

1925.

NEW ZEALAND.

# RANGITAIKI LAND DRAINAGE

(REPORT OF THE COMMISSION APPOINTED TO INQUIRE INTO AND REPORT UPON).

*Presented to both Houses of the General Assembly by Command of His Excellency.*

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## COMMISSION.

CHARLES FERGUSSON, Governor-General.

To all to whom these presents shall come, and to ASHLEY JOHN HUNTER, Esquire, A.M.I.C.E., of Auckland, Civil Engineer; WILLIAM DUFFUS HUNT, Esquire, of Wellington, Company Manager; and HEATHCOTE BEETHAM WILLIAMS, Esquire, of Gisborne, Farmer: GREETING.

WHEREAS it is considered expedient to inquire into matters connected with the drainage of the district set apart for the purpose of the Rangitaiki Land Drainage Act, 1910, and with the financial difficulties now being experienced by settlers in the said district:

Now, therefore, I, General Sir Charles Fergusson, Baronet, Governor-General of the Dominion of New Zealand, in exercise of the powers conferred by the Commissions of Inquiry Act, 1908, and of all other powers and authorities enabling me

in this behalf, and acting by and with the advice and consent of the Executive Council of the said Dominion, do hereby constitute and appoint you, the said—

ASHLEY JOHN HUNTER,  
WILLIAM DUFFUS HUNT, and  
HEATHCOTE BEETHAM WILLIAMS

to be a Commission to inquire into and report upon the above matters generally, and in particular to inquire into and to report upon—

- (1.) The causes of the financial difficulties now being experienced by settlers in the district set apart for the purposes of the Rangitaiki Land Drainage Act, 1910.
  - (2.) The capacity of the lands in the said district to bear the charges leviable against them under the Rangitaiki Land Drainage Act, 1910, having regard to the value of the said lands at the time the drainage operations were undertaken.
  - (3.) The bearing that increases in the prices of such lands due to sales, and to transfers effected subsequently to the inauguration and carrying-out of such drainage-works, have had upon the general taxation now leviable upon such lands.
  - (4.) Whether the Government should proceed with the further development of lands within the aforesaid drainage district by expenditure out of capital, and, if so, whether such expenditure should be a charge on the Rangitaiki Land Drainage Account, or be provided by way of grant or subsidy.
  - (5.) What portion (if any) of the charges to which lands in the aforesaid district have, or may become subject can equitably be regarded as chargeable against the State and be met by way of a grant in aid of drainage and road works, having regard to the fact that the Government has in the past given grants or subsidies to works of a national character, such as roads, river-protection, drainage, &c.
  - (6.) By what methods can the aforesaid settlers' indebtedness to the Crown be alleviated, and to what extent.
  - (7.) What relief (if any) should be afforded to the aforesaid settlers by mortgagees other than any relief that may be recommended as a charge to be borne by the Government.
  - (8.) Whether on the completion of the scheme of works now being carried on under the Rangitaiki Land Drainage Act, 1910, or on the completion of the extension of such scheme if further works are deemed advisable, the ratepayers within the aforesaid drainage district should take steps to have the maintenance of such works controlled by a Drainage Board.
  - (9.) Whether, in the event of such a Drainage Board being constituted, it should be subsidized by the Government for a limited period. What should be such period and the rate of subsidy.
  - (10.) In the event of such a Drainage Board being constituted what plant (if any) should be handed over by the Government to the Board. What should be the terms of purchase of such plant by the Board.
  - (11.) Any other recommendations or advice arising out of these premises.
- And, with the like advice and consent, I do further appoint you—

ASHLEY JOHN HUNTER

to be Chairman of the said Commission.

And you are hereby authorized to conduct any inquiries under these presents at such times and places as you deem expedient, with power to adjourn from time to time and place to place as you think fit, and to call before you and examine on oath (or otherwise) such persons as you think capable of affording you information as to the matters aforesaid, and to call for and examine all such documents as you deem likely to afford you information on any such matters.

And, using all due diligence, you are required to report to me, under your hands and seals, not later than the thirtieth day of June, one thousand nine hundred and twenty-five, your opinion on the aforesaid matters.

And you are hereby strictly charged and directed that you shall not at any time publish or otherwise disclose, save to me in pursuance of these presents, or by my direction, the contents or purport of any report so made or to be made by you.

And it is hereby further declared that these presents shall continue in force although the inquiry is not regularly continued from time to time or from place to place.

And, lastly, it is hereby further declared that these presents are issued under and subject to the provisions of the Commissions of Inquiry Act, 1908.

Given under the hand of His Excellency the Governor-General of the Dominion of New Zealand, and issued under the Seal of that Dominion, this 24th day of April, 1925.

A. D. McLEOD, Minister of Lands.

Approved in Council.

F. D. THOMSON,  
Clerk of the Executive Council.

GOD SAVE THE KING!

FURTHER EXTENDING TIME OF RANGITAIKI DRAINAGE COMMISSION.

CHARLES FERGUSSON, Governor-General.

To all to whom these presents shall come, and to ASHLEY JOHN HUNTER, Esquire, A.M.I.C.E., of Auckland, Civil Engineer; WILLIAM DUFFUS HUNT, Esquire, of Wellington, Company Manager; and HEATHCOTE BEETHAM WILLIAMS, Esquire, Gisborne, Farmer: Greeting.

WHEREAS by a Warrant dated the twenty-fourth day of April, one thousand nine hundred and twenty-five, and issued under my hand and the Public Seal of the Dominion, you were appointed a Commission to inquire into and report upon matters connected with the drainage of the district set apart for the purpose of the Rangitaiki Land Drainage Act, 1910, and with the financial difficulties then being experienced by settlers in the said district, and in particular the various matters set out in the said Warrant, and you were directed and required to report to me not later than the thirtieth day of June, one thousand nine hundred and twenty-five:

And whereas it is expedient that the said period should be further extended as hereinafter provided:

Now, therefore, I, General Sir Charles Fergusson, Baronet, Governor-General of the Dominion of New Zealand, in exercise of the powers conferred by the Commissions of Inquiry Act, 1908, and all other powers and authorities enabling me in that behalf, and acting by and with the advice and consent of the Executive Council of the said Dominion, do hereby extend the period within which you are required to report until the seventh day of July, one thousand nine hundred and twenty-five:

And, with the like advice and consent, and in further pursuance of the said power and authority, I do hereby confirm the said Commission, except as herein varied.

Given under the hand of His Excellency the Governor-General of the Dominion of New Zealand, and issued under the Seal of that Dominion, this 29th day of June, 1925.

A. D. McLEOD, Minister of Lands.

Approved in Council.

F. D. THOMSON,  
Clerk of the Executive Council.

GOD SAVE THE KING!

## REPORT.

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To His Excellency Sir Charles Fergusson, Baronet, General on the Retired List and in the Reserve of Officers of the Army, Doctor of Laws, Knight Grand Cross of the Most Distinguished Order of St. Michael and St. George, Knight Commander of the Most Honourable Order of the Bath, Companion of the Distinguished Service Order, Member of the Royal Victorian Order, Governor-General and Commander in Chief in and over His Majesty's Dominion of New Zealand and its Dependencies.

MAY IT PLEASE YOUR EXCELLENCY,—

Your Excellency's Commission dated 24th April, 1925, directed us to inquire into and report on matters connected with the drainage of the district set apart for the purposes of the Rangitaiki Land Drainage Act, 1910, and its Amendment, 1913, and with the financial difficulties now being experienced by settlers in the said district.

We now have the honour to submit for Your Excellency's information the following report in respect to the questions submitted to us under the order of reference.

### INVESTIGATIONS.

Your Commissioners met at Whakatane on the 12th May, 1925, and on the following days, in company with several representative settlers, made a general examination of the swamp area, examining more closely many of the properties. During these visits of inspection much information and informal evidence was given by settlers.

On the 15th and 16th May public sittings were held in Whakatane, and evidence was tendered, either orally or by written statement, by thirty-two witnesses. A third public meeting was held in Auckland on the 5th June, and further evidence, mainly departmental, was received from seven witnesses, making a total of thirty-nine witnesses examined. A copy of all the evidence taken on oath is attached herewith. A list of the witnesses is prefixed to the evidence, and forms an index thereto.

### GENERAL HISTORY OF DRAINAGE OPERATIONS.

The scheme of drainage of the Rangitaiki Swamp lands originated with the settlers on portions of the plain, who, in 1894, formed the Rangitaiki River Land Drainage District, under the provisions of the Land Drainage Act of 1893. The total area of land brought within the drainage district was then about 87,000 acres, of which roughly one-third was land leased from the Crown, one-third Native lands, and the balance unoccupied Crown lands and 7,670 acres of freehold land. Of the total area only some 40,000 acres—then valued at £88,280, and owned or occupied by fifty-nine ratepayers—was expected to be affected by the Land Drainage Board's operations. Between 1894 and 1910 this Land Drainage Board endeavoured to grapple with the difficulties before it, but, after having spent a considerable sum in works, the Board, with the sanction of the settlers, appealed to the Government of the day to pass special legislation empowering the Minister of Lands to take over, as from the 1st August, 1910, the Board's liabilities, and to construct and carry on such works as he might think fit for the drainage, reclamation, and roading of the lands referred to in the Act.

On the passing of the 1910 Rangitaiki Land Drainage Act a thorough inspection of the district was made by the Under-Secretary for Lands, accompanied by the Chief Drainage Engineer, and a general scheme of operations was drawn up. An outline of these proposals is contained in the first report of the Under-Secretary for Lands, dated 24th June, 1911; the works projected including Rangitaiki River diversion or new outlet to the sea, the Tarawera River improvements, the Omehu

drain, and the Kopeopeo outfall-drain, together with one or two minor drains. Two plans, numbered 3 and 4, are herewith attached. Plan No. 3 shows the works so far carried out by the original Drainage Board up to the end of 1910, together with the additional works projected at that date by the Lands Department, the cost of which latter was estimated at £50,000. A comparison of this plan, No. 4, accompanying the 1924 report, is interesting, as showing the small amount of work proposed under the Government's original scheme in contrast with the extensive and comprehensive drainage-works actually carried out. The drainage report of the 31st March, 1911, contains a detailed estimate clearly showing the works which it was then proposed should be carried out for the sum of £50,000, but in the absence of any levels or engineering surveys it was intimated that this estimate was to be taken as being more or less an approximate one.

As the drainage-works progressed, the necessity for further works became apparent, and by March of 1917 the expenditure had increased to close on £100,000. Since that date additional works and the maintenance of constructed works have, according to the official figures, brought the total net liability of the Rangitaiki Drainage Account at the 31st March, 1925, to the sum of £481,202. This is after crediting the account with rates remitted for the three years ending the 31st March, 1924, amounting to £58,633. The amount of these rates was paid into the account out of the Consolidated Fund. Roads constructed in the swamp at a cost of about £50,000 have been charged to the Drainage Account, and the residual value of the plant is estimated at £27,000. If these two items are deducted, it leaves the net cost of the drainage operations to the 31st March at the sum of £404,202.

Much comment has been made on the disparity between the original estimate of the drainage scheme in 1910 and the total liability incurred up to date; but it must be borne in mind that during the war period, and for some time after, conditions had materially changed, and that not only had labour costs gone up 50 per cent., but that the necessary plant and material has also increased in price from 50 to 75 per cent., and was difficult to obtain even then. The unavoidable delay in completing the work owing to the war has also had a considerable effect in adding to the final cost. Interest and maintenance charges alone amount to a very large sum. Had it not been for these factors, we believe that the present total cost of the works would have been reduced by at least 30 per cent. It is only fair, and in justice to those concerned with the carrying-out of the works, to draw attention to the above facts.

#### PHYSICAL FEATURES, LAND AND DRAINAGE.

We attach herewith two maps, numbered 1 and 2. Map No. 1 shows the total drainage area, together with the drains, stop-banks, bridges, &c., and also the surface levels (shown in terms of Railway datum). These levels have been taken after considerable sinkage of the land as a result of drainage operations, and are approximately the levels that obtain at the present time. Map No. 2 shows the area of land within the drainage district divided up for rating purposes into four classes—A, B, C, and D. The total area so classified is close on 80,000 acres. Class A land is described in the Rangitaiki Land Drainage Act as being "that land which will receive a direct benefit from the construction of the works"; Class B "lands which will receive a lesser benefit therefrom"; Class C, "lands that will receive only an indirect benefit therefrom"; and Class D, "lands which receive an indirect benefit, but which on account of their position or physical character are not classifiable under A, B, or C." The areas under the different classes at the present time are as follows: Class A, 49,256 acres; Class B, 7,894 acres; Class C, 12,907 acres; Class D, 9,916 acres: total, 79,973 acres.

In adjusting the rates between the different classes, the ratio has been fixed of 9 for Class A, 6 for Class B, 3 for Class C, and 1 for Class D. In other words, land of an unimproved value of £1 in Class A pays 50 per cent. more rates than land of the same value in Class B, three times as much as land of the same value in Class C, and nine times as much as land of the same value in Class D. Owing to difference in values, however, it often follows that land in Class B or Class C pays more rates per acre than much of the land in Class A. We would here point out the necessity for some means of appeal by settlers against the classification.

Evidence was brought before us concerning certain Native lands which we think should be omitted altogether from the classification or rating area.

## QUALITY OF LAND.

Approximately 3,000 acres along the banks of the Whakatane River is good alluvial land, and much of this was worked to a greater or less extent before the drainage operations commenced. A good deal of it now comes under the B and C classes. There are some further areas of good alluvial deposit on the banks of the Rangitaiki River and at a few other spots. It is difficult to estimate just what these areas would amount to, but we should imagine 3,000 acres altogether, which, with the 3,000 acres on the Whakatane River, would make, say, 6,000 acres of first-class alluvial flats. The remaining 74,000 acres consists of pumice flats, or peat mixed with pumice to a greater or less extent, and mostly on a pumice foundation. The peat varies in depth very much, and would originally range from 1 ft. or 2 ft. to as much as 20 ft. This peat, however, has gone down or sunk as the drainage has progressed and the water has been taken out of it. Much of it shrinks from 75 to 80 per cent. when drained. The area of pumice flats will be somewhat greater than the area of land of a peaty nature. A considerable area of this peat land is so low that it cannot be profitably drained. A reference to the map No. 1 shows the existing levels. On the peat areas these levels are now considerably below what they were before the drains were put in. Much of this peat land on the lower levels is still wet, and would shrink further if it were possible to further drain it. We believe that the area of land that cannot be profitably drained will be not less than, say, 10,000 acres. As far as we can see, this low-lying land cannot be used for anything except summer grazing. It is possible that some of it might be used for flax-growing, but only experience and time will show whether this can be profitably carried out or not. Apart from this area of low-lying land which we consider undrainable, a great deal of the peat land would be difficult to drain, and will be very slow in coming into profitable use. When it does come in it will not be rich land, and will require top-dressing with fertilizers and lime to make it productive. The pumice flats will come in more quickly than the peat lands. Some of these pumice flats on the higher ground are now coming in fairly well where the water has been got off, and they have been top-dressed with fertilizers. When this land is dried, however, it is at the best only pumice land, no better in quality than much of the pumice lands of the Auckland Province which have responded so well to top-dressing. These Rangitaiki pumice flats, however, have the disadvantage of being at a low level and having to be drained, whereas most of the pumice lands in the Auckland Province require no artificial drainage. Only a small portion of the area has been brought into a proper productive state. The great bulk of it, probably between 80 and 90 per cent., requires a large amount of expenditure and development work to bring it into a productive state, in addition to which a considerable time must elapse before this result is arrived at.

## FLOODS.

Possible flooding from the Tarawera River is one of the most difficult problems in connection with the Rangitaiki Swamp drainage. As a glance at the levels will show, the river itself is on the highest part of that portion of the swamp lying between the Tarawera River and the Rangitaiki River. The water-level of the river itself is from 2 ft. to 3 ft. higher than the average level of the land almost immediately adjoining it on either side. It is kept in this high position at normal times by natural banks created by its own floods. These natural banks are only a foot or two above normal water-level, and until recently, or previous to the river being stop-banked, flood-waters overflowed and ran across country towards the Rangitaiki River, and thence right down the plain, until they eventually found an outlet into the sea either by way of the Rangitaiki or mouth of the Tarawera River. The Tarawera River itself flows right through pumice country, and carries with it a continuous stream of pumice sand. To prevent the escape of the flood-water across the plains on the east bank of the river a stop-bank has recently been erected almost the full length of the east bank. This has been built with the only material available—namely, sand—and it is questionable whether it will stand any severe test. Quite apart from the risk of flooding, the high elevation of the bed of the river, together with the pumice subsoil of the whole plain, means that

there is a continual seepage from the river coming out across the plain, and this keeps much of the land wet and adds additional work to the drains, especially in time of flood. The river has one satisfactory feature, however, which is that, being a comparatively short river, deriving its main supply of water from the Tarawera Lake, it does not flood badly, as the Tarawera Lake acts to a certain extent as a flood-impounding reservoir.

The settlers in the district are anxious to have the river diverted into a new cut commencing a short distance below the point where Hallett's catchwater enters the river, and extending from there into the head of the Tumarau drain. From there it would go down this drain, and enter the present course of the Tarawera River where this drain discharges into it. It is argued by the settlers that this would put the river behind a low range of hills that would effectually protect the plain; that it would not be necessary to stop-bank the new cut, as, if it flooded before it reached the protection of the low hills mentioned, it would only overflow on to an area of at present worthless country, and would be prevented from reaching the main plain largely by its own existing high banks. We have examined this spot, and we are impressed with the possibilities of the scheme, and think that further investigations should be made by an independent engineer, with a view to having the work ultimately carried out. If this suggested diversion is not made, then the present stop-banks must be very substantially increased in size and their river-face protected from scour.

#### DRAINAGE-WORKS.

The drains and works generally that have been done in connection with the Rangitaiki Swamp area are shown on plans numbered 1 and 4. The great bulk of the work has been finished, and practically every farm now has an outfall drain brought up to its boundaries into which the farm drains can discharge. There is, however, further work involving a capital expenditure that still requires to be done in order to make the present drainage scheme more effective and give the utmost fall that is obtainable.

It will be readily understood that, with such a large area of very low-lying land, every inch of additional fall or free-board in the drains is of importance, and, further, it is extremely desirable that after a flood the water should be got off the land as quickly as possible. Land that is subject to periodical flooding is not suitable for cultivation, but may be very useful for grazing-land provided the flood-water does not remain on the land too long a time. On a large area of low-lying land such as the Rangitaiki Plain, only a few feet above-sea-level, it is an impossibility—even with the most efficient drainage system—to prevent occasional flooding of the land. If flood-waters can be got off within twenty-four hours, floods do little or no harm to grazing-lands; but if the water remains much longer harm begins to be done, and much grass can be destroyed if the water remains on it for a longer period than two or three days. In order that a drainage system should be efficient it is obvious that the water in the main outlet drains should, under normal conditions, be kept at as low a level as possible. This is only to be effected by closing the drains to the ingress of tidal waters. It is with this object in view that we make the following recommendations concerning additional works urgently needed :—

*Kopeopeo Outfall Drain.*—This, as will be seen from the map, has two outlets—one into the Whakatane River and the other into the Rangitaiki River. The Whakatane outlet is provided with a tidal flood-gate—of insufficient width, however. The Rangitaiki outlet has no flood-gate. The entire course of this outfall drain is through very low-lying ground, the surface of the land along its banks being only a little above high-tide level. On account of there being no tidal flood-gates at the Kopeopeo outlet into the Rangitaiki River, the tide backs up this drain, and on the ebb tide a portion of the Rangitaiki water goes right through it and discharges into the Whakatane River. On the other hand, the Whakatane River would, when it is in flood, go through to the Rangitaiki but for the fact that flood-gates have been erected at the Whakatane end of the drain. We think that flood-gates of ample width (*i.e.*, not less than 75 per cent. of the width of the outlet drain) should be put at the outlet of this outfall drain to the Rangitaiki River, and that a new outlet

should be made to the Whakatane River on the line marked red on plan, and flood-gates of ample width erected where this new drain will enter into the Whakatane River. The present outlet of this drain into the Whakatane River is so far from the sea that in flood-time, so we are informed, the water is sometimes for a considerable period 3 ft. to 3 ft. 6 in. higher at the present outlet than it would be at the proposed new outlet, which would always be at sea-level. (See Exhibit M.) The result is that when the Whakatane River is high for some days, as it sometimes is, it prevents the water in the drain from getting away, and much land is therefore flooded for periods long enough to do very considerable damage to the grass. The proposed new outlet, being always at sea-level, would be little affected by flooding. At the time the present outlet was put where it is it was part of the plan to straighten the Whakatane River with a new channel that would cut off the horse-shoe bend at present seen on the plan. This proposal was subsequently abandoned, on account, we understand, of a disagreement with the Whakatane Borough Council. Quite apart from the improved getaway for the water which would be obtainable from the proposed new outlet, the flood-gates of the present outlet are altogether insufficiently wide to enable the water in the drain to get away properly during ebb tide. We feel confident that if the new outlet which we have proposed for the Kopeopeo outfall drain in the Whakatane River is made, and the drain is then closed at each end by flood-gates of ample width, the average water-level in this drain will be considerably lowered, with a consequent lowering of the waters in all the subsidiary drains leading into it; and that an improvement generally of the drainage of a large area of land will result. In connection with these flood-gates, which have been built of concrete, we think that equally effective and very much cheaper flood-gates could be constructed of timber.

*Awaiti Drain.*—The drainage map shows that this drain has to cope with the water coming in from all the drains between the Rangitaiki and Tarawera Rivers. For a distance of about four miles from its outlet the fall in this drain is very small indeed, and as a consequence the water travelling down it has very little velocity. In order to deal effectively with the large volume of water this drain has to carry it is, in our opinion, necessary to largely increase its width from its outlet to, approximately, Walker's drain—a distance of, say, four miles and a half. In addition to this, we are of the opinion that the advisability of constructing flood-gates at the outlet of this drain to the Tarawera River should be carefully considered.

#### FINANCE.

Statements of accounts showing the position and various details of expenditure up to the 31st March, 1925, are attached herewith. A perusal of these will show that at that date the net capital liability involved in these drainage operations was £481,202; this is apart from the sum of £58,633 for rates that have been remitted, and which the State has paid to the Rangitaiki Land Drainage Account out of the consolidated revenue. This is a subsidy which the State has granted to the venture, and is, as far as we can see, the only subsidy that it has given. In addition to this capital sum of £481,202 there is a further capital expenditure that we have indicated as being, in our opinion, necessary to render the present drainage system more effective. We have not attempted to make any detailed estimate of the cost of these additional works, but we are of opinion that the work ought to be done for a sum not exceeding £40,000. As a set-off against this present net liability the State owns plant and machinery the residual value of which is now, say, £27,000. We are of the opinion, seeing that these drainage-works have been the means of effecting a great saving in the cost of railway-construction over a length of at least ten miles, that a substantial charge should be made against the Public Works Department on that account. It is difficult to assess the value of the saving so made, but, taking into consideration the fact that the Public Works Department would either have had to take the line round the foothills, thereby increasing the present length of the railway by some six miles, or else would have had to undertake a partial drainage system of the swamp to permit of the line following its present route, we have come to the conclusion, and recommend, that the sum of £35,000 is not an excessive charge to make on this account.



We are further of the opinion that the cost of making all the main and access roads across this swamp—estimated at £50,000—should be charged against the State.

Deducting these amounts of £27,000, £35,000, and £50,000 from the present net liability of £481,202 leaves a sum of £369,200, to which has to be added £40,000—the estimate of proposed additional works—bringing the proposed total liability up to £409,200. Of this amount we recommend that the Government should contribute, by way of £1-for-£1 subsidy, the sum of £204,600, leaving an amount of £204,600 as representing the net liability of settlers at the 31st March, 1925. The following statement shows more clearly how this amount has been arrived at :—

		£
Net liability, 31st March, 1925	.. ..	481,202
Deduct proposed charge against Public Works		
Department on account of saving in cost of railway-construction effected by the drainage-works	.. ..	35,000
Deduct on account of road-construction	.. ..	50,000
Deduct residual value of plant owned by Government	.. ..	27,002
		112,002
		369,200
Add for cost of additional works and completion of existing works, say	.. ..	40,000
		409,200
Of this amount it is proposed that the Government should contribute, by way of £1-for-£1 subsidy	.. ..	204,600
		£204,600

The drainage area is liable for a rate to cover interest on this sum, and also for a sinking fund to ultimately repay it. This rate we recommend should be fixed at 5 per cent.—or  $4\frac{1}{2}$  per cent. for interest, plus  $\frac{1}{2}$  per cent. for sinking fund. In addition to this charge for interest and sinking fund, the cost of annual maintenance has to be provided for. This is estimated by the Drainage Department's Engineer as probably amounting to £7,000 per annum—representing about 2 per cent. on the cost of the actual drainage-works and excluding road-maintenance. We recommend that of this, or any other annual amount chargeable for ordinary maintenance, the Government should contribute by way of subsidy £1 for £1 for the first year, 18s. for the second year, 16s. for the third year, and so on until the subsidy is reduced to 10s. for £1, and that thereafter the amount of Government subsidy towards annual maintenance charges should remain at 10s. for £1. The settlers' share of the maintenance charge is to be met by a rate and paid in addition to the foregoing rates for interest and sinking fund. As a set-off against this proposed permanent maintenance subsidy, the Railway Department will be saved the cost of considerable drainage and river maintenance that would otherwise be necessary for the protection of the railway-line.

Your Commissioners have given very careful thought in arriving at the foregoing recommendations as to what is a fair and reasonable charge to make against the Rangitaiki lands on account of drainage-works and maintenance, and, in considering the whole question of the owners' and settlers' liability, have taken into account the following factors, namely :—

- (a.) The extremely disappointing character of the swamp lands after they have been drained ;
- (b.) The disparity between the original estimates and the final cost of drainage operations, coupled with the fact that under the Rangitaiki Drainage Acts of 1910 and 1913 owners and settlers were in no way given an opportunity either to agree to, or protest against, being saddled with a large financial liability ;

- (c.) As a result of the war and its aftermath, the more or less unavoidable time taken to complete the works, with consequent loss to the settlers; and
- (d.) The fact that in undertakings of a similar character it has been the frequent practice of the Government to subsidize such works to a greater or less extent.

It may be argued that, with the great bulk of the land, its whole value is due to, and depends upon, the drainage-system, and that without the drainage-system it would have no value whatever; therefore the drainage rates required to cover the whole capital cost and maintenance should come before anything else. This is quite true, but in our opinion it would be quite impossible to collect such a rate. If the swamp lands had been of better quality and the drainage operations had resulted in rendering the whole area productive to a degree sufficient to enable an immediate profit to be made out of it, then our recommendations would have been different, as there is no doubt that, under these circumstances, such a rate could have been collected, because if the people now occupying the land did not pay it somebody else would come in and do so. The position at present, however, is that very little land in the area is in a productive state. The great bulk of it requires further large expenditure of capital and lapse of time to bring it into a productive state sufficient to make it pay working-expenses. The only people likely to develop this country are those who are now occupying it, with the assistance of those who are helping them financially; and these, both occupiers and their backers, for the most part will only continue to do so in the hope of saving something of what they have already put in, and not in the expectation of ever getting back the whole of the money already invested. In any case, huge sums have been, and must be, lost both by settlers and by those who have supported them financially.

If the full interest and maintenance charges were to be insisted upon, it seems to us almost certain that large areas would be abandoned, and only the richest spots and those most easy to work would remain occupied. Such a reduced area would find it difficult to carry even the maintenance rate, quite apart from any rate to cover interest and sinking fund on capital expenditure.

If the land had turned out to be as good as was originally expected by all those who have taken it up, no difficulty with regard to rates or finance would have arisen. The land, however, is going to take much longer to develop than was originally thought, and when brought into use the bulk of it will be only second-class land requiring careful farming and continuous fertilizing. The settlers who have gone in have lost largely in both time and money. Those who have financed them have lost large sums, and we cannot see how the State can get out without a heavy loss also. It must be borne in mind, however, that if these areas are ultimately made productive, then the State will get a return from it in many other ways.

*Mortgages.*—In response to some five hundred circulars sent out to settlers asking them to furnish particulars regarding their financial position in respect of mortgages, &c., only 119 replies were received by the Land Drainage Department. It was promised settlers that any such information supplied would be treated as strictly confidential. Your Commissioners can therefore only here give general results. Of the 119 settlers answering the circular, twelve of them gave no information relative to mortgages, eighteen stated they had no mortgage on their property, while the remaining eighty gave details of their mortgages. These eighty settlers own between them 17,964 acres, and the aggregate amount of the mortgages over this area is £349,346, or close on an average of £20 per acre. It may, we think, be assumed of the remaining close on four hundred settlers who failed to reply to the circular that their financial position will approximate more or less closely to that of the other settlers, and that the ratios between land areas and mortgages would be pretty well the same as those above given for the eighty settlers, so that the total amount of mortgages over the whole area of the drainage district may be assessed as being somewhere in the vicinity of £1,000,000. Of the above-mentioned amount of £349,346 on mortgage, fully two-thirds is owing to the vendors, and about 10 per cent., it is stated, has been incurred for development work alone.

Considering the fact that the land is settled by a first-class body of settlers who have valuable experience, mostly dearly paid for, we consider the mortgagees will be ill advised not to make terms with those in occupation, either by substantially writing down existing mortgages or, where possible, finding capital for further development. Should the present occupiers give up their holdings we consider it would in many cases be very difficult to replace them. A great many mortgages have already been substantially written down, but much of the land is still mortgaged for a great deal more than it is worth. Mortgagees who know their business will face the position promptly and make adjustments on the basis of true values. Those who do not do this will, in the end, lose far more than they will do if they face the position now.

Having briefly dealt with the inquiry as a whole, we now beg to reply specifically to the questions set before us in the order of reference.

*(1.) The causes of the financial difficulties now being experienced by settlers in the district set apart for the purposes of the Rangitaiki Land Drainage Act, 1910.*

The financial difficulties now being experienced by most of the settlers on the Rangitaiki Swamp lands are, in our opinion, attributable wholly or in part to one or more of the following causes:—

- (a.) The almost universal overestimate of the quality of the land, which was expected to be rich when drained, whereas the great bulk of it has proved to be poor.
- (b.) The almost universal underestimate of the time and the monetary expenditure required to bring the lands into profitable occupation.
- (c.) Insufficient unwatering due—(i) To much of the land being from the outset too low to permit of sufficient freeboard being obtained; (ii) to much of the land of a peaty nature having sunk concurrently with drainage operations until it is now too low to allow sufficient fall; (iii) to insufficient internal drainage on the farms by the settlers themselves.
- (d.) Payment of prices for the land which under almost any circumstances would have proved excessive, but which, in view of (a), (b), and (c), have proved quite beyond any possible earning-capacity of the land.
- (e.) The unavoidable delays, due to war conditions, in completing the drainage-works.
- (f.) The overestimate of the possibilities of the land having caused taxation values to be much too high, and these high values having, in turn, made county rates and land-taxation much higher than they should be.
- (g.) The fact of the drainage operations having cost so much more than was expected has made the drainage rate an excessive burden. As this heavy rate has largely remained unpaid, and for the three years ending 31st March, 1924, has been entirely remitted, the drainage rate has not been a direct contributor to the financial difficulties of settlers. It has, however, contributed indirectly, because the rate has been a prospective burden that had to be dealt with in some way, and the uncertainty as to the manner in which it would ultimately be dealt with has created a want of confidence in the minds of both the settlers themselves and their financial backers which has delayed the development work necessary to enable the lands to produce properly.

Of the above attributed causes, we place the poorness of the land as being the principal one.

*(2.) The capacity of the lands in the said district to bear the charges leviable against them under the Rangitaiki Land Drainage Act, 1910, having regard to the value of the said lands at the time the drainage operations were undertaken.*

We are of opinion that, for the reasons already set out in the body of our report, the lands in the Rangitaiki Land Drainage District are unable to bear the whole of the charges now being levied against them. The amount that we think the lands should be asked to bear we have set out in the body of our report, and have answered this specifically under reference No. (5).

- (3.) *The bearing that increases in the prices of such lands due to sales, and to transfers effected subsequently to the inauguration and carrying-out of such drainage-works, have had upon the general taxation now leviable upon such lands.*

We are of the opinion that the valuers who for rating purposes have assessed the present unimproved values of the lands in question have been influenced to a greater or less degree by the high prices paid by settlers and others for the land, either by sales or transfers, during the boom period between 1916 and 1920, and that as a consequence of this the present unimproved values in the generality of cases are much too high, and that these inflated values have had the effect of unduly raising the taxation that has been paid in the past and that is now leviable on such land.

- (4.) *Whether the Government should proceed with the further development of lands within the aforesaid drainage district by expenditure out of capital, and, if so, whether such expenditure should be a charge on the Rangitaiki Land Drainage Account, or be provided by way of grant or subsidy?*

We think that further capital expenditure should be limited to the completion of some drains now in hand, and also to the following works already dealt with in the body of our report, namely: Tarawera River improvement; new outlet to Kopeopeo outfall drain, and flood-gate at both Whakatane and Rangitaiki ends; Awaiti drain. The cost of this work should, as we have already recommended, be borne half by the Rangitaiki Drainage Account and half by Government subsidy. We strongly recommend that an attempt should be made to limit this further capital expenditure to £40,000.

- (5.) *What portion (if any) of the charges to which lands in the aforesaid district have or may become subject can equitably be regarded as chargeable against the State and be met by way of a grant in aid of drainage and roadworks, having regard to the fact that the Government has in the past given grants or subsidies to works of a national character, such as roads, river-protection, drainage, &c.?*

In regard to the question as to the charges to which the lands have, up to the present time, become subject, and the amount of such charges which may equitably be borne by the State, an answer had already been given in the body of our report, and it is here reaffirmed. We are of the opinion that, of the total net liability of £481,202 as at the 31st March, 1925, the State should, in the first place, be chargeable with a sum of £112,002. The remaining £369,200, together with the additional capital expenditure recommended of, say, £40,000, making a total sum of, say, £409,200, should be paid half by a subsidy by the State and the other half by the Rangitaiki Land Drainage Account. We recommend that on this fixed liability of £204,600 rates be struck amounting to £10,280 (representing  $4\frac{1}{2}$  per cent. interest plus  $\frac{1}{2}$  per cent. sinking fund on £204,600), and that this amount of rates be levied against owners and settlers in addition to the separate rate to cover their proposed share of the annual cost of maintenance.

- (6.) *By what methods can the aforesaid settlers' indebtedness to the Crown be alleviated, and to what extent?*

This question is already answered in the reply to No. (5), but we recommend by way of further alleviation of the settlers' indebtedness to the Crown that the Government shall remit all drainage rates for the current year, and also for the year ending 31st March, 1925, and that rating should start as from the 1st April, 1926, on the basis of £204,600, as representing—apart from maintenance charges—the net liability of owners and settlers at that date.

- (7.) *What relief (if any) should be afforded to the aforesaid settlers by mortgagees, other than any relief that may be recommended as a charge to be borne by the Government?*

We cannot recommend any legislation that would interfere between the settlers and their mortgagees. We think that these should be left to work out their own arrangements amongst themselves. Any interference on the part of the State with the rights of mortgagees would have far-reaching and injurious effects. It would create a want of confidence on the part of investors in farm securities that might bring financial trouble to thoroughly sound settlers in all parts of the Dominion.

It is most important in an almost purely agricultural and pastoral State like New Zealand that farm-land securities should be regarded as undoubted and be popular generally with investors. This was the case in pre-war days, but the happenings since have to a certain extent shaken this confidence. It is most desirable to have it restored. When a man borrows money on his farm, or purchases a farm on terms, he enters into a contract with his mortgagee to repay the loan, with interest, in a certain manner, and agrees to undergo certain penalties if he fails. There are scores of thousands of these contracts in all parts of the Dominion. The total sum involved in mortgage contracts of all kinds at the 31st March, 1925, is returned in the official figures at £269,608,138. Any interference in the sacredness of these contracts would create a want of confidence that would be disastrous and that would take the Dominion years to get over. The operations brought about by the land boom and the almost universal overestimate of the quality of the Rangitaiki Swamp lands has caused much of the area to be mortgaged for amounts far beyond the value of the securities. Many mortgagees have already realized this and have met their mortgagors by writing down their mortgages to reasonable amounts. In our opinion those mortgagees who still hold mortgages for excessive amounts would be well advised to meet their mortgagors and reduce the amounts owing to reasonable figures. They will lose less in the end if they do this promptly. If they let present occupiers go out they will probably find their securities very difficult and expensive to handle. In some cases they will find they have liabilities on their hands instead of assets.

(8.) *Whether on the completion of the scheme of works now being carried on under the Rangitaiki Land Drainage Act, 1910, or on the completion of the extension of such scheme if further works are deemed advisable, the ratepayers within the aforesaid drainage district should take steps to have the maintenance of such works controlled by a Drainage Board?*

We are of the opinion that, for many reasons, it is undesirable at the present time that settlers should take steps to form one or more Drainage Boards for the purpose of controlling and maintaining the works so far completed or in course of completion. We recommend, therefore, that a consideration of such a proposal be deferred for another five years, and that in the meantime the Government Drainage Department should continue to have full control both of the existing and any future work, and also of the maintenance of same.

(9.) *Whether, in the event of such a Drainage Board being constituted, it should be subsidized by the Government for a limited period? What should be such period, and the rate of subsidy?*

In the event of any such Drainage Board or Boards being formed to control and maintain the drainage-works, we are of the opinion that it, or they, should be subsidized to the extent already indicated in answer to question No. (5).

(10.) *In the event of such a Drainage Board being constituted, what plant (if any) should be handed over by the Government to the Board? What should be the terms of purchase of such plant by the Board?*

In the event of such Drainage Board or Boards being formed at some future date to control and maintain the drainage-works, we recommend that such plant and machinery as the Land Drainage Department, in consultation with the Drainage Board or Boards, deem necessary and sufficient for the purpose of maintenance should be handed over to such Board or Boards, and that the value of same should be a charge to it or them.

(11.) *Any other recommendations or advice arising out of these premises.*

We have no further recommendation to make arising out of these premises.

This our report, which has been unanimously adopted, we have the honour to submit for the consideration of Your Excellency, together with the transcript

of the evidence taken by us in the course of our investigations, and the following plans and appendices :—

- Plan No. 1, showing the total drainage area, together with the drains, stop-banks, bridges, &c., also surface levels.
- Plan No. 2, showing area of land within the drainage district divided up for rating purposes into four classes—A, B, C, and D.
- Plan No. 3, showing the works so far carried out by the original Drainage Board up to the end of 1910, together with the additional works projected at that date by the Lands Department.
- Plan No. 4, showing the works carried out up to the year 1924, also further works proposed.
- Appendix I : Balance-sheet, Rangitaiki Drainage area, as at 31st March, 1925 ; statement of liabilities and assets ; unimproved-land values, rates, &c.
- Appendix II : Statement of Rangitaiki land-sales, 1917–22.
- Appendix III : Annual report for the year ending 31st March, 1911, *re* Rangitaiki land-drainage.
- Appendix IV : Annual report for the year ending 31st March, 1924, *re* Rangitaiki land-drainage.
- Appendix V : Index to witnesses.
- Appendix VI : Index to notes of evidence.

We also beg to return herewith Your Excellency's Commission.

We have the honour to be,  
Your Excellency's obedient servants,

ASHLEY HUNTER, Chairman.  
W. D. HUNT.  
H. B. WILLIAMS.

Wellington, New Zealand, 29th June, 1925.

[NOTE.—Plans and Appendices not printed.]

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