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British Indian Railways: The Economic Wheel of Colonization and Imperialism

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Abstract
The British Crown ruled in Sub-Continent for over two centuries, this was the era of darkness, slavery, the plundering of Indian resources, and ruthless economics & political policies. Indian land remained a consumer society and the producer of raw materials for the British Empire from the eighteen to the twentieth century, whereas, the vast and modern network of railways in India is considered to be Britain's greatest gift to the Indians. Undoubtedly, these railways have been an important means of transportation in India, but the British Colonizers did not build this system of railways in the public interest rather it was laid to serve the colonial interest. This research article identifies Britain's strategic and economic interests in building railways in India. Construction of railways in India began in 1850 and European companies had been awarded contracts to build railway tracks, in return for the contracts, the companies were guaranteed five percent investment security. The companies were also given access to free land for 99 years and millions of pounds in fines were paid to the companies from the Indian exchequer for non-payment of guaranteed income. The main purpose of building the railway was to speed up the export of cotton, jute, iron, minerals, etc. from India to European countries, while from a strategic point of view, military equipment and supplies were also transferred by rail to military bases across India. This research paper explores how the railway track was built keeping in view the importance of military barracks. Under the British colonial policy, European companies invested heavily in the railways, but during 200 years of British rule, India's industrial growth rate fell from 3% to 10%. All the agreements made by the British colonizers with the railway companies were unilateral. The agreements provided financial benefits from the Indian treasury to companies. This research also reveals that India's railway network was built by the government through private companies, which included European capitalists and retired officers of the colonial army, who were having control over the London-based secretary of state of India. These companies were so powerful, that whenever the Government of India complained of a breach of contract and tried to end it, it was the Secretary of the state who rejected the decisions of the Governor-General of India. On the other hand, the expense for the construction of railways was £15000 more per mile than it was in the United States and Europe.
Keywords: Indian Railways, British Imperialism, British Colonial Policy, Plundering

1. Introduction
Postcolonial theory is an intellectual framework that emerged in the latter half of the 20th century as a response to the legacies of colonialism. It seeks to understand and critique the social, cultural, and political effects of colonial domination on colonized societies, as well as the ongoing power dynamics between the colonizer and the colonized.
Postcolonial theory draws from a diverse range of scholars and thinkers who have examined the impacts of colonialism and the struggles for decolonization. Edward Said's influential work, "Orientalism," explores how Western knowledge production about the East perpetuated stereotypes and power imbalances (Said 1978). Said argues that colonial powers used knowledge as a tool to justify and maintain their dominance over colonized peoples.
Another important figure in postcolonial theory is Gayatri Chakravorty Spivak, who coined the term "subaltern" to refer to the marginalized and silenced groups within society. In her essay "Can the Subaltern Speak?" Spivak discusses the challenges faced by subaltern groups in articulating their own experiences and voices within dominant power structures. (Spivak 1988)
Postcolonial theorists also draw inspiration from Antonio Gramsci's concept of the subaltern. Gramsci explored the power dynamics within society and highlighted the ways in which dominant groups exerted control over marginalized groups (Kincaid 1988). Scholars like Homi Bhabha have expanded upon Gramsci's ideas, focusing on the hybridity of cultural identities and the negotiation of power in colonial and postcolonial contexts (Bhabha 1994).
Postcolonial theory has influenced a wide range of disciplines, including literature, history, anthropology, sociology, cultural studies, and political science. In literature, scholars like Chinua Achebe, Frantz Fanon, and Jamaica Kincaid have examined the impacts of colonialism on individual and collective identities. (Fanon 1961) In history, scholars like Dipesh Chakrabarty and Partha Chatterjee have explored the ways in which colonialism shaped historical narratives and the construction of national identities. (Chatterjee 1993)
Postcolonial theory has also been applied to contemporary issues, such as globalization, migration, and ongoing struggles for decolonization. Scholars like bell hooks and bellahouston.com have extended postcolonial theories to address intersectionality, gender, and the experiences of marginalized communities (Achebe 1958).
In conclusive, postcolonial theory is a multidisciplinary framework that critically examines the impacts of colonialism and the ongoing power dynamics between the colonizer and the colonized (Chakrabarty 2000). Drawing from scholars such as Edward Said, Gayatri Chakravorty Spivak, and Antonio Gramsci, postcolonial theory challenges Eurocentric perspectives, highlights the agency of the colonized, and aims to decenter dominant narratives in order to understand the complex legacies of colonialism in historical and contemporary contexts (Hooks 1990).

2. British Raj in India
The history of the sub-continent spanning over a millennium, from 1001 BC onwards, has been marked by significant political changes and dynastic rule. Mehmood Ghazanvi, followed by the Lodhi, Tuglug, and Mughal dynasties, established their reigns in India. These rulers considered India their homeland, and the economic resources generated by India were invested in the land itself. They lived, died, and were buried in India. However, the downfall of the Mughal Empire marked the beginning of a dark era of subjugation under British colonial rule. (Roy 2006).

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The British Raj implemented a colonial policy based on the philosophy of "Divide and Rule," which ultimately led to the partition of the land that had a rich civilization spanning over five thousand years. The British rulers were not only foreign invaders but remained in India for two centuries, exploiting its resources, economically exploiting its people, undermining the social fabric of society, consolidating power in the hands of elites, feudal lords, and colonial bureaucracy, and perpetuating religious bigotry. This reign was characterized by severe human rights violations. (Bose 2019)
British imperialism in India was consolidated through military force and strategic economic planning. Supported by the British Crown and Parliament, the East India Company (EIC) waged wars against local rulers in 1757, 1765, and ultimately against the Mughal empire in 1857 (Tharoor 2015). After the Battle of Plassey in 1757, the EIC acquired Diwani rights, granting them the authority to collect land revenue from peasants in Bengal, Bihar, and Orrisa (Bayly 1990). The implementation of new land revenue policies resulted in an unprecedented famine in Bengal during 1769-70, leading to the deaths of approximately one-third of the population (Chakrabarty 2000).
Later, in 1793, Lord Cornwallis, the Governor-General of India, introduced the Bengal Permanent Settlement policy. This policy aimed to streamline the collection of land revenue by implementing the zamindari system, wherein landowners (zamindars) were assigned the responsibility of collecting revenue from peasants. The revenue generated from agricultural activities, including the export of silk and cotton, became intricately linked to the zamindari system (Habib 1975). Under the Bengal Permanent Settlement, Lord Cornwallis imposed restrictions on how the East India Company could utilize its income. The company was compelled to prioritize spending on land and public welfare projects, even though this income was essentially considered profit. (Metacalf 2006) The representative of the British Crown, the Indian Governor-General, fixed the inland revenue at £3.4 million, which subsequently became a significant source of plunder of Indian wealth (Mukherjee 2010).

3. Railways: Transportation Source of Raw Materials

The relentless plunder of Indian wealth by the British colonizers played a significant role in fueling the Industrial Revolution in Britain and Western Europe. The increased export of raw materials from India to Europe through the sea route further amplified resource consumption. However, transportation within India, specifically from Peshawar to Calcutta via the Grand Trunk Road (GT Road), incurred exorbitant costs.
British colonization of India commenced in 1765, and with the emergence of new industries in Europe, the idea of constructing purpose-built railways gained traction. In 1826, the Liverpool and Manchester Railway became the first authorized passenger railway through an Act of Parliament. However, the imperial railway project in India was initiated in 1850 (Taylor 2018).
The Indian railways were instrumental in streamlining economic exploitation and facilitating European merchants in the export of various raw materials, including cotton, jute, silk, tea, coffee, wheat, oil seeds, opium, sugarcane, and tobacco (Sabeena 2013). Consequently, the expansion of the Imperial Railway network in India spanned from 1850 to 1947. During the Industrial Revolution, railways played a crucial role in transporting wealth and raw materials from various parts of India to Britain and other European countries. While the locomotive engine was invented in Britain in 1804, it took another 28 years for the first train to be run in India (Metacalf 2006).

4. Railways in East Company Raj

The idea of constructing railways in India was first proposed by the Peninsular and Oriental Steam Navigation Company. Rowland Macdonald Stephenson, a representative of the company, presented a detailed assessment of the economic viability of railways to the board of directors of the East India Company (EIC). In 1845, the Peninsular and Oriental Steam Navigation Company offered to build a 140-mile railway line from Calcutta to Allahabad on an experimental basis (Allen 2019). As part of the proposal, the company requested a 3% guarantee on the capital invested.
Following this initial proposal, other investors and entrepreneurs in London began establishing their own railway companies. These companies put forth various railway construction proposals, which were then submitted to the court of directors of the East India Company (Chaudhuri 1978)
Discussions regarding railway communication in India first took place in Britain in 1845, where several schemes for railway development were presented to the Board of Control. In order to assess these proposals and provide guidance to the Governor-General of India in Council, the East India Company dispatched Mr. Sims to India on July 7, 1845 (Sinha 2019) After conducting a thorough assessment, Mr. Sims submitted his report on February 6, 1846, which included the following recommendations:
Railways should be constructed in India regardless of the circumstances, and the Government of India should allocate free land for this purpose. The land provided should be leased to the railway company for a period of 99 years, allowing the company to maintain ownership over the land (Sarkar 1983).
Railway companies should be exempted from taxation. Companies should have full authority and control over railway employees. These recommendations formed the basis for the subsequent development and implementation of railway projects in India. Negotiations between the East India Company and London-based companies persisted for three years before a breakthrough was reached. Finally, on August 17, 1849, the East India Company granted permission for the construction of railways in India, allowing two companies to undertake the task (Thorner 1951)
In 1845, three railway lines were proposed. The first line was intended to run from Calcutta to the north-western provinces, with significant political and military importance. This line aimed to connect the capital of India with the provinces along the north-western frontier, where potential threats to the British Empire were of utmost concern (Sen 2007). The original plan involved constructing a 400-mile line from Calcutta to Mirzapur. However, the revised proposal entailed a shorter line of seventy-two miles from Calcutta to a yet-to-be-determined location. The government guaranteed a 5% interest on a capital investment of £1,000,000 for this line. They also provided the railway company with considerable ease in acquiring land, while reserving the right to take control of the line after twenty-five years.
Additionally, in 1845, another line was proposed to connect Madras with the southwestern regions of India, linking the east and west coasts. This line aimed to open up the districts of Coimbatore and Trichinopoly, known for their production of high-quality cotton, as well as the iron-rich districts of Porto Novo. The commercial interests of companies led to the construction of a track from Calcutta to the north-west, primarily to gain access to coal reserves (Sen 2013). Another line was established from Deccan to Bombay, which served as a major center for cotton production.
In 1843, before the construction of the Imperial railway lines in India, Lord Hardinge, the Governor-General, had argued:

"The construction of railways in India will help to take control over the government of India, commerce, military and the country."

Between 1850 and 1924, the Indian Railways were under the control of British private companies, marking a period of 74 years that coincided with the early phase of corporate exploitation. The demand for railway lines in India was primarily driven by London and Manchester commercial companies seeking financial gain. The primary objective of establishing railways was to enable the rapid transportation of Indian raw materials to the ports and facilitate the systematic plundering of Indian resources. Even the coal used to power the railways was procured from India, further contributing to the extraction of Indian wealth (Tharoor 2015) The East India Company entered into agreements with European companies to facilitate these endeavors. Consequently, the first railway track was constructed in 1853, spanning 20 miles from the port of Mumbai to Thana. Subsequently, railway lines were laid to connect the ports of Calcutta in 1854 and Madras in 1856. Between 1880 and 1890, the total railway mileage in India increased significantly, expanding from 9,308 miles to 24,752 miles. Railway construction during this period also experienced an annual growth rate of 7.5% (Gurha 2007)

Lord Dalhousie directed the construction of commercial routes from Bombay, Calcutta, and Madras to Delhi. All three of India's ports were connected to major cities by rail. Dalhousie wrote in his Memorandum of 1853:

The protection of political and commercial interests must first be considered when determining the routes for laying railways in India. From Calcutta to Delhi, from Delhi to Northwest Frontier, from Bombay to the United Provinces and, from Madras to Bombay, the railway track was laid by keeping the same interest under consideration (Sweeney 2009).

Under the recommendation of Lord Dalhousie, the construction of major railway lines in India gained momentum. The Central Railway, extending from Calcutta to Lahore, was expanded to connect important cities such as Delhi, Agra, Amritsar, and Lahore. These railway tracks served both political and economic interests, as they facilitated the integration of colonial ports across different regions of India. The railway construction during Lord Dalhousie's tenure and until 1870 prioritized political and strategic considerations (Ian 1995)

According to official records, after 1880, railway tracks were increasingly built with military, defense, and strategic purposes in mind. Initially, the tracks were constructed with a width of five feet six inches, which significantly increased the cost of building the railway lines. In contrast, the standard width of railway tracks in Britain and the United States at that time was four feet eight inches. However, in 1870, engineers intervened and the width of the railway tracks was reduced to three feet and three inches (William 2017)

5. Indian Railways and British Private Companies

The development of the railway system in colonial India began with the construction of the first railroad by British private companies. Subsequently, the Government of India and the governors of different regions played an active role in facilitating and accelerating railway construction. By 1879, railways had been built under private companies through public guarantees, and after 1870, a public-private partnership model was introduced (Ray Chaudari 2019). However, the authority for the construction and operation of railways still rested with the private companies under these agreements. It was not until 1924 that the entire Indian railway system came under the direct control of the British India government.

The British government made substantial investments in Indian Railways, totaling £274 million by 1908. These investments were funded through Indian taxpayers' money, and the operational expenses were also collected from the Indian population. In London, the public works departments were under the control of these private companies, with further support from British banks. The Union Bank of London, for instance, heavily invested in the Burma Railway Company (Clive 1988).

6. Rothschild Family in Railways Investment

The distribution of railway security bonds was overseen by N.M. Rothschild, a powerful financial family in Europe. The Rothschild family had significant investments in Indian Railways, with N.M. Rothschild alone investing £8.2 million. They had a long history of investing in railway construction in Europe since 1830. Moreover, N.M. Rothschild India played a significant role in committees such as the Fowler Indian Currency Committee of 1899 and the Mackay Indian Railway Committee of 1908 (William & David 2014). In addition to financing Indian Railways, Rothschild also sold locomotives in India and secured contracts for building private railways.

Ten private companies, all owned by British investors and headquartered in London, were awarded contracts for railway construction in India. Shareholders of these companies included retired British military officers from India, employees of the East India Company, and British investors. The companies involved in railway construction included East Indian, Great Indian Peninsula, Eastern Bengal, Bombay Baroda and Central India, Sind, Punjab and Delhi, Madras, South Indian, and Oudh and Rohail Khand. These companies played a crucial role in constructing main railway tracks, connecting them to ports, and facilitating transportation to other cities. British imperialism established joint stock companies to oversee these endeavors (James 1989).

The contracts for railway construction were awarded through the Secretary of State for India, who had an office in London and operated under the supervision of the Governor-General of the British Empire in India. The majority of the company shareholders, approximately 90%, were British individuals. These shareholders consisted of the British financial elite, retired British military personnel, and company owners. (Sanyal 1933)

A. Construction Expenses on Indian Railways

Until 1869, the construction of railway tracks under the government-guaranteed system incurred high costs. The cost per mile of railway track amounted to £17,000, with initial estimates of £15,000 for double lines and £9,000 for single lines. British imperialism followed a policy of providing the railway companies with a net profit of five percent of the total investment from the Indian treasury. Consequently, the Government of India had to pay substantial fines each year, amounting to millions of pounds, to the companies for failing to meet the investment return targets set by the colonial administration. In contrast, the cost of constructing railways in the United States was significantly lower, averaging £2,000 per mile (Bogart and Chaudhary 2013). For instance, the Bengal Central Company received a five percent interest on the total capital for five years along with free land, while the Rohil Khand Company was granted a subsidy of Rs. 40,000 per annum with a guarantee of four percent return. The Government of India made these payments from the Indian treasury for a period of ten years. As a result, private companies constructed railway lines in India regardless of the capital cost, making them the most expensive railway lines across the country. By 1869, these companies collectively received £52,500,000 from the Indian treasury (pp 345-350).

In 1855, the Sindh government, led by Andrew, agreed to a four-hundred-percent interest rate for railway construction. The government provided the company with free land for a period of 99 years. Under the agreement, the transportation of mail and defense equipment was required to be conducted at the lowest possible cost. Additionally, the government had the option to purchase the railway lines from the company after 25 years. The headquarters of the company were located in London, overseen by Sir William and Ray. The company constructed a 666-mile-long railway line in the Northwest Territories, amounting to a total cost of £9,308,016. On average, £13,967 per mile was spent on this project (Desai 2011).

The number of these private railway companies increased to eleven after the introduction of Assisted Companies in 1882, alongside the companies affiliated with the British Empire. Among these companies, Southern Maratha built 435 miles, Bengal and Northwestern built 455 miles, and the Bengal Central Company constructed 125 miles of railway tracks. In the northwestern region of India, colonial railway policy prioritized military and strategic perspectives. The placement of military intelligence, convents, and weapons depots were carefully considered during the tracking of railway lines, particularly the British colonial defense line from Calcutta to Peshawar, which held significant importance (Roy 2002). For example, Delhi, Lahore, and Peshawar lines were directly linked to ten cantonments.

After 1900, obtaining regular permission from the Affair Commanding of the District became a mandatory condition for the extension of railway lines. However, the Imperial army possessed the authority to expand the railway network at any time without seeking government approval. The budget for railways and commercial railways for the Army in the Indian Empire were separate. In 1942, the railway budget was separated from the general budget, clearly indicating that the primary objective of the railways was not the development of India, but rather the exploitation of Indian wealth and the fulfillment of colonial interests. In 1910, the Northwestern Railway had a track length of 3,733.6 miles, with approximately one-third of the track serving strategic purposes. By 1925, the total track length increased to 5,828.14 miles, of which 1,472.20 miles were strategic or military railways, constituting 35% of the entire railway network (Kerr 2006).

B. Purchase of Locomotive Engine

In 1872, the Royal Indian Engineering Institute was established on Cooper Hill, London, with the purpose of producing locomotive engines for the Indian Railways. However, in 1886, out of the 1,015 employees working in the Public Works Department, only 86 were Indians. Nonetheless, railway workshops were set up in Bengal, Amir, and Jamalpur in 1862. Indian engineers stationed at these workshops demonstrated their skills in manufacturing and experimenting with locomotive engines. By 1878, Indian engineers had successfully built their own railway engines, which not only surpassed European locomotives in quality but were also more cost-effective. For three decades, these Indian factories continued to manufacture engines locally, marking a significant achievement (Bose 2007).

However, in 1912, the British Parliament passed an act that banned the manufacturing of locomotives in Indian workshops. The act restricted Indian factories to only repairing and maintaining engines imported from the United Kingdom and Europe. This decision was a setback for Indian locomotive manufacturing, as it curtailed the growth of this industry and limited it to servicing imported engines.

Between 1854 and 1947, India imported a total of 14,400 locomotive engines from Britain and an additional 3,000 locomotives from Canada, the United States, and Germany. Meanwhile, the local manufacturing of engines came to a complete halt after 1912. In contrast, the manufacturing of locomotives in Britain and Europe created significant employment opportunities and stimulated their respective economies. The cost comparison between the first locomotive engine manufactured at the Jamalpur workshop in 1899, priced at Rs. 33,000, and an imported locomotive costing Rs. 47,897 further highlighted the significance of the Indian locomotive manufacturing industry (Chakrabarti 2019).

7. Agreements with Railway Companies

The British Empire further facilitated the construction of railways in India by granting free land to London-based companies for a period of 99 years. Interestingly, these companies held the authority to terminate the contract at any point during these 99 years. The government had the option to purchase the company after 25 or 50 years as specified in the contracts. Once all expenses incurred by the railways were deducted from the revenue generated, the remaining net profit was to be deposited in the Indian treasury. However, if the net profit fell below five percent of the total investment, the Government of India would be liable to pay penalties as outlined in the agreements:

"According to the agreements, the company would deduct its expenses from the gross income and deposit the remaining net income into the exchequer. The government, in turn, would deduct its share and return the remaining amount to the company. In the event that the net income-to-capital ratio in any given year fell below the guaranteed 5%, the government would be obligated to compensate the company for the difference up to 5% of the invested capital specified in the contract. This compensation would be treated as a loan. Additionally, if the company generated profits beyond a certain threshold, more than half of those additional profits would be deposited into the government coffers" (Banerjee 2019).

Upon settling all prior guarantees, any remaining additional profits would belong to the company. However, the initial construction costs of the railway tracks exceeded the estimated amounts. From 1860 to 1869, the net profit was less than 3%, which put pressure on the Government of India to ensure the payment of a 5% guarantee to the shareholders on their investments. In 1869, due to the non-receipt of revenue as per the government's guarantee, the Government of India had to pay a fine of 30 million pounds to these companies. Through the guarantee, the government was granted the authority to directly intervene in the affairs of the Indian Railways. Although the Government of India was represented on the company boards by members appointed by the Secretary of State, this representative lacked significant influence in practice. The main reason for this was that both the Secretary of State and the companies were based in London, which allowed the companies to directly influence the Secretary.

An example of the limited influence of the Government of India can be seen in the case of the attempted merger of several railway companies into the Southern Indian Railways, including the Madras Railway Company, in 1860. Despite the efforts of the Government of India, the Madras Railway Company refused to merge, and the government had to reverse its decision due to the Secretary of State's inclination towards the company. Similarly, in 1885, when the Government of India sought to establish a clearing house to resolve inter-railway disputes and enforce rental agreements, it faced opposition from the railway companies, resulting in failure (Ray 2012).

The dispute between the Government of India and the London-based Secretary of State began in 1869 when the Secretary reevaluated the contracts of four major railway companies without consulting the Government of India. Under the agreement, the companies were supposed to remit their profits to the government. However, the Secretary lifted the ban on the companies and even deprived the Indian government of its right to purchase the companies after 25 years (Bose 2008). Despite the opposition from the Government of India, the companies remained unaffected. Some of the names associated with these companies were:

1. Great Indian Peninsula
2. The Bombay, Baroda, and Central India
3. Madras Railway Company

8. British Imperialism, Industrial Policy, and Railway

The European Industrial Revolution and British Colonialism in Bengal emerged simultaneously, interconnected in their objectives. Prior to the arrival of the British, French, and Portuguese, there was a lack of capital available for implementing the Industrial Revolution. The wealth of Bengal became a crucial source of capital, which was seized after the defeat of Siraj-ud-Daulah in 1757. The East India Company, having limited resources for trade with India, focused on acquiring the wealth and resources of Bengal as its primary objective (Ray 1995).

The introduction of railways in Britain in 1804 marked a new era for capitalism. During this period, British colonizers in India, after subduing their rivals, directed their attention towards the abundant resources of India (Chaudari 1964). In this context, the British Empire implemented an industrial policy for India, driven by the benefits derived from colonial rule. Shashi Tharoor, a renowned Indian researcher, emphasized the significance of this policy during his address to the Union at Oxford University.

"Europe's industrialization has taken place at the expense of India's deindustrialization. The textile industry, iron industry, and shipping industry were destroyed by British imperialism. The role of Indian Imperial Railways in this de-industrialization cannot be ignored. In the First and Second World Wars, the delivery of military aid through the railway and the expansion of the rail network to Kandahar in the context of the Great Game were among the colonial objectives. At the beginning of the eighteenth century, India was the largest exporter of textiles in the world, including Europe. In 1750, India's industrial output was 25% of the world's total. Due to imperial and colonial policy, India's industrial output in 1900 declined to only 2% (Tharoor 2018)."

The establishment of the first railway in 1853 was a direct outcome of colonial planning, but it was not until 1890 that the Railway Act, which encompassed relevant legislation, was enacted and put into effect. In the initial four decades, the officers and employees of the Railways operated under the Public Service Department. However, in 1905, the Railway Board was established with the objective of formulating railway policies, planning future railway track construction, and supervising operations. Interestingly, even today, in Pakistan, the railway act introduced during the colonial era continues to be enforced, showcasing the lasting impact of colonial governance on the railway system.

(A) Railways and Economic Interests

As a result of the economic policies implemented by the British Empire, India underwent a significant shift from industrialization to a predominantly agricultural economy. The focus was primarily on increasing the production of raw materials and exporting these goods to European countries. Consequently, India's industrial development was stifled, and the nation became heavily reliant on the production and export of raw materials:

- In 1750, India's industrial output in the world was 24.5%.
- In 1800 it decreased to 19.7 percent
- 2.8% in 1880
- In 1913, it fell to 1.4 percent. (Deb 2012)

European companies exerted significant control over India's trade, driven by their pursuit of higher profit margins. These companies made substantial investments in various sectors within India. For instance, the Finely Group invested £34.36 million pounds in the tea leaf business in 1898. Additionally, they ventured into the jute industry in 1873, followed by investments in the shipping industry in 1882 and Cotton Mills in 1902. By 1911, there were 373 joint stock companies operating in India, although they were primarily headquartered outside of the country (Low 1969)

The Government of India provided these companies with a total capital of 77.979 million pounds, while an additional 45.353 million pounds were granted to repay loans. This financial support from the government enabled the growth and operations of these European-based companies within India

(B) Military, Defense, and Great Game

During the 19th century, the stage was set for the Great Game in Asia, with various countries such as the United Kingdom, France, Germany, and Russia vying for influence in the region. After colonizing India, the British government turned its attention to neighboring countries, particularly Afghanistan and Iran. Establishing friendly relations with Afghanistan became crucial for the British in order to counter the potential advance of Russia. Additionally, France, a political and trade rival, sought to align with Afghanistan's Amir Zaman Shah with the aim of advancing towards India to the detriment of Britain (Ker 2016). However, the British government faced a significant challenge when Tsar Alexander of Russia and Napoleon Bonaparte of France formed an alliance. Under this agreement, the two major powers decided to launch an attack on India through Iran. Russia proceeded to colonize Samarkand in 1864, followed by Khiva and Tashkent in 1873.

Constantly fearing potential attacks on Quetta and Gwadar via Afghanistan and Iran, the British government launched three military campaigns, known as the First, Second, and Third Afghan Wars, to prevent such incursions and establish control over Afghanistan. During the First Afghan War (1839-1842), the British army faced setbacks in Sindh. As a result, Sir Charles Napier, a prominent British military officer, and later Brigadier General John Jacob, were appointed to oversee the region (Desai 2011). Sindh became an important stronghold, playing a vital role in protecting British interests and defense needs in Baluchistan and Afghanistan. Military aid was transported from Sindh to Baluchistan during times of need.

To implement their strategic plan, the construction of the Military Frontier Railway was initiated, with the Bolan Pass and the Khyber Pass selected as the major routes, famously known as the "Two Gates of India." A 1,500-mile-long railway network, part of the North Western Railway project, was planned, connecting Sindh to Sibbi, Bostan, Bolan, Quetta, Chaman, and Kandahar. The British government had envisioned a strategic railway line from Quetta to Afghanistan and further to the Iranian border since 1876 to facilitate military movements. To achieve this, a railway line was planned from Ruk station between Sukkur and Shikarpur.

The significance of this project is evident from the special instructions given by Lord Litton, the Viceroy of India, to Sir Richard Temple, the Governor of Bombay, in 1879. Temple was instructed to engage Robert Grove Sandeman for the construction of this railway line, and the Bombay government was responsible for providing the necessary financial resources. Originally named the Kandahar State Railway, the project aimed to extend the railway line from Quetta to China and then to the Afghan city of Kandahar, ensuring a continuous supply of military equipment required for the Great Game. (Shulka 2002)

In 1898, the renowned Ruk station was established with the purpose of connecting Quetta to Europe through a railway route passing through Kandahar, Central Asia, and Iran. The concept of the Great Game was initially coined by Arthur Connolly, an officer serving in the Bengal Cavalry. Recognizing the growing aggression from Russia and France, British imperialism deemed it imperative to establish complete control over the northern territories (Chakraborty 2012)

As part of their military rail strategy, the Punjab Northern State Railways Company constructed railway tracks to connect the five cantonments situated in colonial Punjab. The tracks were laid from Lahore to Peshawar, enabling a vital link between these military outposts. The construction of these railway tracks was strategically planned to strengthen British control and facilitate efficient transportation of troops and supplies in the region. Punjab Northern State Railways Company constructed the following tracks according to the military rail strategy:

- In 1875, he completed the construction of the 71-mile track from Lahore to Gujarat.
- In 1876, the construction of the 103-mile track to Jhelum was completed.
- In October 1878, 76 miles from Jhelum to Rawalpindi were completed.
- In 1882, Khairabad Kund was merged with Peshawar.

With the construction of an Attock bridge in 1883, plans for a military railway to maintain colonial security came to an end. In World War I, 1.5 million troops from India participated and the transportation of these troops and the delivery of arms and ammunition by train.

(C) Deforestation for railway tracks

During the colonial era in India, the impact of deforestation on temperature and the loss of wildlife became significant concerns. British imperialism actively encouraged European capitalists to invest in the railway sector, which served as a crucial means of diverting Indian resources to Europe. This investment proved highly profitable due to the railway's pivotal role in facilitating the export of Indian agricultural commodities such as wheat, oilseeds, tea leaves, and cotton to European markets.

In Punjab, railway construction commenced in 1859 and was carried out by various companies including Punjab Northern Railways, Indus Valley Railways, Rajpootana State Railway, and Amritsar Pathan Kot Railway. By 1884, the total length of railway tracks in Punjab had reached 13,000 miles. The construction process required not only machinery and engines but also timber for tracks, firewood, and coal for fuel. To meet this demand, local forests were tapped as a source of timber. Unfortunately, this led to further ecological consequences and loss of forest cover (Pallavi 2010).

The timber harvested from local forests was also utilized in the construction of railway sleepers, which supported the tracks. Certain types of wood, such as cedar, salwood, and teak, were preferred for their strength and durability in sleeper production. However, the extraction of timber and the ecological cost associated with railway construction had adverse effects on the environment (Ghosh 2013).

Thus, in 1861, deforestation of Cedar forests was started in Punjab. Concerning the deforestation in 1861, the text of the official report says:

The demand for railway sleepers led to the realization that cedar wood was the most suitable material for the purpose. Consequently, the quest for cedar wood resulted in extensive deforestation across the mountainous regions from the Indus to the Sutlej rivers. The available forests along the Jhelum and Chenab rivers were almost entirely depleted, and even the forests near the Sutlej river suffered a similar fate. As a result, the once lush forests near the rivers were stripped of their trees, leaving only patches of vegetation visible at a distance of about a mile or so from the riverbanks. The relentless pursuit of cedar wood for railway sleepers had a profound and lasting impact on the natural landscape of these areas (Ghosh 2016).

Railways were being built rapidly in Punjab. Between 1844 and 1860, 186.58 miles of track were built annually. The report of the Punjab Government's Consulting engineer says regarding the quantity of wood needed for the construction of sleepers on railway:

The construction of the Multan railway line necessitated a significant amount of timber for the production of sleepers. Considering that the project was expected to be completed within three years, a total of 12,000 sleepers were required over the course of 36 months. To fulfill this need, approximately 500,000 cubic feet of timber per year was necessary. Assuming that each log yields 40 cubic feet of wood, it can be estimated that 12,500 logs would be required annually. Thus, a total of 37,500 logs would be needed for sleepers alone over the three-year period. Furthermore, for the Amritsar railway line, which spanned 32 miles and included railway stations and platforms, a total of 57,600 sleepers were required. In addition, within approximately 18 months, around 5,000 trees measuring 40 cubic feet per dong (a unit of measurement) were needed to meet the timber demand for the project. These calculations highlight the substantial quantity of wood that was consumed during the construction of railway lines in colonial India (Pallavi 2010).

9. Sleepers required for Punjab and Delhi Railways

The construction of railway tracks in colonial Punjab necessitated a significant number of sleepers, resulting in extensive deforestation. The Amritsar-Multan railway track, spanning 252 miles, required a total of 453,600 sleepers. To meet this demand, approximately 41,236 cedar trees were cut down between 1859 and 1864. Deforestation activities were particularly concentrated along the Chenab and Ravi rivers in Punjab.

Specific figures indicate the extent of deforestation. From 1861 to 1862, 11,152 cedar trees were denuded in the Chenab valley, while 5,649 trees were cut near the Ravi River. In the following years, from 1862 to 1863, an additional 12,706 cedar trees were felled in the Chenab region, along with 6,083 trees from the Ravi hills.

Another significant railway project, the Delhi Railway, required 2,000 sleepers per mile for its 320-mile-long track from Meerut to Amritsar. This amounted to a total of 640,000 sleepers or 3,200,000 cubic yards of timber between 1863 and 1868. To fulfill this demand, 400,000 cubic feet of timber was extracted from the forests near the Beas River, 1,000,000 cubic feet from the Sutlej River forests, and 1,400,000 cubic feet from the Jumna River forests. This required approximately 10,000 trees from the Beas, 25,000 trees from the Sutlej, and 35,000 trees from the Jumna.

By 1865-66, the Punjab Progress report noted the scarcity of first-class trees in the Sutlej and Beas regions, with only 21,167 and 5,000 trees respectively. This shortage prompted the implementation of Forest Conservation Policies, leading to the establishment of the Punjab Forest Department in 1864 and the Imperial Forest Department at the state level in India. These departments aimed to ensure a sustainable timber supply for the railways, and they prohibited individuals from purchasing timber privately (Anwar & Ahmed 2016)

However, despite these measures, deforestation continued to meet the timber requirements for the railways. British imperialism acquired forests not only in Punjab but also in independent princely states through contractual agreements. For instance, the ruler of Bussahir granted control over forests to the British government for fifty years, while the ruler of Chamba handed over forest areas to the British Empire for 20 years in exchange for an annual contract of Rs. 20,000 (Ahmed & Sajjad 2017). The British government extracted timber from these forests to prevent any suspension in railway construction.

10. Railways; the main source of Looting

The expansive railway network in India was established under the umbrella of British imperialism, primarily driven by economic exploitation and military objectives. The underlying motive behind railway construction was to reinforce colonial control and serve the interests of the British economy. To incentivize investment in the railways, companies were offered significant profits and assured protection of their capital. These railways primarily catered to the transportation needs of European officers, soldiers, and freight. European individuals were given preference in various railway positions, ranging from money collection to freight vehicle supervision. Meanwhile, Indian workers were often relegated to hazardous roles such as coal firing in steam-powered engines.

In reality, the railway network in India symbolizes the economic plunder carried out by British imperialism. Rather than promoting a diversified economy, the railways kept India heavily reliant on agriculture, as colonial planning hindered the transfer of rail technology and industrial development. Historical evidence demonstrates that the railways were not a benevolent gift to India but rather a mechanism that exacerbated resource exploitation, leading to famine and the loss of millions of lives.

In conclusion, the establishment of the railway network in colonial India was driven by the economic and strategic interests of the British Empire. It served as a means to exploit Indian resources, strengthen colonial control, and facilitate the export of raw materials to Europe. British companies and investors reaped significant profits from the railway ventures, while Indian laborers were often subjected to hazardous work conditions and limited job opportunities.

The railways had a profound impact on India's economy, primarily keeping it reliant on agriculture and hindering the development of a diversified industrial sector. The environmental consequences were also severe, as extensive deforestation occurred to meet the demand for timber for railway construction. The social and economic inequality further deepened as European officers and soldiers enjoyed preferential treatment and benefits within the railway system.

Rather than being a transformative force for India's development, the railways served as a tool of economic exploitation and control. The consequences of this imperial endeavor were far-reaching, causing immense suffering and hardship for the Indian population, including devastating famines that claimed countless lives.

Examining the history of the railways in colonial India sheds light on the complex dynamics of imperialism and its lasting impact. It serves as a reminder of the importance of understanding the historical context and consequences of such infrastructural projects in shaping the trajectory of nations and societies.

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