

Railways and Deforestation in Tamil Nadu

1853-1947

Introduction

It is widely recognized that Railways were one of the most important device for economic growth in the 19th and 20th century. Efficient transport is the important component for economic development. Until the advent of the Britishers in India, there was no remarkable change in the structure of the Indian administrative system. Instead of bringing changes, the foreign rulers (including muslims) adopted the then existing administrative system. All these days, India has maintained the traditional system in an established order with little scope for change.¹ Pre-British India was characterised by features like rural life, inhabited by caste rigidity, traditional occupations and constrained economic life. In spite of the above said factors the villages had their self-sufficiency. Naturally there was no scope for the development of means of transport and communication except only on certain occasions like marriage, pilgrimage, etc. India was not able to develop a large scale unified economic, social and cultural life among the Indians, due to lack of an effective means of transport.²

The rapid industrialisation and introduction of factory systems in Europe forced the Britishers to find a market for their finished goods. They wanted to get an un-interrupted supply of raw materials for their

¹ *It does not mean that there was no change in the periphery but that was gradual and even for that matter attempted efforts were got settled within the frame work of the original.*

² A.R.Desai, *Social background of Indian Nationalism*, Popular Prakashna Pvt. Ltd., Bombay, 1984, pp.13-14.

factories. The Britishers were the pioneers in introducing the Railway project in India. The importance of Railways has been realised during the middle of the 19th century. According to Saligman, an Economist, A country aims on a threefold programmes such as transport of men and materials , transmission of power and communication of ideas. Railway transport system fulfilled all these three programmes and occupied a predominant role in the economic development of India Moreover, Railways were also successful in eliminating the problems faced by the existing transport system like roadways and waterways. Within a short period, the Britishers, were successful in introducing the Railway system in India. Their main aim was to exploit the natural resources of India and consolidate their British Empire. The introduction of Railways in India, has also helped to improve the Economic development and it also paved a way to the new education system.³

As one of the protected monopolies, the Railways sponsored by the British was mostly to provide scope for the fruitful investment of their capital in India. But due to socio-economic problems namely poverty, inequality, illiteracy etc., the Indians were made to suffer heavily in the hands of Imperial British.

Railways mean a line of track that provides a runway for wheels. The line which in turn works as the commercial organization responsible for operating a system of transportation for trains that pull passengers or freight.⁴

³ S. Chandrasekar, *Dimensions of Socio-political change in Mysore, 1918-1940*, APH Publishing, New Delhi, 1985, p.16.

⁴ <https://en.wikipedia.org>, the free encyclopedia

The Railways plays a vital role in influencing the socio- economic and political conditions of a country. It was due to the development of the Railways, modernism gained momentum. The development of the Railways is one of the greatest landmarks in the progress of modern times. From the beginning of the nineteenth century, Railways provided an impetus that helped greatly to realize the importance of the Industrial Revolution in the form of reliable low cost and high volume system of land transportation. The importance of the Railways gradually revolutionised in the transport technology in several parts of the world, and brought drastic changes in the socio - economic and political aspects of the world. England was the first nation in the world to launch an effective Railway system.

The first Railways were on tracks with wooden wagons pulled by horses. In 1820 the first steam Railways were opened, which helped people and goods to travel speeds. This new form of transport spread rapidly across the world. The first passenger Railway line in the world was inaugurated in September 1825 in Great Britain. The success of the Liverpool - Manchester line in 1830 gave rise to a number of projects in U.K. and in the continents of Europe and North America.⁵

The result gained in Europe by introduction of Railways made the Britishers to introduce the same in a colony like India to sub serve their colonised interests. The idea of introducing Railways in India was started in 1832, keeping in mind the deliberations made by the private companies at London. During the 19th century Industrialisation and technological advancement in Great Britain, made their impact on Indian economy. In 1840 the British Mercantile houses instructed the East Indian Company

⁵ B.k. Bawa salar Jang and Nizam's *State Railway* 1860-1883. *The Indian economic and social history review*, Government of Madras, Madras, Vol.II,No-4, October, 1965, p.308.

to take up the Construction of Railways in India. The main reason was due to cotton famine and less supply of cotton from the southern states of America, therefore the cotton magnates of Lancashire and Manchester pleaded for the construction of Railways in India. A note was sent to the Governor General of India, calling Stephenson's attention to the question on 17th May, 1845. Thus the first official recognition of the desirability of Railways for India was formed.⁶

In 1846 Lord Hardinge, the Governor General of India recommended that the East Indian Railway Company can give land and a guarantee upon its capital for laying down a Railway line from Calcutta to the upper Ganges plains.⁷ However the credit goes to the Great Indian Peninsular Railway Company which opened the first Railway line in India from Bombay to Thane.

An expert committee was appointed by the Board of trade to investigate the growth of cotton in India in response to the appeal made by the mercantile houses. The Committee reported that inspite of sufficient growth and tremendous potentiality of immense expansion of cotton cultivation in the Bombay zone, transportation to the port was a difficult one.⁸ Hence in 1850, the Home Government stressed the need for improving the means of transport and it also instructed the East Indian Company to take necessary steps to improve the transport system. The British East India Company did not respond properly because they felt that the Railway projects in India would be a failure one.⁹ Hobson felt

⁶ Edward Davidson, *The Railways of India, with an account of raise, progress and construction*, Jamford Street: W.Clowes and Sons, London 1868, p.37.

⁷ L.H. Jenks, *Migration of British capital to 1875*, Oxford University Press, London, 1936 p.210.

⁸ L.H. Jenks, *Migration of British capital to 1875*, Oxford University Press, London, 1936, p.211.

⁹ Bipan Chandra *Rise and Growth of Economic Nationalism in India*, Anamika Publishers & Distributors, New Delhi, 1975, p.172.

that, “Due to the poverty of the people in India, limited land etc., Railway construction was considered too risky for unaided private enterprise”.¹⁰

F.W.Simms, was the chief engineer appointed by the court of directors to oversee the matter of construction of Railways in India. They reported positively that is, “Rail road’s are not inapplicable to the recalibration and the circumstances of India, but with proper attention, Railways can be constructed and maintained as perfectly as in any part of Europe”.¹¹

Lord Dalhousie who had acquired experience as the president of the Board of Trade in Railway Administration supported the Railways in India. Further Lord Dalhousie emphasised the need for a great trunk line. Lord Dalhousie, in his famous minute on Railways laid down the broad directions for the construction, management and finance of Railways. Three main trunk routes were proposed, the first one ran from Calcutta to Delhi and the North-West frontier. The other two lines were from Bombay to Delhi and from Madras to West Coast.¹² Lord Dalhousie also introduced the subsidy system known as “the guarantee”.

The ‘Guarantee’ Means Undertaking for the fulfilment of a promise or condition. Lord Dalhousie’s famous Railway minute (on 20th April 1853) was the text book for the future Railway projects in India. It laid down the broad directions in which the construction, management and finance of Railway was to be undertaken. On the basis of the above minutes, eight English companies came forward to construct condition

¹⁰ A.K.Banerjee, *Aspects & Indo-Birth Economic Relations*, 1858-1898, Oxford University Press, Bombay, 1982, p.50.

¹¹ M.N. Dass, *Studies in the Economic and Social Development of Modern India*, 1848-56, Mukhopadhyay Publication, Calcutta, 1959, p. 36.

¹² N.Sanyal, *Development of Indian Railways*, Oxford University Press, Calcutta, 1930), p.60

with the Government which later was known as the old Guarantee Systems.¹³

The Old Guarantee System (1849-1869)

The first stage of Railway development in India was under the guarantee system.¹⁴ The earliest contracts with the guaranteed companies were those between the Secretary of State for India and the East Indian and the Great Indian Peninsula Railway Companies dated August 1849. These two companies were the earliest and the most important among the old guaranteed companies.¹⁵ In 1869, eleven companies were incorporated in England for constructing and managing Railways in different parts of India. The main features of the contracts in these companies were, free grant of land, a guaranteed rate of interest ranging from 4.5 to 5 percent according to the market rates prevailing.¹⁶ Half of the surplus profits earned by the companies was utilized to repay the Government so that they might have the guarantee of interest. Reservation of certain powers in supervision and control was held by the Government in all matters of importance except the choice of staff. An option was given to the Government to purchase the lines after 25 or 50 years. The essence of the contracts was that the shareholders were relieved from all risk and given some expectation of profit over and above the guaranteed interest, while the full powers of supervision and the ultimate right of purchase were retained by the Government.¹⁷ In 1858 Lord Canning opposed the guarantee system and suggested strict control over the finances of the company.¹⁸ William. N. Massey, the Finance Minister of India who served under two viceroys - Lord

¹³ S.Ramasamy, *Transport in India*, Madras Presidency, Madras, 1957, P.89.

¹⁴ B.L.Grover, *A New Look at Modern Indian History*, S.Chand & Company Ltd, New Delhi, 2003, p.235.

¹⁵ Ramswarup D.Tiwri, *Railways in Modern India*, New Book Company, Bombay, 1941, p.47.

¹⁶ Edward Davidson, *Railways of India*, W.Clows & Son's Company, New Delhi, 1968, pp.118-125.

¹⁷ S.S.M.Desai, *Economic History of India*, Himalaya Publishing House, Bombay,1980, p-156.

¹⁸ Nalinaksha Sanya, *Development of Indian Railways*, University of Calcutta,1930, p.63.

Lawrence and Lord Mayo - also exposed the hollowness of the guarantee system.

The defects of the guarantee system was soon realized. Lord Canning in 1858 realised the carelessness of the companies in the management of capital and objected the working of the guarantee system. J.P.Grant, president of the Council objected radically the principle of guarantee, and condemned the system as being involved with a great evil or 'double management'.¹⁹ Members like Hon'ble S.Laing, Sr.W.Devision and other recorded similar opinion and concluded that "the sphere of influence of the companies should be curtailed because they are apt to be comparatively inefficient, in convenient and even politically dangerous to take the Government due to cotter's responsibility for interest".²⁰ The Introduction of Railway system brought significant changes in the social front. The Railway system brought together people belonging to various castes, sub-castes and classes etc., it provided ample opportunities for better interaction, understanding and it also suggested a better way of life.²¹

For instance the commencement of 'steam horse' in India increased the movement of people from one place to another. It also brought about a drastic change in people's life, especially in their habits. The changes were very subtly and conveniently boasted as an all round

¹⁹ N.Sanyal, n.15. 1p.64-65

²⁰ R.D.Tiwari, *Railways in modern India*, Anmol Publications, Bombay, 1941, p.58

²¹ Some persons like Edward Davidson, Horace Bell, Johnson and others defended the authorities saying that Railways brought New civilization of India. Edward Davidson observed India the past has been like a man asleep. India of the present is the same man awake. The powers, the intelligence, the vigours, the health are alike in either state, but in the one case they are suspended and useless for the time in the other the whole energies of the man are available and in active operation for good for himself and others. (Edward Davidson) n.6.P.8.

development by its promoters. Although in reality the actual benefits in terms of wealth were the Britishers.²²

At present, trains are the very efficient method of transport - they use less fuel and produce less pollution than cars and trucks, and carry much larger cargos. People have a great belief about the train since it is the best mode of transport.²³

In India, the traders from England encouraged The East India Company to begin the Railway system for commercial purpose. On 16th April 1853 the first historic Railway line train service was started from Bombay to Thane.²⁴

The introduction of the Railways was slow and steady and later it started to expand in different regions of the country. Apart from trade and commerce purpose, it has greatly influenced the national outlook in terms of unity, integrity and fraternity. Railways played a significant part in the nation's struggle for independence. Today the Indian Railway system is the largest Transport system in Asia. It stands fourth in the world next to the U.S.A., U.S.S.R. and Canada.²⁵

For administrative purpose, the Indian Railways were classified into nine zonal administrative units - Southern Railway (Head – quarters, Madras), Western Railway (Bombay) Central Railway (Bombay); Northern Railway (Delhi); Eastern Railway (Calcutta); South – Eastern Railway (Calcutta); North –Eastern Railway (Gorakhpur), North –East Frontier Railway (Maligaon – Guwahati) and South Central Railway (Secunderabad). The Indian Railways carry nearly three-fourth of the

²² S.R.Mehrota, *Towards India's freedom and partition*, Pupa & Co, New Delhi, 1979, p.6

²³ *Illustrated Family Encyclopedia, Trains and Railway*, p.842.

²⁴ K.Srinivasan(ed) , *South Rail News*, Annual Publication, Madras, 1961,p.5.

²⁵ J.N.Sahni, *Indian Railways One Hundred Years 1853 to 1953*, Ministry of Railways, Government of India press, New Delhi, 1953,p.6

country's passenger traffic and four-fifths of freight.²⁶ Today Railways constitute one of the most important means of transport in the lives of the Indians.²⁷

CONCEPT OF THE RAILWAYS AND DEFORESTATION

Though the introduction of Railways in India is a great achievement in our Indian History. It has helped the development of communication and economy but it has led to Deforestation. Deforestation, the removal of a forest or a stand of trees, where the land is converted to a non-forest area.²⁸ Deforestation made the Railways to expand its transport opportunities. According to Merriam Webster “The actual terminology of deforestation was first used in 1874”.

After 1870, the articulation of desiccationist discourse became forceful, well as a direct consequence of the massive requirements for wood in the Railway network. Railway consumed forest resources in two ways. Superior Quality wood was used for sleepers and inferior quality as engine fuel. The expansion of the Indian Railway and deforestation went hand in hand.

The word forest is derived from the latin word ‘Foris’ meaning outside the reference apparently being to a village boundary or fence. Thus a forest must have included all the uncultivated and uninhabited land. Today a forest is any land margined for the diverse purpose of

²⁶. S. Muthiah, *A Social and Economic Atlas of India*, T.T Maps & Publications, New Delhi, 1987, p 1174.

²¹. Indian Railways carry over nine million passengers a day (1984-85) and employ 1.59 million men and women to run and maintain 10128 locomotives (steam, diesel, and electric multiple unit coaches and rail cars) and 396550 wagons (including over 30, tank wagons). Eleven thousand trains are scheduled daily to 7093 stations and almost one million tonnes of freight are transported per day.

²⁸ *SAFe.net Dictionary [Definition for [regeneration_cut(ting)]. Dictionary of forestry.org* (2008-08-14). Retrieved on 2011-05-15.

forestry, whether or not covered with trees, shrubs, climbers or such other vegetation.

Technically the term forest is defined as an area set aside or maintained for the purpose of vegetation for any indirect benefits, namely climatic protective or environmental and or for production of wood and non-wood products. In the legal sense a forest can be defined as an area of land notified to be a forest under a forest law.²⁹The forest administration is the organization charged with the implementation of the national forest policy through the application of the forest law. In principle, the object of all administration is to apply specific legislation and to that extent the forest administration has the number of features in common with all other state administration and services, including the single director and a sufficiently stable staff. "Forestry concerns itself with the theory and practice of raising trees and shrubs and constitutes their creation, conservation and scientific management and the utilization of the resulting resources".

Forests are the striking features of the land surface. The forests of a country are the natural set of great value. Unlike mineral resources are renewable and can be kept perpetually protected productive and useful under proper management. Forest represents the largest most complex and most self-generating of all systems. They cover about one third of the land area of the world and constitute one half of the total biomass forests have a direct and beneficial influence on all parts of the biosphere as a result of their heat absorption capacity and conductivity care dynamic roughness and influence on the water cycle. They act as buffer zones between man-made ecosystems and represent of the worlds photosynthetic fixation of carbon from the atmospheres with the

²⁹ Agarwala, V.P., *Forest in India*, Oxford University Press, New Delhi 1985, p.1.

concurrent release of oxygen.³⁰ In the Upanishad there is a sloka about a tree which is translated into English as,

‘Ten wells are equal to one tank
Ten tanks are equal to one lake
Ten lakes are equal to one son and
Ten sons are equal to one tree.’³¹

So, there cannot be a more vital subject in this century in discussing the development of forests throughout the country on the minimum requirement of 33% as against the present level of about 20%.

Our forests can serve only if the forestry is used towards the goals of national development and long term ecological welfare as well as that of the communities which live nearby, that has new in rights and a sense of urgency combined with responsibilities infused in our forestry policy and education. Ecological conservation can become a reality when the people’s needs for fuel and employment are is more than enough met. As the frontiers of forestry were enlarging forests must come out of their self-imposed boundaries of reserve forests and think of Social forestry and other techniques involving the community itself.³² The development of a nation largely depends on the forests i.e., the natural resource of mankind.³³

In the ancient period a forest is a trace for a land whether tree covered or not it was, preserved for the hunting of wild beasts by the

³⁰. **Madras information Report**, Madras Presidency, Madras, March-April 1959, p.2.

³¹. **Forest and Environment Seminar, Karnataka forest department**, Bangalore, 2/3-12-98, p.97.

³². **The Indian forester** (Dehradun, January 1982) P.1. (Extracts from the speech delivered by prime minister smt. Indira Gandhi on the centenary forest Research Institute and college, Dehradun on 19.12.81).

³³. Tawari, D.N. **State Trading in forest in India**, Government of India, New Delhi, 1982, p.1.

king. In the legal sense a forest can be defined as “an area of land notified to be a forest under a forest law”.³⁴

The importance of preparing forest plans on scientific basis was recognized in 1855, by Lord Dalhousie. He issued a memorandum of the Government of India out leasing the policy for forest conservancy for the whole country. Owing to the sepoy mutiny, the progress was delayed and extension of the policy was postponed.³⁵ The earliest forest administration in India was carried out under the executive rules, but legislation soon followed the establishment of a regular forest department. In 1865 the first forest Act VII was passed. It extended to the whole of British India except the southern presidencies and Bombay which remained without a forest law until 1878 and Madras until 1882.³⁶

“The forest is as beautiful as it is useful perhaps on done so much for the human race and has been recklessly used and so little understood.” says Pinchot (1809). In the words of Mahatma Gandhiji “Nature has provided all for the man’s needs but not for his greed’s”. According to Robert Frost,

“The woods are lovely dark and deep
But I have promises to keep
And miles to go before I sleep,
And miles to go before I sleep”

³⁴. *Chamer’s Encylopeadia*, Oxford University Press, Vol.5. London, 1973, p.764.

³⁵. *British Empire Forestry Conference*, Society of American Yosesters, London, 1920, p.11.

³⁶. *British Empire Forestry Conference*, Op., cit., p.12.

FOREST AREAS IN MADRAS PRESIDENCY

It is estimated that the forest cover a total area of the mountain region of the Madras Presidency is more than 10,000 square miles. The whole of this area rules conservation rules is greater or less stickiness have for a long time been in force, though there was no special legislative sanction. In supplying fuel to the Railways a total area of some 1,50,000 across the Government waste have been placed under strict Conservancy.³⁷

AIMS AND OBJECTIVES

The present study aims in analysing the Railways and Deforestation in Tamil Nadu during the period 1853 to 1947. The specific objective of the study is to study the origin of the Indian Railways.

The other objectives are to study how the introduction of the Railway Department came into existence in India, and to point out the efforts taken by the British Indian Government to construct Railway lines throughout India up to 1947; to study the various Central Government Policies regarding formation of Railways in India; to highlight the role of forest wood used as fuel in rail engines; to bring out the devastation caused by deforestation of forest in Tamil Nadu and its Ecological effects and to point out the need of deforestation and the development of Railways in British India and to Independent India.

HYPOTHESIS

To realise the above objectives, the following hypothesis have been framed. The present work provides a broad overview of the salient

³⁷. *Mclean, Manual of the Administration of the Madras Presidency*, Madras, p.13.

aspects of the origin of the Railways that was operated in the year 1853 in India; the contribution made by the East India Company for the promotion of Railways has been a notable one. Development of Railway transport in Tamil Nadu is a milestone in the economic development of Tamil Nadu; deforestation helped the railways to grow indirectly; Forest wood has been used as fuel for Railway engine in Tamil Nadu.

REVIEW OF LITERATURE

Research work in “Railways and Deforestation” in Tamil Nadu (1853-1947) are not many, and most of the books are of general nature. However the following are some of the works which bears the subject of the present research.

Railways Policy India by **Horance Bell** published in London 1894 provides a detailed railway rates policy.

Indian Railways- line hundred years 1853-1953 by **T. N. Sachain** covers the progress of Indian Railways and various measures taken to improve the Railway administration in detail.

Road- Rail Transport by **S.R.N. Badri Rao** published in Annamalai University Press, 1941, has focused on the History of Railways in the world. It narrates in detail about the railway age of various countries like France, United States, Russia, Italy, Germany and India.

Economic History of India by **S.S.M. Desai** and **Nirmal Bhaterao** published in Bombay in 1996 has identified a detailed sketch of the South Indian Railway system. They brought to light some of the important Railway main line with branches in Tamil Nadu.

Forests and gardens of South India by **H. Cleghorn** published in London, 1861, provides detailed information about the forests of South India; especially in Tamil Nadu.

Manual of Forestry by **W. M. Schlich**, published in London 1906, gives a detailed account of the importance of forests and its uses.

METHODOLOGY AND SOURCES

The methodology adopted in the study is historical, analytical, exploratory and descriptive in a chronological context. The study makes use of both the primary as well as secondary data. The source materials for the study are mostly primary records found in the Tamil Nadu Archives; primary source materials like District Gazetteers, census Reports, Government Orders of Railway department, Railway department Bulletin, Report of the Committee on Railways, Railways Annual Report, Administrative Report, Assembly Debates and Madras Information etc.

Secondary data are collected from the published books and articles. In addition to these various newspapers, magazines, journals and souvenirs has been tapped to build up the study. Besides these, a number of journals and periodicals such as Indian Railways Magazine, The Madras forest Collage Magazine, Forest News journal Rail Bandhu , The Rail Traveller's Magazine Indian Railways, The Indian Forester, Journal of Road Transport, Green Hope, Guide to Indian Periodical Literature, Gender Forest and Livelihood and Transport and communication etc., are used for my study.

Data collection was aided by various libraries such as Connemara Public Library, Tamil Nadu Archives Library, University of Madras Library, Rajiv Gandhi Library, Deva Neya Pavaner Library, Anna

Century Library, Madras Railway Library, Madras Institute of Development Studies Library, Forest Department Library, Anna Zoological park Forest Library, Ethiraj college Library and Anna Arivalayam Library etc.

This thesis contains both qualitative and quantitative data.

AREA AND SCOPE OF THE STUDY

Madras Presidency formed the whole of Tamil Nadu and Andhra Pradesh and parts of Odhisa, Kerala and Karnataka. The present Madras Presidency occupies the southern portion of the peninsula from latitude $20^{\circ} 18'$ on the eastern coast and latitude 14° on the western coast to Cape Comorin in latitude $8^{\circ} 4'$ the longitude ranges from $74^{\circ} 9'$ to $85^{\circ} 15'$. The extreme linear length of the Presidency, from north-east to south-west, is about 950 miles, its extreme linear breath is about 450 miles.³⁸ The Madras Presidency gives a boundary successively North is Nizam's dominions . East is Malabar, West coast line on the Bay of Bangal, South is Travancore State and the Island of Ceylon was a part of the Madras Presidency from 1773 to 1798 when it was created a crown colony. The Madras Presidency had its winter capital at Madras and summer capital at Ootacamund.³⁹

It is almost one hundred and sixty two years since the first Railway line from Bombay to Thane was constructed and the first train in India, in fact in Asia itself was flagged off on April 16, 1853. Since then there has been no looking back for the Railways.

³⁸ C.D.Maclean's *Manual of the Administration of the Madras Presidency* , Asian Educational Services, New Delhi, 1987, p.1.

³⁹ C.D.Maclean's, Op. cit., pp.2-4.

The period of the study is limited to 94 years, starting from 1853 when the first Railway line was started and ends in 1947 when India got its independence.

CHAPTERISATION:

This Thesis has been divided into six chapters. The first part of the study is the *Introduction* in which the area, objectives, hypothesis, scope, sources, methodology, limitations, and importance of the study is highlighted.

The **First Chapter** throws light on the “**Formation of Railways in India**”. Hundred Years ago on the 16th April 1853, the first Railway ran over a stretch of 21 miles from Bombay to Thane. This event made a History. The idea of connecting Bombay with Thane, Kalyan with the Thal and Bore Ghats inclines first occurred to Mr. George Clark, the chief Engineer of the Bombay Government, during a visit to Bhandup in 1843. A meeting for prominent citizens was later held at Bombay on 13th July 1844, According to Sir Erskine Perry, the Chief Justice. ‘to consider the advisability of having a Railway to be named the Bombay Great Eastern Railway, constructed from Bombay to Thal Ghats and Bore ghats via Salsette, in accordance with Mr. Clark’s scheme’.⁴⁰

The Formal inauguration ceremony was performed on 16th April 1853, when 14 Railway carriages carrying about 400 guests left Bori Bunder at 3.30pm ‘amidst the loud applause of a vast multitude and to the salute of 21 guns’. The Governor’s band was present, but not His Excellency, the Governor, According to the Bombay Times, The

⁴⁰ J.N.Sahni, *Indian Railways one hundred years 1853 to 1953, Ministry of Railways*, Railway Board, Government of India, 1953, p.2.

Government, Lord Falkland and the Commander-in-Chief, Lord Frederick Fitz Clarence, with their respective attendants accompanied by the Bishop, the Reverend John Hardinge, left for the hills the previous evening, in disregard of the memorable occasion. The day further reports the paper was observed as a public holiday by all Government offices and banks.⁴¹

The party reached Thane at About 4.45 pm where refreshments were served in tents and Major Swanson wished success to the new Company and its Chief Engineer, Mr. Berkeley. The guests returned to Bombay at 7 pm on 17th April 1853. The next day Sir Jamsetjee Jeejeebhoy, second Baronet, reserved the whole train, and travelled from Bombay to Thane and back, along with some of the members of his family. Promoters like R.M. Stephenson, J. Chapman and W.P. Andrews were the Railway enthusiasts who were keen on seeing the spread of Railways. Their consistent efforts with the support of the merchants, succeeded in the establishment of private Railway Companies, like the East Indian Railway Company, the Great Indian Peninsula Railway Company, the Madras Railway Company and the Bombay-Baroda and Central India Railway Company.⁴²

The **Second Chapter** analyses the “**Railways in Madras Presidency**”. The 1853 Act related to the affairs of the newly formed Madras Railway Company. By 1854, the Madras Railway Company had embarked upon the construction phase of the "experimental line", at an estimated cost of £0.5 million (later revised to £1 million). The Railway company had already agreed with the East India Company in August 1853 that the "experimental line" should be extended in the direction of

⁴¹ Op.cit., p.3.

⁴² Aruna Awasthi, *History and Development of Railways in India*, Deep & Deep Publication, New Delhi, 1994, pp.39-45.

the west coast of India via Vellore, Vanaimbady, Salem and Coimbatore, with branch lines running to Bangalore and to the foothills near Ootacamund (now Udhagamandalam). The East India Company had proposed the construction of "some Railway or Railways from the city of Madras or elsewhere in the East Indies".

The **Third Chapter** examines the scope for more **“Railway Network in Tamil Nadu”**. In 1854 Lord Dalhousie, the then Governor-General of India, formulated a plan to construct a network of trunk lines connecting the principal regions of India. Encouraged by the Government guarantees, investment flowed in and a series of new rail companies were established, leading to rapid expansion of the rail system in India. Soon various native states built their own rail systems and the network spread to the regions that became the modern-day states of Assam, Rajasthan and Andhra Pradesh. The route mileage of this network increased from 1,349 kilometres (838 miles) in 1860 to 25,495 kilometres (15,842 miles) in 1880 – mostly radiating inland from the three major port cities of Mumbai, Madras, and Calcutta. Most of the Railway construction was done by Indian companies. The Railway line from Lahore to Delhi was done by B.S.D. Bedi and Sons (Baba Shib Dayal Bedi), this included the construction of the Jamuna Bridge

In 1900, the GIPR became a Government owned company. The network spread to modern day states of Assam, Rajasthan and Andhra Pradesh and soon various independent kingdoms began to have their own rail systems. In 1901, an early Railway Board was constituted, but the powers were formally invested under Lord Curzon. It served under the Department of Commerce and Industry and had a Government Railway official serving as chairman. For the first time in its history, the Railways began to make a profit.

In 1907 almost all the rail companies were taken over by the Government. In 1908 the first electric locomotive made its appearance. With the outbreak of the First World War, the Railways were used to meet the needs of the British outside India. With the end of the first world war, the state Railways were disrepairable and thus collapsed.

In 1920, with the network having expanded to 61,220 Kilometre, a need for central management was mooted by Sir William Acworth. Based on the East India Railway Committee chaired by Acworth, the Government had taken over the management of the Railways and detached the finances of the Railways from other Governmental revenues.

The period between 1920 to 1929 was a period of economic deterioration. Following the Great Depression, economically the company suffered. The Second World War severely crippled the Railways. Trains were diverted to the Middle East and the Railways workshops were converted to mountain workshops. By 1946, all rail systems were taken over by the Central Government.

The **Fourth Chapter** provides a graphic view of improvements of **“Railways in Forest Areas in Tamil Nadu”**. Since time immemorial, man has depended mainly on forests for food, medicine, shelter, fuel and wood. Covering the earth like a green blanket, these forests not only produce innumerable material goods, but also provide several environmental services which are essential for life. But it is a matter of concern that almost everywhere the cover of the natural forests have declined over the years.

The **Fifth Chapter** throws light on the “**Railways and deforestation in Tamil Nadu**”. As per FAO (Forest Administration Officer) estimates, the deforestation rate per unit population in India is the lowest amongst the major tropical countries. However, we are still far behind the target of achieving 33% of forest area. As per our National Forest Policy, we have only 19.27% of our land area (63.38m.ha) covered with forests. (Based on satellite data, MoEF, 1998)

The **Sixth Chapter** narrates the use of “**Forest Wood as fuel of Railway Engine**”. The present consumption of firewood by the South Indian Railway is insignificant. During 1881 it amounted to only 4,453 tons, which was chiefly supplied from the hills between Trichinopoly and Madura. It was paid for the Railway at the rate of Rs. 4-8-0 per ton. The British Indian Government decided to deforest and establish Railway lines through the forest for the welfare of the people. First to establish an equitable and reasonable correspondence between the resources of nature and the present demands of the inhabitants of the country and will include not only the supply to the people of timber fuel, charcoal, and tree produce to the people. The importance of a vital step in the forest conservancy, in providing not only for the felling and extraction of timber but also for the protection and reproduction of the forest growth had become apparent, and an officer, Cleghorn was appointed in 1850, as Conservator of forests in the Madras Presidency.

Conclusion is the last part of the study in which the major findings of the study are enumerated and the arguments based on the research title **Railways and deforestation in Tamil Nadu (1853-1947)** dealt with explicitly and with detailed examples.

By 1947, the year of India's independence, there were forty-two rail systems. In 1951 the systems were nationalized as one unit, becoming one of the largest networks in the world. IR operates both long distance and suburban rail systems on a multi-gauge network of broad, meter and narrow gauges. Indian Railways is divided into zones, which are further sub-divided into divisions. The number of zones in Indian Railways increased from six to eight in 1951, nine in 1952, and finally 17 in 2010. Each zonal railway is made up of a certain number of divisions, each having a divisional headquarters. There are a total of sixty-seven divisions. Tamil Nadu, a state in South India, has a highly developed, dense, and modern transportation infrastructure, encompassing both public and private transport. Its capital city, Chennai is well-connected by land, sea, and air and serves as a major hub for entry into South India. Tamil Nadu has an extensive road network. The state road network covers about 153 km per 100 km² area, which is higher than the country's average road network coverage of 103 km per 100 km² area. A separate Highways Department