

KENYA

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BOULTON EROS & CO.

MESRS

1920

KILINDINI HARBOUR

22nd DECR

Enclose copy of Sr George Buchanan's report together with printed memo. by him. Suggests further conference of interested parties at which a scheme might be approved to obviate expense of Govt money and permit of private enterprise.

Last previous Paper:

61580

Sir H. Read

There is a tendency to view "Kilindini" as including "Mbaraki", and, so far as Sr G. Buchanan is concerned, there is no doubt that the development of Mbaraki is preferable to the Govt.

Kilindini site is that he has in mind

I am not so sure about his direction, but I imagine that he too, is not prepared to give up the work already well advanced here already begun at Mbaraki.

Our present position is that

Mbaraki is well out (2/15/20) & the only point regarding it is that of the...

Copy sent to 3 Jan. 21.  
A

Next subsequent Paper:  
61589 21

of construction as indicated - if after  
C.A. 1915/3 the port can be used to  
be outstanding

I am therefore a good deal in the  
doubt as to whether, and in any case  
think a conference should not be held in  
Mr. W. Hamilton's house

But unless you conversation with  
the Boston boys on the board of  
think we had better not have a meeting  
directly, by means that the "London  
the reduced scale" should be set  
the London as the barometer

28/12/20

I certainly understand from him  
that he regarded it as an open question since the  
works on the reduced scale" shall be that to  
considered that the proposed works on the reduced  
they should be carried out at Kilindini or Mombasa  
But the works - according to the Buchanan's  
plans" seem to think that he is contemplating  
Mombasa.

Personally, I am in favour of further  
discussion, of which it seems to me that  
we have already had more than enough - but  
we may as well write as proposed in the  
last para. of Mr. Bottomley's minute.

Assuming that works on a  
reduced scale could be carried  
out for £300,000 (more or less) for  
at Kilindini, it is certainly not  
with our ability to raise money  
for the sake of the comparatively small  
sum

Handwritten notes and signatures at the top of the page.

British Overseas Airways Corporation

39 Old Broad Street

London

62824

REC'D 23 DEC 20

22nd December, 1920.

Sir Herbert J. Read, K.C.M.G.,  
Colonial Office,  
Whitehall, S.W.1.

Dear Sir Herbert Read,

Relative to our conversation of a few days ago, I am  
sending you copy of Sir George Buchanan's report on Kilindini  
Harbour. I also enclose you a printed memorandum by him on the  
same subject.

I do not wish to burden you with too much literature,  
but I thought perhaps you might like to see a cutting from a paper  
which we received a few days ago from East Africa, giving the  
accounts of public meetings held there on the Kilindini question.

I am informed by those who have just arrived from East  
Africa that the question of the port is causing much discussion,  
and in view of the scarcity of money for development purposes in  
East Africa or elsewhere, I intimated to you in our conversation  
that it might be as well to have a further conference, in which  
your Engineer Advisors, ourselves, and perhaps the representatives  
of the shipping interests, might approve of a scheme which would  
obviate Government expenditure of money at the present juncture,  
and permit of private enterprise, with satisfactory Government  
control, carrying out the necessary works on the reduced scale.

29/12/20

(2)

Sir Herbert J. Read, K.C.M.G.

22/12/1920.

according to Sir George Buchanan's plans.

Believe me,

Yours faithfully,

*W. G. B. G. G. G. G.*

Encls.

Memorandum on Kilindini Harbour

554

by

Sir George Buchanan K.G.I.E. Kt.M.Inst., C.E.

At a meeting of the Legislative Council of Kenya held on the 14th July there was an interesting debate on the development of Kilindini Harbour when the respective merits of the M'Baraki Creek and Government sites were discussed.

The Government issued a memorandum on the subject, containing facts and figures on which presumably was based the decision of the Council, and its subsequent endorsement by the Secretary of State for Commerce. It is therefore unfortunate that the memorandum contained serious misstatements, notably in

the estimated cost of the M'Baraki Creek Scheme for which the Government had a million pounds, the correct figure being half a million pounds.

(3) In my capacity as a consultant to clients and also in the undoubted interests of the public, I propose to give my views on the case and my views on the local situation, and I believe my opinion can be relied upon as being without bias or prejudice. I have for many years been on the Government side in connection with Port Administration and development in India, and to be an expert in all that appertains to port and terminal facilities in general.

(4) I will begin by tracing the history of the scheme from the date of the construction of the Mombasa Uganda Railway. I will state frankly my connection with the project, and my views on the merits of the two sites, supported by facts and figures which are incontrovertible.

PREVIOUS HISTORY.

When the Mombasa Uganda Railway was built,

Harbour, situated on the south side of the Island of Mombasa, was selected for the landing of stores and material for the railway, and in March 1899, Sir Guilford Molesworth, Consulting Engineer in his report on the Railway, made the following comparison between Mombasa and Kilindini.

MOMBASA

"The present port of Mombasa is absolutely unfitted to be the main Port of British East Africa.

The anchorage is narrow and confined and steamers of large size have some difficulty in turning.

The landing arrangements are primitive, and the Custom House and sheds small and cramped.

Mombasa is easier of access for sailing vessels entering with the prevailing winds, but the port is to some extent unprotected from heavy seas, and would be exposed to bombardment from outside in case of war".

KILINDINI

At Kilindini on the other hand there is excellent harbour, completely landlocked, with a capacious and well protected anchorage. The present landing jetties for the railway terminus are there, and the port possesses great facilities for development, and sites for warehouses and wharfs capable of almost indefinite extension.

(5) Colonel Gracie who reported in 1901 endorsed these remarks, and said that the most urgent necessity at Kilindini was a deep water pier along which large vessels could be connected by rail, with railway warehouses, and the large merchants warehouses, whilst the first thing was the prep of a comprehensive plan showing what would be the ultimate

aim and object to be attained when the traffic largely developed, such a plan to show not only the arrangement of jetties, but also part of the jetty and railway warehouses, and the spaces to be allotted to the private godowns of merchants with railway sidings into them. Colonel Gracie concluded his remarks by observing "Kilindini is a very fine harbour and it is incumbent on the Railway authorities, who have taken up all of the convenient foreshore, to see that it is utilized to the best advantage. They cannot sit still and not only do nothing, but also stand in the way of anyone else doing anything".

Colonel Gracie's remarks were very much to the point but although since that date a concrete block pier for lighter s Custom House and a few sheds have been built the harbour remains otherwise as it was twenty years ago.

(6) Each problem of Port development and terminal facilities necessitates as a preliminary step a study of local conditions, but there are certain primary facilities and equipment which are common to all ports. These are:-

- (1) Facilities for prompt despatch of steamers,
- (2) Ample storage accommodation for goods.
- (3) Adequate transport facilities behind the port.

To these, which have sufficed in the past, it is now necessary to add labour saving appliances and devices, and although the provision of an ample supply of labour at Mombasa at a moderate price may not yet be a serious problem, there is no reason to think that the Colony will always be exempt from questions of this nature.

(7) The local conditions at Kilindini are

- (1) A vast territory being rapidly developed a hundreds of miles from its ocean base, and connected to that

ocean base by a single line of narrow gauge railway.

(2) In absence of natural forakers, the railway terminals being situated on a plateau 80 feet to 70 feet above the level of the sea terminating in steep cliffs some 40 feet above High Water Level.

(3) A reference to (1) an obvious necessity, is particularly extensive accommodation for the storage of goods both exports and imports, at the Ocean base, in order to make the greatest possible use of the railway, and although in time to come the railway line will probably be doubled or the gauge widened, the development of the trade and opening out of new country will be proceeding at the same time. In the case of exports it is useless to provide extensive storage accommodation at the places where they are produced, they must be despatched by rail as soon as possible, and stored at the port to await shipment. In the same way, when imports greatly increase, as they must do in a new country, it will be impossible adequately deal with them unless there is storage accommodation at the port. I am not thinking of the conditions that obtain at the present moment, but those which must obtain in the near future at the rate the country is developing and I suppose the greatest hindrance to the development of any new country is the lack of imagination and ability to look into the future on the part of those responsible for transportation, and by transportation I include port development, the port forming one of the three links of the chain viz: ship, port, and either railway road or river or a combination of these methods of transport, whilst it must always be remembered that transportation is a cost of production equally with labour and materials. It is therefore the business of the transportation authorities to move the goods from up country to ship and vice versa at the least possible cost

ocean base by a single line of narrow gauge railway.

(2) An absence of natural harbours, the railway terminus being situated on a plateau 50 feet to 70 feet above the level of the sea terminating in steep cliffs some 40 feet above High Water Level.

With reference to (1) an obvious necessity, is particularly extensive accommodation for the storage of goods both exports and imports, at the Ocean base, in order to make the greatest possible use of the railway, and although in time to come the railway line will probably be doubled or the gauge widened, the development of the trade and opening out of new country will be proceeding at the same time. In the case of exports it is useless to provide extensive storage accommodation at the places where they are produced, they must be despatched by rail as soon as possible, and stored at the port to await shipment. In the same way, when imports greatly increase, as they must do for a new country, it will be impossible adequately to deal with them unless there is storage accommodation at the port. I am not thinking of the conditions that obtain at the present moment, but those which must obtain in the near future at the rate the country is developing and I suppose the greatest hindrance to the development of any new country is the lack of imagination and ability to look into the future on the part of those responsible for transportation, and by transportation I include port development, the port forming one of the three links of the chain viz: ship, port, and either railway road or river or a combination of these methods of transport, whilst it must always be remembered that transportation is a cost of production equally with labour and materials. It is therefore the business of the transportation authorities to move the goods from up country to ship and vice versa at the least possible cost.



terminal and port charges forming a very considerable portion of the whole, whilst with special reference to the Port the aim and object of the Port Authority is to deliver the goods from the ship to the consignee as quickly as possible, at a minimum cost and with the least possible inconvenience to both the shipowner and the consignee.

At Rangoon where I for many years held the office of whole time Chairman of the Port Commission, our nett registered tonnage of shipping entering the port, just before the war, had reached nearly 3 million tons, the value of the trade was 38½ million pounds and our annual Port revenue £350,000.

We handled 600,000 tons of imports annually, giving deliveries from ship to consignee, and after a good many years hard work, our organization had become sufficiently perfect to warrant our stopping all tallying, which is expensive and never accurate, and giving the ship a clean receipt on the manifest. The goods were put straight into our sheds ex ship, damaged parcels separated and examined by the ships representatives and the consignee and thereafter we accepted responsibility for thefts and losses.

The manifests were of course not always correct, some goods were shortshipped or overcarried, and the consignee might come with his delivery order and be unable to find his goods, but on the sheds there was wonderfully little friction.

The actual cost to the Port Trust was about 12 annas per ton and our charge to cover interest on capital and other items came to under 2 rupees per ton.

With reference to (2) although a certain amount of excavation of the cliffs may be necessary, in order to obtain room for wharves and transit sheds, it is obvious that the merchants warehouses, the railway goods sheds and the marshalling yards must be situated on the plateau.

(8) I will now describe the two schemes for Port development, that about to be carried out by the Government of the Colony, and that being carried out by the M'Balai Creek Port Company.

Before proceeding, I desire to point out and emphasize the fact that the plans of the M'Balai Creek scheme have not been even seen by any Government Officials, either at the Colonial Office or in the Colony itself, and that therefore any criticisms from the practical point of view made at the present may be misdirected, as one might with better chances of success criticise an elaborate piece of machinery by the quality of the wood in the outside backing cases, a maker's mark on the colour of the paint, or a book by its binding, without regarding the engineering project without an inspection of the plans and details.

I was first approached professionally on the subject of the M'Balai Creek scheme by a financial house in London in the latter part of this year, and I examined some proposals made for Messrs. Brown or Messrs. Paulings, Engineers, but they were more in the nature of suggestions than definite proposals. I made some alternative suggestions, and in a memorandum dated 10th May, 1920 to Messrs. Boulton, I said there was a great deal of information to be obtained and data to be collected before the final plans and layout could be prepared, and that we had made a sketch of a concrete wharf, but until surveys had been made and all information collected, we were not prepared to lay down a final design. On the same day (10th May) I attended with Mr. Boulton a meeting at the Colonial Office, as I thought, for a purely preliminary discussion with one or two Officials. I took with me the rough sketch plan, and I had worked out

that on general lines the scheme would cost £ 250,000 a berth. Under these circumstances it was with considerable astonishment I learned a few weeks ago whilst on my way out here that the scheme had been seriously criticised by the Kenya Government and an Official Memorandum issued detailing the disadvantages of the project, and giving totally erroneous estimates of costs and totally erroneous particulars of the form of construction proposed. I can understand Government stating that it had decided to go on with its own scheme irrespective of and without reference to other schemes, but I am not accustomed to having my projects criticised without proper consideration and in the absence of the necessary data.

#### The Government Scheme.

(10) From the papers that have been published, I understand the original Government Scheme was prepared in 1914 and provided for the ultimate construction of a 7 berth wharf situated at Ras Kilindini, north of the existing wharf for lighters, but it was proposed in the first instance to build four berths, the work comprising the construction of a massive masonry wall 2,250 feet long, the preparation by excavation and filling of an area of about 30 acres of land behind the walls, and the construction and erection of 4 transit sheds each 420 feet long by 120 feet broad, three of which were to be single storey and one double storey. This scheme was estimated to cost £700,000 and presumably that sum included cost of cranes, machinery, electric power station, railway sidings, roads and other incidental works. The cost of this 4 berth scheme at the present time complete in every respect would certainly not be less than 2 million pounds and might quite possibly reach 2½ millions or even more. It is therefore proposed to build in the first instance two berths comprising the construction of 1,350 feet of quay wall with corresponding reclamation behind the wall and erection of two

transit sheds and double storey warehouse, the cost of this modified project complete with the railway connections and presumably all cranes and other machinery and electric power station being estimated at one million pounds.

(11) The scheme from a purely engineering point of view is sound and well conceived, and the quay wall will undoubtedly last for ever, but from the point of view of economy, adaptation to local conditions, and modern engineering practice, it leaves in my opinion very much to be desired unless there is no alternative. In this connection I wish to make it clear that I am not criticising the scheme as it stands, the work has been designed by very eminent Engineers; but the engineers are limited by the conditions at the site and possibly their instructions. Extensive dredging is required to obtain a sufficient depth of water along side the wharf, whilst a massive sea wall is necessary to retain the area to be reclaimed, on which heavy sheds are built.

As already observed, this work (according to the statement made in the Legislative Council) is estimated to cost one million pounds, but I very much doubt if it will be practicable to complete the work for that sum, and I believe 1½ million pounds would be much nearer the mark, whilst, if it is possible, and I think I can show that it is possible, to find a site and frame conditions whereby the massive masonry wall can be dispensed with then its construction at a cost of anything between £400,000 and £600,000 (for the wall alone) is unnecessary. It must also be remembered that the increase in cost will be progressive and whilst 4 berths at M'Baraki Creek will cost a million pounds and 6 berths 1½ million pounds, 4 berths at the Government site will cost nearly 3 million and 6 berths somewhere about 4½ million pounds. Another disadvantage possessed by the site selected

by the Government is what it is impracticable to obtain a sufficient area of land in the immediate vicinity of the wharf on which to form a large receiving and distributing depot, which I believe to be an absolute necessity at the ocean base of the railway.

The M'Baraki Creek Scheme.

(23) The M'Baraki Creek is situated about 14 miles below Ras Kikindi and the site lends itself to treatment on modern lines. There is room for a two berth wharf equipped with sheds and warehouses on the harbour front east of the creek, and by going up the creek, but without a break, another 4 berths can be obtained, whilst on the west of the creek corresponding accommodation is possible. It is proposed to begin with the construction of two berths east of the creek and the leading features of the scheme are as follows:-

(1) A reinforced concrete wharf 1,000 feet long equipped with 5 ton and 2 ton electric cranes and with a line of rails running the entire length of the wharf and connected with the Mombasa - Uganda Railway.

(2) Two double storey transit sheds on ground partly excavated and partly made up, situated behind the wharf.

(3) Merchants warehouses and business premises on the plateau behind the transit sheds.

The problem of reaching conveniently the warehouses on the plateau and of handling packages up to 2 tons weight from ship to transit shed and vice versa has been solved by a combination of ordinary electric cranes on the wharf, with specially designed power conveyors, and packages exceeding 2 tons weight will be lifted by cranes from the ship and placed direct into railway waggons on the wharf. The installation can deal with 1,200 tons per day at each steamer berth, and the total cost of the project for two berths inclusive of all

machinery and electric power station, but exclusive of merchants' warehouses on the pier, is estimated at a maximum of £500,000.

The scheme is complete in every respect, and beginning with the two berth wharf, can be extended from time to time to meet the requirements of trade, and with full development and on a conservative estimate, we should be able to deal with a million to a million and a half tons of goods per annum, whilst from the economic point of view it is believed the rent of land, godowns, and warehouses will enable the landing and shipping dues to be levied at a minimum rate.

(13) The Government in their memorandums have criticised the scheme, and although as already stated, such criticisms are valueless in the absence of any real acquaintance with the facts, I will deal with two or three of the points raised:-

(1) "The scheme is no cheaper in relation to the accommodation provided than the Government scheme"

Reply. The Government scheme is for two berths and is estimated to cost one million pounds and will I believe cost a great deal more, whilst the M'Baraki scheme for two berths is estimated to cost half a million pounds, and can, we believe, be done for that amount.

(2) "The Wharves to be constructed are to be ordinary reinforced concrete pile wharves. A pile wharf cannot be as strong or durable as a wall of solid concrete blocks, and no competent engineer would recommend the former, if the natural conditions allowed the latter to be constructed. The constant impact of the ships would gradually damage the piles, and this would also lead to corrosion of the iron in the reinforced concrete, as shown by recent experience at Southampton. After a life of 15 or 20 years the wharf provided in the Government scheme would be practically as good as new, whilst the

piled wharves would probably need, long before that time, very considerable repairs."

Reply. In the first place the wharves are not to be built with ordinary reinforced concrete piles. The superstructure rests on groups of piles enclosed in reinforced concrete cylinders no less than 6 feet in diameter filled in solid, and for a practical purposes the wharf will be as ~~buried~~ <sup>high</sup> as the massive sea wall. Moreover in these days of dear money and excessive materials and labour, no competent engineer who has any regard for the pockets of his clients, would think for one moment of spending money on a massive sea wall, if an alternative equally efficient and cheaper design were practical. It should be remembered that engineering science has advanced considerably since the days when massive sea walls were considered the only permanent form of construction, and in this connection it will be useful to consider the functions of a wharf on a river bank or sea front. It has primarily to be strong enough to receive the impact of large vessels and to carry the heavy cranes and other machinery and a line of railway waggons. In the case of a wet lock or dry lock, massive walls are generally necessary, because the lock is formed by making great excavations in the ground, and the earth immediately behind the wall has to be solid up, and heavy buildings are often erected quite close to the face of the wall, but in the case of a wall on a river or sea front the conditions are different, and it is often practicable to build an open wharf and to form a natural slope beginning where the wharf deck joins the ground, and running down to the bottom of the river or sea.

(3) "The M'Baraki Creek Scheme provides for a straight wharf of 1,000 feet for two berths but any extension of this accommodation would necessarily be discontinuous and would not allow for elasticity of berthing and orange and also of labour and supervision".

Reply. The scheme provides for two piers in a straight line to the sea front and two more up the creek without a breakage of frontage whilst the objections as to elasticity of working are not understood, as elasticity is one of the features of the scheme.

(4) "The storage accommodation which could be made available at M'Baraki is certainly very extensive, but it is probably much greater than is really necessary, the climate of Mombasa not being healthy for European Residence, or for the storage for any length of time of perishable goods, unless they can be kept in storage. Moreover, most of the accommodation is on the cliff and under Sir George Buchanan's scheme could only be reached from the ship by means of conveyors which are unsuitable for many kinds of cargo".

Reply. In para. 3 I have pointed out the absolute necessity for the provision of ample storage accommodation, and given my reasons, and in the matter of climate I have always understood that Mombasa was in no way inferior to Bombay, Calcutta, Madras, Rangoon and Colombo, to mention a few tropical ports where Europeans live the greater part of their lives, and goods of all description are stored for quite as long as they would be stored at Mombasa, and I notice that an official handbook says "Although warmer than Zanzibar, the climate is drier and less enervating and improved sanitation and cultivation of the surrounding country would render it (Mombasa) one of the healthiest places in the tropics".

In the matter of alleged unsuitability of conveyors for many kinds of cargo, the arrangements at M'Baraki are ideal for working any kind of cargo. By the combination of electric cranes and conveyors already referred to, we can work all cargo however small or however bulky and difficult to handle at the cheapest possible rate.



I think I may claim that with my life long experience I am fully aware of the necessity for being able to handle all varieties of goods, both export and import.

A weak point of the Government scheme is that it involves the use of many railway wagons to convey all cargo from the wharf to the merchants' godowns, thus putting out of action a number of waggons which could be more profitably used at their legitimate work.

It is also a weak point of the Government scheme that it involves inferior accommodation for ships. The Government wharf is narrow, having no room to the wharf, and the wharf is not wide enough, and more... which, as stated above, at the Government site it is negligible.

Reply. I have personally examined the Government site in my opinion the M'Baraki Creek is quite as good as the Government site and in some respects better.

The width of the channel is negligible, not as matter of opinion but from actual investigation by my staff.

The current at the Government site, on the other hand has a nasty set into the shore tending to make navigation difficult.

(14) I believe I have shown that the technical disadvantages of the scheme alleged by Government, may be dismissed as having no foundation in fact, because in reality the scheme is far in advance of the Government scheme in facilities for trade and can be carried out for very much less money.

The real reason the Government and the public object to the scheme is the natural fear of handing over the gates of the country to a private company.

In that respect the Government has my sympathy, as I

have been too long connected with State Port Development not to realise the danger of losing control. I have repeatedly seen the rights of the public imperilled by the grants of tracts of foreshore lands to private individuals, and only recently when advising on the future development of the Port of Basra I strongly advised Government to acquire the whole of the foreshore lands for several miles on each side of the river.

On the other hand there is such a thing as "cutting off one's nose to spite one's face" and when vested interests exist in the shape of rights and privileges to private individuals or trading companies, their disregard, or neglect either to compound or make use of them may lead to the postponement of the correct development of a port for years. It is therefore generally better to assimilate these interests and to make use of them for the public good rather than to keep them in opposition.

In this particular case the use of private Capital would enable the whole of the Government money to be used for railways and other public improvements, and although it is not within my province to make suggestions, I can see no difficulty in the formation of a Port Trust to include all interests, whilst at the same time the rights of the public could be maintained and arrangements made whereby in the future the whole of the private interests would be transferred to the State. That is the tendency of the age as is shewn by the acquisition of the various London Dock Companies and the Tangjung Pagar Dock Company of Singapore, and if this is practicable I can see nothing but advantage to the State in the employment of private capital in the first instance.

One thing is quite certain, it is not to any one's interest to have 2 ports cutting each other's throats and hindering each other's development, and I can prove conclusively by figures that there is not the smallest need for the two schemes either now or for many years to come, moreover as it

-15-

seems probable that given a "fair field and no favour" we can operate much cheaper than Government, the Government share may be an expensive white elephant.

On the other hand we are anxious to do the best we can for the country, and I am authorised by the promoters of the M'Baraki Creek Company to say that, provided the Government will give them reasonable encouragement, and will work with them instead of against them, they are prepared to find the money for their scheme without direct financial aid from the Government, they will also give Government representation on the Board and are willing to arrange now, for the eventual purchase by Government of the property or alternatively although they have not said so specifically I think it possible the Company would hand over the wharves and transit sheds with full control and management to Government without wishing materially to profit from the sale.

In support of my statement that there is not sufficient work for the 2 schemes either now or for many years I will give a few facts and figures but in the first place I would point out that what is wanted to make a Port pay is tonnage both in ships visiting the Port and in goods exported and imported.

Now whatever the future may bring, East Africa has not at present a large tonnage nor is there any staple trade such as we have in Rangoon where 2,000,000 tons of rice are shipped year in and year out. You have a mixed export trade of valuable commodities capable no doubt in the future of great development, but always subject to fluctuation and I should think that in tonnage your import trade may develop faster than your export trade. The actual figures of tonnage handled at Kilindini taken from the Uganda Railway administration report are as follows:-

<u>Year</u>	<u>Imports</u>	<u>Exports</u>	<u>Total</u>
1913-1914	65804	34782	100586
1914-1915	53319	27531	80850
1918-1919	73939	38794	112733

In an appendix to the Govt Memorandum a Major Taylor made some notes on the future revenue and expenditure of the Port and he pointed out that in 1913-14 100,000 tons of exports was accepted as a fair estimate for 1915-16 but with the shortage of shipping the export tonnage kept to about half that amount, he thought however, that we might safely accept 50,000 as the probable tonnage in say 3 to 5 years time and with reference to imports he thought 100,000 <sup>tons</sup> might be taken as a safe estimate for 1922-1923.

Although there were only 112700 tons landed and shipped in 1918-1919 I will assume that in 1922-1923 the tonnage has increased to 250,000 and I have worked out an estimate of revenue and expenditure for B&A Port scheme on that basis. I will also assume a landing and shipping rate of Rs. 3/50 or 7/-<sup>d</sup> per ton.

#### GOVERNMENT SCHEME

<u>Revenue</u>	<u>Expenditure</u>
250,000 tons @ 7/6 £93750.	8% Interest & sinking fund on £1250000 £100,000
Dues on vessels and cranes, say..... 5000.	Working expenses, including staff & maintenance @ 2/6 per ton 31,250.
<u>£98750.</u>	<u>£131,250.</u>
Excess of expenditure over revenue	
£ 32,500.	

M'BARAKI SCHEME

<u>Revenue</u>	<u>Expenditure.</u>
250,000 tons @ 7/6 £93750.	10% interest and sinking fund on £500,000 £50,000.
Dues on vessels and cramage, say..... 5000.	Working expenses including staff and maintenance @ 2/6 per ton £31,250.
<u>£98750.</u>	<u>£81,250.</u>

Surplus of revenue over expenditure.

£17500.

Difference between the 2 schemes 50,000 pounds per annum in favour of M'Baraki.

I have given Govt. the benefit of 2% in Interest and sinking fund and have also assumed that working expenses will be the same in both schemes, although I think M'Baraki will be much the cheaper Port to run.

Major Taylor estimated labour handling staff and maintenance at 1/9 per ton, but it could not be done for that price.

Major Taylor also estimated in his revenue the sum of £30,000 on 905,000 tons at five pence per ton in accordance with schedule No.1. of 1913. That is, I understand, a proposal to levy a due on the registered tonnage of ships using the Port and although reasonable and justifiable under certain circumstances it is not a legitimate charge against wharf or lock construction and would be strongly resisted by all the shipping lines.

In the Government scheme the deficit would have to be met from general revenues or the Laming and shipping dues greatly increased and the deficit would be progressive with every extension of the works and the great Capital cost.

In the matter of the number of shipping berths necessary effectively to handle the traffic of the Port I find an idea prevalent that in the near future a dozen or even more ships berths will be required, but people looking at the chaos that exists at present take an exaggerated view of the case.

The M'Baraki scheme can at 2 berths deal with 300,000 to 400,000 tons per annum and give ships the best despatch, and I certainly think that 2 berths will suffice for some years to come whilst the M'Baraki scheme fully developed can deal with  $1\frac{1}{2}$  to  $1\frac{1}{2}$  million tons per annum. The Government scheme will probably not handle more than 200,000 tons at the 2 berths on account of the difficulty in rapidly disposing of the goods.

At M'Baraki Creek the Company would not look for any profit on landing and shipping charges the profit would come from leases of godowns, warehouses, business premises and residences. That is correct Port Administration. To keep charges low and develop the Port Estate. Bombay is a notable example of this policy, having large rentals from land and warehouses etc., the large Taj Mahal Hotel for example is on Port Trust land.

The Government scheme has no possibilities in Estate development and with its high Capital charge will, I fear, be a burden on the community for very many years. In these days Capital charges must be kept as low as possible a difficult achievement with dear money and engineering works costing  $2\frac{1}{2}$  to 3 times what they did before the War.

I do not think I can usefully add anything more on the subject of the 2 schemes, but I believe I have shown that there was a great deal more to say on the subject of the M'Baraki scheme than was brought forward at the Meeting of the Legislative Council

62594/2014

*[Handwritten signature]*

inserts for  
to be read 1st

DRAFT.

R. G. Boulton Esq

3 January 1901

MINUTE.

*msd  
5002*

Dear Mr Boulton

Mr. Meade, 31 Dec

with ref to your letter of

Mr. Datterlee 31

of the 22<sup>nd</sup> Dec in which you  
enclose a copy of the

Mr.

Mr. Grindle.

Sir H. Lambert.

Sir H. Read.

Sir G. Fiddes.

Col. Amery.

Lord Milner.

Buchanan's report on Heligoland  
Hardenau, ~~it is not~~ <sup>I am not</sup> ~~quite~~ <sup>clear</sup>

clear ~~how~~ <sup>what</sup> exactly  
it is which was ~~it~~

should form the subject  
of further discussion.

Conference <sup>5</sup> Before we give the  
suggestion further consideration

you should say whether the  
purpose intention is that the

"works on the reduced scale" to

which <sup>the</sup> ~~the~~ <sup>as the</sup> ~~refers~~ <sup>has</sup> ~~shown~~ <sup>been</sup> ~~at~~

Kilindini or Mbaraki?