INTRODUCTION AND DESIGN OF THE STUDY

1.1 INTRODUCTION

Wood was the single greatest material aid and comfort in every century of our ancestor’s lives. The art and technique of working wood into countless forms of tools, shelter, furniture, transportation, decoration, kitchen utensils and every other thing is imaginable; The first submarine and airplane were made of wood.

Timber is another name for wood. Some people refer it as lumber. The timber industry around the world is huge, providing wood for a variety of products from paper to particleboard\(^1\).

Timber is a sustainable building material that sits at the heart of building and construction. The features of timber like environmental sustainability, design flexibility and structural integrity make timber crucial for all the building. Timber offers a strong and dependable structures and their strength makes timber a primary construction material for the majority of industries. Timber is aesthetically appealing, cost effective, reusable and easy to work when compared to other materials.

Depending on the size of a mill, wood products like paper and particleboard may be made on site, or the raw materials may be sent to other companies that purchase them in bulk. Papermaking in particular is a messy, dirty process, and some companies prefer to leave the dirty work to others. Once cut, timber may also be treated with chemicals to make it resistant to decay and insect infestation, and then it will be graded for quality and sold.

Advantages of Timber

\(^1\) www.wisegeek.com/what-is-timber.htm
The advantages of

- Stronger than other construction materials in proportion of weight.
- Workable: Can be easily worked to any size and shape.
- Lightweight.
- Economical: Wastage is Minimum.
- Durable.
- Non-conductor of heat and electricity.

The economic and demographic relationships to the timber sector can be identified through a description of historical patterns of timber production and marketing technologies. The production of timber and trade in timber products on a global level have been expanding during the last few decades. The Major small scale industry in Dindigul district is timber industry which provides directly and indirectly employment opportunities to many of the people. The Dindigul district covers timber trading saw mill units, furniture manufacturing units and manufacturing electrical wooden accessories.

1.1.1 Lumber Vs Timber

Lumber and timber are obviously wooden products. In many places worldwide, these two terms are being used interchangeably. However, there are some regions that make certain distinctions between the two.

People have been referring timber since at least the seventh century, although "lumber" is a relatively recent word, dating to the settlement of America in the 1600s. Early citizens in the Massachusetts Bay Colony started to refer to sawed planks as lumber, setting them apart from the

2 www.differencebetween.net/object/difference-between-lumber-and-timber/
raw wood that still had to be processed before it could be used. Incidentally, the "timbers" in nautical slang are an important structural component of a ship's frame.

Timber is usually the term used for a piece of wood that still has its bark on whereas lumber is usually bark-less by nature. The latter usually undergoes a drying process and has a firm finish to it. Lumber is often prepared with accurate measurements and to use for construction and furniture making.

Due to its processed or finished nature, it is the word ‘lumber’ that is dominantly used for commercial purposes and sale. Timber is commercially available for construction. It is usually necessary for it has to undergo finishing first before it is sent to the market. In history, it can also be accounted for that timber is the earlier word to be formulated and used by the masses. As early as the 7th century, people have already been using timber to refer to all types of wood products. It was only about the 1600s that the word lumber began to flourish.

Depending on the country, timber is the common name used for wooden boards. In U.K. and Australia whereas lumber is the one used for the same kind of product in U.S. and in most parts of Canada. In this same region (U.S. & Canada), they adopt the term timber for a piece of lumber with a relatively small measurement of not less than five inches or 127 mm. For them, timber is also the non-processed standing wood.

1.1.2 Timber Harvesting and Processing
There are two basic approaches in harvesting timber. 1. Commercial Clear-cutting and 2. Silviculture.

1.1.2.1 Commercial Clear-cutting

It focuses primarily on economic gain. In this approach, loggers remove all the trees in a forested area, usually down to a small diameter, such as 6 inches (15 cm). The effects of clear-cutting can be devastating. When the harvest is complete, a once-beautiful forest can resemble a wasteland. More important, clear-cutting doesn't allow for sustainable forestry, which balances the perpetual growing and harvesting of trees with environmental protection and conservation.

**FIGURE 1.1**

**Commercial Clear-cutting**

- Shelterwood Cutting
Silviculturists rely on several methods to harvest timber\(^3\). One important method is shelter wood cutting, which uses partial cuttings over time to remove an entire forest gradually. In this way, desirable tree species naturally regenerate and grow into the new forest. Shelter wood cutting involves a series of two to four harvests occurring over a period of 10 to 20 years.

**FIGURE 1.2**

**Cruising**

Foresters must analyze timberland carefully to determine the method of silviculture harvesting to use. Indeed, proper forest management involves balancing the economics of the harvest with biology and ecology of the forest. Once these strategic issues are determined, foresters can survey timberlands to locate and estimate the volumes and grades of standing timber that meet their requirements. This process is known as cruising.

**FIGURE 1.3**

\(^3\) [www.science.howstuffworks.com/timber3.html](http://www.science.howstuffworks.com/timber3.html)
CRUISING (FOREST)

- Tree Felling

One can see the cut that this logger has just been made in 120-foot, 800-year-old red cedar. This cut will set the angle of the fall. Next comes felling or cutting down the trees by using a chain saw. To fell a tree, a worker makes four cuts: a top, bottom, back and felling cut. If one saw the tree after all those cuts, it would look like as if it had two triangle-shaped bites taken out of it on either side. The goal is to leave a sufficient hinge of wood between the bottom cut and felling cut. This reduces tree kickback and provides greater control over where the tree will fall.
• Bucking

Once a tree is on the ground, loggers remove its limbs and cut it into logs, the process known as bucking. Bucking involves making cross-sectional cuts, from the butt of the tree to the top.
Skidding or moving logs from the forest to the landing area. Loggers skid timber by winching several logs to a tractor and dragging them through the forest along the designated trails. Preplanned skid trails protect the forest floor by limiting soil compaction, which increases the soil's ability to grow trees in future.
• **Loading**

At the landing area, workers grade and sort logs by species. Then they load the logs into trucks, which deliver the timber to its final destination. Pulp mills receive lower-grade logs, while veneer producers receive higher-grade logs. The rest of the timber either goes directly to sawmill or to concentration yards. Concentration yards sell and market logs to sawmill based on the mill's needs. Many sawmills are specialised in a certain type of log and rely on concentration
yards to collect and organize timber to meet their specifications. Finally, the timber is ready for processing.

FIGURE 1.7

LOADING OF LOGS

1.2 INDIAN TIMBER TREES
Timber trees are also utilised in day-to-day life as well. Timber tree has its species growing in almost every corner of the subcontinent. Teak species of timber grows in South India and can be used for building constructions, boat building and furniture. Species like Babul is used for making the wheels of bullock cart, tool handles, agricultural instruments, and well curbs. Bamboo, though not a tree, but a woody grass, is a form of timber that is grown throughout India and used for scaffoldings and temporary bridges so forth. These plant species are often referred to as the fancy trees as they are widely used in making lavish furniture.

There are over 150 species of timber which are produced in India. There are about 46 main timber companies and more 1000 small timber companies in India. In India, some common trees used for supplying timber are Babul, Banyan, Bamboo, Deodar, Elm, Coconut, Mahogany, Mango, Mulberry, Palm, Pine, Cedar, Rosewood, Sal, Sandalwood, Teak, etc.

The timber production is carried on in different Indian states and thus their usages also vary. Indian states like Andhra Pradesh, Tamil Nadu, Maharashtra, Madhya Pradesh, Bihar and Uttar Pradesh are well known for their timber cultivation. Parts of Uttar Pradesh and Orissa are also popular for timber trees. Indian timber trees are also found in extreme Himalayas and neighbouring states. The Indian timber trees are found all across the nation with varied characteristics and utility. The features of these are so distinct that there is hardly any timber tree in India that goes without any use.

**1.3 WOOD BASED INDUSTRY IN INDIA**

4 www.indianetzone.com
5 Nilanjan Mitra – “Lecture on Timber”- www.facweb.iitkgp.ernet.in
Wood and Wood based Industry play a very vital role in shaping the robust growth of Indian Economy. This industry has true potential to grow manifolds from the existing levels and is poised for a sustainable growth annually.

India becomes the manufacturing hub for the global markets. The Wood, Plywood & Allied Products Industry is one of the key sectors having immense potential for gaining from these developments as India is one of the major wood-users in the Asia pacific region. Asia Pacific region has over 4500 varieties of wood-yielding species & has some of the best known and most highly prized tropical hardwoods.

Indian plywood industry is as big as Rs.5, 000 crore equivalent to USD 1 billion. The industry is growing at rapid pace of 10-20% per annum. Approximately 600 units are currently functioning all over the country. There is a tremendous growth potential as the players are yet to penetrate majority of the international market.

Panel and plywood products are the main wood products in India. Product categories include veneer sheets, particle board (composite wood core with plastic laminate finish), panel products (fiber board), plywood made from both hard and softwood (veneered panels and laminated woods), and medium density fiber board. Indian particle board and plywood industry accounts for 15% of the total production, producing, and some 30 million sqm. of plywood and block boards.

At present, the Indian wood & furniture sector is predominantly in the hands of unorganized small units. Fortunately, large corporate houses have started taking interest in the production of modern furniture. The furniture market is the second largest wood processing segment after timber & logs, making India a fast emerging market for high-end, value-added imported products. The manufacture of prefabricated doors and windows is relatively new and the current market is growing at 10% per annum. The total annual market for timber & furniture in India is estimated to be US$ 1.25
billion about 90% of which is for wooden products. The branded (higher quality) wooden furniture industry is growing at 15% annually.

1.4 STATEMENT OF THE PROBLEM

Over the years, the demand for timber and timber based products is increased all over the world. In India too, the demand for timber units is raised, so sharply due to ever increasing population, rapid industrialization, consequent urbanization, increased transportation and improved packing needs and the developmental activities that have been undertaken from time to time by the government and private enterprises.

Dindigul District is surrounded by hills area. Large number of Forest area covered in Dindigul district. The requirements of timber in Dindigul district are being fulfilled by 100 timber merchants in the district. But the recent policies of the government and environmental protection and also to ban on cutting of trees have made timber a scarce resource. Supply of timber in the district had decreased considerably, during the last few decades; the extent of natural forests registered a drastic decline in the tropics. Consequently, there is a growing imbalance between supply and demand for forest products, especially wood. Trees grown in farm lands were originally used to fulfill the demand for timber in rural and sub urban area of the district. There was a gradual decline in the growth of trees in agricultural lands too. All these features made timber a scare material in the district.

The demand for timber is increased day by day. The timber traders mostly from Dindigul district participate in the auction and buy timber. The traders also procure timber from other districts and

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Timber is being imported from various countries such as Burma, Malaysia, Australia, Nigeria, Korea, Ceylon, Thailand, Bangladesh, Coast Africa, Panama, New Zealand and the like.

Production, processing and marketing of timber in Dindigul district are facing with a numerous problems namely dependence of imported timber, Non-familiarity of the species imported and their quality, involvement, unscrupulous middleman, frequent fluctuations in prices, labour shortage, unwanted taxes, and the unnecessary interference of the government officials, restricted permission of new timber mills and electricity problems in day to day affairs of the traders, tough regulations on the movement of timber and so on.

The performance of any industry is closely related with the satisfaction of its employee. This is very well applicable to Timber industry too. The performance of Timber industry would be better if the satisfaction of the employees working in Timber industry is high. Therefore in this present study, the focus is made both on the contribution of the employers and satisfaction of the employees. In this context, the present study is of great relevance which analysis the problems and constraints of the timber trader and also employees’ satisfaction.

1.5 REVIEW OF PREVIOUS STUDIES

Smith\(^7\) defined Production as the creation of Utilities in commodities and services in order to gratify human wants.

A study by Frank Friedlander\(^8\) entitled, “Underlying sources of Job satisfaction,” examined three underlying groups of job elements important to job satisfaction, namely social and technical

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environment, intrinsic work, aspects and recognition through advancement. He identified three underlying dimensions within the sphere of satisfaction, and then ascertained the point on each of these three dimensions. Those employees at the extremes of each dimensions viewed contrasting job elements as differing in importance as a source of satisfaction.

Rao$^9$ analysed Capital, Labour, Cost Structure, Capital Labour and Capital output, Value added-Labour ratios in many small scale and village industries.

Venkataraman$^{10}$ in his book entitled A History of culture, mentioned the Indus Valley Civilisation which dates back to 2500-1500 B.C. It was familiar only in building with brick and wood.

Nerin$^{11}$ defined Production as the application of land, Labour, Capital and enterprise to the creation of new wealth.

Narrar and Sariff$^{12}$ viewed marketing channel as the collection of agencies and flows associated with the transitions of any good and service.

Bilgram$^{13}$ defined Marketing channel as a path of direct or indirect transfer of title to a product as it moved from producer to consumers or industrial users.

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Leonard Correll\textsuperscript{14} in his book ‘History of the world’ mentioned both the builders as well as the farmers. There were no natural stones for building in Mesopotomia nor was there much timber. So they made bricks by moulding the thick clay of the river banks in to the block and learning them in the scorching sun to bake. Many of the bigger Sumerian buildings were made of brick stones.

Dewett and Chand\textsuperscript{15} stated that fixed cost as one which does not vary with the level of output. Fixed costs are those that have to be paid even though production has been stopped temporarily. It included the rent on building, interest on capital invested on machinery and salaries of the permanently employed staff.

Lim\textsuperscript{16} examined the aspects like production, wages and capital intensity (fixed capital per worker) and, factors influencing the choice of technology in leather shoe and Bricks industries.

According to Cundiff and Still\textsuperscript{17}, marketing channel would indicate the path traced in direct or indirect transfer of title to a product as it moved from a producer to ultimate consumers.

American Marketing Association\textsuperscript{18} defined Marketing channel as the structure of Intra-company and extra-company agents and dealers, wholesalers and retailers through which a product or service will be marketed.

\textsuperscript{14} Leonard Correll, History of the World, Swaraj Publication Ltd, Bombay , 1977, pp16-22
\textsuperscript{15} K.K. Dewett, Modern Economic Theory, New Delhi, S. Chand and Company Ltd. 1978, pp 65-71,196.
\textsuperscript{18} “American Marketing Association”, referred by Rajan Nair, Marketing, New Delhi, Sultan and Chand Publication, 1988, P.94.
Berkowitz et at\textsuperscript{19} described marketing channel as group of individuals and firms involved in the process of making a product or service available for us by consumers or industrial users.

Pande and Mithani\textsuperscript{20} defined production as the creation of output or good and service and considered as essential means of transformation of one set of goods into another.

D.N. Tewari\textsuperscript{21} in his study entitled “Marketing and Trade of Forest Produce” stated that in interest of sustainable utilization of forest products, effective domestic and export trade and marketing of forest practices such as appropriate pricing policy, market research, market promotion and market information services. He was of the view that strategies should also include identification of forest products with growth potential and their promotion in order to capture entrepreneurial interest. Also he felt that the earning level of forest dwellers is too low to encourage sustainable management of products at their source or reinvestment in new resources. He suggested that technical as well as credit and marketing assistance should be given greater attention.

Akhilesh and Mary Mathew\textsuperscript{22} in their study, “A study of Bank jobs in Relation of work motivation, job and work environment”, made an in-depth analysis of employees’ perceptions about the job and the relationship of job characteristics to the desired work behaviour by selecting a sample 144 non-nationalised bank employees consisting of both officers and clerks. They found that among the officers work, motivation could be improved through increasing job authority and accountability. At the clerical level rewards and sanctions were significantly associated with job involvement.

\textsuperscript{19} N.Berkowitz, A.Kerin and W. Rudelians, Marketing, USA; IBH publishing co. Ltd.1989, p 350.
P.K. Sharma\textsuperscript{23} in his book entitled “Forest Resources and their utilization in India” has examined the role played by minor forest products in income, employment, export trade and overall progress of the Assam State. Also he has assessed the methods of exploitation, extraction, utilization and transportation of both major and minor forest products. The author suggested a revision of the existing forest policy and forest acts with the object of forest conservation.

Alan Witt and Nye\textsuperscript{24} in their study, “Gender and the Relationship between perceived fairness of pay or promotion and job satisfaction,” evaluated potential gender differences among 2979 personnel in so different organizational systems in correlation between a) fairness and job satisfaction scores and b) standardized group differences in the perceived amounts of pay and promotion fairness and expressed level of facts and global job satisfaction. They found that the fairness satisfaction relationship was not higher for men and there were no practical differences in fairness perceptions and job satisfaction between men and women.

Another Study conducted by A.P.Dwivedi\textsuperscript{25} entitled “Forest: The non-wood resources”, dealt with the management of non-wood forest products. The author was of the opinion that management of forests, for the production of non-wood forest products, did not receive much attention from the foresters or forest managers. According to him, the scattered distribution of important plant species, over-exploitation, poor-yield and inadequate marketing infrastructure are due to the lack of proper management strategy. He stated the inventory of non-wood resources, the preparation of management plans, the planting of species, yielding valuable non-wood products, the establishment of markets and

\textsuperscript{23} P.K. Sharma, Forest Resources and their Utilisation in India, Mittal Publications, New Delhi 1991.
marketing facilities would ensure the proper management of forests for obtaining an increased yield of non-wood products.

Rajiv Rai and Tripati Chowdhry in his paper, “Role of Minor Forest Products in Developing Rural Economy”, dealt with the integrated approach for development of rural economy taking into account the various factors like market forces exploitation of forest without degradation, marketing with the assistance of different agencies, consumers awareness, income and profit distribution, employment opportunities and the potential of forests in this regard.

Paper Presented by T. Krishnamoorthy entitled “Non-wood Forest Products; Their Role in Rural Economy” dealt with the scope and coverage of non-wood forest products. He stressed for proper assessment of the availability of forest products. He also described the mode of collection, utilization and importance of such products in rural economy for trade and industry. The inculcate love and reverence for tree growth among villagers, he suggested that the species of important non-wood forest products should be raised in atleast 20 hectares in each villages which had no forest cover and if necessary, by even acquiring private lands by paying compensation where government lands were not available.

G.P. Shukla and Kishore Rao in their paper entitled “Status of Minor Forest Produce in Arunachal Pradesh” highlighted the importance of Minor Forest Produce. They emphasized the developing agro-technology for the cultivation of various medical plants on commercial scale as

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planted crop under the forestry sector. They recommended concerted efforts and financial support for developing non-timber forest products like bamboos, orchids and medicinal plants as cottage level and small scale industrial activities in the state in order to reduce the depletion of timber resources, helping the cause of forest conservation.

S.Chand Basha and K.K.N Nair\textsuperscript{29} in their Paper entitled "Non-wood Forest Produce Plants of Kerala State", elucidated the different categories of plants of kerala, yielding forest products and the major causes of their depletion in recent times. They stated that being linked with the life-style of tribal and rural populations the socio-economic relevance of non-wood forest products are becoming increasingly important. The authors found that it has become essential to replenish the natural source of non-wood forest products by checking destructive collection methods and by the habit protection of non-wood forest product species which were on the verge of extinction. All these required the joint efforts of forest managers, forest scientists, NGO's and the industrial dealing with non-wood forest products. It was suggested that a status of non-wood forest products of the state may be conducted immediately to identify the species that are becoming rare vulnerable endangered or extinct in their natural habitats.

B.K.C Rajan\textsuperscript{30} conducted a study entitled “Ten Forest Products”, describing the production and marketing of Forest Products in India and Pointing out the Values and uses of those Products.

According to Koutsoyiannis\textsuperscript{31}, "Production would indicate the combination of factors needed for producing one unit of output.


Saini and Bhathi\textsuperscript{32} referred marketing channel as the sequence of agencies through a commodity would pass during the process of marketing.

H.N Atibudhi\textsuperscript{33} in his paper, “Marketing of minor Forest Produce in Orissa” analysed the marketing channels of minor forest products in the state and studies the out-turn and sale price of major items among the minor forest products. He found that the out-turn of almost all products were coming down over the years mostly due to the abrupt changes in the minor forest product procurement policy of the State Government. He studied also the performance of agencies trading with various Minor Forest Products in the state.

C.Sekar, S.Senthilnathan and C.Ramasamy\textsuperscript{34} in their paper, “Forest Economy of Tamilnadu”, analysed the secondary data gathered on land use pattern, afforestation activities, forest area lost over years, actual areas, under forests and the income contribution of forests in Tamilnadu. The study emphasized the socio-economic rationale of wasteland afforestation and it’s importance in the forest economy of Tamilnadu.

“Employee need structure and their Satisfaction,” by Ashok Kumar Pandey and Prakash\textsuperscript{35} studied the relationships between the need structures of supervisors and the workers employed in the railway workshop and their satisfaction levels. They investigated the role of different motives of employees’ satisfaction and found affiliation and power had a positive correlation with the total satisfaction score.

\textsuperscript{34} C.Sekar, S.Senthilnathan and C.Ramasamy, “Forest Economy of Tamilnadu”, Agricultural Situation in India, Delhi, September 1995. P.397-398.
Mcafee R. Bruce and Glassman Myron\textsuperscript{36} in their study, Job satisfaction conclude- “It’s the title things that count and determine the factors influencing Job satisfaction. An alignment of employee wants, expectations and needs with what is actually received from the job could enhance job satisfaction. They suggested that the managers should use techniques to enhance the employee satisfaction according to the job satisfaction stage of the employees.

Singh and Patiraj Kumar\textsuperscript{37} in their study, “A study on individual need, strength, motivation and job involvement in relation to job satisfaction, productivity and absenteeism,” found that employees with high desires for higher order need satisfaction tended to work harder and were more satisfied.

According to Ahmed (1997), the total annual value of India’s harvest of all forest produce is estimated to be Rs. 300,000 millions (compared to the investment of Rs. 8000 in the sector). The low estimate of contribution to the GDP resulted in low priority for forestry investments in five-year plans. Efforts are needed for monitoring the services provided by the forests so as to appreciate their contribution to human well being. Over 50\% of the revenue earned by the forest departments comes from NWFPs. Their growth is generally 40\% higher than timber (MOEF 2000)\textsuperscript{38}.

Biswanth Oli in his article\textsuperscript{39}, Market dimensions of timber and fuel wood in Kathmandu and Chitwan districts of central Nepal, observed that the demand for sawn timber was found to be high.


among urban households, carpentry and furniture industries and development projects mainly for construction and carpentry purpose.

Sila Tripati, M. Sujatha, R. Vijendra Rao and K. Satyanarayana Rao\textsuperscript{40} in his abstract stated that the use of timber in the boat-building or shipbuilding industry is an old in the construction of boats and ships. Various kinds of timber are used in different regions of India in the construction of vessels. Timber composed by the king Bhoja of Dhar(11\textsuperscript{th} century AD) gives a detailed account of boats, ships and the variety of wood used for construction and classification of ships. Further, the text also mentions the quality of timber that is required for construction of seagoing ships, which could resist the action of waves, currents and marine befouling; above all, it would bring joy and wealth. In order to locate the remains of ships, cargo and their history, maritime archaeological explorations were carried out off Goa, which brought to light timber from the century old shipwreck off St. George Reef and an iron anchor with a wooden stock 300 years old from Aguada waters.

Romero\textsuperscript{41} indicated that the organizations that are traditionally looked upon as great places to work are also better performers.

Condy and Dipietro\textsuperscript{42} said that the employees’ commitment towards goals would depend on certain factors that influence his mental strength. These factors include self-efficacy, agency, emotion, mood, importance, interest utility, choice and persistence.

Aziri B. defines\textsuperscript{43}, “Job satisfaction represents one of the most complex areas facing today’s managers when it comes to managing their employees. Although thousands of papers and research

\begin{thebibliography}{99}
\bibitem{42} Anandan Pillai, “Motivation as key Retention Strategy in Hospital Industry,”-HRM Review, March 2008, p 24
\end{thebibliography}
have been conducted on job satisfaction all over the world, in the Republic of Macedonia this is one of the least studied research fields. Many studies have demonstrated an unusually large impact on the job satisfaction on the motivation of workers, while the level of motivation has an impact on productivity, and hence also on performance of business organizations. There is a considerable impact of the employee’s perceptions for the nature of his work and the level of overall job satisfaction. Financial compensation has a great impact on the overall job satisfaction of the employees.

The government has set-up the Malaysian Furniture Promotion Council (MFPC) to specially focus on the promotion of the furniture sector. An attractive package of fiscal incentives for new and additional investments is available to stimulate and support the growth of priority sectors in the resource-based industry, including the wood-based industry. Specific incentives are offered to local companies that have export-potential in the wood-based industries.\textsuperscript{44}

In establishing new markets, Malaysia will devise a market strategy that improves the image of the industry through branding, supply reliability and provision of good service. The government encourages the furniture and furniture components manufacturers to focus on innovative product design and quality and expand their product range to include high-end niche products, while improving the existing activities. Measures will be undertaken to aggressively promote the exports of high-quality products that are in compliance with eco-labeling requirements to sustain market share as well as diversify into new markets.

\textsuperscript{43} B.Aziri “Job satisfaction: management research and practice” vol. 3 issue 4 (2011) pp: 77-86

\textsuperscript{44} “Market Watch 2012”, The Timber Sector in Malaysia – March 2012
Base on the statement of the problem and the various reviews made the researcher has formulated four specific objectives for conducting this study.

1.6 OBJECTIVES OF THE STUDY

The specific objectives are:

1. To study the Forestry Resources for Timber Products.
2. To identify and understand the Profile of Timber Traders in Dindigul district.
3. To ascertain the Constraints in Production and Marketing of Timber Products and Trading in Dindigul district.
4. To appraise the Employees’ Satisfaction in Timber Trading Business.

1.7 METHODOLOGY

This chapter deals with the methodology of the present study. Research in common parlance refers to a search for knowledge. We can also define research as a scientific and systematic search for pertinent information on a specific topic.
The Supreme Court in October, 2002 held that the saw mills, plywood and veneer units which existed prior to 2002 should obtain license from the District Forest Officer, who should obtain permission from the Central Empowered Committee to grant the license. No fresh units could be started after October 2002 without the license. Based on the directions, the Tamilnadu government framed Tamilnadu Regulation of Wood Based Industries Rules. The total number of licensed timber traders in Dindigul district is 100 as on 31.3.2011. Among them, 50 timber traders and 100 employees have been chosen as sample respondents for this study. Timber traders are the members of Timber Trading Association in Dindigul.

Research Instrument

Two types of questionnaires were used to collect data for present investigation. The researcher conducted field observation, formal and informal conversations with the respondents and the key officials were performed to elicit more relevant information. The questionnaire was constructed and administered in English. Information generated through these techniques served as primary data for this study.

Data Collection

The study depends on primary and secondary data. The primary data has been collected through well structured questionnaire from the Timber trader and employees of timber trade. The secondary data from the various sources like research website, dissertation, thesis, articles and books were used for the purpose of preparing review of literature. The researcher designed the questionnaire after having thorough discussion with the subject experts and colleagues.

Construction of Questionnaire
The researcher has spent much of his time for the construction of the questionnaire. The investigator frequently consulted the experienced researchers and faculty members in the field of commerce for constructing the questionnaire.

The problems were put in the form of statements in simple language and the same has been scrutinized by the subject experts. Only those statements, which were very much useful and relevant to the study, were retained and then the questionnaire was finalized.

**Statistical Tool**

After the completion of the data collection, the filled in questionnaires were edited properly to make them for coding. After coding, the data were fed into computer and database was created. A few statistical tools have been used to analyse the collected data to enable a meaningful interpretation of the results. For the analysis of data the questions were coded and entered in the Statistical Package for Social Sciences (SPSS) for further statistical treatment of the data. The following statistical tools have been used for analyzing the data.

1. Simple percentage score.
2. Scoring Techniques and Ranking.
3. Chi-square Test.
4. Diagram and Graphs.

Explanations to some of the statistical techniques applied to the data of the present study are presented here.

Cross-tabulation (contingency, cross-tabulation, or cross-tab tables) is a combination of two (or more) frequency tables arranged such that each cell in the resulting table represents a unique
combination of specific values of cross-tabulated variables. Thus, cross-tabulation allows us to examine
the frequencies of observations that belong to the specific categories of more than one variable.

The scoring technique was adopted to measure the problems of production and processing by
devising utilisation scale.

Chi-square is a statistical test commonly used to compare the observed data with data one
would expect to obtain according to a specific hypothesis. For example, according to Mendel's law, the
expected 10 of 20 offspring from a cross to be male and the actual observed number is 8 males. Then
one wants to know about the "goodness to fit" between the observed and the expected. The
investigator must conclude that something other than chance is at work, causing the observed to differ
from the expected. That is, chi-square is the sum of the squared difference between the observed \(o\)
and the expected \(e\) data (or the deviation, \(d\)), divided by the expected data in all possible categories.

\[
\text{Chi-square test } (\chi^2) = \sum \frac{(O-E)^2}{E}
\]

Degree of freedom \(= (R-1)(C-1)\)

Whereas, \(O\) = observed frequency

\(E\) = expected frequency

\(R\) = number of rows

\(C\) = number of columns
1.8 CHAPTER SCHEME

This present study consists of six chapters. They are listed below:

- The Introduction and Design of the study is given in the first chapter Statement of Problem, Objectives, Method used for the study, Statistical techniques used are included in this chapter.

- The second chapter is devoted for “Forestry Resources for Timber Products”-It explains Forestry resources in the world, Forestry resources in India, Forestry resources in Tamilnadu and Forestry resources in Dindigul.

- “Profile of Timber Traders in Dindigul District”- an analysis of socio economic factors are given in the third chapter.

- The fourth chapter is devoted for “Production and Marketing of Timber Products”- an analysis of sources of purchase, processing, type of sales, mode of sales, channels of distribution, marketing problem, constraints in growth of timber trade, suggestions to eliminate problem.

- “Satisfaction of Employees working in Timber Trade”- an analysis of job satisfaction and attitude of timber trade employees is given in the fifth chapter

- The Findings, Suggestions and Recommendations are given in the sixth and concluding chapter.