

LAND.
LAND TAX.
No. 479/21

1921

C.S.

Messrs G. Benner & Co.

SUBJECT.

192
1921

5th July

Previous Paper.

444/21

Petition by Falkland Islands Sheep-Farmers
respecting the Tax on Land.
Ordinance No.5 of 1918.

Subsequent Paper.

120/23.

MINUTES.

Petition dated 5th JulyEncl:(1).

H.E.the Governor,
Submitted.

2. The Third Schedule (export duties) of The Tariff Ordinance 1900, as amended by Ordinance No.7 of 1915, was repealed by Ordinance No.6 of 1918.

3. The following shows the duties in respect of the Sheep-farming industry:-

Wool,.....per 100 lbs,.....	1s, 3d.
Meats,.....per 72 lbs,.....	6d.
Sheep,.....each,.....	3d.
Sheep skins,....each,.....	1d.
Hides,.....each,.....	6d.

4. The following amounts were collected under the above during the year 1918:-

Wool,.....	£ 3,006.
Meats,.....	142.
Sheep,.....	2.
Sheep skins,.....	331.
	-----£ 3,481.

5. When the export taxes above mentioned, were repealed, the

were

were replaced by a graduated Land Tax, under Ordinance No. 5 of 1918. The Revenue derived from this last named tax, amounted in 1920, to: £ 8,694.

6. The tax on land, under the Live Stock Ordinance 1901, was also at the same time repealed by Ordinance No. 7 of 1918. The Tax on Land under the Live Stock Ordinance 1901, amounted to about £600 annually.

7. The table referred in in par: 2 of the enclosed petition is not attached, and in consequence I am unable to follow the contention stated therein, that land taxation as at present levied results in a charge ranging from .63 pence per sheep to 5.24 pence per sheep.

B. Thompson

A. C. S. 5/7/21.

H.C.S.

Will you please reply to letter as in draft attached.

2. A letter from W. Harding written in connection with question of taxation & giving names of owners of land is attached. Encl (2)
3. With reference to your para 5. Letter is Enclosure (2) in 444/21. It was sent to me previous to meeting of 15th June reference to below.
4. The land tax was ^{informally} discussed at meetings on 10th + 15th June with Messrs Miller, Leighton, McSwain, M. Robson, Bonney + Hanson + on 29th June with Messrs Bonney, Greenfield, A. Monson, D. Pitakaga + Langdon. In addition to foregoing W. Harding + W. Felton sign the letter. A. Miller was present at any meeting. W. Felton was prevented from being present at meeting on

29th June owing to indisposition.

5. The question of Land Tax was first raised at the interview on 10th June when I was asked if there was any intention of increasing the tax. I replied that a re-adjustment of the tax had become necessary owing to the reduction in the apportionment of the acreage of Ludhiana. I read the letter of 26th March 1920 (G.O. 412/20) from the I.I. Company to Sqs in which it is provided that the Company + smaller holders were over-assessed + all other lands assessed. I also read Sqs despatch No 111 of 10th October 1920. I stated further that re-adjustment might be effected by increasing tax by $\frac{1}{4}$ acre on lands over 50,000 acres, the tax on lands of less acreage remaining unchanged. (See Sir D Young's letter in G.O. 412/20)

6. It led to a discussion on the merits of a Land Tax + an Export Tax on wool. Previous to meeting of 15th June I received the letter which forms enclosure 2 in H.H. 4/21. The letter takes notice of 4,924 q wool a value of sheep for export.

7. At all three meetings discussion followed very much the same line. I referred to discussion on taxation in Legislative Council on 29th November 1915. + read an extract from the minute which is in G.O. Confid 38/18. At the time Sir Harding stated that one or two of leading farmers of the

You have had the paper recently
 I wish you would refer to it as
 as you disposed of it.

Colony resident in England would prefer some form of taxation of land rather than an increase in export duties but added that he himself did not hold this view. I also referred to the opinions expressed by Mr J. S. Cobb & Mr Blake who had great experience of the Colony (see their letters of 25th & 26th October 1915 also in C 38/8)

The former was of opinion that farmers are punished for improvement in yields if export was taxed which a farmer who lets his sheep run down by neglect gets off lightly: the view of latter was that export tax operated in favour of the careless & slovenly farmer; it penalized a man who through application & energy made the most he could out of his farm either by increasing output of wool or export of stock:

a tax on wool tends to discourage improvement in farming methods: there is much second rate land which was not farmed as it ought to be: perhaps if tax fell on land owners might be driven at least to make use of it. I stated that I have referred to the correspondence to show what was before the Government when present land

8. I drew attention, in connection with any increase in land tax which might be decided on, that the Revenue from Crown lands, amounting to nearly as much as the Land tax, was applied towards the general relief of taxation whereas it might properly be expended on improvement & development of Crown lands or on special further improvements and that with a no expenditure ^{from} income on these objects.

Government when present land tax was decided on: I added that present system of taxation should not, in my opinion, be changed without full consideration & lengthy reasoned arguments which would stand ^{well} ~~surely~~ ^{well} ~~surely~~ criticism, could be put forward against it.

9. After meeting of 15th Nov Mr. De Sars wrote

the letter which is in 444/21.

10. I stated at the meeting that the discussions were quite informal & I had through Mr. Atkinson any arguments to any individual but as formal representations have now been put forward & a record of what took place is necessary.
11. Para 5 of letter herein indicates a reference to Mr. Blake's letter quoted above in which he puts forward argument that a land tax is more easily collected & more convenient to Govt than an export tax or worst. I may not have made myself clear in what I stated but what I was intended to convey was that speaking generally
- (1) ~~export tax~~ I was not in favour of export tax.
 - (2) The tax which each individual has to pay should be certain.
 - (3) A tax should be so contrived as to be cut & keep out of pockets of people as little as possible & also that what is actually paid into Treasury.

I do not consider points of sufficient importance to require comment in reply to letter herein.

Yr.

5 July 1921.

Letter to the Sheep farmers dated 6 July
Encl.

Letter from Mr. J. I. Wilson, 6th August, 1921..
Encl.....4

H.E. the Governor

Submitted

to the Governor

A.C.S. 17/8/21

Acknowledged

M

14 Aug 1921.

Letter from Mr. H. Clement, 28th July, 1921.
Encl.....5

Letter to J. I. Wilson, Esq., 23rd August, 1921.
Encl.....(6)

Letter to H. Clement Esq., 20th August, 1921
Encl.....(7)

Note on Area of Colony + Station, + report by D. Baker (8)

Memorandum on Taxation of Sheep Farming
Submitted by Hon: W. A. Harding. (9)

H.E.S.

Immediately after the land tax was introduced
provisions were made in Sudan + later a Provisional
was sent to Sqs from the Colony. The reply
of Sqs was in sense that principle of production
had been carefully considered before introduction
+ the rates were moderate.

G.O. 25/20

2. If the ~~existing~~ system of taxation which
was introduced by Land Tax Ordinance of 1918
is to be changed it is necessary in view of
correspondence referred to above that a strong case
can be made out. There are no

statistics about sheep farming industry; practically no information
about the industry was obtained from official sources, and
I was not in a position to take up the
question of the Land Tax
when representations were made to me
on the subject in 1921. Since then I have

spent much time in collecting information about the industry + I am satisfied that it is not possible to levy a land tax on an equitable basis.

- 3. I have collected all the relevant papers which I can find in order that members of Executive Council may have all possible information before them in considering this important question: will you please circulate this bulky file.
- 4. I should like to take up the matter in Executive Council as early as may be convenient to the members.

[Signature]
9 January 1923.

Hon. Treasurer

Hon. Col. Surgeon

Hon. W. A. Harding *[initials]*

Please circulate and return. To be considered at next meeting of Executive Council

[Signature]
Secy. Clerk of Ex. Co.
22. 1. 23.

Hon: Col: Surgeon,

Passed to you accordingly.

[Signature]
Colonial Treasurer.
24th January 1923

Hon W. A. Harding

Passed to you please
[Signature]
Colonial Surgeon

26. 1. 23.

See *[Signature]*
Jan 27/23

Extract from Minutes of Meeting of Executive Council held on the 1st February, 1923.

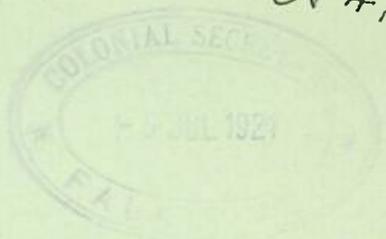
"Council recommended that an export tax on wool should be substituted for the Land Tax and that with expenditure on its present basis the amount to be derived should not be less than that now derived from the Land Tax. It was assumed that it was not the intention, in altering the basis of taxation, to increase the revenue and no such question arose for consideration"

W. Baileys

Acting Clerk of the
Executive Council.
7th February, 1923.

①

CA 479/21



The signatories to the enclosed letter present their compliments to the Colonial Secretary and request that he will be good enough to forward the same to His Excellency the Governor.

Stanley, July 5th, 1921.

Stanley,

5th July, 1921.

Sir,

With reference to the interviews which Your Excellency has been good enough to grant us on the subject of taxation in the Colony we beg to state briefly our reasons for regarding a tax on wool as being preferable to the present Land Tax.

2. The capacity of land for taxation, or the measure of the taxation which land is able to bear, must be governed by what that land can produce, and as the land of this Colony is suitable only for sheepfarming its taxable test is the number of sheep that can be depastured upon it. The table that has been submitted shows that land taxation as at present levied results in a charge ranging from .63 pence per sheep to 5.24 pence per sheep. We think that it cannot be contended that such a tax is equitable in its incidence, and we are strongly of opinion that a fairer basis would be the wool produced.

3. Apart from the fact that the actual acreages of farms have not been determined it cannot be questioned that no two farms in the Colony are alike; some contain large unproductive areas, such as stone runs sand and water, and others have disproportionate amounts of boggy and mountainous land. Such farms require much more labour and fencing, and must be of large area to carry sufficient sheep to make the station a sound and paying proposition. The farms that on the other hand comprise a higher average of good land are capable of being worked at a lower cost. Under the present system the large farm carrying less sheep to the acre and more expensive to work is paying a high tax per sheep, whereas

His Excellency the Governor.

the smaller farm carrying possibly just as many sheep is taxed lightly.

4. We think therefore that taxation should be based upon the actual output.

5. Your Excellency mentioned that from the Government point of view a wool tax presented certain disadvantages:-

(1) The declaration of the weight. During the many years that a tax was levied on wool the duty was paid into the Treasury within a few days of export without any difficulty or trouble whatever to the Government Officials. A specification of the weight is invariably sent with the wool to our shipping agent in Stanley who declared the weight upon export and paid the duty. On occasions it was considered desirable to have some check as to the weight, and our agents then produced the brokers' account sale. We believe that it was found that the duty paid was in excess of the actual weight.

(2) Uncertainty as to the amount of revenue from the tax.

We know that the revenue to be derived in the year from a wool tax cannot be determined accurately like a specific land tax, but there is no greater degree of uncertainty than in the Customs revenue from tobacco and spirits which must be a varying amount in the same way as the revenue in England from Income Tax. It is certainly much more satisfactory for the taxpayer to know that if his clip is light his taxation is less, whereas in a good year he can afford to pay more. We admit too that a fixed annual revenue from land would naturally from its simplicity be more acceptable from the Government point of view, but when simplicity entails such inequality as the present Land Tax shows we think the sacrifice for the sake of simplicity is too great.

6. We should like to take the opportunity of expressing our opinion upon one argument which Your Excellency informed

us had been urged in preference of a land tax to wool tax, namely that in the case of an owner who had increased his carrying capacity by improving his land, a wool tax would penalise him for effecting improvement. We cannot think that a tax of, say, a farthing/per pound ^{to a halfpenny} would deter any owner from trying to grow more wool worth, say, eightpence per pound. It is hardly conceivable that any farmer would refrain from increasing his output for such a reason.

7. We have confined our remarks in this letter to the question of wool tax versus land tax and do not propose to repeat here our remarks as to the necessity for curtailing public expenditure to the lowest possible figure. We rely upon Your Excellency's assurance that you are thoroughly aware of the necessity for every economy, and we conclude by expressing our thanks to you for the very frank way in which these questions were discussed with us.

We are,

Sir,

Your obedient servants,

Geo. Rames for Geo. Rames Esq^r Fred J Langton. W. Keith Cameron ^{Esq^r}
 G. J. Feltin for Estate J. L. Feltin. A. M. Morrison
 S. Miller for Holmsted Blake Esq^r R. H. Brown for H. J. Pitulaga
 W. Robson for Bailton & Stirling J. E. Benney for Estate of the late W. D. Benney
 E. V. Swinton for Hlean & Co. W. H. Hurd
 E. V. Swinton for Hlean & Co. H. J. Planghton & H. H. Hurd
 R. B. Pole Evans for J. L. Waldron Esq^r
 W. Robson for W. Robson
 R. Greenfield for R. Greenfield Estate
 A. Pitulaga Pitulaga Bros Estate

Stanley,

20th June, 1921.

Dear Governor,

Apropos of the question of owners of stations who are not resident in the Colony which you mentioned some time ago the attached list may be of interest to you:-

Falkland Islands Company	Limited Company.
J.L.Waldron	" "
Holmested, Blake & Co.	" "
Geo.Bonner & Co.	" "
Packe Brothers & Co.	Limited Company being formed.
Bertrand & Felton.	Clement, Manager, and Napier, assisting, are resident with their wives who both own one-fifth share.
Baillon & Stickney.	Owners resident in England.
Dean & Anson.	Luxton, half-owner, resident in the Colony.
Dean & Company.	Mrs Dean, part owner, recently deceased.
Pebble Island.	J.W.Dean, one-third owner, resident in Colony.
Weddell Island. (Williams & Co.)	Owners in England.
Stickney Brothers.	Shannon, Manager, is brother-in-law of half-owner.
West Point Island.	A.E.Felton, owner, resident in the Colony.
Carcass Island. (C.Hansen & Son.)	W.J.Hansen, half-owner, resident in the Colony.
Saunders Island. (W.D.Benney's Estate)	J.E.Benney, one-third or one quarter owner, resident in Colony.
New Island.	Mrs Scott, Owner, resident in Colony.
Beaver Island. (Henry Waldron)	Owner recently deceased. New owner now in Punta Arenas.
A.M.Pitaluga	A.Pitaluga, half-owner, resident in Colony.

H.J.Pitaluga.	Owner arriving by the "Oruba".
Smith & Sons.	Owners resident in Colony.
Mrs T.Robson.	Owners resident in Colony.
J.J.Felton's Estate.	G.J.Felton, part owner, resident in Colony.
Greenshields Brothers.	R.Greenshields, part owner, resident in Colony.
W.K.Cameron.	Owners in England,
Bleaker Island. (A.F.Cobb.)	Owner in Colony.
Speedwell Island.	Owners in England.
Lively Island. (H & G.Cobb.)	Owners in England.

The above is of course only rough

Yours sincerely,

W. Ward

*Her Excellency
The Governor*

479/21.

6th July,

21.

Gentlemen,

I am directed by the Governor to acknowledge the receipt of your letter of the 5 of July and to say that the representations made by you relative to the Land Tax will receive consideration.

I am,

Gentlemen,

Your obedient servant,

W. A. THOMPSON,
Acting Colonial Secretary.

George Bonner, Esq.,
for Messrs. Geo. Bonner & Co. Ltd.
San Carlos.

F. G. Langdon, Esq., for Messrs
Estate W. Keith Cameron
San Carlos.

G. J. Folton, Esq.,
for Messrs Estate J.J. Folton,
Teal Inlet.

A. M. Morrison, Esq., Bluff Cove

S. Miller, Esq., for
Messrs. Holmsted, Blake Ltd.
Hill Cove.

R. H. Sound, Esq., for H. J.
Pitaluga Esq., Rincon Grande.

H. Robson, Esq., for Messrs
Baillon & Stickney,
Fox Bay.

J. E. Bonney, Esq., for Messrs
Estate W. D. Bonney,
Saunders Island.

W. Luxton, Esq., for Messrs Dean & Co.
Chartres.

Hon: W. A. Harding, for Messrs.
The Falkland Islands Co: Ltd.
Stanley.

E. G. Pole Evans, Esq., for Messrs.
J. L. Waldron Ltd.,
Port Howard.

H. Robson, Esq., for Mrs T. Robson,
Port Louis.

H. Greenhilda, Esq., Douglas Sta.

A. Pitaluga Esq., Salvador.

Fox Bay, West Falkland,

6th. August, 1921.



Sir,

With reference to a letter addressed to His Excellency the Governor dated 5th. July last, on the subject of taxation in the Colony, i.e. - a tax on wool as being preferable to the present Land Tax, I have the honour to beg that my name as representative of Messrs Packe Bros. & Co. be added to the list of signatures attached to same.

I have the honour to be,

Sir,

Your obedient servant,

A handwritten signature in cursive script that reads "J. Lewis Wilson". A horizontal line is drawn underneath the signature.

Manager: Packe Bros. & Company.

The Hon.,

The Colonial Secretary,

Stanley.

(5)

C.S. 479/21



Roy Cook
West Falkland Island.

July 28th 1921.

Sir,

I have the honour to request that you will add my name to the letter addressed to His Excellency the Governor. re. the Land Tax.

I am,

Sir,

Your obedient servant

Howard Clement.

To

The Hon the Colonial Secretary
Stanley

479/21

20th August

21

Sir,

I have the honour to acknowledge the receipt of your letter of the 6th August, requesting that your name be added to the list of signatories to a letter addressed to His Excellency on the 5th July, relating to taxation in the Colony.

I am, Sir,

Your Obedient servant,

(sgd) W. A. Thompson,

Ag. Colonial Secretary

J. I. Wilson, Esq.,

Fox Bay,

West Falkland.

479/21

20th August,

21

Sir,

I have the honour to acknowledge the receipt of your letter of the 22th July, requesting that your name be added to the list of signatories to a letter addressed to His Excellency on the 5th July, relating to taxation in the Colony.

I am, Sir,

Your obedient servant,
(sgd) W. A. Thompson,
Ag. Colonial Secretary.

H. Clement, Esq.,

Foy Cove,

West Falkland.



Area of Colony + stations.

Blue Book gives.

	"acres"
I Land alienated	2,211,096
" unalienated	<u>37,526</u>
Total	2,248,622.

II Total area of Colony 4,160,000 "acres".

III Total acreage of pasture land. 2,300 "square miles"

N.B.

The total area of 4,160,000 "acres", taking 640 acres as one square ^{statute} mile, is equivalent to 6500 square miles which is the area given in official reports since 1870.

Calculations of the area of the Colony have been made from the admiralty charts by Mr. H.S.P. Coltrane a.M.S. & by Mr. E.P. Cotton. Their reports are enclosed in a separate envelope which is attached to this M.P. The report from part of records at Govt House.

The details of Mr. Cotton's calculation are now available, those of Mr. Coltrane, ^(which are larger by a total of 113,935 acres) have been taken by me in considering questions affecting the sheep farming in the colony. The area of stations in "statute square miles" are largely in excess of the area in "acres" as given in the instruments of title. According to Mr. Coltrane the area of the Colony is a note by B. Parker on these reports ^(of the Colony) is attached to 4,618 statute square miles.

47/1/24
Port Stanley,

Falkland Islands.

8/9/1921.

REPORT ON THE DIFFICULTY OF EQUITABLY LEVYING A LAND-TAX
LAND
IN THE FALKLAND ISLANDS.

It is a singularly unfortunate thing that in an area so entirely given up to pastoral occupations as is the Falkland Islands, there should never have been any adequate land-survey. Under a system by which the land-holder is taxed upon the acreage of his holding, accurate official returns of the areas of the various holdings are imperative. In their absence, cases of hardship and of undue leniency are bound to arise. No amount of legislation, enacted with a view to enforcing the perpetuation of an unsatisfactory state of affairs, can avail to allay public discontent. General dissatisfaction, and the occurrence of disputes, is the natural outcome. Such, indeed, has been the case in the Falkland Islands.

The whole trouble has had its origin in the fact that there exists no map of the Falkland Islands. There is only the Admiralty Chart - and it is because this chart has been regarded as a map, that difficulty has arisen. Qualified surveyors have been consulted on the question and even they have failed to realise fully, and make due allowances for, the principles of projection which are involved in the construction of the Mercator Chart of the Falkland Islands.

From a perusal of the official correspondence dealing with this matter it appears necessary, in order to remove the many prevailing misconceptions, existing even in the minds of those whose business it surely is to be better informed, to point out briefly the principles upon which the Mercator Chart of the Falkland Islands (or, for that matter, any other Mercator Chart) has been constructed. In a word, the Mercator Chart has been designed especially for the use of the navigator. It possesses the great merit of enabling him to record ideas

Of direction, with absolute truth. But in order to attain this, everything else has been sacrificed. Shapes of land-masses are distorted, their areas altered, and straight lines are bent into curves. The track of a ship following a constant course by compass, appears as a straight line upon a Mercator Chart, whereas in actuality the ship follows a spiral course (known to navigators as the rhumb-line or loxodromic curve) unless the ship be actually proceeding along a meridian or parallel. A straight line upon the earth's surface (such as a surveyor would use in measuring the distance between two land-marks) would not appear as a straight line upon the Mercator Chart. It would be a curve, and a curve, moreover, which could not be drawn in by a surveyor with the usual data at his command.

The Mercator Chart is a modification of what is known as the Cylindrical Projection. The latter consists in projecting the part of the earth's surface under consideration, by rays from the earth's centre, on to the surface of a cylinder, the axis of which is also that of the earth. The cylinder is assumed to touch the earth's surface at the equator. On this projection all the meridians become parallel straight lines, as do also the parallels. The effect of this projection is to elongate the meridians (and to elongate them more and more with increasing latitude, and enormously in high latitudes), and to show the parallels all of equal length, instead of showing them becoming shorter as the poles are approached. On this projection, then, shapes, areas, and distances are completely distorted and altered, but direction is given with absolute accuracy, and for that reason this type of projection is universally employed on ships. Mercator's modification of the Cylindrical Projection consists in applying a partial correction, to counteract, to some extent, the rapid poleward increase of distance between the parallels. The Mercator Chart has a constant scale of longitude, whilst the scale of latitude varies in accordance with the formula:-

Chart-length of 1 minute of Latitude in Latitude $L =$

(Chart-length of 1 minute of Longitude) x secant L .

Now on a map showing true shapes and areas of land-masses the scale of longitude is not constant. The length of a degree of longitude decreases as latitude increases, its value varying from a maximum of 69.160 statute miles on the Equator to nothing at the Poles. The Mercator Chart of the Falkland Islands therefore shows the southern portions of the islands enlarged (east and west) as compared with the northern portions. Again, a map showing true shapes and areas of land-masses has a constant scale of latitude (save for the very slight allowance which has to be made for polar flattening), but on the Mercator Chart the scale of latitude, as seen from the formula quoted above, increases rapidly polewards. The chart therefore shows the southern portions of the Falkland Islands elongated (north and south) as compared with the northern portions. Hence, since the southern portions of the Falkland Islands are shown on the chart, both enlarged east and west, and elongated north and south, it follows that they appear to be of greater extent than they are.

This point can be brought out clearly by means of a calculation. The Falkland Islands chart is bounded on the north by the parallel of $50^{\circ}48'15''$ S. Latitude. The distance along this parallel, between the limiting meridians of the chart ($57^{\circ}25'30''$ W. and $61^{\circ}38'0''$ W.) is the fraction $\frac{4^{\circ}12'30''}{360^{\circ}}$ of the entire length of the parallel of $50^{\circ}48'15''$ S., and this is ascertained by calculation to be 183.9 statute miles. Now the chart-length which represents this distance is 49.54 inches. Therefore, in this latitude on the chart, a length of 1 inch, from east to west, represents $\frac{183.9}{49.54}$ or 3.710 statute miles.

Again, by consulting a book of nautical tables, we find the value of 1 minute of Latitude in Latitude $50^{\circ}48'15''$ S. to be 1.15189 statute miles, and we find further, from measurement of the chart, that in this Mid-Latitude, a length of 1 inch,

from north to south = $\frac{10}{3.1}$ minutes.

Hence, 1 inch, from north to south = $\frac{1.15189 \times 10}{3.1}$ statute mls.
= 3.715 statute miles.

Therefore, 1 square inch on the chart, in Mid-Latitude $50^{\circ} 48' 15''$ S. really represents 3.710×3.715 square statute miles
= 13.78 square statute miles.

Calculating in a precisely similar manner for Latitude $52^{\circ} 40' 0''$ S. (the parallel which constitutes the southern boundary of the Falklands chart) we find that in this Mid-Latitude 1 square inch represents an area of 3.560×3.534
= 12.58 square statute mls.

Hence, of two similar areas A and B, shown as equal by the Mercator Chart of the Falklands, if A has Mid-Latitude $50^{\circ} 48' 15''$ S. and B has Mid-Latitude $52^{\circ} 40' 0''$ S., then area B is only 91.29 % of area A.

In actuality, since the land of the Falklands lies south of $50^{\circ} 48' 15''$ S. and north of $52^{\circ} 40' 0''$ S. the discrepancy is somewhat less than the maximum value given by the calculation, but it is, nevertheless, a very real discrepancy.

From what has been said it will be seen that a Mercator Chart has no constant scale of distances, hence distances cannot be accurately measured from, or inserted upon, the chart. The straight-line distance on the chart, between two land-marks, is the length of the rhumb-line or constant compass course between the two, and the determination of this distance constitutes the mathematical calculation known to navigators as a problem in Mercator Sailing. A measured straight line upon the earth's surface, such as a surveyor would use, is an arc of a great circle of the earth. It would not appear on the chart as a straight line, but as a curve, which the surveyor would be unable to insert with precision, for lack of data as to length-scale and curvature. If a surveyor wished to measure distances in the Falkland Islands and desired to show such distances on the chart as straight lines, it would be necessary for him to make his measurements along lines of

constant compass course, and not along straight lines.

Only distances along meridians, parallels, and rhumb-lines appear as straight lines on the chart. Yet the distance along any such line required to represent a statute mile is a variable quantity. The statute mile is itself a fixed length, but its representation on the chart varies with position, in consequence of the change of chart-scale with position. In the case of the nautical mile the matter is still more complex, since not only is there the variation of chart-scale to contend with, but also the variation of the nautical mile itself, both in latitude and longitude. If the earth were a perfect sphere, the nautical mile would be a fixed invariable quantity, as is the statute mile. The nautical mile is the length of a minute of great circle arc, and since the earth is not a perfect sphere, but a geoid, the nautical mile varies in length, both in latitude and longitude. The variation in longitude i.e. east and west, is due to the inequality of the earth's equatorial diameters. This is not great, but the variation in latitude i.e. north and south, is more serious, on account of the earth's polar flattening. From this cause the nautical mile increases as latitude increases.

Any arbitrary fixing of an average value for the nautical mile in the Falkland Islands means, of course, penalising certain land-holders and treating others with undue leniency.

The only equitable standards of measurement are the linear statute mile and the square statute mile. The area of the Falkland Islands and of the various holdings should be known in square statute miles, and, in the absence of anything in the nature of an Ordnance map, this can never be determined with precision. A close figure could, however, be obtained by proceeding as follows:- Measure the length and breadth of the rectangle which encloses the chart of the Falkland Islands and calculate its area in square inches. Then, by means of the planimeter, determine the area, in square inches, enclosed by the outline of the islands depicted on the chart. These two results

Indicate what fraction to take of the portion of the earth's surface which is enclosed by the limiting parallels and meridians of the chart. This latter area is a portion of a zone of the earth's surface, and since all the necessary data are available, its extent, in square statute miles, can be calculated. It works out at 23186.21 square statute miles. The accuracy of this method would be slightly affected by the shape of the Falkland Islands and the manner of distribution of the land. If the islands consisted of a rectangular block of land lying in the centre of the chart and disposed about the same diagonals as those of the chart rectangle, the result would be exact (or, at least, as exact as any calculation can be on the assumption that the earth is a sphere of 3960 statute miles radius).

The area of any holding could be calculated in a similar manner.

Any determination such as that just suggested makes no allowance for increase of area due to mountainous or hilly land, and in the absence of a contoured survey map of the country no accurate allowance can be made. But, from the point of view of the land-holders, mountainous country, instead of representing increased acreage, should actually be deducted from the total, since such barren, rocky areas are found to be quite useless for pasturage.

There appears to have been no determination, with any approach to the degree of accuracy which is highly necessary in the existing circumstances, of the total area of the Falkland Islands, nor of the several areas of the various holdings.

Mr. Henry E. P. Cottrell, A. M. I. C. E., in a report dated 10/7/1893 gave his determination of these areas, but it would appear that he considered the amount of distortion in longitude to be negligible, whilst he overlooked altogether to consider the distortion in latitude.

(Mr. E. P. Cotton, in a report dated 28/12/1910, which teems with inaccuracies and wrong assumptions (and incidentally criticises severely the earlier work of a defunct Government official) gave his determination of the areas concerned, which he took directly from the Admiralty Chart, making no allowance whatsoever for distortion of any kind. Indeed, he was under the impression that no distortion existed, for he alleged (p. 6 of his report) that these charts (described by him as being on the "Gnomonic Projection"—a totally wrong statement) "attempt, in as far as is practicable, to eliminate the errors which arise in representing a portion of the Earth's surface (which is of course a curved surface) on a plane represented by the Chart". He simply took out the areas from the Chart, by means of the planimeter, and then interpreted them on the assumption that 1 inch on the Chart represents 3.572 statute miles — a figure which he arrived at after arguments and statements which are, to say the least of them, open to question.

It is not surprising that there is a discrepancy of 113,935 acres (over 178 square statute miles, represented by an area of something like 14 square inches on the Chart) between Mr. Cottrell's total and that of Mr. Cotton — a discrepancy which the latter gentleman confessed his inability to account for. Possibly, at this date, no useful purpose is to be served by further criticising Mr. Cotton's work in the Falkland Islands (save perhaps, in some measure, to clear a reputation which has suffered somewhat at his hands) but it should certainly be on record on official files that, owing to Mr. Cotton's total failure to understand the nature of the Mercator Projection (a point which he was, nevertheless, at pains to explain, or attempt to explain, in view of the ignorance of his predecessors and of others concerned) only the small size

of the area with which he was called upon to deal, saved his work from utter disaster. He enlarged the coastline of the Admiralty Chart of West Falkland by means of the pantograph (presumably) by increasing all linear measurements in the ratio of 1 : 3.572. He then stated that he had produced a true map (devoid of distortion) on the scale of 1 inch to 1 statute mile. From this as a basis he proceeded inland on West Falkland, making straight line measurements and inserting them as straight lines on his chart. When he found that grave discordances arose he attributed these to the inaccurate work of his predecessor Mr. Bailey, and proceeded to multiply his measurements by a convenient corrective factor (different in different cases) in order to obtain points of intersection on his chart where he desired such.

To sum up - there exists neither an accurate determination of the total area of the Falkland Islands nor accurate determinations of the areas of the various holdings upon which the Land-Tax is assessed - and in view of the lack of an adequate land-survey, the great expense involved in making one, and the great difficulties which lie in the way of arriving at any estimate of acreages which shall furnish a really equitable basis of taxation, it would appear desirable to abolish the Land-Tax, and to substitute in place of it some other form of taxation which is more readily amenable to adjustment upon an equitable basis.

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4792

TAXATION of the SHEEPFARMING INDUSTRY.

The question as to the form which the taxation of the sheepfarming industry should take has been discussed at various times during the past 25 years, and it is proposed in this memorandum to state the arguments for and against the three systems suggested, namely:-

1. Export Tax on Wool (and other products).
2. Land Tax.
3. Poll Tax on sheep depastured.

1. EXPORT TAX.

The arguments against this form of taxation are set forth in a letter written by Mr Cobb, dated 25th October, 1915, and are shortly as follows:-

- (1) The tax acts as a restraint on trade.
- (2) It is variable in amount, in that the quantity of wool produced depends upon weather and other conditions.
- (3) It is unjust to farmers, and a premium on bad farming, for the greater the weight of wool produced by good farming, the more tax will the farmer pay, whereas the farmer who lets his sheep run down by neglect is let off lightly.
- (4) The actual weight of wool exported may be questioned, and the institution of a Government Weighing Machine would result in vexatious delay and expense.

In reply to the above it may be said:-

- (1) This argument applies to most taxation, especially that on liquor - if there were no tax, trade in liquor would increase enormously.
- (2) Many other taxes are also variable in their yield, notably Customs Duties on liquor and tobacco, and especially Probate Duties.
- (3) This is perfectly true, and is probably the strongest argument against this method of taxation. At the same time, unless the tax were so heavy as to constitute a high percentage of the value of the wool, it would scarcely deter any farmer from getting as much as he possibly could from his flocks.

To refrain from doing so because he had to pay a small tax on the increased weight would be like "cutting off one's nose to spite one's face".

- (4) The Colonial Government for many years accepted the weights declared by the sheepfarmers, and on the one occasion when the weight was questioned, it was found from the account sales that the weights which had been declared and tax paid exceeded the actual weight of the wool sold.

2.

LAND TAX.

The arguments in favour of this are:-

- (1) Land being the prime source of wealth should be taxed at the source or root, leaving the farmers to do the best they can with it.
- (2) A Land Tax is a simple clean tax, easily calculated and collected.

The first argument as an abstract principle is unassailable, but when you proceed to apply it to the Falkland Islands you are confronted with anomalies and inequalities.

Taxation must be either specific or ad valorem, and in either case must bear some relation to the value of the commodity taxed. Consequently, if you impose a tax on land your tax must bear some proportion to what the land is capable of producing, and this depends upon its extent and quality. Therefore your tax has to be based upon the area or its value, or a combination of both. In the Falkland Islands you are immediately confronted by the fact that there is no information available as to either.

To meet the difficulty in early days the Surveyor General parcelled out land in sections or large blocks, giving allowances for sand and water, mountainous and boggy land, thus making up a fair average, giving quantity where the land lacked quality.

It is admitted that to survey the whole Islands would be a rather ruinous expenditure, and if a survey were undertaken merely to define the areas for taxation, there would sti

be the question of allowances to be made for unproductive land.

Therefore it would seem that however correct the Political Economist may be in holding that land should be taxed at the source, there are very real practical difficulties in applying this to the Falklands where the acreage is an unknown quantity, and it is practically impossible to define "value" which in modern days has been divided into so many classes of value, such as prairie, agricultural, site and so forth.

The second argument in favour of land tax would be indisputable if you were in possession of definite information as to acreage and value. In the absence of these, an equitable tax is not possible.

3. POLL TAX on SHEEP.

This system has been mooted although never officially discussed.

The arguments in favour are:-

- (1) The farmer would be taxed according to what his land is capable of producing.
- (2) A good farmer would not be penalised, and there would be no premium on bad farming, for the tax on a good wool-producing sheep would be no more than on a bad sheep. Farmers would therefore be encouraged to increase the average weight of wool per sheep.

The arguments against this method are:-

- (1) The tax is variable in amount.
- (2) There may be a difference in opinion as to when the count of sheep should be taken.
- (3) The numbers given may not be accurate.

As to (1). The Government Annual returns give the total sheep depasturing in the Islands for the last 5 years as:-

1915	701,268.
1916	689,904.
1917	696,975. <i>696,435</i>
1918	699,368. <i>699,728</i>
1919	669,996.

Overall for 12 years 1910-1921
692,946.

The variation in the total is not so great as to rule

out this method for that reason alone.

- (2) The Stock Ordinance compels every farmer to declare the number of sheep depastruing on 1st May, and the above statistics are compiled from those figures.
- (3) The fact that these returns have not varied appreciably shows that farmers have in the past given fairly accurate figures. But it may be urged that they had no interest in doing otherwise when taxation did not depend upon those figures, and that they might understate the numbers of their flocks when these numbers were required for taxation purposes. With reference to this I would point out that past experience has shown that farmers did not understate the weight of wool when taxed for export, and that they could be trusted not to attempt to evade taxation if based on the number of sheep.

In a small place like the Falklands any such attempt is bound to become known, and the Government have a stock inspector armed with full powers. If any farmer were suspected of giving false returns a threat to have his sheep numbered in the middle of the winter would be quite sufficient deterrent, and most farmers would overstate their numbers rather than run the risk of having to gather all their flocks in winter time.

The Poll Tax on sheep is not open to so many objections as have been preferred against the other two forms of taxation. It is, in fact, so equitable that whatever weight there may be in the argument as to the unreliability of the numbers is more than balanced by the absence of any other objection.

Furthermore, if it is desired to conform to the principles of Political Economists the following contention would appear to be perfectly valid:- seeing that sheepfarming is the only use to which the Falkland Islands land can be put, the number of sheep depastured represents the productivity of that land and a tax based upon the sheep is in effect a tax upon the land itself.

Nov 1921

W. H. Day