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# LAND UTILISATION AND SETTLEMENT

By D. M. GREIG.  
Under-Secretary for Lands.

I think you will accept, in approaching a subject matter of this nature, that it is cardinal to have a complete faith in some basic principle before attempting to thrust forward views that, in the existing order of things, may quite naturally be regarded as contentious.

I would go further and say that if one hoped that such views would become constructive acts then the basic principle itself must first be acceptable to all thinking men.

Governments, whether they be democratic or totalitarian, can turn views into action even though such views may not be acceptable at the time to the great mass of the people. If, however, those views and subsequent actions can be tied irrevocably to a basic principle in which all men believe, then success can be reasonably assured.

I have no difficulty in attuning my mind to the acceptance of a principle upon which to base my subject and I feel certain that none of you will likewise find it other than acceptable.

Ministers of religions have, from time immemorial, illustrated the principle of a sermon by using a text extracted from a Biblical quotation and I propose making a like approach.

The quotation is not a Biblical one but is from the words of an eminent American agriculturist and I have to thank Professor E. R. Hudson of Lincoln College for bringing them to my notice in his pamphlet "The Future of Farming."

This American says: "I always contemplate the Earth with reverence. I like the phrase Mother Earth—the source of all our sustenance; the storehouse of all our supplies, our raiment, our shelter; the pathway of our feet; the final resting place of our worn-out bodies . . . I cannot but regard its depletion as vandalism and sacrilege. The good God gave us but one soil and He gave it for the use of His children to the end of time, we are but His trustees in the occupancy and preservation of the estate of all posterity. If we despoil it, if we fail to maintain it less fruitful then we receive it, then we are unfaithful trustees."

From this quotation I would take my text "He gave it for the use of His children to the end of time, we are but His trustees in the occupancy and preservation of the estate of all posterity. If we despoil it, if we fail to maintain it less fruitful than we receive it, then we are unfaithful trustees."

No one, I venture to say, will repudiate the truth of these words or be unready to accept them in their complete fullness of meaning; but are we ready, as a nation, to see that our every action affecting the utilisation of land goes forward in harmony with them.

I doubt that we are; but as I have already said if the basic principle they convey is acceptable to right-thinking men then legislative or other action to implement such a principle must inevitably, sooner or later be acceptable too.

Let us then have a look at what has been achieved by us in the handling of this responsibility during our hundred years of existence as a nation and examine ways and means of correcting faults that have been disclosed. If possible, too, let us dip into the future and relate our responsibility in this matter internationally as well as nationally.

There are many and varied issues which have affected our rural economy during the course of our existence as a nation. Some of these have been completely outside our control and the future no doubt

will again produce such issues, but what I wish to examine with you is the effect that land settlement has had on our economy down the years and limit any examination to that end and that alone.

Early colonisation of New Zealand, in any organised way, commenced in 1840 when the first body of immigrants arrived at Port Nicholson. The next few years also saw settlement commenced in Nelson, Taranaki, Otago and Canterbury under the aegis of various associations in the United Kingdom. Auckland, where the seat of Government was established in 1840, was not specially colonised from the United Kingdom, but attracted population mainly from Australia and from other parts of New Zealand.

Following the Treaty of Waitangi the government of the colony was first vested in a Governor who was responsible only to the Crown, but in 1852 the Imperial Parliament passed an Act granting representative institutions to the colony.

Under this Constitution the colony was divided into six provinces presided over by an elective Superintendent and a Provincial Council. These later increased to nine but all were abolished on the 1st November, 1876, by an Act of the General Assembly.

Land settlement pushed forward during these years, suffering many vicissitudes, but each of these was overcome in its turn by the extraordinary courage and determination of the colonists to become land owners. The main desire of the administration would seem to have been a rather understandable one of transferring population to New Zealand rather than one of planned land settlement. In doing so they were generous, and even profligate, in disposing of the broad acres acquired from the Maoris following the Treaty of Waitangi.

When one has regard for the need, in those days, to finance early colonisation projects by disposing of land it is understandable that vast estates were created. To the credit of those who were in a position to so establish themselves, is their abounding courage and ruggedness in venturing not only their financial resources but also in facing all the many and varied hardships inevitably associated with the colonisation of a foreign land.

Whatever may be said to the discredit of a wealthy class sitting in smug luxury while it exploited the poor, can never be said of the bulk of the adventurous pioneers who first established themselves on vast tracts of land in New Zealand.

Nevertheless, the generous disposal of land by the early administrators was, from 1880 onward, to bring its own difficulties, for with an ever-increasing population sufficient Crown, or waste land, suitable for settlement was no longer available.

Inevitably land-hungry immigrants turned their eyes to these substantial occupied areas and successive Ministers of Lands, commencing with William Rolleston (1879-84), John Ballance (1884-87), and G. F. Richardson (1887-91) made partial progress in satisfying the demands of an ever-increasing population. It was not, however, until John McKenzie took over the portfolio of Lands in 1891 that any real progress was made.

Sir John, as he later became, was the son of a tenant farmer, born and educated in a part of Scotland, from which he saw cotters and small farmers cleared out of their homes to provide deer forests and grouse moors for wealthy strangers, and he brought to New Zealand a hatred of the landholder he never forgot.

He introduced the Land for Settlements Act which allowed the Government to buy back those estates, subdivide and lease them to a new independent tenantry. From the time of enactment of this legislation until his death in 1901, 89 estates each at one time owned by one man, or company, were broken up to provide 1694 separate steadings.

From that time on, successive governments, by various means, have initiated land settlement policies, but the two World Wars of this century have produced the greatest fillips to land settlement since the days of Sir John McKenzie.

While I do not hesitate to say that these policies have been to the immeasurable advantage of New Zealand as a whole, could we at this stage pause and examine them a little closer.

I think you will agree with me that the legislators of the day, from Sir John McKenzie onward, in their approach to Land Settlement have been influenced by a desire to settle more people on holdings of their own rather than by any desire to make our lands more productive and, more important, to retain them in productive strength for all posterity.

That New Zealand as a whole has become more productive is only incidental to their approach to land settlement but an Act of Parliament initiated by the present Government and passed in 1941 strikes a note of threatening warning as to whether land settlement in New Zealand, progressive as it may have been to date in satisfying the demands of an increasing population, has not dealt extravagantly, in many instances with the estate of all posterity.

This, "The Soil Conservation and Rivers Control Act" was not placed lightly on the Statute Books of this country and I venture to say that millions of pounds will have to be spent in remedying the damage that has been done to date. That success will result from the efforts of those charged with the responsibility of administering the Act, I have little doubt, though I venture to say theirs will be an uphill fight against a demand to measure all their projects with a financial yardstick which has more regard for the ability of posterity to pay than for posterity's right to demand an undissipated heritage.

In making that statement I do not wish it to be inferred that I subscribe to any loose thinking on the matter of financing national projects but I do say that, even at the cost of lowering our standard of living, the productive life of the soil must be maintained in our generation and handed on to posterity undiminished in its capacity to sustain life.

So important, and basic, is the need to conserve our soil that no approach to the subject matter of this paper can be divorced from the subject of soil-conservation itself, but I can only touch on it lightly here as an issue in land utilisation and settlement.

Coupled with it, however, is the need not only to maintain production by conserving our soil, but to make every acre capable of producing, do that very thing.

We still have tracts of undeveloped land in this country capable of development and, in addition, interspersed with our producing lands, there are far too many farms which are only partially effective as producing units.

I say unhesitatingly that in a starving world we cannot afford to have either and the sooner we realise and face up to that fact the better. I use the word "afford" in a cold deliberate sense, dissociating it altogether from any ethical reasoning whatsoever. Tennyson tellingly summed it up, nearly a century ago, when he said "Slowly comes a hungry people, as a lion creeping nigher; glares at one that nods and winks behind a slowly dying fire."

Many, I know, fear that over-production is the inevitable forerunner of a slump. It is, however, an incontrovertible fact that there never was a slump that was really due to over-production.

Nevertheless, whether the theory, that over-production produces slumps, persists or not in the minds of many, history itself produces abundant proof of mass migrations and conquests brought about by those in search of food.

Whether we prefer to feed the lion outside the ring or bring him inside, as part of our domestic set-up, is another matter but, whatever we do, let us at least feed him to the limit of our resources.

I do not want to dwell further on this particular line of thought, though I do want to drive home to the inner consciousness of all, the realness of the fact that we must produce and continue to produce, and at the same time, nurture no smug ideas as to our ultimate security if we adopt an insular selfishness in this matter.

If I am right then bold steps must be taken in the matter of land utilisation both in regard to inadequately farmed, occupied land and also with undeveloped land capable of being made productive. A new approach must similarly be made to the settlement of land, so that we may feel assured that those charged with this responsibility will ever place the land itself before the needs or aspirations of any individuals.

I have already said that for years the approach to land settlement in this country, following early colonisation, has been one of satisfying a need to employ usefully an ever-increasing population and, at the same time, satisfy a natural desire of the people that such employment should be coupled with ownership.

The only testing of the capabilities of these people was, in the main, their ability to pay a small deposit, though the future has proved that the majority of them, along with their families, had yet another asset—the willingness to work and to go without. It was this latter asset that was capitalised and whatever may be said of the ultimate success of many, a sad story can also be told of the struggles of untold numbers.

Some were doomed from the first by venturing their courage in impossible sections; some succeeded partially only in their turn to be felled to earth by the axe of economic conditions.

Commending, and remembering always, the spirit of these settlers, at the same time neither let us blind ourselves to their struggles and failures nor to the cost to the individual himself, and the nation as a whole of many of their successes.

Under such a system of settlement it was inevitable that the land itself became a commodity, the love of farming a negligible asset, and the activities of the settlers and those who financed them was driven towards direct extraction.

Three Acts of Parliament within the last decade are abundant evidence of the truth of this statement—first the Mortgages and Lessees Rehabilitation Act to rectify the over-burden of costs on the land, second the Soil Conservation and Rivers Control Act to rectify the results of “extraction” and, third, the Land Sales Act to control the buying and selling of land on a free market.

While I would like to discuss the many and varied causes that brought about conditions necessitating these three legislative actions I am afraid such a discussion could not be condensed into a paper of this length. Sufficient is it, I think to point out that all three Acts were correctives and leave it to you, as individuals, to seek the causative agents.

As one who has had at least some experience in land administration I have naturally pondered the causes, and sought a solution to them so that in land utilisation and settlement we may not repeat proved errors of the past and at the same time see that our national heritage passes on from generation to generation unimpaired as a vital, living thing.

- (1) If what I have said, so far, means anything, then the soil of New Zealand should belong to the people as a whole and not to any individuals. Future settlement should do nothing to abrogate this right of the people.

- (2) Those who farm their properties inadequately as producing units or who by their methods of farming "let down" the land must not be allowed to continue to do so.

This country has no statutory authority of sufficient strength, at the moment, to prevent these things happening. Great Britain has such an Act brought in during the 2nd World War on which legislation for this country could, if necessary, be modelled. That this Act is not just a war measure is supported by the following catled news dated as recently as May of this year. "Bad farmers in Britain are to lose their homes. Mr. T. Williams, Minister of Agriculture, told a farm workers' conference in Yorkshire: 'Farmers who fail to live up to their proper obligations will lose their farms and their houses without any offer of somewhere else to live.' Afterwards he said that 28 farmers had been dispossessed in two years.

- (3) Those who farm the land should be proven in their capacity to do so.

In future, prospective settlers should be subjected to a grading system similar to that established for the settlement of ex-servicemen but it must go further than simply being a means of protecting loans by the State. It must go all the way and the transferor or incoming occupier of any farm land must be subjected to such a test.

- (4) As the crux of farm finance is the value of the land itself as a producing unit, then we must evolve a system whereby the jolts on capital finance of fluctuating markets for farm produce can be cushioned. There are several approaches to this, such as guaranteed prices for produce and Governmental action to peg land values as at present. Each has its points and probably the chief weaknesses in both lie at the door of democracy itself.

What we should seek is, for better words, A Mobile Standard Value for individual farms which would be based on the average prices for farm products over, say, ten yearly breaks. This is not a real difficulty but to make the use of it effective is another matter. I greatly prefer educative to co-ercive measures in all things, not only because, in other than criminal actions, co-ercive measures are generally abhorrent to us but also because they, more often than not, bring in their train a breakdown of moral values.

Can we then educate public opinion, farmer and financing agencies alike, to so plan farm finances that during times of prosperity a rapid writing down of any capitalisation above the standard value will take place and during times of stress that finance necessary to keep the land in full producing heart will be made available up to such standard values?

I have my doubts—the alternative, however, is coercion. It may well be that other correctives will have to be applied, as we go along, and particularly in this so in the "use" of country so that at all times we hold a correct balance between our store and fattening lands. This is, I think, already coming, without coercion, and if the four fundamental points I have outlined can become established facts then I would hope for a continuance of the progress being made in this direction.

The responsibility for what has occurred cannot, however, be placed simply at the door of the farmer, financing agencies or past administrations and disposed of in that way. We and our forebears are all culpable and the Nation as a whole should shoulder its share of the responsibility and each and every one of us play his part in preserving this heritage.

The State should promote a sense of security in the mind of the man on the land, it should be ever-conscious of the need to enhance his standing in the community and ensure that this precious heritage of ours is being nurtured by an enlightened well-trained class of men proud of the privilege that is theirs.

In land settlement, the aim of Governmental administration should be:—

- (1) To give the Occupier absolute security of tenure.
- (2) To see that he owns those things which by his own efforts he has created.
- (3) To establish in the minds of the Community a recognition of farming as a craft and open up a wider field in education so that those who aspire to become farmers may receive the benefits of teaching in the higher branches of their craft. Efficiency should be the precursor to generous State assistance to become established later as farmers.
- (5) To provide a valuing service, through the Valuer-General, which will make available to the farmer and those associated with farm finance those mobile standard values of which I have made mention along with the fair selling value of the day.

Such a service must be irreproachable as to motive and must be absolute in its usage by the State itself. The valuations it provides must not be valuations for any one purpose, as is more or less the view taken of existing Government Valuations made prior to the passing of the Servicemen's Settlement and Land Sales Act.

Such a service will require to be adequately staffed so that valuations can be made at regular intervals. It will require to be expertly staffed so that public confidence in its valuations will never be really questioned.

The foregoing is a very brief summary of what are to me fundamentals in future land administration but before passing on to the availability of land for settlement I would like to comment on what might appear as two conflicting statements, viz. my expressed opinion (a) that the land should not be a commodity, and (b) that the farmers should own those things which they create by their own efforts.

When I spoke of land as a commodity I meant the soil of this country which in the ultimate, be the tenure what it may, belongs to the people and to posterity. The things that an individual creates to make that soil produce and to retain it in production are rightly his but he should not have the right to barter and sell that upon which the livelihood of the nation depends.

Now to have a look at the land available for settlement.

The Occupied Land of New Zealand as shown in the Year Book for 1944 amounts to 42, 978,309 acres, of which approximately 23,000,000 acres is unimproved and the number of holdings is shown as approximately 87,000.

These holdings, as classified, range from one acre to 50,000 acres and if you take the extreme view, ignoring the 23,000,000 acres of unimproved, and divide the total occupied area of 43,000,000 acres by 87,000 you will find that the average holding is, in round figures, 500 acres.

A further review, however, of the occupied holdings discloses that the area in the groups over 5,000 acres is sparsely held despite the fact that it represents 40% of the occupied land of New Zealand and it also discloses that little or no settlement has taken place within this group during the last quarter of a century.

Our experience in the settlement of ex-servicemen of World War II has shown, to date, an average of approximately 300 acres per man and while I am aware that there is still scope for the sub-division of larger occupied holdings, it obviously is not unlimited.

At the moment the bulk of our primary products representing wool, meat, butter and cheese, is sold overseas. If we retain our existing standard of living the unit area of farms is governed by that fact.

As science progresses the unit production will no doubt increase and the average holding will show a reduction in area so that the 300 acres under servicemen settlement may conceivably come down to 250 acres.

I have already said that there are areas of Crown and other unimproved land capable of development and from this source an increase in settlement can be envisaged.

The actual area is, at the moment, quite indefinite though a survey of our resources therein has now been commenced by the Lands and Survey Department.

If, however, we place a comparatively high estimate of potential farm land therefrom at 500,000 acres and, because of the fact that it lies chiefly in the easy contoured pumice country, use a unit of 200 acres we could envisage at the most 2,500 farms.

I wish to make plain that the figure is not accurate and probably far too high but I use it for a purpose.

The latest figures I have of New Zealand's population gives a total, inclusive of Maoris, of nearly 1,785,000 of which number approximately 1,136,000 are adults, i.e. over 21 years of age.

If we accept that practically the whole of our population is dependent on our primary industry, then on an average each of the 87,000 holdings to-day supports 13 adult people, male and female.

Inferentially then, if the whole of the occupied land of 43,000,000 acres could be cut into 250 acre farms and we added a further potential of 2,500 farms from our virgin country resulting in 174,500 holdings we could support a population of 2,278,500 adult people.

These figures are of course unsound because obviously we could not cut the whole of 43,000,000 acres into 250-acre farms and it is questionable whether pure ancillaries to our Primary Industry could support 13 adult people per unit. They do, however, show that under our present method of livelihood as a Nation, coupled with the retention of our standard of living, we cannot support anything like the population necessary to protect this country.

I do not want to be an alarmist but I do want thinking men to think and not bury their heads in the sand regarding the welfare of this country and the welfare of our children's children.

It is not for me in a paper of this nature to deal with ways and means of increasing our population but I do say that without it we have no effective barrier to the aggressive, and hungering people of the world.

Let us then do nothing to our land to destroy its capabilities to produce, let us ensure that every acre is made productive and let all of us remember that, in the final test, the responsibility to protect this heritage, is one for each and every individual whether he be urban dweller or rural worker, business man or farmer, for without it we have NOTHING.

Finally, if any of you still feel unconvinced as to the logic of my reasoning, let me quote from cabled news which appeared in our own Press as recently as 17/6/48:

WITHOUT STATESMANSHIP, THE WORLD SHORTAGE OF FOOD MIGHT LAST INDEFINITELY AND GIVE COMMUNISM A POTENT WEAPON, SAID LORD BRUCE IN THE HOUSE OF LORDS. "IT WOULD LEAD TO SOCIAL UPHEAVALS THAT MIGHT WELL DESTROY OUR CIVILISATION."

He suggested intensifying the use of the existing farm land and the opening up of large new production areas.

Lord Huntingdon in the same debate "agreed that the world must find a solution or face starvation on a gigantic scale. The Government had been continually warning other countries of this terrible situation."

## Discussion on Mr. Greig's Paper

CHAIRMAN: How would Mr. Greig go about setting up machinery for determining the efficiency of farmers? I think I can reassure him by saying that many of us will agree that there is a grave responsibility in the holding and farming of land. I wonder whether he feels that something similar to the Agricultural War Committees set up in England would do the job here or whether he has other methods in mind.

Mr. GREIG: I have read that Act and I think something on those lines must ultimately be adopted in New Zealand. I think it is vital to us as a nation that it should be so. The machinery needs very careful scrutiny in the initiation of such an Act. Generally my approach to it would be that there must first be some final Court of Appeal—a judicial Court. The occupier should be given the opportunity to farm the land properly. The reasons for his inability to do so should be thoroughly examined. If it were a matter of lack of finance it should, if necessary, be made available by the nation; by the State; by us. If it is a matter of pure inefficiency, in the interests of the nation, he has no right to hold his land. He should have the right to appeal to his own peers. In each district there should be some committee of capable farmers set up that would examine and determine these issues and any farmer coming within the gamut of any such legislation would have that right of appeal.

Dr. McMEEKAN: When I was young and enthusiastic I was a great believer in land nationalisation and in the principle of making a farmer do his job efficiently. That was when I thought that all this training that I had received from the Universities pointed the way so clearly and definitely to efficient food production that one could go out and make farmers do their job as it should be done. After I had spent some years in the Old World and by observing the way in which the peasant farmers of Europe and of Britain had maintained the fertility of their land despite the discouragement of the State over the last hundred years, I was not so sure. I believe, for example, that the present policy of the British Government has been forced upon it through their own past mistakes and not because of the mistakes of the farmers. The farm lands in Britain deteriorated because it was impossible under the general social and economic conditions following the industrialisation of Britain for the British farmer to maintain soil fertility unless he was prepared to maintain a low standard of living. In Norfolk, many of them did, and up to the outbreak of war had been farming at a loss for years. Management aimed at maintenance of fertility and this was achieved by a system of farming which permitted them to dung their land despite their losses. Coming back to New Zealand I am not so convinced as to the wisdom of the State that I would be prepared to hand over the trusteeship of the land to the State when such a large proportion of the Government is elected by the million and a quarter or so people who have no direct association with the land. I do not in principle disagree that educative methods are likely to be much sounder than coercive methods. If we look at the history of soil erosion in New Zealand I would make one suggestion. Ignorance has been just as potent a factor as the social and economic conditions that have been responsible for it, and if we look at the inefficient farmers of New Zealand to-day, from my personal experience I would suggest again that ignorance is basic to their inefficiency. For those two reasons and for the general background reason I have given you I would like to pin my personal faith to education rather than coercion.

Mr. GREIG: I am delighted to have those remarks from you in relation to this. If from what I have said anyone has gathered the impression that I believe in State nationalisation of land I would say

quite definitely I do not. I would sooner leave it safely in the hands of the farmer. I said I preferred anything to coercive methods. I think, in talking about the badly farmed land of inefficient farmers, we are not talking about a majority of the farmers in New Zealand but a minority. The good farmers are themselves thinking on those lines. They are soured to see themselves efficiently farming land and to see nothing being done by the inefficient farmer to make his place produce. I do not want anyone to get the impression that I believe in the nationalisation of land.

Mr. FORD: I think Mr. Greig's paper points to a need for more intensive study on the general problem of land utilisation. In his sketch of the history of land development he mentioned the different eras in which there was a cry for closer settlement and in many cases these settlements did not increase production but simply brought about a large measure of hardship because the holdings on which people had been placed were too small. The speaker pointed out there are 87,000 holdings outside urban areas in New Zealand and the idea that this land can support more people might be fallacious. Because a man has a big holding it does not mean he is an inefficient farmer and mistakes have been made in settlement by making holdings far too small and I think there is this tendency to-day in the present soldiers' settlement administration. Many of the farms that the men are being put on, I think, are too small to be really economic units. We are looking upon an economic unit to-day as the smallest possible farm on which a man can exist. What we want is the optimum size of farm under different conditions. The Dairy Commission pointed out in 1934 that farms sustaining over 50 cows were much more efficient than farms with under 50 cows and that is supported by a quotation from Dr. Hamilton's book in which the Government Statistician did a survey of over 1900 dairy farms and those with over 75 cows were more efficient farms and with a better utilisation of the land. Therefore I think in attempting to subdivide existing holdings we must be very careful to avoid bringing about a decline in national production and the reducing of farmers with high initiative to a kind of peasantry. That, I think, is the last thing we want to see in this country and I would suggest that what should precede all land settlement schemes is an intensive study in farm economics and land utilisation.

Mr. LEVY: I have listened with great interest to Mr. Greig's paper and the philosophy that he has expounded there. Coming as it does from the Under-Secretary for Lands, it augurs well I think for the future development of this country. I wish to draw attention to the terrific development of the carrying capacity which is a direct result of the building of the fertility of our country. There is too much talk to-day of the ravaging of our soil to my mind when one analyses the progress that we have made from soil of the poorest type when we started on it. Those soils to-day are carrying grassland and stock second to none in the world. We have a potential which is not being developed. We see it everywhere. On the flat country that should be ploughed, on the wet country that is not drained and on the hill country that is in secondary growth and should not be. I feel that it is not the farmer who is at fault but the organisations which the farmer relies on for the financing of his project. The individual farmer cannot possibly finance, in many instances, the development of land. I do not say that the nation should take up that development but I do feel that the nation or the financial agents somewhere in the world should take up the development of that land because of its potential. What is Mr. Greig's policy of aiding not his own land development so much but the 87,000 farmers whose holdings are represented all over New Zealand? What is his policy to help them to develop to the full, the potentialities of their holdings? That is where I feel we are going to get further by some financial organisation getting behind each of those 87,000 holdings in New Zealand and seeing that they are provided with the wherewithal to exploit their country to the full. If it is done by

the grazing of animals we can be assured that the land will become more fertile rather than less fertile because of the very economy of the animal. There have been some areas, where inadequately fed stock in their search for food have weakened the country and there are certain areas which, from an erosion point of view, are potential dangers. But that, again, to my mind is a question of finance. It is a question of education, and when those two are forthcoming, those lands will soon recover from the over-grazing they have had of necessity in the past. How do you think we could finance those 87,000 holdings in New Zealand and help them to exploit their holdings to the full.

Mr. GREIG: I have read some of your published suggestions with a great deal of interest, and like you, I think something has to come, but I cannot answer your question. The State does and will spend money on development projects of which the final values cannot reach up to the expenditure. It is, however, a generally accepted principle that no individual in the community should benefit directly from the expenditure of the taxpayers' money. The farmer himself, I know, cannot bear the burden of debt in developing marginal lands and one of the reasons for the paper that I have read is that we have to get into the inner consciousness of all, the need for these things; and until the "man in the street" agrees that they must be done in the interests of the nation we will get nowhere. That is fundamental.

Mr. LEVY: I do not think we should agree to the "man in the street" business. It is the administration.

Mr. GREIG: When I was referring to the "man in the street" what I meant was that we are a democracy and the man in the street puts the Government of the day into power. We, as administrators, can make our recommendations to a Government but the Government itself rests in the hands of the "man in the street." Administratively I agree that we who are responsible for administering the land policy of New Zealand should guide Governments on those lines.

Mr. RANSTEAD: It looks as though this second rate land which is going to go back, will be taken over by the State, then brought into production and offered for settlement again. The State will bear the cost but it will not give assistance to the present occupier who really merits it.

Mr. GREIG: That could be a solution under the existing system. That is not my idea. I would say that if you have a man able to farm the land efficiently, then keep him there.

Mr. RANSTEAD: Consider the losses suffered by returned servicemen of the First World War. Those men were not helped and they walked off their farms. Then the farms were handed over to fresh men on very much easier terms. Those concessions were not made to the returned soldiers. If they had been they could have held on and made a success of their farms. But the Government did it for someone else afterwards.

Mr. GREIG: I agree. I have stated in this paper that we must not relax our responsibility to the man on the land. It is a national responsibility and the things that are brought about, the bad features, cannot be all pinned down to the man on the land. You can pin a lot of those down, if you like, to administration after the 1914-18 war, though it was the adoption of a system, possibly more than administration, that was at fault. This war we are trying to do the settlement on a different system in that servicemen are established on a productive value. The productive value must be based on a carrying capacity and that, of course, is the essence of a productive value. When the type of farming is changed on subdivision no one can determine definitely what that farm will produce under the different type of farming. There the serviceman has the right after three years to come to the Government and ask for a review of his initial charges and if there is a reduction it will be made retrospective. Sometimes, as has already happened, we

have estimated that a farm will carry, say, 50 cows and it is now carrying 60 or 70. Everything is in favour of the soldier as no adjustment is made in favour of the Government when the carrying capacity in such a case has been under-estimated. I think that is a great improvement on the system of land settlement after the 1914-18 war and I would hope that in general, in land settlement administration when we find a man who is not producing on his farm, we should first look for causes and if they can be corrected by the State or by the nation they should be corrected.

Mr. ROACH: What was the criteria Mr. Greig used when he gave a figure for additional farms that could be run in New Zealand. Sometimes you go through impossible country and turn the corner and there is a very good farm. What are the criteria on which the additional farm numbers are based? Is it what is taken to be, under reasonable conditions, farming land?

Mr. GREIG: I used a quite exaggerated figure. I had no criteria. It is obviously quite impossible to cut the whole of 43,000,000 acres into 250 acre farms. It is hopeless to talk about 250 acres, but I used that to show that if that could be done the greatest population we could carry in this country based on our present standard of living was two and a quarter million adults. I used a completely exaggerated figure.

Mr. SEARS: Is it right or not that there is scope for some imagination in the State Advances Corporation for lending money on the property on the basis of what it could produce if farmed to the full?

Mr. GREIG: As regards the Lands Department, except in a few civilian small farms, lending is no longer a major part of our job. In effect, the Lands Department is no longer a mortgagee. The State Advances lends money. There is scope, yes. I do not know of many instances of that. To look at a potential value and lend money up to the potential value can be done and is done, though perhaps not very often.

Dr. McMEEKAN: There is one small point, the possible use which land development authorities in New Zealand might make of land utilisation studies. I would like to ask Mr. Greig whether he considers it worth while that scientists should devote some concentrated attention to the question of the best use of land? In support of that question I would like to say that I, myself, have been a little bit curious as to why, in the Waikato, dairy farms have been settled on soil types which are unsuited to dairying. I refer to one previously State-owned farm, Hall's Block, near Hamilton which is on Hamilton clay loam, which has been subdivided for dairying purposes. I have had the misfortune at Ruakura to have to farm some clay loam soil and in my experience it is very unsuited to dairying but admirably suited to fat lamb raising. Having observed the experiences of the people on this block where not a living blade of grass exists from the middle of December until almost the end of March, one wonders about this question of best use of scientific knowledge. The same applies to some of the properties of Paretu where a change has been made from fat lamb raising to dairying and several of the farmers there suffered very severely from facial eczema in dairy cows on top of their very substantial drop in yields as a result of the rapid drying out at the peak of the season. It seems fundamental to study our soil types in New Zealand from the point of view of best use. Could Mr. Greig indicate to us whether in his opinion it is worth while going on with that class of work?

Mr. GREIG: I would say yes. We do use the scientist's knowledge of soil types but that has been confined chiefly to the settlement of orchard and horticultural land. In other types of farming we have been aided by farmers rather than scientists. I think there is a wide scope for knowledge of soil types in land settlement but to date we have, generally speaking, not made extensive use of it.