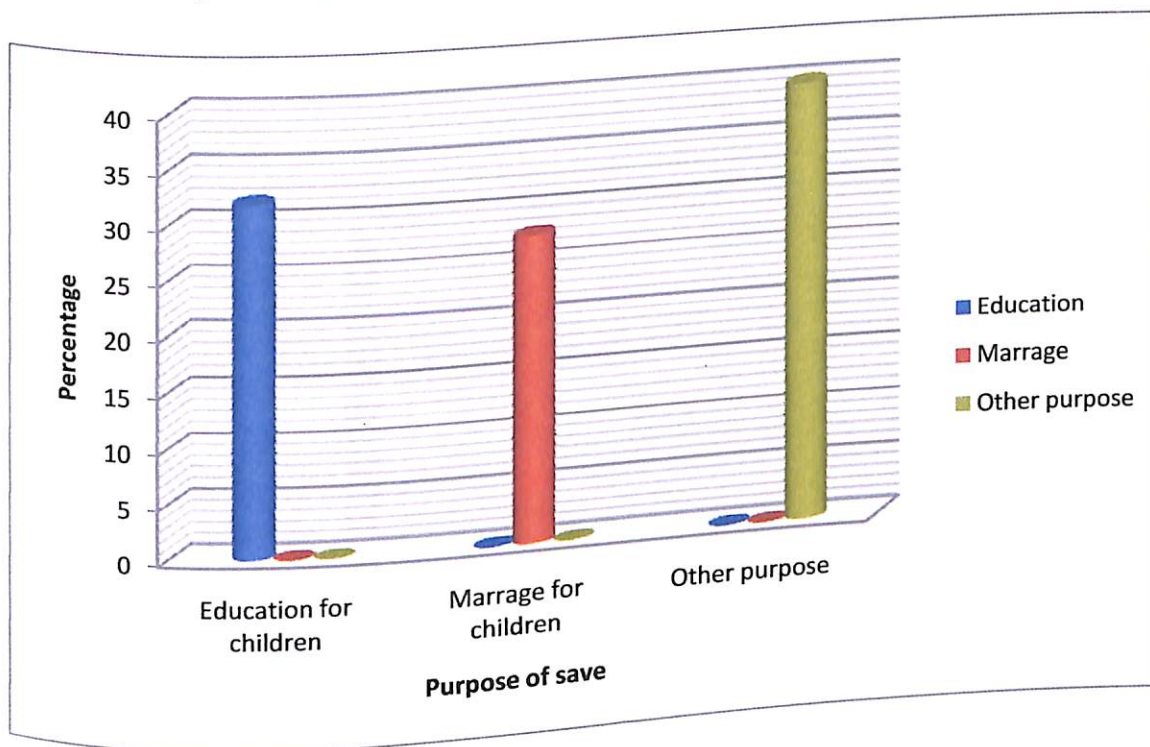
About the study ,majority percentage of tappers have saving.Among them majority (68%) of tappers save in bank and (22%) in chit fund and (10%) in post office. The tappers do not depend on co operatives for holding their savings.

**Table 3.9 Purpose of saving**

Purpose of saving	No of respondent	Percentage
Education for children	16	32
Marrage of children	14	28
Other pourpose	20	40
Total	50	100

Source :primary data

**Figure 3.9 Purpose of saving**



Source: primary data

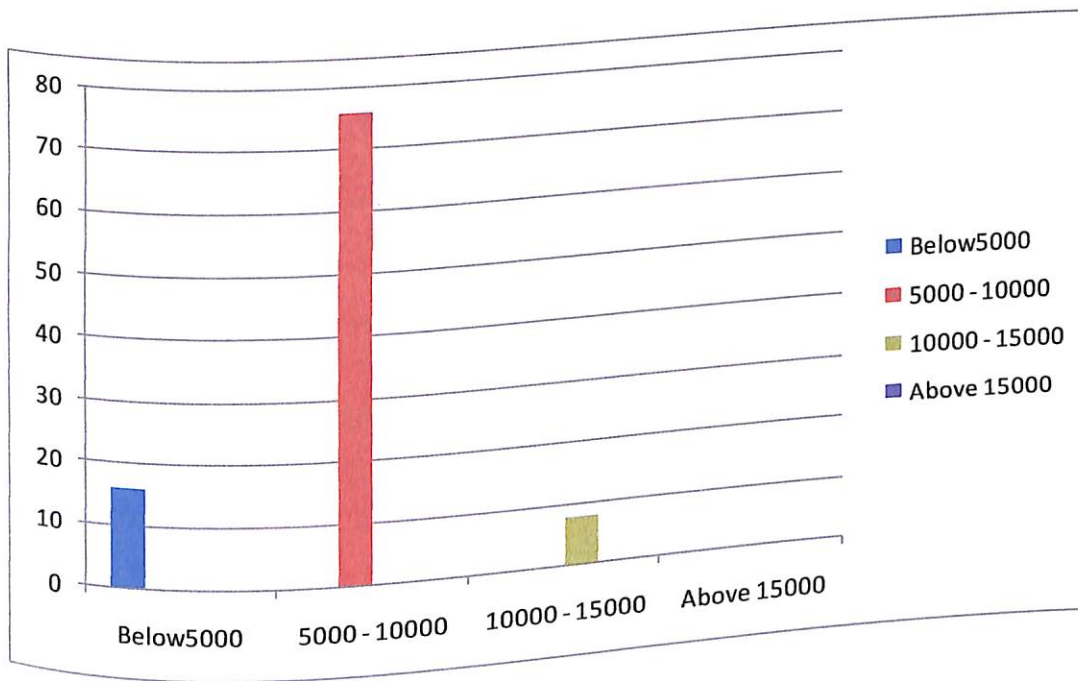
About the study, 32% of workers saved in the education for their children and 28% of workers saved in Marriage for children and 40% workers saved in other purpose. That is most of the workers save for other purpose. May spend for their health and other family requirements.

**Table 3.10 Monthly Expenditure**

Expenditure	No of respondent	Percentage
Below 5000	8	16
5000 – 10000	38	76
10000 – 15000	4	8
Above 15000	0	0
Total	50	100

source: primary data

**Figure 3.10 Monthly Expenditure**



Source: primary data

The findings regarding the monthly expenditure in a month shown that, 16% of workers have monthly expenditure of below 5000 and 76% of monthly expenditure 5000 – 10000 and 8% of workers have 10000 – 15000.

**Table 3.11 Membership with farmers association**

Category	No of Respondent	Percentage
Yes	0	0
No	50	100
Total	50	100

*Source: primary data*

The above data shows that 50 per cent of the persons do not have any kind of membership in a farmers association.

**Table 3.12 Support from Panchayath**

Category	No of respondent	Percentage
Yes	0	0
No	50	100
Total	50	100

*Source: primary data*

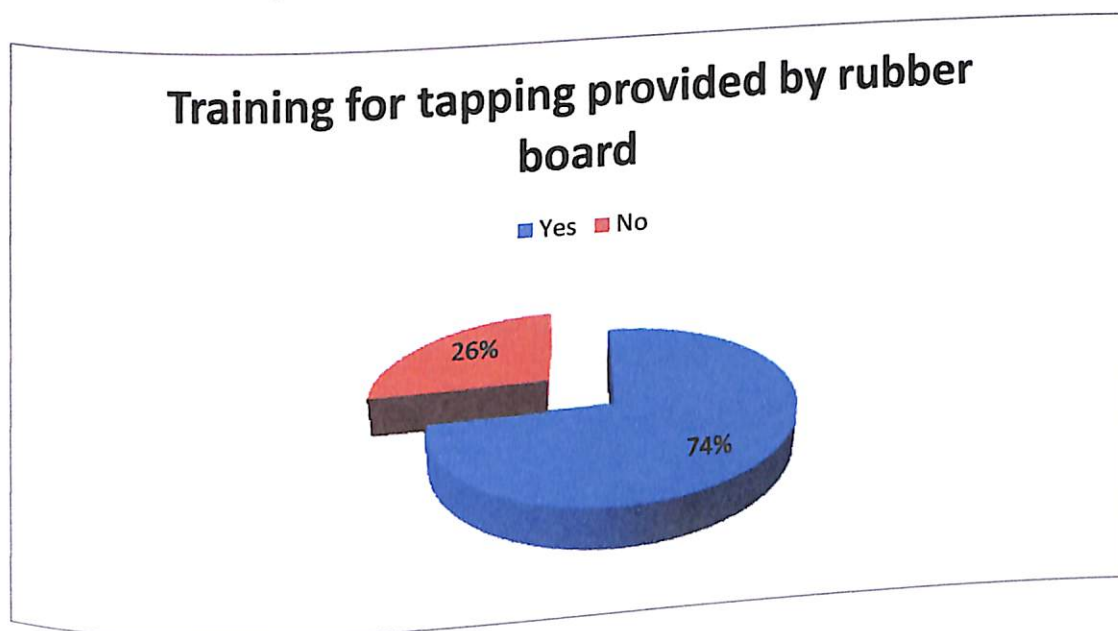
The above data show that 100% of workers do not get help from Panchayath.

**Table 3.13 Training for tapping provided by rubber board**

Category	No of respondent	Percentage
Yes	37	74
No	13	26
Total	50	100

*Source: primary data*

**Figure 3.13 Training for tapping provided by rubber board**



*Source: primary data*

Most of the tappers are trained. They got the training from rubber board. This increased their productivity skill. While 26 percent are not trained as they entered into tapping work through the experiences of their relatives.

**Table 3.14 Members who received rubber production incentive scheme**

<b>Category</b>	<b>No of Respondent</b>	<b>Percentage</b>
Yes	50	100
No	0	0
Total	50	100

*Source: primary data*

The study reveals that 100 % of workers get the rubber production incentive scheme. They get different type of incentives.

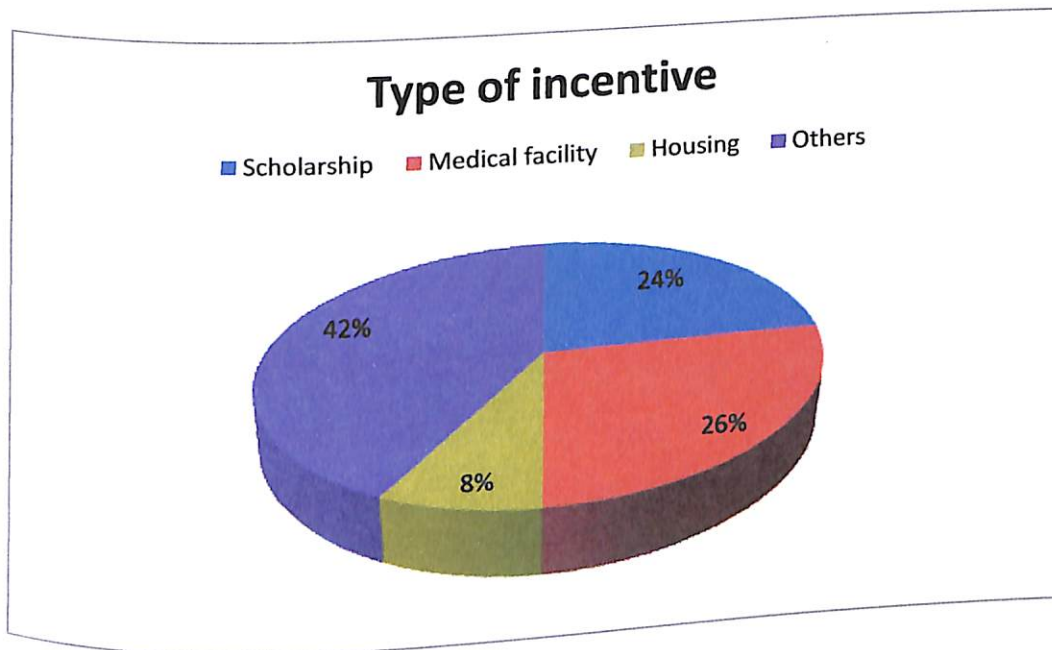


**Table 3.15 Type of incentive**

Type of incentive	No of Respondent	Percentage
Scholarship	12	24
Medical facility	13	26
Housing	4	8
Others	21	42
Total	50	100

*Source: primary data*

**Figure 3.15 Type of incentive**



*Source: primary data*

Regarding the study, workers receiving the incentives, 24% workers receive scholarship and 26% workers get medical facility and 8% of workers get housing and 42% of workers get other facilities.



**Table 3.16 response regarding whether market price affect wage**

Category	No of Respondent	Percentage
Yes	44	88
No	6	12
Total	50	100

*Source: primary data*

**Figure 3.16 Response regarding whether market price affect wage**



*Source: primary data*

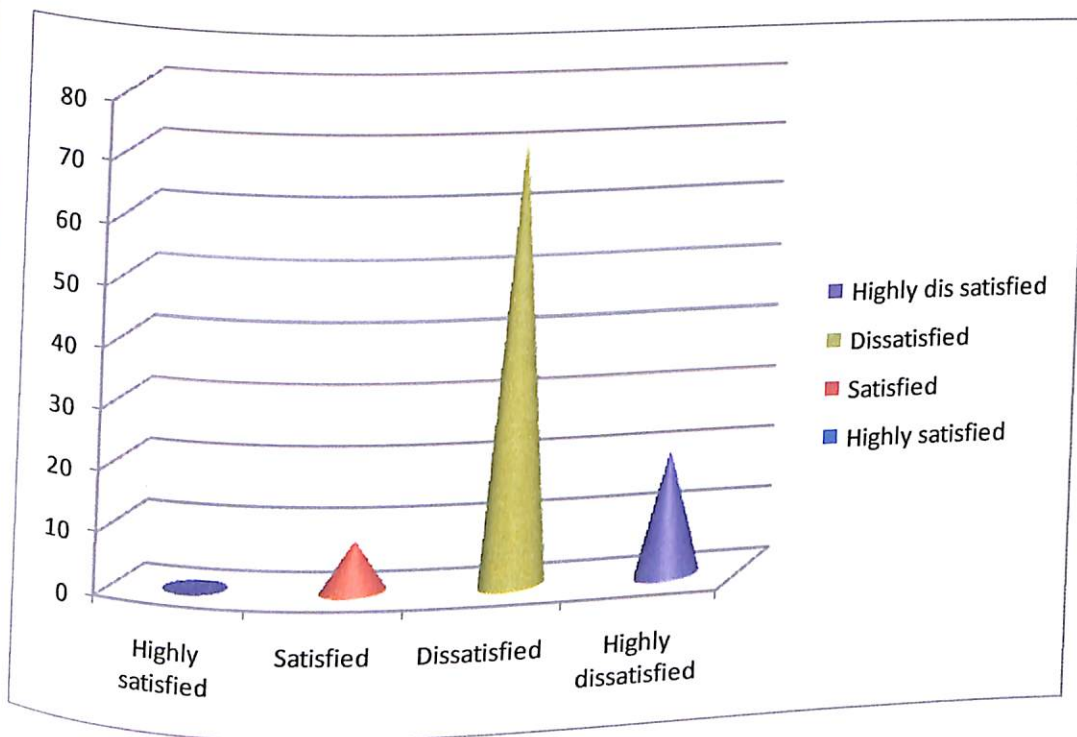
About the study .88% of workers say that market price affected the wage and 12% of workers say market price do not affected the wage.

**Table 3.17 wage satisfaction**

Wage Satisfaction	No of Respondent	Percentage
Highly satisfied	0	0
Satisfied	4	8
Dissatisfied	36	72
Highly dissatisfied	10	20
Total	50	100

Source: primary data

**Figure 3.17 wage satisfaction**



Source: primary data

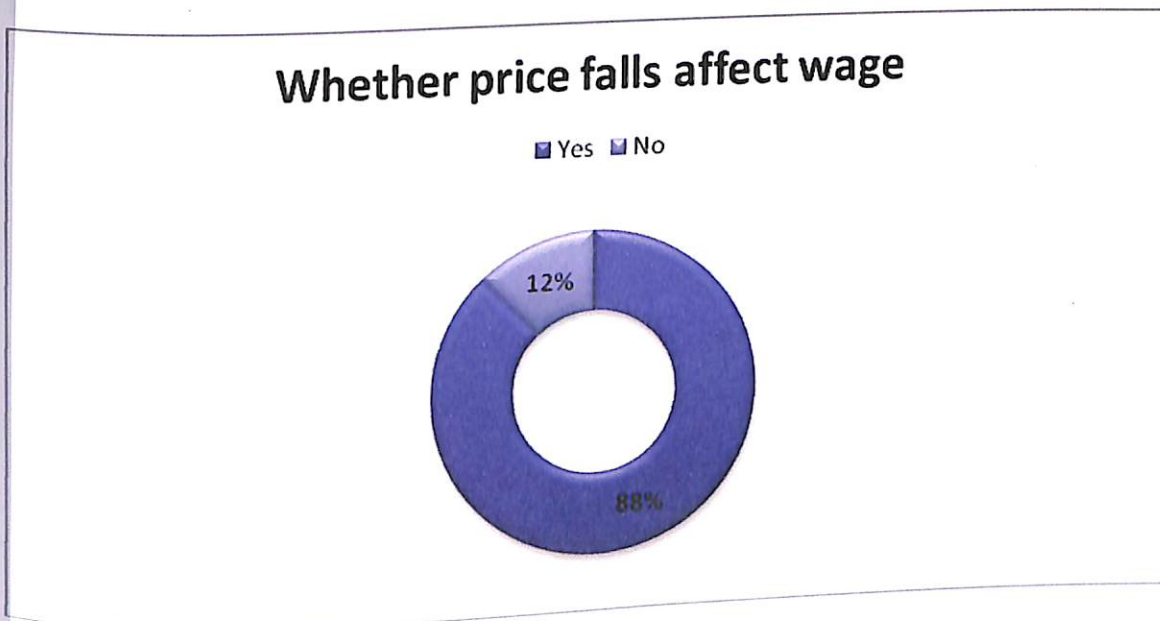
Regarding the satisfaction of wage, 8% of people satisfied and 72% of workers dissatisfied and 20% of workers are highly dissatisfied. The workers are not highly satisfied with the wage.

**Table 3.18 Whether price fall affect wage**

Category	No of Respondent	Percentage
Yes	44	88
No	6	12
Total	50	100

Source: primary data

**Figure 3.18 whether price fall affect wage**



Source: primary data

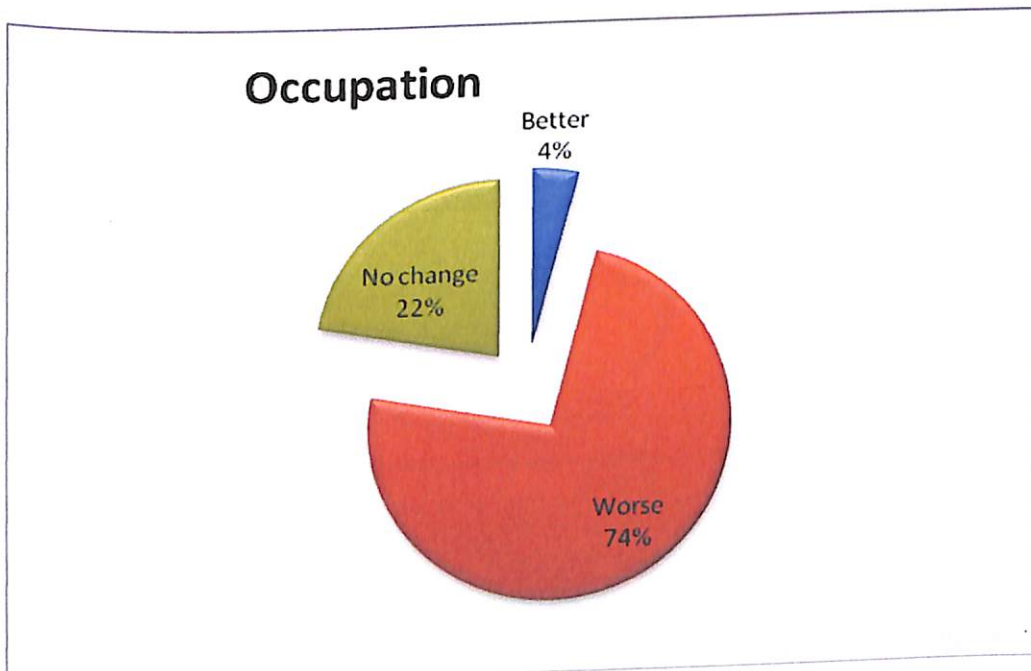
About the study, 88% of workers say that rubber price fall also affected the wage and 12% is of the opinion that it did not affect the wage. Even though the reduction in price caused reduction in wage rate, it is not proportional. The rate of reduction in wage rate is less than that of price. When price decreased by 50 percent, the reduction in wage rate is only 13.7 percent. The reason behind this phenomenon is the deficiency of skilled rubber tappers in the labour market. The wage rate recognized by the Plantation Labour Act is given to 12 percent of the tappers .They get Rs.26.5/- for 100 trees which is slightly above the average market rate now i.e;Rs.25.8/-. The average daily remuneration of tapper is estimated to be Rs.70.5/-.That means on average a tapper taps 272 trees daily. In most of the cases wage is given to the tappers on a weekly basis.

**Table 3.19 Occupation**

Occupation	No of Respondent	Percentage
Better	2	4
Worse	37	74
No change	11	22
Total	50	100

*Source: primary data*

**Figure 3.19 Occupation**



*Source: primary data*

Regarding the study, only 4% of workers say that occupation will be better and 22% of worker say that, they will not change occupation and majority (74%) of worker say that the occupation will be worse off.



**Table 3.20 Job satisfaction**

Category	No of Respondent	Percentage
Yes	2	4
No	48	96
Total	50	100

Source: primary data

**Figure 3.20 Job satisfaction**



Source: primary data

About the study, majority (96%) of workers do not satisfied the job and only (4%) of workers say that they are satisfied with the job. Out of the total sample households, most families are indebted. Important sources of their debt are commercial banks, co-operative banks, moneylenders, merchants, friends and relatives.

**CHAPTER 4**

**FINDINGS AND CONCLUSION**

## **FINDINGS**

Tapping is considered a job of low social status, especially in the case of younger generation. So they are always trying to get out of the work on the earliest opportunity. Only due to the absence of suitable job opportunities they continue. But the long engagements in tapping, ignorance of other fields, lack of physical abilities etc. of the elderly tappers make them unsuitable for other opportunities

- The age group below 30 were not interested in tapping and they search for better jobs.
- The majority of the workers have completed their basic education.
- More under unemployed people is present in the APL category.
- This study reveals that most of the workers get a minimal or subsistence wage compared to other employments.
- All of the respondents are having savings. They are depending on Bank, Post office, Chit fund but do not depend on co operatives for holding their savings.
- Most of the workers saved for other purpose like for their health and other family requirements.
- Most of the tappers are trained. They got the training from rubber board. This increased their productivity skill.
- The workers get the rubber production incentive scheme such as Medical facility, Housing, Scholaship etc.
- Regarding satisfaction of wage, the workers are not highly satisfied with the wage.

Among plantation crops rubber is the most important as far as area under cultivation is concerned. An important feature of Kerala's rubber economy is that it is overwhelmingly smallholder- oriented. More than 10 folds of tappers in estate sector are working in the small holding sector. There is the absence of well-defined wage rate and working conditions. Yet the problems and prospects of tappers have not been analysed adequately.



The decline of rubber price in the world economy and trade liberalisation policies of the nation have drastically affected the price of the natural rubber in India. This, in turn, adversely affects the income of small-scale rubber growers and the socio-economic conditions of rubber tappers. Moreover, disappointed with the decreasing remuneration, growers are reluctant to adopt better techniques of rubber cultivation and tapping. The subsequent fall in the growth of productivity increases the gravity of the crisis.

## **CONCLUSION**

Based on the above facts, we can conclude that the living conditions of tappers are poor. Their average income lags behind average expenditure by a significant margin. Their debt position is becoming worse. Most of them have no alternative sources of income. Backwardness in the field of education and culture is evident. They are deprived off proper education due to lack of money and awareness. As the wage is price elastic to some extent, the decreasing tendency of natural rubber price may cause further worsening of the living conditions of tappers.

**APPENDIX**

## END NOTES

1. SathyaSundaram (2003) "*Rubber fluctuating price*" Facts for you. July, pp: 10-12
2. S UmaDevi (1989) "*plantation of rubber third world*" Himalya publication, Bombay.
3. K G Mohan (2000) "*Chemical organic fertilizers, rubber magazine*" The rubber board, pp: 8-9.
4. Krishankutty P N and Haridasan V (1976) "*family budget of rubber plantation workers in Kozhikode district*" report and survey, Rubber board.
5. D V Reddy (1995) "*marketing organization for rubber*" Indian Rubber board Kottayam.
6. A K Krishnakumar (2005) "*new tapping technologies to best natural rubber output, the rubber growers companies*" Rubber board Kottayam.
7. P T Bauer (1948) the rubber industry: "*A Study in competition and monopoly*" Landon.
8. T M Abdulla (1968) "*report of the rubber small holdings Economics equity committee*" Rubber Board Kottayam.
9. C K John (1980) "*Natural rubber*" Rubber research institute Kottayam.
10. L M K TilekeRatne and Nagawele (1995) "*Tap rubber boom with rain guard*", rubber Asia, Dhanam publication Cochin, September-october, pp: 67-75.
11. E Pushp Rajah (1995) "*Crucial role of RRIM in rubber industry*" Rubber Asia, Dhanam publications Cochin, july- august pp: 79-84.
12. Viswanath (1996) "*A pride of place in natural rubber production*" Rubber Asia, Dhanam publication, Jan- Feb pp: 57-59.
13. K J Mathew (1996) "*Aiming for self sufficiency*" The Hindu survey on Indian agriculture, Kasruri and sons ltd, Madras, pp: 83-85.
14. M G Kanbur and Morris J L(1950) "*Measurement of natural rubber prices*", Indian economic review, volume-XV, No 1 march ,pp:53-63.
15. K T George (1992) "*Indian journal of natural rubber research*" the RRI of India Kottayam. volume5, No 1 and 2, pp:100-106.

## **BIBLIOGRAPHY**

1. Abdulla T M (1968) "*report of the rubber small holdings Economics equity committee*" "Rubber Board Kottayam.
2. Bauer P T (1948) *the rubber industry: A Study in competition and monopoly*, Landon
3. George K T (1992) "*Indian journal of natural rubber research*" the RRI of India Kottayam. volume5, No 1 and 2, pp:100-106.
4. John C K (1980) "*Natural rubber*" Rubber research institute Kottayam.
5. Krishnakumar A K (2005) "*new tapping technologies to best natural rubber output, the rubbergrowers companies*" Rubber board Kottayam.
6. Mathew K J(1996)" *Aiming for self sufficiency*" The Hindu survey on Indian agriculture, Kasruri and sons ltd, Madras, pp: 83-85.
7. L J Morris and Kanbur M G (1950)"*Measurement of natural rubber prices*", Indian economic review, volume-XV, No 1 march ,pp:53-63.
8. Mohan K G (2000) "*Chemical organic fertilizers*, rubber magazine, The rubber board, pp: 8-9.
9. Nagawele and L M K TilekeRatne (1995) "*Tap rubber boom with rain guard*", rubber Asia, Dhanam publication Cochin, September-october, pp: 67-75.
10. PushpaRajah E (1995)"*Crucial role of RRIM in rubber industry*" Rubber Asia, Dhanam publications Cochin, july- august pp: 79-84.
11. Reddy D V (1995) "*marketing organization for rubber*" Indian rubber board Kottayam.
12. Sundaram Sathya(2003) "*Rubber fluctuating price*" Facts for you. July, pp: 10-12
13. Uma Devi S (1989) "*plantation of rubber third world*" Himalya publication, Bombay.
14. V Haridasan and P N Krishnankutty (1976) "*family budget of rubber plantation workers in Kozhikode district*" report and survey, rubber board
15. Viswanath (1996) "*A pride of place in natural rubber production*" Rubber Asia, Dhanam publication, Jan- Feb pp: 57-59.

### Web sites

<http://rubber.wordpress.com>

<http://www.naturalrubber.com>

<http://dyuthi.cusat.ac.in./Xmlui/bit stream/handle/purl/3279/>

<http://www.indianmirror.com/indianindustries/rubb>

<http://www.murickens.com/realestate/History of rubber.asp>

### Magazines

Asia rubber hand book (2002), A Rubber Asia publication, Indian Rubber static.

Rubber Mithram (2006), Malayalam Monthly.



## QUESTIONNAIRE

1. Name:

2. Age : below 30  31 - 40  41 - 50  51 - 60  Above 60

3. Gender : Male  Female

4. Marital status : Married  Unmarried  Widow/Widower

5. Community : SC/ST  OBC  OEC  General

6. Education : Illiterate  Primary  High school  SSLC

7. Family member's details:

Sl.No	Name	Age	M/F	Educational qualification

8. Economic status: APL  BPL

9. Are you getting proper drinking water: Yes  No

10. Source of light in your house: Electricity  Kerosene

11. What are the main sources of information: News Paper

TV  Radio

12. Monthly income from plantation: Below 5000

5000 - 10000  10000 - 15000  Above 15000

13. Do you family have save: Yes  No

14. How do you save: Bank  Co-operatives   
Post office  Chit fund
15. For what purpose do you save: Education for children   
Marriage of children  other purpose
16. What is your total expenditure in a month: Below 5000   
5000 -10000  10000 - 15000  Below 15000
17. Do you have any debt: Yes  No
18. How many Acers of rubber plantation you have: 10 -50 cent   
1 Acer  1 - 3 Acers  above 3 Acers
19. How much do you spend for the cultivation one day: 1hrs   
2 - 4 hrs  above 5 hrs
20. How many varieties of rubber trees do you cultivate
21. Do you have own land for cultivation: Yes  No
22. Are you member with any farmers association: Yes  No
23. Did you get any financial help from panchayath: Yes  No
24. Do you get training for tapping form rubber board: Yes  No
25. Do you using rubber board direction from tapping: Yes  No
26. Are familiar with technical terms of rubber: Yes  No

27. Are you a member of rubber production incentive scheme:

Yes  No

28. Do you get any incentive from rubber board: Yes  No

If yes, which type of incentive do you get

Scholarship  Medical facility

Housing  Others

29. Does the fluctuations in the market price will affect your wage:

Yes  No

30. Are you satisfied with the wage from this industry:

Highly satisfied  Satisfied

Dissatisfied  Highly dissatisfied

31. How your wage get affected when the price of rubber falls :

Yes  No

32. Do you think your occupation in future will be: Better

Worse  No change

33. Are you satisfied this job: Yes  No