

INDIAN RAILWAYS AND FAMINE 1875-1914: Magic Wheels and Empty Stomachs

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Policy-makers interpreted famines in nineteenth century British India as problems of distribution, rather than food production. Railways provided speedier and cheaper transport than road methods employed during that time. They were more reliable than canals, which needed rainfall to facilitate transport. However, they were expensive to construct and maintain, and the British offered various levels of state support to encourage private investors under the façade of laissez faire capitalism. The effectiveness of the largest investment program in the history of the British Empire, in combating appalling famines, was questionable. There was a failure to overcome acute price increases in wheat and rice, and more fundamentally, deindustrialization and poverty in India, all of which colonial railways encouraged.

By design, British economic policy in India would involve no cost to Britain. In fact, Britain hoped the “drain” of wealth from the subcontinent would fund the cost of the administration both in India and in Whitehall, the cost of the Indian army, and the infrastructure needed to extract raw materials and foodstuffs from India and sell British manufactures to the Indian market.¹ Indian railways were the single largest expense in this infrastructure, and the most significant investment program in the history of the British Empire. The railways absorbed over £200 million up to 1914. Until 1869, government guarantees for private rail companies had been used to finance Indian railways, but then these were abandoned in favor of simple “on balance sheet” finance by the Government of India (GOI). This did reduce rail construction costs, but by the late 1870s, GOI expenditure increased because of the Second Afghan War and costs related to Indian famines. The London-based India Office reluctantly returned to guarantees of coupon and dividend payments to keep rail costs “off balance sheet.” The India Office gave railways high priority because of their use for both military purposes and famine relief.

Railroads facilitated troop movements to the North West frontier, moved food internally to drought-stricken regions, and provided employment during famines.

Indian famines wrought terrible losses over the period of 1875-1914. Tirthankar Roy estimated total famine-related mortality during the regional crises of 1876-78, 1896-97, and 1899-1900 at between thirteen and sixteen million people.² While railways had a role to play in facilitating food distribution, the exclusive British focus on railways was much criticized at the time. This emphasis later becomes explicable when reviewing the profiles of the London parliamentary famine and railway commissions. The commissions had representatives and witnesses from the same “gentlemanly capitalists” who worked for and invested in guaranteed Indian railway companies.³ British trade delegates at the commission hearings pressed for Indian railroads to specialize in trading Indian agriculture for British manufactures, leaving India more exposed when crops failed. Many native witnesses, by contrast, displayed resistance to expansion of railways. They contended that railways heightened domestic and foreign demand for Indian wheat and rice, without contributing to overall supply, and that grain traders and speculators created volatile food markets by using the rail system to move wheat from one region to another. By 1897, in the midst of a new famine crisis, Lord Kinnaird looked back twenty years to the problems. Grain prices during the Madras famine of 1877 increased by five to eight times, making food purchases impossible, even for agricultural workers still in work. India Office rhetoric had confidently asserted that food supplies remained plentiful, but by the later stages of the 1876-78 famine, there were some twenty-three distressed taluks across Madras and Bombay. Some “855,000 persons out of a population of less than five millions were missing,” according to Kinnaird.⁴ Nevertheless, the GOI and India Office refused to import grain into South India to reduce inflated grain prices and relieve starvation. Witnesses briefed the parliamentary commissions on famine relief for South and West India. Sir Richard Strachey’s 1880 Famine Commission pressed for adding 10,000 miles of railway to protect against starvation. By the time later commissions were obliged to explain the failure of railways to eradicate extreme famine, Strachey had long since become Chairman of India’s largest rail company.

Many Indian nationalists criticized this single-minded approach to famine relief. They claimed that railways had impoverished India through the accompanying higher taxes and lessened disposable income, which diminished resistance to famine.⁵ Nationalists could see the benefit of railways in the longer term as part of a development program, but felt that by the 1880s, generous government rail budgets were out of kilter with investment in irrigation and general industrial development. Romesh Dutt, a prominent critic, saw building railways as crowding out other investments. He drew a distinction between the early trunk lines put in place with trade and economic development in mind, and those constructed after 1878 and pushed through by “capitalists and speculators.”⁶ By 1897, Dutt called for no more railways, but increased crop irrigation production. In his opinion, railways justified increased land tax payments, which increased wheat and rice prices. This had steadily added to India’s land revenue, while leaving the rice and wheat growers still impoverished.⁷ High crop prices left even poor farmers paying higher taxes, and the unfortunate non-agricultural workers suffering a crippling deterioration in their terms of trade.⁸ Later, scholars like Michelle Mcalpin and John Hurd, carried out regression

analysis on Indian Famine Commission data to critique many of the crude nationalist arguments. However, they failed to undermine Dutt's complaint that British interests, rather than famine relief, encouraged railways.⁹

The British were convinced that rail investment was successfully tackling famine, which bred complacency amongst policy-makers. The "grand old man" of Indian nationalism, Dadabhai Naoroji, took such complacency to task. Juland Danvers, Public Works member at the India Office, had written to Naoroji, boasting of the "railway wealth" engendered by grain prices, which rose through the establishment of new markets. From an accounting perspective, Danvers saw that rising prices added to the national income of India. Naoroji satirized this accounting sophistry with the riposte that "if the mere movement of produce can add to the existing wealth, India can become rich in no time. All it would have to do is to go on moving its produce continually...the magic wheels of the train wealth will go on springing till the land will not suffice to hold it..."¹⁰ These "magic wheels" were intended to push India towards greater specialization on agriculture. While Danvers was technically correct that short-term grain and rice price increases would increase national income, Michelle Mcalpin pointed to moves in the terms of trade in the late nineteenth century favoring agriculture where the longer term and lack of diversification and volatility of production, probably worsened Indian poverty.¹¹ Moreover, in his assessment of India's national income, Danvers failed to consider the impact of a limited supply of food caused by the GOI spending finite resources on railways rather than irrigation. Even by 1943, Nehru was able to point to the failings of British railway policy as an aspect of Indian famine. The catastrophic Bengal famine of that year showed that India's reliance on railway-transported Burma rice and grain had left the food supplies in other parts of the subcontinent vulnerable to drought.¹²

Ironically, the early Indian nationalist critics and British administrators often shared an attachment to classical economics, laissez faire capitalism, and low taxes.¹³ By the early 1880s, the India Office and GOI sought to move away from state-financed railways and accessed private capital for joint stock companies. Such an aim was difficult to achieve in the sphere of railways. The wish to avoid inefficient competition between parallel railway lines encouraged the granting of concessions to construct the lines as regional monopolies. Permanent Undersecretary of State at the India Office, Louis Mallet, had little fear of channelling profits from such monopolies towards "capitalists" rather than the general taxpayer. Mallet viewed a more egalitarian distribution of railway earnings as akin to the "nationalization of the land, and other communistic theories."¹⁴ Early efforts to float companies like Bengal North Western Railway in a rich agricultural region below the Nepal border met strong investor demand, but the subsequent stock market performance of non-guaranteed companies disappointed. Rail promoters in London used their close geographical proximity to the India Office at Whitehall to demand improved terms and conditions for these railways. This involved hidden subsidies or off-market acquisitions of other state railways.¹⁵ London rail promoters and financiers realized that Indian taxpayers would be "lenders of last resort" in these circumstances. Indian railway stocks performed well after the mid 1880s.

Government guarantees were more acceptable to officials when applied to "famine protective" railways. The India Office welcomed the prospect of commercial or military 149

revenues for famine protective railways to reduce the burden on GOI finances, but it was understood that the volatility of earnings from famine railways necessitated a departure from *laissez faire*. The British allocated railway concessions for commercial lines using the façade of *laissez faire* capitalism. The allocation of regional monopolies for moving food during famines happened in a similar manner. Rail promoters, engineers, financiers, and former government representatives were able to produce business plans for their railways that exaggerated the protective and commercial attributes, attracting Indian taxpayers' money through the granting of government guarantees. Civil servants in Whitehall were "picking winners" in British India for social projects where the price mechanism could give little guidance as to optimal decision making. The data they gathered was wildly unrealistic. The opportunity cost of these decisions was enormous in a world of balanced budgets.¹⁶

Further, at the Indian railway select committee of 1884, Sir George Campbell, former Lieutenant Governor of Bengal, pointed to the concentration of the same individuals on the boards of a number of the Indian railway companies.¹⁷ The India Office played no role in choosing board members, other than one "ex-officio" appointee. Instead, the promoters, who had secured the guarantees and subsidies through lobbying Whitehall, would present themselves as board members and run the business from a distance of more than six thousand miles. In the case of the Southern Mahratta, an ex-commissioner of the Punjab became Chairman after he had wrought retribution on sixty-five Sikh rebels by ordering their execution as human cannon balls. There was little in the background or activities of Sir Douglas Forsyth to point to a commitment towards Indian famine relief. Instead, he congratulated himself on avoiding a second career as a lowly paid Member of Parliament and taking up "one or two pleasant little seats" on the boards of Indian railway companies.¹⁸ By 1892-93, the Southern Mahratta was still earning a derisory return of 1.47 percent while Indian taxpayers were subsidising shareholders up to the minimum 3.5 percent guarantee. With the return of more acute famines in the 1890s, the Southern Mahratta investment should have paid off in avoiding the vast human suffering and financial expense incurred in the 1870s. Sadly, nationalist fears about affordability of food were correct, and peasants starved.

Forsyth's success in winning concessions stretching from Southern Mahratta to Goa and Mysore in the South owed much to the support of rail enthusiasts in London and Calcutta. The Viceroy's public works member, Sir Theodore Hope, demonstrated bountiful energy and a commitment to maximize taxpayers' expenditure on railways throughout the 1880s. He saw railways as a solution to famine and military insecurity. Curzon later characterized Hope's approach as "confident incompetence."¹⁹ Railway enthusiasts Hope and Louis Mallet, with Hope's mentor Evelyn Baring, pressed for spending charitable famine insurance moneys on "protective" railway companies.²⁰ The Central Provinces of India suffered badly during the three great famines of the later nineteenth century, so officials viewed a line from Calcutta to Bombay, via Nagpore, as key to successful food distribution. The Bengal Nagpore Railway, when floated on the London stock market in 1886, offered shareholders guarantees, and the benefit of access to the charitable fund, paid for by Indian taxpayers. Earlier, in 1878, the conservative Viceroy Lord Lytton had set up the Indian famine insurance fund on the premise that those who benefited from charity should pay for it. Compulsory contributions were called for from

poor peasants. By 1885, the pro-imperial/conservative Indian Secretary of State Randolph Churchill applied those peasant funds to pay interest/dividends on bonds and equities for Bengal Nagpore and Indian Midland Railway companies. The Bengal Nagpore Railway was financed by the Rothschild family. It had attracted more high net worth investments than any other Imperial venture of the nineteenth century. As well as the financiers, rail promoters, and ex-ICS representatives, a large number of Westminster representatives invested in the venture. This misapplication of famine monies to add multiple guarantees, for “gentlemanly capitalist” investors, was condemned by Churchill’s fellow Conservative party representatives, Viceroy Curzon and Secretary of State for India Hamilton.²¹

By the late 1890s, with the completion of Bengal Nagpur railway, famine protection in the Central Provinces should have improved. While railways had increased living standards through trade and growth, this had been accompanied by rising “rates and taxes payable,” according to testimony given to the 1898 Famine Commission. Railways had decimated grain stores, and food was exported from Central Provinces (presumably by the guaranteed railway), so undermining self-insurance.²² Grain price rises in the Central Provinces had been fifty percent to one hundred percent in recent years. The “famine protective” Bengal Nagpur railway had accelerated price increases in areas like Sambalpur to the extent that locals could not cope, yet that same district showed net exports of food during the famine. The export trade brought new demand and pushed grain prices higher, while the depreciating rupee made Indian grain relatively cheap for English buyers.²³ Remarkably, for a terminus on a major famine protective railway, Nagpur suffered ‘grain riots’ in the middle of the 1896-97 famine due to inflated food prices. Officials in nearby Dongargarh, who threatened severe punishment if problems arose, narrowly averted similar problems. In the Sagar (Saugor) district of the same “famine protected” railway region, the population was said to have increased by 18 percent, cultivable area by 48 percent over 1865-95, while wheat exports by rail increased from 40,000 maunds to 758,000 maunds over 1887-97.²⁴

The other beneficiary of famine insurance fund monies, the Indian Midland Railway, was a vehicle for further expansion by the Great Indian Peninsular Railway (GIPR) of Bombay. The composition of the two company boards was identical, and ultimately GIPR gained control of the Indian Midland. Unlike GIPR’s main rival in terms of scale and prestige, the East Indian Railway (EIR), the company remained private, but supported by government guarantees. The India Office did not exercise the option to buy back the GIPR in 1870. Observers estimated the GOI lost tens of millions of pounds and left fortunate shareholders with another twenty-five years of annuity-like dividends.²⁵ In the Famine Commission reports on the performance of railways in the west of India, the GIPR came in for particular criticism from witnesses for high freight charges and inefficiency. The same directors, who were benefiting from five percent government guarantees on their GIPR stock, were now able to enjoy guarantees and famine insurance fund protection on their Indian Midland affiliate. Meanwhile, in Calcutta, the nationalization of the EIR involved a premium payment to shareholders of over 30 percent of principal and thereafter generous annuity securities, with continuing profit shares. Sir Richard Strachey, who had been president of the ground-breaking famine commission of 1880, assumed Chairmanship of the EIR in 1889, enjoying a significant portfolio of EIR annuities to

enhance his meager ICS pension. Strachey's EIR had significant food distribution responsibilities. However, the company concentrated on building up duopoly control of Bengal coal reserves, together with Bengal Nagpore. Strachey boasted to annuitants in his annual report that the company had managed to minimize any contributions to the famine relief charity in London.²⁶ Meanwhile in Assam, Strachey attracted more government guarantees for an ill-conceived private railway. Assam Bengal Railway was to open up the port of Chittagong for trade, internal Assam food distribution, and troop movements to Burma. Dutt condemned this as the worst excess of railway capitalism on the subcontinent. Curzon ridiculed the half-digested combination of famine, military, and commercial arguments, which had absorbed over £9 million of taxpayers' money (against a construction budget of £4 million).²⁷

The overspending on railway companies like Assam Bengal flowed to British manufactured imports and led to the origination of more guaranteed securities for London investors. This meant that representatives of the British manufacturing and service sectors benefited from famine protective railway construction. By contrast, the amount of imported material involved in the construction of canals and water tanks for irrigation was negligible.²⁸ Many have pointed to this as the key driving force behind the rejection of irrigation expenditure in favor of railways. Interested parties, at famine commission hearings and in pamphlet and newspaper publications, debated railways and irrigation. While irrigation canals seemed to have the twin benefits of distributing water to drought regions and allowing an alternative route for grain and rice transportation, they could not compete with the speed of railways. Farmers would apply scarce water to crop irrigation in times of drought, making canal transport impossible. Opposition to canal/irrigation investment came from the most senior level. Secretary of State, later Prime Minister Salisbury declared to a Bradford audience during the 1876-78 famine that irrigation spending would simply burden Indian taxpayers with more costs and heightened poverty. Salisbury had observed exaggerated promotion of irrigation projects and returns that disappointed government and investors. It is notable that he declined to apply such rigorous performance hurdles to the far larger railway budgets. Instead, he argued paternalistically that Indians needed to curb their tendency to produce cash crops and export scarce food. This relied on a return to traditional peasant values of "frugality," with added emphasis on self-insurance and protection from the "grasp of moneylenders." In fact, railways only encouraged the rise of moneylenders, grain traders, and cash crops. Even Manchester free trader and radical John Bright, with a constituency in the middle of the cotton textile region of Lancashire, was able to declare by September 1877 that had only £30 million of public works monies been targeted at canals, "millions of the population" who had perished in famines might have been saved. By the previous year, the British had spent £160 million on railways against a paltry £20 million on irrigation.²⁹

Much of the justification for this emphasis on railways relied on the assumption that Indian famines involved regional shortages rather than a lack of food across the subcontinent as a whole. This was a controversial assumption by the late 1890s, when the worst famine conditions in documented history appeared to be afflicting India, despite the decades of investment in famine protective railways. Even a former consultant to the GOI's state railways, Horace Bell, was prepared to challenge this assumption. Bell highlighted the

1898 famine commission observation that the food production of British India was in deficit of eighteen to nineteen million tons over the years 1896-1897, and suggested that “an even greater deficiency” must have existed in the more widespread famine of 1898-1900.³⁰ Government – funded food imports could solve food shortages. Railways and the price mechanism would not be sufficient. In fact, the rise in grain prices during these famines failed to encourage grain traders to target the Indian market since export prices to Britain were still higher. Grain wages were required as part of famine relief due to the poverty of the unemployed Indian peasants. Only Burma, within British India, could offer substantial additional foodstuffs (grain and rice), but the shipping and rail costs from that region made the likely grain/rice price “prohibitive.”³¹ Huge government subsidies to the Burmese railways had done little to push down food transportation costs, suggesting that the railway company itself was benefiting. During the 1896-1897 famine, officials channelled some 95 percent of Burmese famine relief toward the Meiktila-Myingan Railway.³² Burma used this improved rail infrastructure to export more wheat to Europe, and extract improved domestic profits. The cheap labor and additional revenue which government famine relief provided for the Burma Railway Company could hardly have provided a better investment story for the hugely oversubscribed IPO the same year.³³

While these railway companies were recipients of substantial government support, they failed to provide the level of service and fare structure required to deliver cheap wheat to famine regions. In the statement for 1883-1884, after Strachey’s Famine Commission and the return of new guaranteed companies, the report highlighted failings of the railway system for famine relief. Wheat transportation rates were high in comparison with other exporting countries, notably the US. Evidence to a recent Royal Agricultural Commission had praised the achievements of the American railroad in reducing wheat distribution costs to an impressive quarter penny per ton per mile. Indian costs were a multiple of this, with the dominant GIPR and EIR railways highlighted as particularly inefficient. This must have created a particular anxiety, given the expense incurred in repurchasing the EIR stock a few years before. The requirement to repay the borrowings raised from that funding may also have compromised the GOI’s efforts to steer the EIR away from monopoly profits. While observers expected that the EIR would soon follow the Bombay, Baroda, and Central Railway with an 18.5 percent reduction in wheat transportation rates, still leaving Indian wheat producers and consumers at a significant disadvantage, for American wheat continued to have lower costs. The profusion of intermediaries in the distribution process raised grain prices further. The budget report complained of a complicated route for wheat distribution. After rail haulage, numerous grain merchants, storage and shipping agents traded the wheat. This inflated costs and made delivery time longer.³⁴

To conclude, three major famines with the loss of up to sixteen million people afflicted the Indian subcontinent over the period 1875-1914. The extent of these Indian famines prompted some parliamentary and private pressure in Britain for change. Increasingly, Indian nationalists charted the links between poverty and famine, and rebuked the British for failing to tackle the causes of poverty in India. There was a consistent wish to keep Indian finances outside the remit of the Imperial government so that the India Office could remain ‘gloriously detached’ in a way that the Colonial Office, for example, could never be.³⁵ Therefore, the India Office resisted the offer of free grants from Westminster

as the GOI struggled to balance its books during the 1896-1897 and 1899-1900 famines. Overseas charity and even domestic charity was discouraged. Meanwhile, railway expenditure by the British continued, with little need to justify the vast expense or document the contributions made to famine relief. The annual reports of the second-generation Indian guaranteed rail companies devoted no space to famine relief, and there was little questioning of senior rail executives during the extended hearings for the three famine commissions.³⁶ Even after the resistance mounted by Salisbury to irrigation had fallen away and the 1898 famine commission pressed for canals and water tanks ahead of more railways, nothing happened.

Beneath the surface of the famine commission discussions was a British suspicion that the culture of India was to blame. The British saw India's high density of population as reflective of "moral" shortcomings, although Britain and most of Western Europe appeared to prosper with greater overcrowding. To some, like the Conservative Viceroy Lytton, this Malthusian dilemma prompted a degree of fatalism about Indian famines. After the Madras famine of 1877, he stated:

The population of this country is still almost wholly dependent upon agriculture. It is a population which, in some parts of India, under the security for life which are the general consequence of British rule, has a tendency to increase more rapidly than the food it raises from the soil.³⁷

The railways, by accelerating deindustrialization and prompting still greater reliance on agriculture, helped to make Lytton's prophesy self-fulfilling. Nairoji's "magic wheels" brought little of Lytton's "security for life." India remained vulnerable to famines in the wake of failed monsoons. Grain traders, moneylenders, and spiralling grain prices continued to dampen the potency of railways to deliver effective famine relief, and Amartya Sen's exchange problems remained.³⁸ The British did start to channel more money into irrigation after the famine of 1898-1900, and there was no catastrophe on the scale of late nineteenth century famines until the Second World War. However, the excesses of guaranteed rail companies during those years, in providing generous pension arrangements for their London directors and annuity returns for a wide circle of the elite while absorbing scarce resources for famine protection, must have left a strong suspicion amongst the socialist wing of the Congress party about the virtues of "laissez faire" capitalism. India's post-war-planned economy was a natural reaction to what even Richard Strachey had called "sham private enterprise."³⁹

NOTES

1. Bipan Chandra, *The Rise and Growth of Economic Nationalism in India* (New Delhi: People's Publishing House, 1966), 192, called this the transformation of India "into an agricultural colony of Britain."
2. Tirthankar Roy, *The Economic History of India 1857-1947* (Oxford: Oxford University Press, 2000), 294; William Digby, *Prosperous British India* (London: T. Fisher Unwin,

- 1901), 134, a prominent English critic of British India, observed an enormous increase in famine deaths over the nineteenth century, even as railways were being built, from one million in the first quarter to twenty-six million in the final quarter.
3. Peter Cain and Anthony Hopkins, *British Imperialism 1688-2000*, 2nd ed. (Harlow: Pearson Education Limited, 2002).
 4. Hansard, 4th ser., 1897, XLV, No. 503, col. 886.
 5. For a summary of these arguments, see Bipan Chandra, *The Rise and Growth of Economic Nationalism in India* (New Delhi: People's Publishing House, 1966), chap. 5.
 6. Romesh Dutt, "The Currency Question," and "The Land Tax, Railways, and Irrigation," *Open Letters to Lord Curzon*, ed. R. Dutt (Delhi: Gian Publishing House, 1986), 99, 31.
 7. Romesh Dutt, "Famines in India," in *Open Letters*, 22.
 8. Malcom Darling, "Prosperity and Debt," *Credit Markets, and the Agrarian Economy of Colonial India*, ed. S. Bose (Delhi: Oxford University Press, 1994), 38, notes agricultural workers often had more food to buy than sell.
 9. Michelle McAlpin, *Subject to Famine: Food Crisis and Economic Change in Western India, 1860-1920* (Princeton: Princeton University Press, 1983), 194-202, 216; John Hurd, "Railways and the Expansion of Markets in India 1861-1921," *Exploration in Economic History*, vol. 12 (1975), 263.
 10. Dadabhai Naoroji, *Poverty and Un-British Rule in India* (London: Swan Sonnenschein & Co. Ltd., 1901), 160.
 11. Hans Singer, "The Distribution of Gains between Investing and Borrowing Countries," *American Economic Review* 40, no. 2 (May 1950) gave a theoretical underpinning to a worsening of agriculture's terms of trade over time against manufactures.
 12. Jawaharlal Nehru, *The Discovery of India* (Delhi: Oxford University Press, 1994), 495-499; but Ian Derbyshire, *Opening up the Interior: The Impact of Railways on the North India Economy and Society, 1860-1914* (Ph.D. thesis, Cambridge University, 1985), 219, argued that the 1943 famine proved the importance of railways, since it was the Japanese blocking rail routes which caused famine; Amartya Sen, *Development as Freedom* (Oxford: Oxford University Press, 1999), 51, highlighted that no comparable famine had occurred in independent India after the colonial disaster of 1943, positing a link between independent democracies and robust famine prevention.
 13. See for example Dinshaw Wacha, *Indian Railway Finance* (Madras: G.A. Natesan & Co., 1912).
 14. Bodleian Library, Kimberley Papers, Ms Eng c4277, Mallet memo "Public works policy 1882," para 26, 30; Ms Eng c4283, Mallet to Kimberley, fo. 8-10.
 15. Examples of private sector companies benefiting from such a state "safety net" included Southern Mahratta, Bengal Central, Bengal Nagpore, Bengal North West, Assam Bengal; see Select Committee on Indian Railways (P.P. 1884), para 242 where Sir George Campbell asserted that the risk for sponsors and investors in these railways financings was removed by the capacity of the promoters to return to government and negotiate "more favourable terms."
 16. This attempt to frame famine policy in *laissez faire* terms had its roots in the earlier nineteenth century teaching of Adam Smith and John Stuart Mill at the ICS College of Haileybury and elsewhere, as elucidated in Srinivasa Ambirajan, *Classical Political*

- Economy and British policy in India* (Cambridge: Cambridge University Press, 1978), chap. 3.
17. Parliamentary Papers 1884, (284), Select committee on East Indian Railway Communications; Danvers testimony, 445, para 6961-6964.
 18. George Elsmie, *Thirty-Five Years in the Punjab* (Edinburgh: David Douglas, 1908).
 19. IOR, Mss Eur F111/159 (Curzon Papers); letter no.41; Curzon to Godley 4/7/00.
 20. Edward Said, *Orientalism* (London: Penguin Books, 2003) presented Baring, later Lord Cromer, as a personification of the worst excesses of “orientalism.”
 21. Lance Davis and Robert Huttenback, *Mammon and the Pursuit of Empire* (Cambridge: Cambridge University Press, 1986), 195, 206-208; and Premansukumar Bandyopadhyay, *Indian Famine* (Calcutta: Star Publications, 1987), 116-117.
 22. Parliamentary Papers 1899 [c 9255], Report of Indian Famine Commission , 1898 Minutes of Evidence, Appendix Volume IV, Central Provinces and Berar, 261, testimony of Rao Bahadar Rajaran Sitaram Dizit.
 23. Ibid, 244, 283, 283A, testimony of Mr. L.S. Carey.
 24. Eric Stokes, “Peasants, Moneylenders and Colonial Rule: An Excursion into Central India,” *Credit Markets, and the Agrarian Economy of Colonial India*, ed. S.Bose (Delhi: Oxford University Press, 1994), 73.
 25. John Strachey and Richard Strachey, *The Finances and Public Works of India* (London: Kegan Paul & Co., 1882), 128-129; Parliamentary Papers 1896 [c8259], Royal Commission on Administration of Expenditure of India, First Report Volume II, Appendices, 85, where the so called “Welby Report” highlighted the need to calculate the loss to India of the GIPR fiasco, but later determined it was impossible to estimate.
 26. IOR, Mss Eur F111/502 (Curzon Papers) para 63, where Curzon attacks the selfishness of the EIR policy.
 27. IOR, Mss Eur F127/270 (Strachey Papers) fo.5.
 28. Parliamentary Papers 1881 [c3036], Indian Famine Commission Report, Part III, Appendices, 367, a representative from the North West Provinces told the famine commission that “canal or reservoir projects provide the...work best suited to the employment of famine labour,” unlike railways which “involving a large proportion of expenditure in Europe” were “quite useless for relief of distress in India.”
 29. John Dacosta, *Fads and Fallacies regarding Irrigation as a Prevention of Famine in India* (London: W.H. Allen & Co., 1878), 8-10; and Arthur Cotton, *Reply to Lord Napier’s Address on Indian Famine* (Edinburgh: Oliver & Boyd, 1878), 6.
 30. Parliamentary Papers 1899 [c9178], Report of Indian Famine Commission 1898, para 585; IOR, Mss Eur F111/266b (Curzon Papers) fo.213.
 31. Ibid fo.216.
 32. Parliamentary Papers 1899 [c9178], Report of Indian Famine Commission 1898, 106.
 33. Ibid, 248.
 34. Parliamentary Papers 1883 [135], Financial Statement of Government of India, 1883-84, para 174-190.
 35. Arnold Kaminsky, *The India Office, 1880-1910* (Westport: Mansell Publishing Limited, 1986).
 - 156 36. Guildhall Library, London, Indian Railway Annual Reports from 1880.

37. IOR, Mss Eur E218/136 (Lytton Papers), 72.
38. Amartya Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford: Oxford University Press, 1981) where problems of “exchange entitlement” in the context of the Bengal famine of 1943 were examined. The market mechanism was seen to break down through acute price movements, panic hoarding, and speculative control of food.
39. Parliamentary Papers 1884 [c284], Report from the Select Committee on East Indian Railway Communication, 18/7/84, 4, 19, 22.

