

Railways and the water regime of the Eastern Bengal Delta, c. 1905-1943: a reappraisal

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Introduction

This paper examines the way how railways generated a domain of contestation and cleavages in its encounter with the gradually declining water regime of the of the Eastern Bengal Delta (roughly the plains of today's Bangladesh). The debate about the impact of railways in India in general and in Bengal in particular dates back as early as 1920s, but it is surprising that the arrangements and impacts of railway establishments in Eastern Bengal Delta, a veritable home of a great fluvial regime, has not been adequately addressed. This paper is an attempt to join the old debate of railways in a view to reconstruct aspects of early twentieth-century agrarian history of this region.

The Bengal Delta is formed by three major rivers of the Himalayan ranges: the Ganges, the Brahmaputra and the Meghna. In the thirteenth century, the Ganges was running towards the Bay of Bengal through the river Hooghly. It gradually swung to the East over the next few hundred years and finally met the River Brahmaputra in the early nineteenth century in Goalundo, near Dhaka.¹ The joint flow then met the river Meghna in modern Chandpore district, forming, for a distance of about 170 kilometres, the second largest river in the world (after the Amazon).² This, in turn, formed the heart of the largest delta of the world. Various tributaries and distributaries of all the three major rivers, as well as other water courses like canals and creeks, played around in the Delta like so many snakes in a flat basket. In an area of about 56,000 square miles there were thus more than 600 watercourses of varying types with a total length of at least 24,000 Kilometres.³ This fluvial hegemony presented a metaphor for the unending intricacy and difficulty that confronted everyday life of the people of the Delta. But instead of being so, this came to be known as 'one of the most significant water systems in the world'.⁴

¹ The event was described by Richard Temple, a Lieutenant-Governor of Bengal, as 'Greek meeting Greek with the strain of aquatic contest'. See, Richard Temple, *Men and events of my time in India* (London, 1882), p. 416

² J.E. Webster, *EBDG: Noakhali*, p. 41; 'The setting of the river system of Bangladesh', www.comnet.mt/bangladesh/SetRiver.htm, last accessed, 16/05/02, p. 2.

³ Haroun er Rashid, *Geography of Bangladesh* (Dhaka, 1991), p. 44; *Mizanur Rahmaner Troimashik Patrika*, 17,3 (October-December 1999), 478-80.

⁴ P. Bramley, 'The strategic and political value of the navigable waterways of India', *The Journal of the Royal United Service Institution*, LV, 410 (July, 1911), 854; also note Nirad C. Chaudhuri's description of a Deltaic landscape: 'the picture on the river during the rainy season at Kishorganj was the Deluge and the Ark made homely, gregarious and sociable', *The autobiography of an unknown Indian* (London, 1951), p. 9; again: 'some parts of Bengal are so favoured with rivers that almost every cottage has a navigable stream at its door, and the Bengalese farmer keeps his boat just as the English farmer keeps his gig'. See 'Second annual meeting of the Association of American Geographers: Papers and Abstracts', *Bulletin of the American Geographical Society*, 38, 2 (1906), 70-1.

Most historians of Bengal now agree that Eastern Bengal Delta (henceforth Eastern Bengal) in the nineteenth century was economically and socially better off than Western or Northern Bengal and such assertion is mainly based on the evidences of the formative role of the water regime of the region.⁵ The river networks of Eastern Bengal brought down millions of cubic feet of silt from the upcountry and created fertile lands in the form of *chars* and islands. While the colonial state in its early career in Bengal favoured the landed elite, by the 1830s it took up the policy of developing a close working relationship with the primary producers in the new areas reclaimed from both the alluvial regime and the Sundarbans forest system, situated on the southern fringe of the Delta. These changes in policy came on the consideration of proper utilization of newly formed and reclaimed lands in the peripheral wilderness and the fluid riverine atmosphere, rather than on a sudden utilitarian turn on the part of the Raj. However, the whole process brought about a remarkable upward shift in the economy and society of this region as far as the actual farmers were concerned.⁶

The impression of Eastern Bengal as a kind of fluvial utopia, however, remained unchanged in the official mind during the early decades of the twentieth century, when the water regime obviously declined to a great extent in comparison to nineteenth-century condition. Any consideration of improvement of the water regime of Bengal during the early decades of the twentieth century, therefore, mainly concerned the already well-known 'decadent' or 'moribund' areas of Western and Northern Bengal. In this process Eastern Bengal was left alone in the shadow of its own great fluvial past. The same applies to recent historians of Bengal who have placed a whole lot of arguments on the question of decline of agrarian production in the twentieth century in the hitherto prosperous Eastern Bengal, but have not seriously considered the conditions of its water regime to trace the transition from an economically mobile, live agrarian society to a stagnant and decadent one. It is in this context, this paper takes a fresh look at the water regime vis-à-vis railways.

Race for railways

Seeds of the problem appear to have lay not in the erection of railways itself in the first instance, but in the fact that the state while encouraging railways failed to appreciate the relative importance of inland waterways. In Eastern Bengal, waterways were often taken as rival to railways as means of communication and there was a feeling that with the completion of railway system, transport and communication would be faster and reliable and this could have been done at the expense of the slower mode of water transports. This idea proved successful in the short term as it was reflected in the bulk of traffic in goods on the railways, but it proved injurious in the mid and long term. Though railways provided transport to public and goods to a certain extent, in Eastern Bengal it was the

⁵ Binoy Bhusan Chaudhuri, 'Agricultural production in Bengal, 1850-1900: co-existence of decline and growth', *Bengal Past and Present*, 88, 2 (1969); Sugata Bose, *Peasant labour and colonial capital: rural Bengal since 1770* (Cambridge,1993).

⁶ K.I.Iqbal, 'Ecology, economy and state in the eastern Bengal Delta c. 1840-1880', unpublished MPhil thesis, University of Cambridge, 2002.

water regime that was more important than any other means of transport because it provided genuine impetus to cropping arrangement in addition to providing transport.

A 1906 report on the waterways of Bengal, after describing the worldwide expenditure on the improvement of waterways, pointed out that India had done comparatively little in this context. It calculated that the total expenditure on the improvement of navigation facilities had not exceeded 5,000,000 pounds during the past 40 years whereas the expenditure on railways during the same period had exceeded 200,000,000.⁷ Government of India was even more generous about railways in Eastern Bengal. By 1928 it was reported that the Eastern Bengal Railway (EBR) had been treated rather more generously than some lines and had received about two-thirds for the total sum asked for in the year 1925-30, while other lines had received less than half their demands.⁸ Though, at any rate, conditions in Bengal were 'more favourable for the improvement and extension of such navigation facilities than in any country in the world,' the bias for railways in Eastern Bengal continued. Like the major rivers entering the active Bengal Delta from Northwest and North and Northeast, the Eastern Bengal Railway and Assam Bengal Railway (ABR) gradually penetrated Eastern Bengal and by 1918 major district and *thana* headquarters were linked by railways.⁹

A number of historians have quoted C.A. Bentley, a Bengal Public Health chief, to support their argument on the effects of embankments on public health, even though a considerable attention was given by Bentley himself in his report on the effects of embankments on agriculture. However, on the question of Eastern Bengal, Bentley was more concerned with the future of Calcutta and the province of Bengal as a whole if Eastern Bengal ceased to be the most fertile and productive of regions because of the effect of embankment. He was convinced that situation in Eastern Bengal was relatively better than other regions of Bengal, but he cautioned against disastrous consequences of the policy and practice of embanking Eastern Bengal.¹⁰ Bentley's assumption proved correct in the thirties and in the forties though it was nevertheless also true that things were no better at the time of Bentley's writing of the report in early 1920s.

A brief case study: Eastern Bengal Railway (EBR)

To begin with the north-western segment of the EBR, or the areas covering most of Rajshahi Division, the water regime of this region was destabilized by the way railway exposed itself to the Chalan *beel*. The Chalan *beel* was a vast deep hollow lying in the districts of Rajshahi and Pabna where a very large portion of the drainage comprising the

⁷ O.C. Lees, *Waterways in Bengal. Their economic value and the methods employed for their improvement.* (Calcutta, 1906) p. 9

⁸ N. Pearce, Agent, Eastern Bengal Railway to G.G. Day, Chief Engineer to the Government of Bengal, 30 October 1928, Dhaka, NAB, dept: CB& I, br: railway, Bundle: 1, unrecorded Files, file no. 7.

⁹ For a detailed description of the expansion of railways in Eastern Bengal Delta, see *History of Indian Railways, constructed and in progress corrected up to 31st March 1918* (Government of India: Railway Department, Simla: Government Central Press, 1919) pp. 42-52, 153-6; M.B.K. Malik, *Hundred years of Pakistan Railways* (Karachi, 1962), pp. 14-9.

¹⁰ C.A. Bentley, *Malaria and agriculture in Bengal: how to reduce malaria in Bengal by irrigation* (Calcutta, 1925).

water of a number of rivers and other minor waterways of Northern Bengal converged.¹¹ The Ganges water was also introduced into this *beel* area by the Boral river through its distributaries, the Nandakuja, and Godai rivers. An estimate taken in 1945 found about 47 rivers and other waterways throwing themselves up in the Chalan *beel* which comprised a watershed of about 1547 square miles.¹² Besides being a giant junction of numerous waterways, the *beel* also served as a springboard from where many rivers flowed further south and east to meet finally with Padma and Brahmaputra respectively. Thus the Chalan *beel* with the waterways that converged in it from the north and north-west and with those that exit from it towards east and southeast altogether formed a water regime that first reserved and then cleared the drainage of almost half of the active Delta.¹³

With the beginning of the new century the *beel* began to be bounded approximately by the EBR main line on the west and by the Santahar-Bogra branch line on the north. Since the *beel* filled from the north-west and south-west, the feeding was intersected by the Bogra-Santahar line and the EBR main line and since the *beel* drained in a south-easterly direction mainly to the Brahmaputra, the drainage was intersected by the Sara-Sirajganj Branch line of the EBR.¹⁴ The natural arrangement of drainage of the water regime of this part of the active Delta thus met with formidable obstacles in the form of railways since railways in these low lands had to be built on embankments. Such situation of hindrance put against the waterways was further aggravated, for instance, by the reduction of the number of spans on the bridges of the EBR since the broad gauge line was constructed. In this area the total existing outlets in early 1920s was reported to be 440 feet as compared with 967 in this part of the railway when the line was first constructed.¹⁵

Coming down to the southern branches of the EBR, it was found that, for instance, between Dadshi and Pachuria Railway Station in Khulna, the combined catchment area of the waterways was 1.5 square mile. But there were only four openings. Though the government officials thought the opening 'adequate' the actual measurement of the four openings informs that there were two pipe culverts of 1.6 feet diameter each and two girder bridges of 1x12=12.0 feet and 1x20=20.0 feet diameter for the entire catchment area of 1.5 miles.¹⁶ There is evidence that such arrangements of inadequate openings were found in almost every mile of the railways that ran across the Eastern Bengal.

¹¹ Some geologists suggest that Chalan *beel* is an abandoned bed of river Ganges (Padma). See, Bisheswar Vattacharya, 'Bange Ganga' (The Ganges in Bengal), *Bangabani*, 3, 2 (Ashwin, 1331 BS), 171.

¹² M Abu Hanif Sheikh et al, 'Chalan *beel* anchorer nadimalar shankyatattik bissleshon' (Statistical analysis of the rivers of the Chalan beel), *Institute of Bangladesh Studies Journal*, 1406: 7, 125,129.

¹³ For a description of the process, see *Report on the hydraulic conditions of the area affected by the north Bengal floods*, in Proceedings of GoB, dept: irrigation, br: irrigation, FQE June 1927, vol. IV.

¹⁴ *Report on the hydraulic condition*, pp.6-7.

¹⁵ W.H. Nelson, *Final report on the survey and settlement operation in the district of Rajshahi, 1912-1922*, (Calcutta, 1923), p.8.

¹⁶ B.M. Mukherjee, Executive Engineer, Khulna Division to Superintendent Engineer, South Circle, letter no. 1957 of 21 June 1945, Dhaka, NAB, dept: CB&I, br: railway, progs: B, bundle: 2, list: 70, file no. 1W-1/(19)46: 'Examination of the question of inadequate opening on Railway Embankments with flood affected districts'.

The railways thus with their embankments were set to oppose the free flow of water and natural spill pattern which in consequence caused enormous harm to crops. For instance, the Calcutta-Siliguri EBR line ran across Rajshahi towards north and south and passed through a low country between Basudebpur and Talakpur, the natural slope of which was towards the east. The railway embankment thus interrupted the natural drainage of the country causing a heading up against it a great volume of water, the effect of which was the complete destruction of broadcast *aman*, the only crop of the area. The water took a long time to escape eastward through the culverts and bridges which were very few in numbers but in its escape to the river Brahmaputra it met with obstruction again by the Sara-Sirajganj embankment of this line and consequently destroyed the crops of further area. A part of the line also passed close to the *Chalan beel* and thus obstructing its flush water to find its escape to the river Jamuna/Brahmaputra; the result of this interruption was the hastening of the silting up of the *beel* and the consequent reduction of its water-holding capacity. This reduction, in the opinion of an official observer, was one of the factors underlying the frequent occurrences of flood since the construction of the Sara-Sirajganj Railway. The cultivators of this vast tract of country lying on the northwest of Sara-Sirajganj line in consequence of the bad drainage due to the blocking of the natural flow of water had to forgo the cultivation of *rabi* crops up to their requirements as the fields did not dry up readily for timely cultivation. They now resorted to sowing seeds in the mud. 'Any one with an ounce of knowledge in Agriculture could' reported the said official, 'easily imagine how a crop of mustard, lentil, wheat or barley fares if thus sown.' The official then continued to report that he was not speaking of years of abnormal rainfall, but of normal years.¹⁷

A devastating flood took place in Bogra and Rajshahi in 1918 beginning with the fall of excessive rain on 21 August in Bogra. The area lay on both side of the EBR between Hilli and Nator rail station. The water east of the EBR banked up and was prevented flowing away by the embankment of the Bogra line. Meanwhile, heavy rain fell downward in Rajshahi on 24 August and this, added to the floods draining from the Bogra and Dinajpur districts upper in the north, caused the whole country to be flooded; there too the railway embankment prevented the flood water draining off quickly. About 1300 to 1400 square miles of areas were affected in which crops of more than 200 square miles perished.¹⁸

Some of the effects of the railways also travelled directly through social corridor in agrarian delta. During the early phase of its career EBR became one of the contributing factors in raising the price of rice in central Bengal. Before the opening of the EBR, a large quantity of rice used to pass by boats through some of the districts of central Bengal

¹⁷ Superintendent of Agriculture, Rajshahi Division, to Deputy Director of Agriculture, Northern Circle, copy of letter no. 3842 of 24 November 1922, Dhaka, NAB, dept: public health, progs: B (no. 156-57, pp.12-5), bundle: 5, list: 4, file: P.H.4A-14/1925. The paragraph is an adaptation from the referred text; For a description of the contribution of railway embankments in the 1918 flood, 'heaviest of all' of north-eastern Bengal, see *Final report on the flood of Rajshahi Division during the year 1922*, pp.1-2, in Progs of the GoB, dept: revenue, br: land revenue, July, in FQE 1925, (Calcutta, 1925).

¹⁸ J.T. Rankin, Commissioner of Rajshahi to the Secretary to the GoB, Revenue Dept, no. 371 of 25 November 1919, Dhaka, NAB, progs: A (no.9-10, p.1), wooden bundle no: 33, list: 14, file: 6-F-1/ 1919?: *Final Report on the floods in the districts of Rajshahi and Bogra*.

from Eastern Bengal to the Calcutta and other markets; a part of the traffic was, however, intercepted and came into the Nadia markets and this process tended to lower prices of rice. But with the coming of the railway all rice passed straight through Kushtia by railway with the result that the former influence no longer existed and the District of Nadia was thrown back entirely upon its own resources and as a consequence, prices rose abnormally.¹⁹ As the railway gradually extended to Eastern Bengal, the most prosperous primary production area, this phenomenon probably followed there. Particularly fishing community was hard-hit and the fish industry steadily deteriorated; and the fishermen were, a 1910 report observed, much worse off than they were twenty years ago. The decline was attributed chiefly to waning fish supply as the fishermen were deprived of the profits of their subsidiary occupations as carriers of fish and manufacturers of fish oil with the coming of the railways and steamers.

At Goalundo or Damukdia Stations, where one sees tons of fish being brought in, one can get a fish by begging, but never by purchase. There is no doubt that along the railway line and the steamer routes, the local markets are all being starved for the higher prices fetched in the distant markets. The growing influx of people into towns increases the demand and to meet the demand the interior of the country is robbed of its local supply.²⁰

The locals, the moderns and the policies

On the policy making process, the railway department and authorities seems to have had the upper hand in relation to other departments, for instance, Public Health. In the early 1920s, the Government of India addressed the Government of Bengal on the subject of the influence of railway construction on public health and advised for appointment of a committee to consider the sanitary condition of any line to be constructed. A circular was issued asking the railway authorities to keep the Government informed about the proposed time for construction of any rail line. At the same time, on the suggestion of the Public Health Department in respect of the existing lines, it was decided to appoint 10 surveyors under the direction of the Chief Engineer of Public Health Department and the Government of India, and the Railway Board was requested to render necessary assistance for the proposed survey. However, before sanctioning the proposed survey and the appointment of the surveyors, Irrigation Secretary and Mr Addams Williams, one of colonial India's leading irrigation experts, opposed the proposal on the grounds that railway must be carried on embankment which was sure to obstruct natural drainage to certain extent. They contemplated that in filling the borrow pits by the side of the railway lines, fresh borrow pits had to be dug and the only way to drain them was to join them by channels to the nearest rivers and such channels when deep would be 'dangerous to the lines'. The file was then sent to Department of Public Health who now made different proposals which were again turned down, this time by Irrigation Department, and after raising some more bureaucratic bubbles, the project fell flat.²¹

¹⁹ H.Bell, Officiating Magistrate, Nuddea, to Commissioner of the Presidency Division, no. 482, 29 March 1867, progs: A, for April 1867, Dhaka, NAB, dept: land revenue, wooden bundle: 2, List: 17.

²⁰ Kiran Chandra De, *Report on the fisheries of Eastern Bengal and Assam* (Shillong, 1910), p. 70.

²¹ Dhaka, NAB, dept: public health, progs: B (no. 168-178), bundle: 5, list: 4, file: P.H. 2M-6, pp. 24-6: 'Note for the Secretary' by A.K. Das, 7 December 1922.

It remained somewhat true that the idea of ‘saving’ a railway line from the rush of water or from any other threat was the most important idea that the ‘modern’ engineers would have attracted to. In the Dhulian Municipality areas near the Murshidabad-Rajshahi border, flood had been occurring every alternate year since 1934. The Malaria Engineer observed that it was due to the rainfall on the west or to overlapping of the Ganges on the west or both and he concurred with the Executive Engineer’s view, taking into consideration the direction followed by flood, that the new outlets would have very little influence upon the general drainage of the area on the subsidence of a flood. While discouraging the opening of new outlets for water to flow through the railway embankments, the engineer however admitted that water was collected and stagnated in borrow pits along the railways and he thought of improving the stagnation of water by diverting the accumulated water to other directions to ‘avoid any danger to the line’.²² But in spite of opening up inlets in some places and in spite of theoretical justification on the part of the railway authorities of the ‘adequacy’ of the openings they provided, the local people were always uncomfortable with embankments. It so happened, for instance in Dhulia itself in 1938, when local people assembled and appealed for cutting the embankment for draining out the water through the line to the West. The authorities insisted, disregarding the suggestion of the Director of Public Health, they would not open up and insisted on their ‘modern’ knowledge of things: ‘whatever may the old people of the locality believe, more railway openings can not be the solution’.²³ Ultimately, the construction and other related issues relating to railways depended on financial justification, not on ecological or agricultural consideration.²⁴ A government executive engineer, who represented none of the parties of local or so called educated people or of the railway department, remarked:

The local inhabitants are neither accurate nor keen observer, being uneducated men, for the most part; and the educated classes are so biased by preconceived ideas that they cannot be accepted unreservedly. Virtually the only trained observers present at the time of floods in question were railway officials and even their evidence cannot be accepted as conclusive because their main object has been to a defence of the railway.²⁵

Such apathy to things ‘local’ was, however, not surprising given the fact that the colonial education system that produced engineers were having their training in a circumstance

²² H. Norman Worth, Malaria Engineer, 20 December 1940, Dhaka, NAB, dept: CB&I, br: railway, unrecorded files, bundle: 1, list: 70, file no: 1W-4/1939: Inspection note by the Director of Public Health on the flooded condition in the Dhulian Municipality.

²³ P.C. Roy, Superintendent Engineer, Development Circle, to Chief Engineer, Communication and Works Department, Irrigation branch, no.1370 of 14 March 40, Dhaka, NAB, dept: CB&I, br: railway, unrecorded files, bundle: 1, list: 70, file no: 1W-4/1939: Inspection note by the Director of Public Health on the flooded condition in the Dhulian Municipality.

²⁴ Dhaka, NAB, dept: CB&I, br: railway, progs: C, bundle: 1; also note this remark: ‘There is in the first place the difficulty of dealing with the railway authorities. These authorities naturally resist any schemes or enquiries which are likely to involve them in expense. It is, I think, a fact that neither the district board nor the district experts are sufficiently strong to face thereof the railway administrations. In practice a scheme may be put forward by the local authorities. It will be examined by the railway experts and pronounced unworkable or unduly expensive. It becomes then almost impossible for the local authorities to proceed further.’ in GoB: Proceedings of Irrigation Department, April 1926, FQE June 1926 (Calcutta, 1926).

²⁵ *Report on the hydraulic condition of the area affected by the North Bengal floods*, p.7. Progs of the GoB, dept: irrigation, br: irrigation, FQE June 1927, vol. IV.

that was far too aloof from the traditional understanding of things in the countryside. Along with this it was found that though the prospective engineers were supposed to study a host of related courses, provisions for practical examinations in any of the subjects were categorically omitted.²⁶

The report of the Royal Commission on Agriculture in India devoted some attention to the question of waterways of Bengal and observed that embankments deteriorated rivers by heightening their beds.²⁷ The report then advised the government to setting up a Provincial Waterway Board for Bengal. The Bengal Government announced in 1932 the formation of such a Board. But the proposed Waterways Board, as a contemporary critic observed, represented only commercial interests and that no provision was made for the representation of the Public Health Department.²⁸

Responses from society within

While it was the colonial power house, western technological feat of the time and military considerations that in combination created the context for a railway establishment in Bengal, it must, however, be kept in mind that railways were not always and unilaterally a colonial project imposed from high-up. It was often the demand of the local landed elite, *majahans* and the so called *bhadralok* who invited rail line in the remote countryside as it appeared immensely compatible with their interest, sense and sensibilities.²⁹ In the long grown literature of the *bhadralok*, railway was, therefore, seen as an object of great wonder and approvable masculinity and, if there was any fight by the *bhadralok* in relation to railways, it was not against railways itself but against the social discrimination that arose among the *bhadralok* and the white passengers. The decision of the government in not sanctioning the high-embankment railroad connecting Dhaka and Archia steamer station of Padma on the ground that this would interfere with the local drainage and public health, therefore, generated angry reaction. *The Amrita Bazar Patrika* vehemently supported the proposal and attacked the colonial government

²⁶ Dhaka, NAB, progs, dept: irrigation, August 1928, FQE Sept 1928, vol. IV, (Calcutta, 1928).

²⁷ *Report of the Royal Commission on Agriculture in India, vol.VIII, 1928*, p.360-61. The report noted: 'where no bunds prevent the river from overflowing its banks, the flood of each succeeding season bring a further deposit of fertile silt to wide areas of territory; while, at the same time, the flood waters cleanse purify the surface of the land, sweeping away decaying vegetable and animal matter and purging the streams, ditches and ponds of insects and impurities, Inevitably the bunding of such rivers must, to some extent, includes both to arrest this natural regeneration of fertility and give rise to a deterioration in the health of the population of the riverine tracts. There can be little doubt that certain districts have tended, as a consequence of the interference by man with the forces of Nature, to decline in natural fertility and to become the breeding ground of malaria and their diseases. This process is occasionally, and sometimes seriously, aggravated by the construction of railway and road embankments across the lines of natural drainage'.

²⁸ Secretary to the GoB, Local Self Government Department to Bijoy Prasad Singh Roy, Minister? no. 2185 P.H, 11 November 1932, Dhaka, NAB, dept: public health, progs: B, list: 4, bundle: 19, file no. 2A-7/32, p.109: 'The Bengal Waterways Bill'.

²⁹ Copy of resolution of the Pabna Mahajan Samity, held in a meeting held 25 January 1938, Dhaka, NAB, dept: CB&I, br: Railway, progs: C, file: IR-5/1938, bundle: 1, list: 78.

for ignoring the project and observed that so long as the country remained in a state of subjection there was no help except to put up with that kind of injustice.³⁰

An interesting episode of a complex relationship in which a *khal* (narrow waterbody), local elite and poor peasantry were caught up could be placed here for illustrating how railways and its apparatus could even in a very remote and indirect way cause curious cleavages within an agrarian society. In 1909, ‘inhabitants of 47 villages’ of Ullapara Police Station of Pabna petitioned to the Government requesting for the re-excavation of a *khal* called Ghatina. According to the petition, during monsoon floods water used to find its way to these places mainly through the Ghatina *khal* which opened into the Fooljore river at a place called Ghatina. As the floodwater left layers of fertile silt in the fields, the *khal* was considered an important boon to the area. But the *khal* was recently silted up and with steeping of jute in the *khal* things were taking a worse turn as it affected health of the people. The steeping made the scanty water foul and turned it into a ‘hot-bed of malaria’. However, the steeping of jute could not be stopped as the country was an important jute producing one. So long as there was no obstacle to the free flowing of a current of river water through these villages by the said *khal*, the water rendered foul by the steeping of jute could not stand and the people never knew what malaria was. The remedy was therefore the bringing up of free flow of water in the *khal*. Along with the public health issue, the petition also noted that in consequence of the gradual closing of *khal* to boats, the people of neighbouring villages could not carry their jute to the nearest jute markets, nor could the jute merchants conveniently approach these villages and the villagers were, therefore, compelled to sell it at a discount of 8 annas or even more to the *maund*, compared with the current market prices at the neighbouring jute marts.³¹

In this context the petitioners requested the government to sanction Rs. 3000 for the purpose of re-excavation of the *khal*. The government, however, was not prepared to sanction the sum but recommended the petitioners for taking a government loan called ‘Land Improvement Loan’. But the zamindars of Salap, the actual movers of the petition, were not prepared to undertake such loans. Since then nothing happened regarding this petition and after about 12 years, in 1923, following another petition from the zamindars of Salap, it was proposed by the government that if the people of the area could raise Rs. 750 for the purpose of excavation, then the Government would take up the cause. However, when the money was raised in subscription in January 1924, the Chairman of the District Board informed the petitioners that objections had been filed by some people against the proposed re-excavation of the *khal* and that the works would be taken up after the objections were settled. This counter-petition was what brought the entire course of event in a different light.

Referring to the movement of the zamindars and other petitioners, the new counter-petition put forward to the District Board several point in relation to their objection to re-

³⁰ Dhaka, NAB, dept: CB&I, br: railway, progs: C, budle:1, file no.1R-12/1935 ‘proposed Dacca-Aricha Railway’; see also, ‘Dhaka-Aricha Railway’, *Dacca Prakash*, 21 July 1935, p.4; Interestingly, this part of Bangladesh, which has seen two successive post-colonial states, is railway-free till date.

³¹ Petition of the inhabitants of 47 villages of Ullapara, Pabna, to District Magistrate of Pabna, 30 June 1909. in Papers relating to Ghatina Khal in ‘Reexcavation of the Ghatina Khal, Pabna, in file: P.H.ID-17, proceedings 81-87, NAB: GoB, Public Health, progs: B, Bundle: 7, List:4, 1926.

excavation of the *khal*. Referring to the fact that they were poor peasant community with little lands, the counter-petitioners requested the authorities to come and see the area in person and take a decision accordingly. The petition noted that during the construction of the Sara-Sirajganj railway a lot of their lands were acquired by the Railway Board and that they had been harmed enough by this. But the little lands that were left had then gone into the river Korotoya and still kept going into it as the main current of the river had been falling through this village since the Ghatina bridge was built over the river. The petitioners feared that if a *khal* was excavated then a substantial land remaining to these poor cultivators would be lost too. At that time the current of the river Korotoya was running towards their village to such an extent that at one point this proposed *khal* could turn into the Korotoya river itself. Consequently, the petitioners feared that they would lose even their *bastuvita* and turn into street beggars. The petitioners also mentioned that the price of land in that area was so high and these were so unavailable that even if they were given compensation, that would not be of any use to them, because land was ‘something of a great matter of great difficulty’. For all these reasons the petitioners were against the excavation of the *khal*.³²

At a meeting on 24 March 1924, the District Board resolved to take up the work of re-excavation under the Bengal Agricultural and Sanitary Improvement Act 1920. But until 11 August 1926, no excavation took place. In absence of further documentary evidence in the archives, it was not possible to know whether the *khal* was eventually excavated or not, but the very fact of submission and the content of the counter-petition exposed the extent of danger that came from railway establishment to the actual cultivators and also the way these cultivators responded to this kind of existential threat. While resistance as cited above were made through institutional means as set up by the colonial administration itself, there were other members of agrarian society who had other ideas to assert their right. For instance, during 1938-9, 36 people were convicted for piercing the embankment during the flood in 1939 on the Kalukhali-Bhatipara and Madhukhali-Kamarkhali branch lines of the EBR. The accused said that they did not intend to dismantle the railway line, but that ‘they had a right to cut the embankment, because it prevented the free flow of flood water and thus caused serious damage to their crops.’³³

Conclusion

In its quest for analysing the impact of interaction between Eastern Bengal deltaic landscape and railways, this paper has shown that the colonial administration and to some extent local gentry failed to grasp the extent of threat of railways to the water regime of the region. In most cases railway embankments without generous outlays for free flow of water current helped waterlogging and consequently destroying standing crops and cropping pattern. Besides, railways often caused decline or diversion of watercourses towards unexpected terrains. Traditional sources of subsistence and

³² NAB, in file: P.H.ID-17, proceedings 81-87, NAB: GoB, Public Health, B proceedings, Bundle: 7, List:4, 1926; petition was signed by Jamar Uddin Akand, Nasim Sarkar, Nilu Sarkar, Sober Pramanik, Karam Pramanik, Enam Sarkar, Nasr Pramanik, Hossain Pramanik, Shahor Pramanik, Tarikh Pramanik, Samed Pramanik, Madhu Pramanik, Gafur Pramanik, Jamatullah Pramanik, Akand, Banru Pramanik, Boyat Pramanik, Ketab Pramanik, Moher Uddin Pramanik, of village Ghatina

³³ BLAP, vol. LIV, no. 4 (Calcutta, 1938) p. 305.

nutrition such as rice and fish also depleted due to trains taking them to cities where they fetched higher margin of profit. Besides, it is now proved by statistics that culturable waste land in the Bengal Delta increased over the first few decades of the twentieth century.³⁴ In the case of Western and Central Bengal, explanation as to this could be found in the fact that these regions lost population growth due to the moribund state of the regions and to the spread of malaria. However, it was not clear why in the Eastern Bengal Delta, where the population growth was speeding up every year and where land still possessed enormous fertility, cultivable wasteland existed. The question therefore could be raised whether the railways with their long arms of embankments could partly be responsible for this.

Though a somewhat gloomy picture this paper presents, it may be taken as a new departure in the context of the old historiographical debate about Indian railways which so far has been mainly concerned with whether the modern transport ‘revolution’ brought about by railways accelerated economic growth or not. Whatever relevance the debate has for other parts of India, the very possibility of dislocations by railways of the elementary ecological ingredients for agrarian production process speaks for further study of the operations of railways in the highly fluid terrain of Eastern Bengal in particular and other riverine atmospheres elsewhere. §

Terms and abbreviations

<i>bastuvita</i>	homestead
<i>beel</i>	marshy depression
<i>bhadralok</i>	English educated ‘gentle folk’
<i>char</i>	alluvial accretion
<i>khal</i>	narrow waterway
<i>mahajan</i>	moneylender
<i>rabi</i>	a paddy species
<i>aman</i>	a paddy species
<i>thana</i>	territorial jurisdiction of a police station
Br	Branch
CB&I	Communication, Building and Irrigation
FQE	For the quarter ending
GoB	Government of Bengal
NAB	National Archives of Bangladesh
Progs	Proceedings

³⁴ H.S.M.Ishaque, *Agricultural statistics, ibid.*, pp.8-9

