

AN ENGINEERING DEBACLE: THE STORY OF THE VETCH HARBOUR ENGINEERING WORKS AT PORT NATAL, 1859-1874

Lucille Twyman
Department of History
University of South Africa
P. O. Box 392
0003 Pretoria

'n Ingenieursdebakel: die verhaal van die Vetch hawe ingenieurswerke in Port Natal, 1859-1874

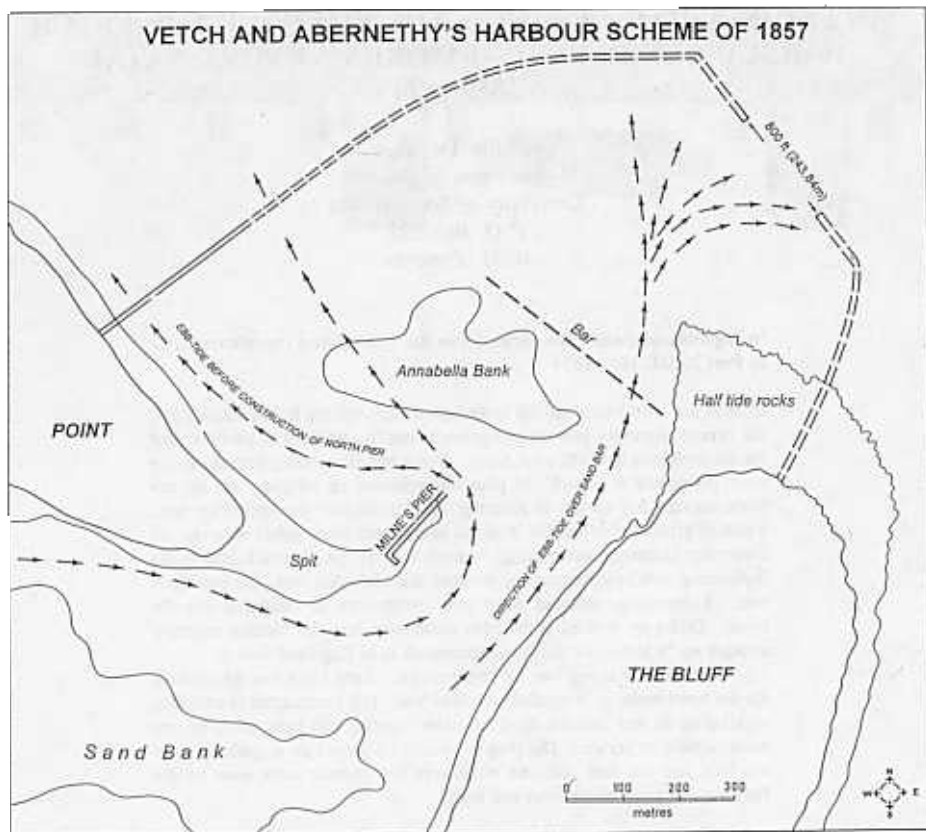
In 1859 het John Vetch van die hawedepartement van die Britse Admiraliteit die tweede ingenieur geword wat gevra is om 'n antwoord te probeer vind vir die probleme by Port Natal-hawe. Vetch het dit onnodig gevind om die hawe persoonlik te besoek. Sy plan was gebaseer op inligting wat hy van Natal ontvang het en wat in sommige opsigte blatante weersprekings was. Vetch se grootse plan het dus 'n aantal ooglopende foute gehad waarvan die inkorrekte heersende windrigting, 'n aspek wat van die uiterste belang in die beplanning van hawe-ingange gedurende die 19de eeu was, die ernstigste was. Luitenant-goewerneur Scott was onverstoord of onkundig oor die foute. Onder sy invloed is die plan oorhaastig deur die Natalse regering aanvaar en 'n lening vir die konstruksiewerk is in Engeland verkry.

Probleme is reg van die begin ervaar. Teen 1863 was dit duidelik dat die hawewerke in 'n algehele warboel was. Die kontrakteur is bankrot verklaar en dit was duidelik dat die Natalse regering min kans gehad het om hulle verliese te herwin. Die plan is uiteindelik geheel en al geskrap. Dit sou baie jare and veel politieke maneuvers kos voordat werk weer by die Port Natalse hawe onderneem sou word.

In 1859 John Vetch of the harbour department of the British Admiralty became the second engineer to be assigned the job of finding an answer to the problems at Port Natal harbour. Vetch declined to visit the harbour site personally and his plans were based on information which he had received from Natal; information which was in some respects blatantly contradictory. Vetch's grandiose plan thus had a number of glaring mistakes, of which the incorrect prevailing wind direction, an aspect of utmost importance in determining harbour entrances during the 19th century, was the most grave. Lieutenant-Governor Scott was unperturbed or ignorant of the mistakes. Under his influence the plan was accepted over-hastily by the Natal government and a loan was procured in England for the construction of the works.

Problems were encountered right from the start. By 1863 it was evident that the harbour works were in complete chaos. The contractor was proclaimed bankrupt and it soon became clear that the Natal government had little chance of recovering its losses. The plan was finally scrapped completely. It would take many years and much political manoeuvring before work was again undertaken at Port Natal harbour.

VETCH AND ABERNETHY'S HARBOUR SCHEME OF 1857



John Milne, the first harbour engineer of Port Natal, was dismissed on 5 April 1858 because the Natal government felt that they could no longer carry the costs of the works.¹ With little means at his disposal and a lack of basic equipment he had worked wonders at the harbour. No wonder his dismissal was described as "an act of great injustice and folly ... an act of short-sighted and most mischievous impolicy".² In the light of what was to follow it was truly a correct reading of the event.

The works at Port Natal harbour duly came to a standstill, but the intention of the Natal government was that this would not be for long. Lieutenant-Governor Scott, who had been directly involved in the process of getting rid of John Milne, wrote to England requesting the services of a "competent" engineer to present a plan for Port Natal harbour. John Vetch, an engineer of the harbour department of the British Admiralty, was assigned the job. His report and plans for the development of Port Natal harbour reached Natal by the second half of 1859³ — sixteen months after he had received the relevant information and reports from Natal. Strange to relate, Vetch deemed it unnecessary to visit the harbour site personally, and his report and recommendations were based solely on the information which he had received from Natal; information which was in some respects blatantly contradictory. For instance, views differed completely as to the formation and removal of the Sand Bar at the entrance of the lagoon. While Milne maintained that the sand feeding the Bar came from the south, Captain Pilkington CE (one of the members of a commission of enquiry on the harbour) was adamant that the sand came from the Mngeni river to the north. Considering the obtrusiveness of the discrepancies, it is most curious that Vetch did not seem to have had a problem in coming up with his report and harbour plan. It is clear that he was particularly impressed by the singular situation of Port Natal harbour. He saw it as the only viable harbour along a 960 km stretch of coast — the point of entry into a colony with a rosy future. This view probably encouraged him to draw up a much more widely embracing, even grandiose, scheme for the harbour than the realities of the situation required.

In his report Vetch had few words of praise for the previous engineer, although he agreed with Milne that the Sand Bar was the main impediment to the success of the harbour. Vetch held the view, however, that the entrance width of 150 metres as well as the siting thereof as proposed by Milne, was completely incorrect, because he stated that the "prevailing winds blew from the south east" and not from the north east and south west as had earlier been confirmed by Milne. Vetch therefore proposed a totally different entrance where, he said, the water was deeper and the risk of sand and silt settling would be reduced to the minimum.

Vetch's plan (see chart) included a northern and southern pier which were designed and positioned in such a way, that they would enclose an outer basin almost as big as Durban Bay and hence could possibly, eventually, have precluded the use of the Bay as a harbour. The northern pier would be built approximately 600 metres north of the one planned by

Note: All documents housed at the Natal Archives Depot, Pietermaritzburg. Legislative Council (LC), Selected Documents Presented, 1857-1861: P. Allen (Acting Col. Sec.) - Commissioners of the Harbour Board, 5.4.1858, p. 3. See also L.J. Twyman, "The first harbour works at Port Natal - The role of John Milne from 1849 to 1857", *Journal of the South African Institution of Civil Engineers*, Vol. 35, No. 3, 1993.

2. *The Natal Mercury*, 30.12.1858.

3. N.A., Government House (G.H.) 34, Numbered despatches received from Secretary of State, August - November 1959, No. 12: Newcastle - Scott, 5.8.1859. Enclosure: James Vetch - Secretary to the Admiralty, 3.8.1859.

Milne. It had to be at right angles to the coast up to the area outside the region of the rollers and would then bend southwards. The southern pier was so designed that it would stretch from the end of the Bluff for 390 metres until it reached deep water and would then bend northwards and stretch a further 120 metres. The entrance width between the end of the piers would be 240 metres, which, he contended, would guarantee an eventual depth of 9 metres at low tide.

Vetch calculated that the end of the piers would be outside the heavy breaker action. The swell would also not have an effect as a result of the wide area behind the piers. Ships would, therefore, reach calm water as soon as they sailed into the outer basin and would be protected from the prevailing south easterly wind. It was further calculated that the piers would protect Durban Bay against sand deposits from the north and the Bay would, within a short space of time, become deeper and more permanent than before.

As Vetch thought, in ignorance, that Natal possessed a superabundance of wood, and that stone was also no problem, he declared that he had come across a construction method that would be cheap and quick. This method had been designed by James Abernethy and had been used at Blyth harbour on the northeast coast of England.⁴ According to the plan the piers would consist of wooden outside walls with stone rubble to be poured in between the walls. The costs were worked out at approximately £23 per 0,3 metres for the northern pier (a total of £110 400) and £29 per 0,3 metres for the southern pier (a total of £54 520). The sum total for both piers would amount to £164 920 — more than twice Milne's full estimate of £77 000 for which he had earlier earned criticism for excessive extravagance! The calculation was that the new scheme would be completed within six years.

Vetch's plan for Port Natal-harbour was indeed grandiose. Furthermore, despite all the time he had to study the previous reports and plans, the British Admiralty engineer made a number of glaring mistakes. For example, with regard to the southern pier, he first mentions a length of 510 metres, but in his calculation of costs he speaks of 566,4 metres without explaining the discrepancy. He also misread previous reports on the harbour by Captains Pilkington and Grantham, and quoted them incorrectly. His gravest error, however, was the one relating to the prevailing wind direction — an aspect which was of the utmost importance in determining entrances to harbours during the nineteenth century. Vetch, as said, based his plan erroneously on a prevailing south easterly wind direction — wind which occurs very seldom along the Natal coast, and when it does, is not strong. He went on to repeat this statement five times in his written document and twice on his plan. It is passing strange that Vetch failed to verify this crucial factor. The data sent to Vetch clearly stated that the prevailing wind direction was northeasterly and southwesterly. It seems as if Vetch either ignored this information or took other advice. Vetch's basic error meant that the harbour was not placed in such a way that it "(would) conduct the sea ... away from the harbour's mouth", as he categorically stated, but would rather lead to a situation where ships had perforce to turn at a sharp angle against the prevailing north-easterly wind to sail into the harbour.

Vetch also incorrectly referred to a "shoal lying unmasked" at the bottom of the entrance. It seems as if he was of the opinion that there was an underwater layer of rock beneath the Bar, despite the fact that Milne had proved the conjecture to be wrong. This incorrect assumption was to be repeated often thereafter and would only be laid to rest in the

4. C. Bender, *Who saved Natal. The story of the Victorian harbour engineers of colonial Port Natal* (Durban, 1988), p. 51.

late 1880s when it was finally proved that the Bar and the entrance consisted of sand and shells. The loose stones which were lying around, had broken off from the Bluff and rolled into the sea.⁵ It is almost inconceivable that someone with Vetch's background, and with Milne's documents at his disposal, could have made these mistakes. These curiously faulty premises were a material reason for the failure of his plan.⁶

Lieutenant-Governor Scott, however, was unperturbed about or ignorant of the mistakes. After receiving the Vetch-plan he decided to act as fast as possible to bring it to fruition. He considered the matter to be of such urgency that he could not wait for the normal session of the Legislative Council, but called an extraordinary sitting of the Council for October 1859 — a month which was difficult for most of the elected members as it was planting season. Scott believed, however, that the matter was of such importance for the future of the country that personal considerations had to be subordinated in favour of the colony's needs.⁷

Scott had shown the Vetch plans and report to the nominated members of the Legislative Council (all government officials) before the session but the elected members were left totally in the dark. They thus arrived unprepared at the special sitting. Many of them actually thought that a general loan for public works, such as for roads and bridges was to be discussed.⁸ Some of the inland members had openly stated that an improved harbour meant little to them and that only sugar and coffee farmers along the coast would benefit directly.⁹ When the Legislative Council met and the issue of the harbour plan was laid on the table, there was perturbation among some of the inland representatives. They said that the Vetch plan was too clever; they saw "sinister designs" in the hurried way in which the issue was handled and they thought that calculations and projections with regard to the availability of wood, stone and labour, were unrealistic. These arguments were easily disposed of by the appointed members. It was argued, for instance, that it was presumptuous to question plans which had originated from "such a high and unimpeachable authority". The steam-roller tactics were indeed so effective that the plans were accepted unanimously a day after the start of the special session.

Before the end of the session — which lasted only four days — two bills on a loan for the harbour works were also accepted without a single opposing vote. The Attorney-General's argument that unanimity was needed if the colony was to obtain an imperial guarantee of a loan, served to swing all the members to accepting the Loan Bill. On the last day of the session the Council decided that an imperial guarantee which was initially regarded as absolutely necessary was to be waived and that the loan for the execution of the harbour plan, amounting to £165 500, would be sought on the credit-worthiness of the colony only.¹⁰

The question that begs an answer is why the Representative Council, and especially the elected members, accepted the Vetch plan and the loan so easily. For an answer one has to look wider and at the circumstances in the colony.

Firstly, it must be borne in mind that the elected members were confronted with Vetch's plans unprepared. According to one newspaper article, they seemed to have

5. *The Natal Mercury*, 2.11.1859.

6. *The Natal Mercury*, 15.4.1865.

7. *The Natal Mercury*, 20.10.1859.

8. *The Natal Mercury*, 15.12.1859.

9. *The Natal Mercury*, 13.10.1859.

10. L.C., Votes and Proceedings, Vol. IV, 1859, p.

"completely lost their heads" when the grandiose plan was laid before them.¹¹ Secondly it is possible that the elected members, none of whom had any background in engineering works, were completely baffled and doubted their competence to question the comprehensive plan of such a high authority.¹² They were totally bowled over by the "stupendous design, meaning ... a certain cure for the Bar"¹³ and by Lieutenant-Governor Scott's argument that the best guarantee for the effectiveness of the plan lay in it being so encompassing.¹⁴ Thirdly, the members of the Representative Council were seemingly convinced that the building of a first rate harbour would justify the expense as the income which would result from this would amply cover the costs involved.¹⁵ The Colonial Secretary seemed to have convinced the members of the Council that the work on the harbour would lead to a proportional increase in colonial income.¹⁶ He also maintained that it was only the lack of a good harbour which kept Natal from surpassing even the Cape Colony.¹⁷ Consequently it was argued that the costs involved in the scheme should not frighten people, as "wealth would flow in naturally if such works were constructed, as an inevitable consequence of their erection."¹⁸

By these considerations and arguments the grand new scheme and its high cost was in the first place justified in the minds of the Legislative Council members. It can furthermore be argued that the general conditions prevailing in the colony at that time might also have influenced the councillors in favour of the plan.

Although there had been certain economic problems in Natal, the colony had materially progressed by the end of the fifties. Internal and external trade was definitely on the increase despite the lack of a proper harbour and a communication network to the interior.¹⁹ An upswing in land prices, the possibility of the importation of Asian labourers, a new weekly horse transport service between the harbour and Pietermaritzburg, the capital city, the acquisition of a steam tug for the harbour, as well as plans for the building of a railway line, led to a feeling of optimism amongst Natalians.²⁰ These economic developments must have had a persuasive influence on the Legislative Council members at the special session, so much so that "the voice of criticism of government measures" which had previously been so prevalent, was silenced.²¹

The prime reason for the sudden upward swing in the prospects of the colony, was the development of the sugar industry which by 1859 was already soundly in place.²² The demand for sugar on the British market and the high prices paid, gave the industry, in spite

-
11. *The Times of Natal*, 4.3.1868.
 12. *The Natal Mercury*, 22.10.1859.
 13. G. Russell, *The history of old Durban and reminiscences of an emigrant of 1850* (Durban, 1899), p. 426.
 14. *The Natal Mercury*, 19.4.1860.
 15. R.J. Mann (ed), *The colony of Natal* (London, 1859), p. 106.
 16. *The Natal Mercury*, 22.10.1859.
 17. *The Natal Witness*, 21.10.1859.
 18. *The Natal Mercury*, 19.1.1860.
 19. Natal Blue Books (N.B.B.) 1856-1864, Imports and Exports.
 20. R. Russell, *Natal, the land and its story* (Pietermaritzburg, 1903), p. 446.
 21. B.J.T. Leverton, "Government finance and political development in Natal" (*Archives Year Book for S.A. History*, Vol. I, Cape Town, 1970), p. 75.
 22. R.F. Osborne, *Valiant harvest* (Durban, 1964), p. 58.

of high shipping costs, a decided boost.²³ The Natal sugar producer was in addition assured of a relatively large inland market. Land acreage under sugar cane rose sharply. By 1859 exports amounted to £8 368 and there were 21 sugar mills at work. By 1860 the export of sugar quadrupled to £32 005 with 27 mills in operation.²⁴ Actually these export figures were much higher, as no statistics were kept of the substantial trade with the inland states.²⁵

By the end of 1859 it was clear that sugar had become the staple product which Natal had sought so assiduously before.²⁶ Consequently anything which hampered the industry was swept away, while everything in the colony's power was done to boost it. In some ways there was also a 'mutual benefit agreement' between the Executive Council and the four coastal representatives in the Legislative Council. The government undertook to meet the requirements of the sugar industry if the coastal representatives would support them against the inland representatives in the Legislative Council, from whom most of the criticism of government came.²⁷

The improved economic situation in Natal was not only the result of the sugar industry however. By the end of the fifties it seemed as if Natal was on the way to producing a wide range of products for the overseas markets.²⁸ Arrowroot production was increasing²⁹ and prospects for cultivation of indigo were good³⁰ while coffee seemed to hold possibilities as well.³¹ Economic prospects in the interior likewise looked rosier — especially in the wool industry.³²

As already indicated, Natalians widely believed that their colony was on its way to steady economic improvement. One immigrant, John Fleming, even stated that "In a few years I anticipate that Natal will be one of the most prosperous and valuable of the British colonies."³³ This point of view was strengthened by the news that Cape traders were increasingly becoming interested in Natal as a fertile place for investment.³⁴ So it is small wonder that the elected members of the Legislative Council did not want to retard Natal's economic growth by quibbling about the high price of a harbour scheme, especially as they were informed by the Executive Council that an increased tax would not be levied to pay for the scheme.³⁵ The historian B.J.T. Leverton is of the opinion that "the capital and general commercial boom probably led to a general acceptance of government measures which in less prosperous times would have been rejected, or at least criticised".³⁶

-
23. M.F. Bitensky, "The economic development of Natal, 1843-1885" (Unpublished M.A.-thesis, University of London, 1955), pp. 172-173.
 24. R.F. Osborne, *Valiant harvest*, p. 59.
 25. B.A. le Cordeur, "The relations between the Cape and Natal, 1846-1879" (*Archives Yearbook for S.A. History*, Vol. I, Cape Town, 1965), p. 85.
 26. M.F. Bitensky, *The economic development of Natal*, p. 183.
 27. L.M. Thompson, "Indian immigration into Natal, 1860-1872" (*Archives Year Book for S.A. History*, Vol. II, Cape Town, 1952), pp. 36-37.
 28. M.F. Bitensky, *The economic development of Natal*, p. 130.
 29. M.F. Bitensky, *The economic development of Natal*, p. 138.
 30. R.J. Mann (ed), *The colony of Natal*, p. 97.
 31. M.F. Bitensky, *The economic development of Natal*, p. 145; R.J. Mann (ed), *The colony of Natal*, p. 89.
 32. R.J. Mann (ed), *The colony of Natal*, p. 113.
 33. Fleming Papers: Fleming - Fleming, 5.4.1860.
 34. B.A. le Cordeur, *The relations between the Cape and Natal*, pp. 85-87.
 35. *The Natal Mercury*, 22.10.1859.
 36. B.J.T. Leverton, *Government finance and political development in Natal*, p. 74.

That the Vetch plan was accepted can thus be understood, but that Lieutenant-Governor Scott was alone, at that juncture, suddenly delegated to secure a loan and a contractor for the harbour scheme in England is rather strange. (The purpose of delegating the task to an emissary was to avoid the delay which correspondence with the imperial government would have entailed). It must be explained that Scott was generally disliked in Natal. He had been used to wielding considerable autocratic power in his previous post on the small island of Labuan, near the coast of Borneo — something which the Natalians did not accept.³⁷ The colonists showed little respect to him and other government officials, and the atmosphere in the Legislative Council was described as one of "robust combat"³⁸ in which members "entered with great zest upon the conflict with the executive government taking up a hostile and defiant opposition".³⁹ On the plus side of things, however, one of the main charges against Scott had actually been that he was too wary of making loans which the colonists saw as imperative for the economic well-being of the colony.⁴⁰ It could accordingly be argued that, when the usually circumspect Scott actually recommended a loan, it was considered a safe risk. The Lieutenant-Governor's extraordinary interest in harbour affairs, as well as his apparent knowledge of engineering, must likewise have played a role to soften the previously strained relations. Actually the relationship between the governor and the elected members became so hearty during the special sitting, that the *Natal Mercury* remarked with surprise that "the colonists and their ruler are now, on the important question of port improvement, thoroughly at one".⁴¹

Scott left for England in April 1860. He was successful in the task delegated to him and on 12 June 1860 the Secretary for Colonies accepted the loan bill without imperial guarantee.⁴² All that remained was to find an engineer and a contractor who was willing to undertake the work, and Scott again succeeded. He negotiated with the engineer James Abernethy of Blyth harbour fame who accepted the post of chief engineer of the Port Natal harbour works. Abernethy appointed his brother George as resident engineer to oversee the works. Tenders were at the same time called for construction of the two piers. Only two firms tendered; it seemed that businessmen were scared to take the risk of working on such a large scale in a far-off and relatively unknown colony. The Lieutenant-Governor however was not to be put off and decided to accept the lower tender of Thomas Jackson instead of the higher one of a financially stronger firm which had included an amount covering risks.⁴³

The contract between Thomas Jackson and Scott was dated 19 December 1860.⁴⁴ In terms of the contract £165 322 would be paid for the execution of the Vetch harbour plan

-
37. A.B. Theunissen, "Natal under Lieutenant-Governor Scott" (Unpublished M.A.-thesis, University of South Africa, 1936), p. 10.
 38. A.F. Hattersley, *Portrait of a colony* (Cambridge, 1940), p. 121.
 39. A.F. Hattersley, *The British settlement of Natal. A study in imperial migration* (Cambridge, 1950), p. 304.
 40. B.J.T. Leverton, *Government finance and political development in Natal*, p. 71.
 41. *The Natal Mercury*, 10.11.1859.
 42. G.H. 36, Numbered despatches received from Secretary of State, No. 76: Lewis - Acting Lieutenant-Governor Williamson, 6.8.1860.
 43. L.C., Selected Documents Presented, 1862-1864, Document No. 16, 1864: George Abernethy - John Scott, 29.2.1864; N.B.B., 1852-1879, Report of Commission of Inquiry into the adequacy of the existing establishments of the colony, 29.7.1871: Office of Colonial Engineer in answer to remarks by J. Hathorn, Master of the Supreme Court.
 44. L.C., Selected Documents Presented, 1862-1866, Document No. 6, 1861: Port Natal, Contract for breakwaters, 19.12.1860.

within six years after the date of signing. Jackson would provide all building materials and implements and provide the artisans and most of the labourers. The Natal government undertook to provide at the most 250 unskilled black labourers whom Jackson would pay.

The contractual amount was to be paid out as follows: At the end of each month Jackson would receive an amount which was equal to 85% of the cost of the work done and the building material used during that month. This meant that 15% of the value of the completed work was to be held back. Furthermore, no more than 85% of one-sixth of the full contract amount could be paid out in one year. Retention money would only be paid out after the chief engineer had certified that the structures built were satisfactory.

On the same day on which the contract between the Natal government and Jackson was signed, Jackson also signed an agreement with two guarantors of London which stated that if Jackson could not fulfil the provisions of the contract, an amount of at the most £24 798 6s could be recovered from the guarantors, thus 15% of the contract amount.⁴⁵

At the signing of the contract the future for the harbour seemed indeed rosy. There were some technological developments which augured well. The first steam driven tug, *Pioneer* had arrived in Natal on 14 November 1859. It was hoped especially that the tug would be used in coastal trade⁴⁶ and that it could test the depth of river mouths along the coast near the main sugar plantations in order to ascertain where other harbours could be built.⁴⁷ Another supposed asset of the tug was a raking apparatus which could be used to loosen the sand on the Bar.⁴⁸ But sad to relate, the Natalians soon realised that their initial euphoria was ill founded and that they had bought themselves the proverbial pig in the poke. The rake was too small to be used profitably,⁴⁹ the *Pioneer's* horsepower was too low to tow ships in and out of the harbour⁵⁰, the steam valves were neither air or steam tight and the gear lever had not been mounted properly.⁵¹ It was soon realised that the tug was meant for river work and not for the rough conditions along the Natal coastline.⁵²

More success was attained with another development which had taken place at Port Natal. The only communication between the harbour and the little town of Durban, approximately three kilometres distant, was a road through the sand dunes.⁵³ As a result of the problems encountered in the transport of goods from the harbour, a short railway line was built from the Point to the town by June 1860 — the first railway line in South Africa.

In the mean time a number of Natalians had studied the Vetch plan and began to voice their reservations. They were for a start taken aback by Vetch's manifest lack of knowledge of the geography of Natal's coast. One colonist rightly indicated that conditions at Blyth along the east coast of England where Abernethy had successfully used his construction

45. N.G.G. No. 914, 23.8.1864: Report of a Select Committee appointed to consider the Lieutenant-Governor's messages, Nos. 19 and 22 under date the 8th and 19th July 1864, respectively, under the subject of the Port Natal Harbour Works, Annexure.

46. *The Natal Mercury*, 17.11.1859.

47. *The Natal Mercury*, 5.1.1860.

48. *Ibid.*

49. *The Natal Mercury*, 2.2.1860.

50. *The Natal Mercury*, 26.1.1860.

51. J. Clark, *Natal Settler-Agent. The career of John Moreland agent for the Byrne emigration scheme of 1849-1851* (Cape Town, 1972), p. 168.

52. D. Reynolds, *A century of South African steam tugs* (Pretoria, 1981), p. 5.

53. D.H. Heydenrych, "Natalse spoorwegbeleid en -konstruksie tot 1895" (Unpublished D.Litt dissertation, University of Stellenbosch, 1981), p. 9.

method, differed totally from those in Durban. At the English harbour the sea was as quiet as a pond and piles could easily be put up during low tide. At Port Natal piles would have to be sunk in continually rough conditions. It was also pointed out that Blyth was situated on the mouth of a river and that part of the wooden structures were placed in the river and never in water deeper than 1,8 metres during ebb tides, and could thus easily be replaced. In comparison a warm coastal stream flowed along the Natal coast which meant a favourable environment for barnacles and marine worms, a circumstance which would have a detrimental effect on poles placed in the sea if these were not creosoted properly.⁵⁴ Other writers to the press were sceptical of the "rapidity ... with which this great scheme of harbour improvement has been adopted by the Legislature and the heavy cost provided for ... and the large measure of faith which characterised them".⁵⁵ The influential Natal Chamber of Commerce also got drawn into the debate and in 1860 declared that there was a growing conviction that the scheme was so gigantic that it was premature by many years, if indeed feasible at all.⁵⁶

By April 1861 with the arrival of Arnold Taylor, the representative of the contractor, Thomas Jackson, and George Abernethy, the resident-engineer, people began to feel more positive about the harbour plan. Labour, mainly African, was easily acquired — not only in the open market but also through Theophilus Shepstone, Minister of Native Affairs, who had ordered many of the African chiefs to send young men to work at the harbour. There were also cases in which magistrates sentenced transgressors of the law to work on the harbour.⁵⁷

By July 1861 the harbour works were started with the contractor deciding to commence building both the northern and southern piers simultaneously and Taylor was even led to predict that he would need only 5 instead of 6 years to complete the scheme. Reports on the progress of the building operations were generally favourable during that year and even during the following two years. The hitches which occurred were explained away as the result of bad weather.

By the start of 1864 George Abernethy reported that the north pier had reached a length of 360 metres. The first inkling of problems came when it was reported that little progress had been made with the south pier. For the first 120 to 150 metres — mainly because the pier was being built on a rocky extension of the Bluff — the work was not too difficult. The real problems arose, however, when the frames had to be placed in deeper water. Owing to the variable ocean floor it was found that they could not be made beforehand in batches and sunk into position; each one had to be adapted separately. This, of course, increased construction costs and time. During a four month period, for instance, it had proved impossible to place a single wooden frame in position. The breakers had made it impossible to make a proper study of the sea bed there, but Abernethy was nonetheless convinced that the rough bed did not stretch into the sea more than 45 metres after the end of the Bluff rock, and that the building of the pier would not give much trouble after this point. Moreover, Abernethy now stated that the southern pier was of lesser importance than the northern pier as it was only planned to protect the entrance from the southeasterly assault of the breakers during summer while the north pier would stop the loose sand from depositing on the Bar and this would directly lead to a deepening of the entrance channel.⁵⁸

54. *The Natal Mercury*, 23.2.1860.

55. *The Natal Mercury*, 24.11.1860.

56. *The Natal Mercury*, 4.10.1860.

57. *The Natal Mercury*, 13.7.1861.

58. L.C., 1862-1865, Selected Documents Presented, No. 16, 1864: George Abernethy - John Scott, 29.2.1864.

These were hollow phrases because by the end of 1863 it had become very evident that the harbour works were not progressing as well as was expected. The contractor realised that the work encompassed more than he had initially foreseen, but he chose to remain silent.⁵⁹

There were other problems as well. The weather conditions were not as calm as had been anticipated. Strong winds and large breakers often dismantled within a matter of hours everything that had been painstakingly placed into position. During one storm, for instance, 18 to 21 metres of the south pier was washed away and "the shattered timbers were strewn along the beach, the stone filling scattered far and wide."⁶⁰

Difficulties at the harbour were further aggravated by labour problems. Although recruiting African labourers was relatively easy, their payment exceeded the budget. The contractor also found the labourers were not as trained as he had expected. It was discovered that four African labourers were needed to do the equivalent of one English labourer.

The contractor was faced with yet another complication: finding stone for the works. Initially stone came from a quarry on the Bluff, but this source was soon exhausted. Transport costs increased sharply when stone from quarries further afield had to be transported to the harbour works.

By the middle of 1863 Arnold Taylor complained to the resident engineer that the moneys provided in the contract were "quite insufficient for the execution of the works as originally designed". The price of wood was 30% and stone 200% higher than had been budgeted for. Construction costs were further increased by the adjustments that had to be made to each wooden frame. Taylor also deplored the lack of "thousand means and appliances available for the easy and economic construction of public works in England"; in the light hereof he maintained that it must have been "impossible for anyone who had not had actual experience in Natal to form a correct estimate of the cost of constructing Harbor Works" there.⁶¹

Lieutenant-Governor John Scott was uncertain what to make of the contractor's pleas. He appointed a special commission, consisting of the Colonial Engineer, P. Paterson and Captain G.H. Gordon of the Royal Engineering Corps, to investigate the matter.⁶² The commission was in a quandary and in the end decided to increase the contract price by £69 160 — which meant an additional expense of 40% — quite a rise in the costs that were initially budgeted for.⁶³

The increase in moneys did not solve the problems, however. By August 1864 the situation had deteriorated to such an extent that the contractor's agent, Taylor, informed the government that he had had enough. He summarily resigned and left the colony.⁶⁴

It now also became evident that the finances of the contractor, Thomas Jackson, were in a parlous state. Although he had initially stated that he could easily cover costs, it became clear at quite an early stage that he could not even provide sufficient funds to his agent for

-
59. L.C., 1862-1865, Selected Documents Presented, No. 16, 1864: George Abernethy - John Scott, 29.2.1864.
60. *The Times of Natal*, 7.3.1868.
61. L.C., 1862-1865, Selected Documents Presented, No. 16, 1864: A. Taylor - G. Abernethy, 27 July 1863.
62. N.G.G., No. 905, 21 June 1864: D. Erskine - Captain Gordon and P. Paterson, 4.4.1864,
63. L.C., Selected Documents Presented. No. 16, 1864. Report in reply to letter of the Colonial Secretary, 4.4.1864, 11.6.1864.
64. L.C., Selected Documents Presented, No. 18, 1866: Sargeant - Elliott, 23.9.1865.

the smallest expenses.⁶⁵ By March 1864 his firm was being administered by four of his main creditors.⁶⁶ In the meantime James Abernethy, the chief engineer, alarmed the Natal government when he confessed that he had no real knowledge of the situation at Port Natal as his brother, George Abernethy, had not kept him informed. He was not overly concerned, however, as he was wrongly under the impression that his brother was keeping the Lieutenant-Governor advised about the situation.⁶⁷ Several additional factors had led to the dire situation. The contractor had tendered too low, mainly because he was unacquainted with the locality and the facilities it was able to offer. It is furthermore evident that Scott, who had deliberated with the contractor, likewise had little knowledge of the real situation, even if he prided himself on being an engineer. The resident engineer for his part had faulted when he disbursed more funds to the contractor than was justified by the contract. The amount equal to 15% of the completed work was not held back as was originally stipulated in the contract. By September 1864 an amount in excess of £7 000 had already been incorrectly paid out to the contractor.⁶⁸

From this point it would seem that the whole complex of problems had deteriorated to the point that they did chiefly because George Abernethy considered himself not answerable to the Natal government (or even to the chief engineer) as he believed that complete supervision of the works had been assigned to him. It is also clear that the Natal government never made sure what the actual situation was, and therefore never queried the amounts paid out.⁶⁹ Apparently no proper audit was kept by the government either. Actually the master of the supreme court, J. Hathorn, who had to sign the certificates of payments, indicated in 1862 to Scott that the amounts paid out seemed excessive but nothing was done by the Lieutenant-Governor.⁷⁰ It is also obvious that Hathorn had never been given the original contract and the relevant specifications and stipulations. Hence he was in the dark about the provision that 15% of the moneys had to be withheld.

Regarding the issue of the stone supply, one notices that the original specifications of the contract set out that stone would be procured from Cato Manor.⁷¹ Yet, notwithstanding this stipulation, stone from the Bluff quarry was used (previously Milne was told that this stone was not good enough) and when this ran out George Abernethy cautioned that "unless a proper supply of suitable stone is obtained, I cannot see how the work can be successfully carried out"⁷² Plans had been mooted for building a railway line from the Mngeni quarry, but as this would cost roughly £12 000, which could not be covered by the contract,⁷³ nothing was immediately done.

-
65. L.C., 1862-1866, Selected Documents Presented, No. 18, 1866: Macelan - Cardwell, 2.5.1865, p. 2.
 66. L.C., Selected Documents presented, No. 18, 1866: Roy & Cartwright - James Abernethy, 6.1.1865.
 67. L.C., 1862-1865, Selected Documents Presented, No. 18, 1865: James Abernethy - Colonial Secretary, 9.1.1865.
 68. L.C., 1862-1866, Selected Documents Presented, No. 18, 1866, Report of Paterson & Symons, 1 10.1864.
 69. L.C., 1862-1866, Selected Documents Presented, No. 18, 1866: J. Abernethy - Colonial Secretary, 9.1.1865.
 70. N.B.B., 1852-1879: Report of the Commission to inquire into the adequacy of the existing establishments of the colony, 29.7.1871, p. 11.
 71. L.C., 1862-1866, Selected Documents Presented, No. 16, 1864, Report of Gordon and Paterson in reply to letter of the Colonial Secretary, 4.4.1864, p. 6.
 72. L.C., 1862-1866, Documents Presented, No. 16, 1864: George Abernethy - Scott, 4.6.1864, pp. 2-3.
 73. L.C., 1862-1866, Selected Documents Presented, No. 16, 1864: A Taylor - G Abernethy, 30.9.1863, p. 25.

By July 1864 the issue of the foundering harbour scheme was again referred to a commission of enquiry. Its report⁷⁴ caused consternation in Natal. It was manifestly clear that the interests of the colony had not been properly protected. Although more than half of the money had been paid over, only a fifth of the work had been completed. Not only had the engineering works been executed at too slow a pace, but it was found that there were large quantities of material heaped up at the harbour, of which much was substandard — for instance the wood to be used was not creosoted properly.⁷⁵

When the report was tabled in the Legislative Council, a proposal that another marine engineer be called in to inspect the works personally made one member, J.C. Boshof, react sharply. He considered it "foolishness getting one engineer to inspect the work of another, as it was well known that all tradesmen of this sort always knows better than the other" (sic) and that a totally new plan would then be proposed.⁷⁶

As a result of the troubles with the harbour the Crown Agents in London called legal advice as to whether the guarantors were liable; also whether the contractor was liable for a fine of £50 000 according to the original contract and whether the chief engineer could in any way be held accountable for the mistakes of one of his subordinates. The outcome was bad. The legal firm whose advice was obtained was of the opinion that the guarantors were not liable as 15% of the amount payable to the contractor should have been retained according to the original contract. This had not been done. They also found that the contractor was not liable for the full amount of £50 000, but only for the damage suffered by the Natal government as a result of the termination of the contract — which in any case could not amount to £50 000 or more. The legal advisers were however of the opinion that the chief engineer was deemed liable for mistakes of his subordinates, but even this would not bring the Natal authorities a penny.

The legal advice made it plain to the Natal government that they had little chance of recovering their losses. The guarantors were scott free and quit of their troubles. The contractor, Jackson, being bankrupt, could hardly be issued with a summons. The offices of the Crown Agents suggested that the best way out of the debacle would be for the Natal government to supervise the rest of the works themselves and maybe to even build a railway line to the Mngeni stone quarry. Steps might perhaps be taken to persuade Jackson to relinquish the contract formally; but this could lead to Jackson lodging exaggerated claims for compensation and it was accordingly decided to rather let sleeping dogs lie.⁷⁷

As could be expected, the Natal colonists were incensed. At a public meeting in Durban one speaker bitterly remarked that the plans and execution of the harbour plans were carried out "in an atmosphere of ignorance by men who had not seen Natal then, nor had they seen it to this day".⁷⁸ It was clear to many that no one wanted to carry the responsibility for the failure of the works.⁷⁹ Numerous meetings were held in which the Natal government was accused of severe bungling. Scott was especially criticised for his "reckless carelessness ... in not properly checking the expenditure of the works". Wathen, a member of the

74. N.G.G. No. 914, 23.8.1864, Report of Select Committee, pp. 336-337.

75. L.C., 1862-1866, Selected Documents Presented, No. 18, 1866. Annexure: Report upon the construction and probable durability of the Harbour Works of Port Natal, 6.6.1864.

76. *The Natal Witness*, 30.8.1864.

77. L.C., 1862-1866, Selected Documents Presented, No. 18, 1866: Sargeaunt - Elliott, 23.9.1865, pp. 13-14; Green & Allin - Crown Agents, 14.9.1865, pp. 22-23.

78. *The Natal Mercury*, 11.4.1865.

79. *The Natal Witness*, 28.6.1864.

Legislative Council, maintained that the government had left the members of the Legislative Council in the dark, even after it had become clear that things were going awry.⁸⁰ *The Natal Witness*, which had remained positive about the works when the undertaking was already being criticised by other newspapers, now acknowledged that "scarcely anything can be more melancholy than the appearance of these forlorn-looking unfinished piers. They have a striking resemblance to ruins of some sort or other: and, indeed, they are painfully suggestive of disappointed hopes, of money wasted, and of an inexplicable lack of ordinary mercantile caution and prudence."⁸¹

The sight at the beach where the building material had been delivered and stacked was indeed depressing. Large piles of wooden poles were sinking into the sand and the iron bars were rusting away. The picture of so much squandering was a bitter thing for the Natalians. These feelings were understandable. At the beginning of the sixties they had entertained such high hopes and the building of the piers had been in many ways the symbol of a better future for the colony. But by the middle of the decade the harbour works were being washed away under their very eyes.

The person who had been responsible in large measure for the approval of the works, Lieutenant-Governor John Scott, and who may have hoped that the success of the venture would lead to promotion, was transferred (or can one say banished?) to British Guiana in South America.⁸² His part in the debacle was not easily forgotten, however. In 1868 a Natal newspaper referred to him as "Mr Scott, the patron of the magnificent project for improving the harbour, turns out to be the patron of a hopeless failure: the favourer and protector of a set of sharpers — the Governor who in Government House so complacently vaunted his responsibility."⁸³

By the second half of 1865 the full picture of gloom became evident. It was clear that the harbour works were finally doomed. As the colony was at the time in the grip of a recession, the debacle was even more of a blow. The historian, A.F. Hattersley, describes the situation as follows: "With the harbour hopelessly obstructed and no railways to connect the port either with the interior or with the sugar plantations to the north and south, Natal's economic future looked sombre."⁸⁴ The depression which lasted until 1869 was indeed serious, not only for Natal and South Africa⁸⁵ but it actually encompassed the whole world. A monetary crisis in Europe after the end of the American Civil war (1861-1865) had hit the British iron and steel industry and its shipbuilding industry heavily.⁸⁶ Imperial and colonial banks suffered serious losses and two banks in Natal and four in the Cape were placed in liquidation.⁸⁷ When the economic situation worsened, unemployment became rife, and many colonists left the colony.⁸⁸

Many reasons were seized on as to why Natal was in such dire straits, and as can be expected the harbour catastrophe was considered one of the major causes of the sorry plight

80. *The Natal Mercury*, 15.4.1865.

81. *The Natal Mercury*, 18.4.1865.

82. C. Bender, *Who saved Natal*, p. 67.

83. *The Times of Natal*, 18.3.1868.

84. A.F. Hattersley, *The Natalians. Further Annals of Natal* (Pietermaritzburg, 1940), p. 76.

85. C.G.W. Schumann, *Structural changes and business cycles in South Africa, 1806-1936* (London, 1938), p. 81.

86. F. Crouzet, *The Victorian economy* (London, 1982), p. 65.

87. E.C. Walker, *A history of South Africa* (London, 1947), p. 307.

88. *The Natal Mercury*, 24.4.1867.

of the economy. The Natal colonists felt strongly that the government had literally thrown money in the water.⁸⁹ It was said that as a result of the bad conditions at the harbour, and the smallness of the ships which docked at the harbour, the Natal producers could not even export goods in good years.⁹⁰ One letter writer was so incensed that he described the general situation as one "where everything is rotten, from the harbour works to the altar (referring to the contentious bishop Colenso); where our commercial, monetary, judicial and legislative institutional systems are in such a wretched state that the only wonder is that they have held together so long as they have".⁹¹

Imports and exports declined materially during those years. In 1866 imports were 60% lower than in 1865 and exports fell by 33%.⁹² As can be expected shipping likewise showed a downward trend and import and export firms suffered increasingly with a number of firms having to close their doors by 1867.⁹³ The commercial crisis, coupled with the payment of the interest on the large colonial debt (of which the harbour loan was the biggest item), brought the government to the brink of bankruptcy.⁹⁴ It was thus apparent that future funds for harbour works would be difficult to come by. Even the maintenance of the existing harbour works would be seriously prejudiced.⁹⁵ Yet in spite of the commercial depression and the serious financial problems which faced the government, the Legislative Council held the view that the colony could only benefit if the harbour works were continued. A decision was accordingly taken in 1865 to build a railway line of 6 kilometres from the Mngeni quarry to the Durban terminus of the existing railway line to the harbour. It would be used mainly for the transport of stone for the northern pier.⁹⁶ In spite of problems this line was opened in January 1867.

Conditions at the harbour were, as can be expected, in a sorry state. Ships with a draught of more than 3,6 metres could only cross the Bar at certain times, but could then not reach the quays at the Point as there were large sand tongues causing obstruction within the Bay. A large proportion of the loads had therefore to be offloaded in the Bluff channel, which led to an increase of costs of 50% as well as inevitable delays. Many proposals to alleviate the situation were made, amongst others buying a dredger, but as there were no funds, nothing came of the suggestion.⁹⁷

Due to the economic stringency, the government decided not to appoint another contractor to complete Vetch's harbour plan but to manage the works themselves. The machinery and equipment of the previous contractor were retained and the colonial engineer, Peter Paterson, was given the task of completing and maintaining of the existing works.⁹⁸

Paterson was indeed caught up in an unenviable situation. It was expected of him to continue with a harbour plan of whose feasibility neither he nor the government were sure

89. *The Natal Witness*, 27.11.1866.

90. *The Natal Witness*, 22.9.1868.

91. *The Time of Natal*, 2.1.1867.

92. N.B.B., 1860-1870: Imports and Exports.

93. B.A. le Cordeur, *The relations between the Cape and Natal, 1846-1879*, p. 131.

94. *The Natal Mercury*, 31.8.1867.

95. B.J.T. Leverton, *Government finance and political development in Natal*, p. 103.

96. N.G.G., No. 969, 29.8.1865, Act No. 24.

97. L.C., 1862-1866, Selected Documents Presented, No. 35, 1865: Report of Commission on improvement to the inner harbour of Port Natal, 9.6.1865.

98. G.H. 1215, Copies of despatches to Secretary of State, 1864-1867, No. 63, Miscellaneous: McLean - Cardwell, 2.5.1865, p. 98.

and it was also an open question whether the necessary finances could be found for the works. The colonial engineer tried to meet the situation by making certain minor changes without tampering with the overarching plan, but he soon started to question the whole Vetch plan. He came to the conclusion that Vetch's inner bay would eventually be filled with silt and would be worthless as anchorage unless it was scoured continually. He was also sceptical of the construction method which had been followed in the building of the piers. The material used was, according to him, not strong enough on the outer points of the piers where they were exposed to the stormy seas broadside. In addition Paterson questioned the positioning of the entrance as ships sailing into the Bay would be exposed to the full force of the breakers as they had to sail broadside between the piers. The colonial engineer further found the southern pier to be completely impractical. Its position was totally wrong as breakers were particularly strong in that area. Experience had already shown that as soon as the pier reached the 120 meter point, it was systematically broken up by the sea.

Paterson's criticism of the Vetch plan and the construction of the piers did not end there. He found that the wood used for the frames had been damaged so much by the teredo and limnoria sea worms that even those which had been well creosoted were so badly damaged that the side panels had collapsed and stone was pouring through the gaps. Paterson was convinced that the wood work would not last another ten years.⁹⁹

As a result of all the criticism, Lieutenant-Governor R.W. Keate, who had arrived in the colony in May 1867, was adamant that attention be given to the harbour question. Although he gave consideration to a new loan for harbour works, he realised that the additional expenses would lead to increased income tax — something which the Natalians could not put up with in the prevailing difficult economic circumstances. By August 1868 the financial position had deteriorated still further, and it was decided to stop all work on the northern pier. It was still 180 metres short of what the colonial engineer had hoped for. The entrance was, according to him, too wide to allow the ebb tide to scour the Bar.¹⁰⁰ Very little could be done and any plan for additional income put forward by Keate was turned down by the Legislative Council.¹⁰¹ Given this situation, Paterson was in 1871 instructed to spend the minimum on the harbour — and then mainly to keep the existing works intact.¹⁰²

The harbour works were — as had happened before — again stopped before completion and the Natal government decided to call in yet another engineering authority.¹⁰³ This time the crown agents for the colonies were asked whether an "engineer of eminence" in England could be persuaded to visit Natal and give an opinion on the harbour and the work already done.¹⁰⁴ The Crown agents proposed Sir John Coode, a consulting engineer, because "his experience in such cases is at once varied and extensive, and his high standing

-
99. N.G.G., No 1076, 20.8.1867, L.C. No. 2, Report of the Colonial Engineer upon the Port Natal Harbor Works, 14.8.1867,
 100. L.C., 1866-1874, Selected Documents Presented, No. 55, 1869: General report upon the work which has been done on the harbour.
 101. G.H. 1217, Copies of despatches to Secretary of State, No. 39, Keate - Kimberley, 22.4.1871, pp. 378-379.
 102. G.H. 54, Despatches received from Secretary of State, April 1871 - February 1872, No. 91: Kimberley - Keate, 20.6.1871, pp. 32-33.
 103. L.C., Votes and Proceedings, Vol. 16, 1869: Speech of Lieutenant-Governor, 6.5.1869, p. 5.
 104. L.C., 1866-1874, Selected Documents Presented, No. 19, 1868, Correspondence on the inspection of Port Natal Harbour Works: W.C. Sargeant - Colonial Secretary, Natal, 8.5.1868.

as a marine engineer entitles his opinions to very great weight." Coode was indeed one of the preeminent authorities on harbour construction — he had inspected the British harbours and been involved in Table Bay harbour.¹⁰⁵ Coode was appointed. After investigation and deliberation (but also not visiting Natal) the renowned engineer found that he could not make use of the Vetch piers at all, because they were completely irreconcilable with the "correct principles on which works for the improvement of this harbour should be founded". He proposed that the Vetch plan be completely scrapped, and that his plan, which corresponded in many ways with that of the first harbour engineer, John Milne, be adopted.¹⁰⁶

There was a resultant sense of despondency, even among government officials. "Mr Coode", remarked the colonial secretary, David Erskine, "has condemned our harbour works, and if you were to employ another man, he would condemn his. In short, it is needless consulting engineers (like doctors) on each other's work."¹⁰⁷ It is therefore not strange that the Natal government did not accept the Coode plan. The Natalians were at their wits end. No wonder the debacle at the harbour was summed up as follows in one newspaper: "Natal, about the poorest and least populous British colony is left, after twenty years of action, with three useless and unfinished piers"¹⁰⁸ — the one of Milne and the two of Vetch.

The harbour was now well-nigh impossible to utilise. The entrance was in a pitiful state. The water level was so low that breakers broke upon the sandbank.¹⁰⁹ The situation in the inner harbour was equally bad. Durban Bay consisted of a number of holes and sandbanks, and nowhere could a place be found where a ship did not touch the bottom.¹¹⁰ Delays of two months or more occurred. Ships of 300 tons took three weeks to offload and load, which usually took about three days at Australian ports. Often ships had to offload onto smaller boats and this raised costs so high that it was stated that these extra costs were one third of the total transport costs from England.¹¹¹ It was contended that Durban harbour was the most expensive in the world. Ships frequently had to anchor in the Bluff channel because of a lack of berths in the inner harbour, and this led to collisions.¹¹² Other problems were encountered on land. Because of a lack of railway trucks, goods that had been offloaded were left in wind and rain at the Point.¹¹³ The stores were in an equally bad state and were described as "a disgrace to the community" in which no one dared to place valuable articles.¹¹⁴ The situation at the harbour was indeed so bad that a number of shipping lines, amongst them the Union Steamship Company, considered not using the port.¹¹⁵ It therefore is little wonder that traders in the harbour town felt despondent and wondered whether a curse had not been pronounced on harbour developments.¹¹⁶

105. *The Natal Mercury*, 28.2.1871.

106. G.H. 1576: Memoranda, Public Works, Harbours, 1858-1904. Minute paper R3114/1875.

107. B.A. le Cordeur, *The relations between the Cape of Natal*, p. 175: Erskine - Southey, 20.2.1871.

108. *The Natal Mercury*, 13.6.1871.

109. *The Natal Mercury*, 28.4.1874.

110. *The Natal Mercury*, 14.4.1874.

111. *The Natal Mercury*, 24.11.1874; 17.11.1874.

112. *The Natal Mercury*, 30.6.1870.

113. *The Natal Mercury*, 21.5.1874.

114. *The Natal Mercury*, 26.11.1875; 16.5.1874.

115. *The Natal Mercury*, 31.10.1874.

116. *The Natal Mercury*, 7.7.1874.

The failure of the Vetch harbour plan — a plan drawn up by a superior engineer who never set eyes on the site and expertly commented on by two others who likewise never came near Durban — would haunt Natal for a long time. It was to take many years and much political manoeuvring before real work would again be undertaken at Port Natal harbour.