

PART I

INTRODUCTION

1. In this Report we set out the results of a comprehensive study we have made of land use in the Highlands and Islands. In our consideration of Highland problems we have in recent years found ourselves, as an Advisory Panel, increasingly faced with questions of land use. Land is the basic resource of the Highlands and Islands and the vital part which its exploitation must play in the development of the Highland economy is self-evident, but nowhere did we have a comprehensive assessment of the existing position and of the possibilities for development. We therefore decided in March 1962 to undertake a special study of the subject. The investigation has been undertaken mainly through our Agriculture and Forestry Group. In setting ourselves our remit we had regard to the present use and the extent to which the existing machinery fell short of achieving the best use of land in the Highlands and what practical methods could be adopted to overcome this. At the same time we were anxious that the study should not exclude the consideration of fundamental issues. We consider the report we now make to be as significant and far-reaching in its implications for Highland development as anything we have previously done, and we commend it for study and action accordingly.

2. We have tried throughout to be realistic and practical while also suggesting general views on the background and underlying difficulties of the Highlands and Islands. A massive amount of information and knowledge on the Highlands is available in reports, surveys, etc. We need a new and critical appraisal. Rapid changes are taking place in scientific techniques, in administrative arrangements and in the social patterns. Even the Highlands change. Because of its history and its different culture and tradition this part of Scotland evokes strong emotional reactions. To some the Highlands and the Highlanders are no more than a wild periphery ever depending on the benefits and bounty of the South and ever trailing behind in the advancing standard of living. To others again the more glaring hardships of the clearances have left a guilty need for some kind of restitution. But it was the romantic picture of "Caledonia stern and wild, Meet nurse for a poetic child" that guided the tourists to the Highlands.

3. Our concern however has been to assess the value and the most effective use of the basic raw material of the Highlands: the land. We as a Panel are a cross-section of people mainly living in and deeply interested in the Highlands but including persons with wide experience of conditions elsewhere.

4. What have the Highlands to offer? Land; minerals; fish life (sea and river); natural wild animals for food and photography; landscapes of infinite variety and beauty; space for recreation and health; space if need be for the training of armed forces. In brief a variety of material benefits and services for the country as a whole and for the world. But many of these assets are under-used and under-valued at the present time. Some of these products must be exported either as raw material or fully or partly processed. Examples are livestock, wood and forestry products, tweeds and whisky. These can have a market value put upon them fairly easily. There are also products of a rather different kind which can only be developed within the area such as recreational and tourist facilities and sport. We know the case for large scale production which often means processing enterprise outside the area where it is produced. But we feel that if industrialists really wish to process in the Highland area they would be able to develop methods of small scale and yet economic production.

Administrative Machinery

5. There is one particular aspect to which we should refer. Over thirty government departments and other agencies are required to devote a substantial part of their time to dealing with the Highlands for economic and social purposes. We cannot believe that such a multiplicity is necessary or effective. If the Highland potential is to be assessed realistically and policies for further development related to this assessment, it is logical and reasonable to match such an approach with considerable rationalising and streamlining of the administrative machinery including the allocation of money for Highland affairs. A more simplified method of budgeting with a provision of money to be used more flexibly than under the present system of specified grants, would seem to be a minimum requirement.

6. These are general thoughts. But our specific concern is to find practical means of achieving the best use of land in the Highlands. Many people are dissatisfied with the present control and direction of land use, particularly, but not only, in the Highlands and Islands. Attention has been drawn to the continuing loss of good quality agricultural land for road construction and housing, industry and other uses. More relevant to the Highlands

are the criticism of diversion of agricultural land to forestry, for sporting purposes, and the generally insufficient means of controlling standards of farm husbandry, forestry and general estate management, including sport. Some of these criticisms were reported and discussed at the Symposium on the Natural Resources of Scotland, convened by the Scottish Council (Development and Industry) in Edinburgh, 1960. From all this we concluded there was a need for us to look more generally to the question of land use in the Highlands.

Definition of Land Use

7. It is necessary at the outset to define the terms "good land use" and "poor land use". Land use can be regarded from many different points of view, ranging from the narrow economic test of profitable productive use to the broad but not always acceptable view in terms of the well-being of people and regard for their traditional ways of life. The answer must lie somewhere between these two extremes. Our study has been based on the premise that it is essential to arrest depopulation of viable Highland communities although we recognised that there must be some economic test for land use. We have taken the view that good land use is "the most effective and economic use of the land having regard to the agricultural, industrial and social possibilities and needs of the area in question". In this, regard should be had to the well-being of as many people as possible, present and future, not only those living in the area. We have the absolute obligation to see that the fertility of the soil and the beauty of the countryside is steadily improved for the benefit of the present and succeeding generations.

8. One of the difficult questions is the nature and size of the agricultural unit which is likely in Highland conditions to prove viable, so far as it is possible to assess this on the basis of current and future trends in agriculture generally. Farmers' incomes in the Highlands tend to be somewhat lower than elsewhere and looking to the future it would seem likely that the farm business which provides full time employment for at least two workers (the farmer and one other, whether in his family or not) is likely to be necessary to give the average farmer an income of around £750 a year, or roughly the equivalent of the average earnings of an industrial worker. Where the land or situation is suitable for intensive enterprises such as pigs, poultry or horticulture, the acreage required for this size of business might be relatively small. But in the traditional type of farm in the Highlands devoted primarily to stock rearing, a farm of 100 acres of crop and grass plus an area of hill ground is likely to be the minimum economic size.

"Conflict" in Land Use

9. This leads us to a further question. Do we approach the subject on the basis of agriculture as the natural use of land in the Highlands and Islands? If so our test in considering different land uses is the effect on agriculture of the other uses. This means that other uses such as forestry would have to justify themselves clearly and positively if they interfere with the existing agricultural use. This is the current approach. Forestry proposals have been regarded as an interference with agricultural use. This arises from the administrative set-up in the government's policy; the government decide a total forestry programme with the Forestry Commission as its main agent and the rest follows. The alternative to this approach is to deal with any question of land use as an entirely open issue leaving agriculture to justify itself along with other competitors. Though agricultural use of land in the Highlands can usually justify itself, we cannot agree that agriculture has any inherent and special right in the land. Land use in the Highlands must be tackled with an open mind. We have tried to do so.

10. There is no such thing as a real conflict of land uses. There are simply (a) the different categories of use and the problem of adequate control of changes from one sort of use to another, and (b) the standard of use within each category. Both aspects are important in the Highlands and Islands. Arrangements already exist for control of changes of use of land required for "urban" purposes, such as housing, industry and roads. Such uses usually involve very specialised requirements of location and site, and there are various statutory provisions for control either generally (e.g. through the County Development Plans) or in relation to the particular proposals. Though we have some comment to make about these aspects of land use later in the report, we have not included them in our detailed consideration. It is in the "natural uses" of land in the Highlands and Islands, in fact, that the main difficulties of control and improving standards of use arise.

These uses can be divided broadly into

- Agriculture
- Forestry
- Sport and Physical Recreation (including tourism)
- Industrial and "Urban" Uses

It is to these aspects of land use that we have mainly directed our attention, and the report discusses the problems under these main heads.

General Pattern of Land Use

11. Before proceeding to consider the land use implications of agriculture in the Highlands and Islands, we should set down some of the background facts.

(a) *General* - The total area of the Highlands and Islands (the seven Crofting Counties) extends to 8,992,800 acres, representing 47 per cent of the total surface area of Scotland. Much of this area is mountain and rocky country of little economic use, except as providing recreational open spaces for tourists, etc.

(b) *Agriculture* - The total area in the Highlands and Islands used for agricultural and crofting purposes is as follows:-

Agricultural (i)	Total Crofting Counties	Non-Crofting	Crofting	Crofting as Percentage of Total
Number of Units	25,173	8,764	16,409	65%
Crops and Grass	599,000	421,500	177,500	30%
Rough Grazings (ii)	6,499,000	6,089,000	410,000	6%
Common Grazings	1,225,500	-	1,225,500 ⁽ⁱⁱⁱ⁾	100%
Total for Agricultural Purposes	8,323,500	6,510,500	1,813,000	22%

(i) As at 4th June, 1963.

(ii) Includes Deer Forest Land (whether grazed or not) situated within the farming unit.

(iii) Includes an element of non-crofting land.

(c) *Forestry* - The forestry statistics are as follows:-

Forestry	Total Acres	Forestry Commission		Private Acres
		Acres	Percentage of Total	
Land under trees at 30th September, 1963.	368,298	257,788	69%	120,500

In addition the Forestry Commission have in hand some 68,500 acres acquired for planting but not yet planted. It is difficult to estimate the total area suitable for tree planting in

the Highlands and Islands, but on the basis of the rural development surveys already completed (which show 534,200 plantable acres out of a total of 3,567,900 acres surveyed) and other information, it would seem that around 1,000,000 acres could be reckoned as suitable for planting.

(d) *Sport* - The other major user of land in the Highlands and Islands is sport (mainly deer stalking and other shootings). There is, of course, a good deal of overlapping use as between agriculture and sport. The 1957 Agricultural Returns, for example, which included a deer census, showed that in 147 deer forests extending to 2,233,656 acres, about 860,000 acres were estimated to be grazable for stock, and that 94,000 sheep and 1,900 cattle were being grazed thereon. There are, moreover, substantial areas of deer forest which could carry trees, but precise figures are not available.

12. Fuller statistical details of agricultural, forestry and deer forest land in the Highlands and Islands are set out in Appendices A, B and C. These figures, with all the problems arising from duplicated and competing uses, broadly indicate the nature and range of the consideration we have had to give to land use in the Highlands and Islands. In view of the consideration we give later to questions concerning the use of State-owned land, we should perhaps mention here that the Secretary of State owns 380,000 acres in the Highlands and Islands by way of Land Settlement Estates (mainly crofting), and 780,000 acres of forestry land (including 154,000 acres of land at present not available for actual tree planting and maintained in agricultural use). There are an additional 18,000 acres managed by the Secretary of State for miscellaneous purposes including one experimental and four stud farms.

Progress Review

13. We recognise the need to keep under review the progress in the direction and control of land use and we recommend specifically that the whole question should be reviewed within five years. We also emphasise that the proposals for better land use which we make can only be a beginning if real solutions are to be found.

AGRICULTURE

14. The general character of agriculture in the Highlands and Islands reflects the nature of the terrain and the types of soils. With the exception of the coastal belt of good arable land in Inverness-shire, the Black Isle and Easter Ross, it is essentially hill farming, and to a very large extent marginal hill farming, in the sense that the quality of the soil and the conditions in which the farming operation is carried on call for special skills and closer control on the one hand and give poorer returns for the extra effort than do comparable farming operations elsewhere in the country.

GENERAL AGRICULTURE

Highland Features and Needs

15. Crofting agriculture is dealt with later in the report (paragraphs 26-37). The problems of non-crofting agriculture in the Highlands and Islands are basically not dissimilar to those in comparable areas elsewhere in Scotland. Hill farming predominates, with something like 90 per cent of the agricultural land consisting of rough grazings and only the small balance of about 10 per cent used for cultivation of crops and grasses. This inevitably means that agriculture in the Highlands and Islands comes very largely into the "marginal" type of farming, as is brought out in the table and diagram below. These show in detail the number of farms in the Highlands and Islands and in the rest of Scotland, with average acreages under crops and grass and rough grazings respectively, and also the Marginal Agricultural Production Grant expenditure in the 1957 cropping year (this was taken as being the last 'full' year for the purpose).

Farms and Acreage at 4th June, 1957 See illustration overleaf

M.A.P. Expenditure in 1957 Cropping Year

	<u>No. of Claims</u>	<u>%</u>	<u>Acreage Assisted</u>	<u>%</u>	<u>Amount £</u>	<u>%</u>
Crofting Counties	4,627	39	79,101	30	409,199	33
Rest of Scotland	7,237	61	180,837	70	847,151	67
	<u>11,864</u>	<u>100</u>	<u>259,938</u>	<u>100</u>	<u>£1,256,350</u>	<u>100</u>

NUMBER OF HOLDINGS AND AVERAGE ACREAGE
OF FARMS (INCLUDING CROFTS)

HOLDINGS

AVERAGE ACREAGE
CROPS AND GRASS

AVERAGE ACREAGE
ROUGH GRAZINGS



 CROFTING COUNTIES

 REST OF SCOTLAND

DRAWN TO SCALE

16. Though these figures are not fully conclusive, they do show that if regard is paid to the relative acreages under crops and grass there is a higher figure of marginality in the crofting counties than in the rest of the country. With 14 per cent of the arable land in Scotland 33 per cent of the sum paid out in Marginal Agricultural Production assistance went to the Highlands.

17. An alternative approach is to take into account the relative profitability of farming in the crofting counties compared with the rest of Scotland. From a sample of farms the net income per acre in 1961/62 for various types of farming in Scotland was as follows:-

Type of Farm	Net Income per acre*		Production Grants [†] as percentage of Net income	
	Crofting Counties	Rest of Scotland	Crofting Counties	Rest of Scotland
	Hill Sheep	4s. 6d.	10s.	66%
Upland Rearing	£3	£3 5s.	123%	110%
Livestock with arable	£7	£8 10s.	77%	48%
Dairy	£7	£9 5s.	52%	31%

*per acre of crops and grass with rough grazing converted to equivalent acres of crops and grass. Vice versa for hill sheep farms where figures are per acre of rough grazing.

†Grants for hill sheep, hill cattle, calf rearing, lime, fertilisers, ploughing up and M.A.P.

18. Farms in the crofting counties are consistently less profitable, and production grants accounted in all types for a larger proportion of net income. (The crofting counties, however, probably received a smaller share of the price subsidies - deficiency payments on fatstock, cereals, etc.). As the size of business in the crofting counties is generally smaller than in the rest of Scotland, the disparity in the absolute level of income is greater than the per acre figures suggest. The general picture that emerges is that, comparing the crofting counties with the rest of Scotland, incomes tend to be lower and production grants account for a larger proportion of income. As in the rest of Scotland, production grants on upland rearing farms exceed the level of net income.

19. These conclusions reflect the features which distinguish Highland agriculture from that elsewhere in Scotland. The distinguishing features are - first remoteness; this results in greater difficulty in obtaining labour, higher transport costs and physical difficulties in communication and transport and inconvenience in marketing arrangements. Second, climatic conditions such as the higher rainfall and greater exposure in the remoter areas. Third, deficiencies of soil and difficulties of terrain - lack of arable ground for production of winter keep, large areas of poorer quality land given over to sport (and affecting the agricultural operations). Fourth, the social and employment benefit - the contribution which agriculture can make to community life and local employment is of greater significance in remoter Highland areas.

20. There is one factor in all this which is primarily an effect but is also a cause of other conditions. This is that the able agriculturist, particularly the younger, active person, who is capable to cope with Highland conditions, is quick to realize that he can do

much better in the South, and there is therefore a tendency for the better men to leave, thus resulting in a depopulation in quality as well as in quantity. For the rest, the effects of the features mentioned in the preceding paragraph are to be seen in:

- (i) the vital importance of grass land cultivation, for which the climate and soil are generally suitable;
- (ii) the lower level of achievement in livestock rearing - for example, the lower percentages of lambing, greater casualties in harder weather;
- (iii) the higher costs involved in having to winter away hogs or to import keep for them;
- (iv) the cost of purchasing agricultural units in the Highlands does not necessarily reflect these disadvantages, since purchase prices may be based on the attractiveness of the land for sporting purposes and also side benefits from taxation;
- (v) capital costs are generally higher (e.g. costs of building);
- (vi) there is probably an excessive dependence on sheep rearing reflecting some of the foregoing difficulties (cost of capital equipment, labour and so on).

21. Despite these inherent or adventitious disadvantages, the standard of husbandry in the Highlands and Islands is sustained at a reasonable level, if one is thinking of the traditional farming of land which has been in cultivation for a long period. But there are wide exceptions. In particular, where land is owned or occupied primarily for other purposes than agriculture there is a tendency, which appears in some cases as an active policy, to allow the farming to run down to a dangerously low level. This is accompanied in some cases by a move away from tenant farming to the incorporation of the tenant farms into the estate. (We discuss this in a later section of this chapter). The corollary to all this is that, despite the very considerable development and improvements achieved with the help of Marginal Agricultural Production and other grants since the war, there is still scope for development and improvement, both by way of improving the quality of land already under cultivation or in grazing, or by way of bringing in areas of land which are hardly touched for agriculture. The vast areas of bracken covered hill land in Argyllshire and elsewhere in the West Highlands are evidence by themselves of the massive contribution which improvement, properly carried out, could make to the agricultural economy of the Highlands and Islands. There would seem to be particular obstacles

in the way of such improvements - first the *special risks* attached to *Highland farming*, particularly lack of capital and lack of inducement; these being aggravated in some cases by the practices and policies of a number of non-resident landlords of managed farms. We proceed to consider briefly these special risks.

Co-operation

22. Of the general problems of Highland agriculture, the greatest is probably the geographical remoteness, with the additional risks it brings of heavier costs of operation and difficulties of marketing. Higher costs are inevitable in the circumstances, though the improved transport to the Western Isles which the introduction of vehicle carrying ferries will bring about will help. It is essential, however, that if agriculture in the Highlands and Islands is to play its full part, there must be adequate recognition in the various schemes of Government assistance and in the fixing of transport charges, of the social and employment implications. We are convinced that, while much useful work has been done by the Scottish Agricultural Organisation Society Ltd. and its affiliated societies, a great deal remains to be done if the advantages of co-operation are to be fully exploited. We recommend that the Society should be enabled to strengthen and intensify their efforts, particularly in the marketing of livestock from the Islands, with the necessary provision of finance to stimulate and launch such developments.

Management

23. The climatic risks in Highland agriculture are considerable, and account must be taken of them in working out the best form of agricultural management. This is a subject to which considerable study and research have been devoted. All we would say here is that the importance of developing grass as the basis of the Highland agricultural economy cannot be over-emphasised. We welcome the trend, as shown in the Winter Keep Scheme, towards the encouragement of grass as the basis of livestock rearing economy. This should not, however, exclude the development of other enterprises such as dairying in Lewis and bulb growing in the Islands generally, where these can be shown to serve a local need or to have reasonable prospects of viability; though it has to be recognised that these kinds of development will not form more than a minor part of the wholecrofting agricultural economy. One aspect of livestock rearing to which we think further thought should be given is the heavy dependence on sheep rearing. In addition to the husbandry considerations pointing to the desirability of a better balance between sheep and cattle, there may be an undue economic risk to an economy so

dependent on sheep in the event of a depression in the market for wool and for sheep products generally. For that reason, attention must also be paid to the development of other cash crops to supplement the feed crops and livestock rearing. Despite its initial setbacks, the Hebridean Bulb growing scheme should be actively developed and we welcome the decision by Hebridean Bulb Growers Ltd. to undertake contract growing of bulbs and the assistance which the Development Commission have made available to them for that purpose. The number of College advisory officers in the Islands should be increased to meet these needs and the Advisory Services should, we suggest, cover Management to a greater degree than they do at present.

Capital Requirements

24. Difficulties over the shortage of capital for agriculturists are not confined to the Highlands and Islands. The shortage of agricultural land (in relation to demand in the relatively prosperous post-war conditions) has resulted in considerable increases in agricultural land prices. Moreover the cost of stocking and equipping agricultural units has now greatly increased (e.g. with the development of more expensive machinery). Where the position in the Highlands and Islands differs is in the consequences. Generally speaking, good agricultural land in the south will find a purchaser who is an efficient farmer, even though this means that deserving, younger but less affluent men may be shut out. In the Highlands and Islands the effect of these high costs sometimes is to produce purchasers of agricultural units who have the capital but are not practical farmers; or purchasers whose primary interest is in the sporting value of the land. In either case, there is deterioration in the standard of husbandry and in the effectiveness of the land used. There can be, moreover, a serious effect on the economy and social viability of the communities concerned and this (particularly in Mull) has proved to be perhaps the most disturbing aspect of the trend.

Land Bank

25. We have found no easy answer to this problem. It is true that credit facilities are available through the Scottish Agricultural Securities Corporation, while the burden of equipping an agricultural unit can be eased by the use of hire purchase facilities. In Highland conditions, however, these are clearly not enough. Moreover, even if the facilities were extended and conditions eased, the effect might well be simply to push land prices still higher (as, for instance, the grants and loans for building of

fishing boats probably tend to push up the prices of boats). We recommend that something more be done to ease and extend existing credit facilities. In this the banks could probably adopt a more flexible attitude. In addition, however, we think that there is a case for greater provision of loans from Government sources to supplement the existing grants available to farmers and crofters. The particular flexibilities which we consider to be required are related particularly to the extent and nature of the security sought from borrowers, the period of loan and the rates of interest (including remission of interest in the initial stages of particular projects). It seems to us that a Fund, as flexibly controlled and administered as the Highland Fund, is needed to meet the variety of need. We would not exclude the establishment of a Land Bank as the appropriate instrument for this purpose.

CROFTING AGRICULTURE

26. Crofting presents features and problems of its own, and we have considered these in consultation with the Crofters Commission who have statutory responsibility for the regulation, development and reorganisation of crofting. Details of the numbers and distribution of the crofts are given in the table below.

REGISTER OF CROFTS
Croft acreages as at 30th April, 1964

	Acres Up to 5	Acres 6 - 10	Acres 11 - 15	Acres 16 - 20	Acres 21 - 30	Acres Above 30	Total No. of Crofts
Argyll	411	189	88	82	109	848	1,298
Caithness	87	73	89	41	68	206	1,208
Inverness							
East Mainland	99	123	70	38	62	158	688
West Mainland	137	78	29	12	14	31	431
Skys and Small Isles	640	389	206	99	121	149	1,684
Outer Isles (including Harris, Barra, North and South Uist)	387	489	394	238	343	385	2,388
Orkney	39	53	80	33	67	146	669
Shetland:							
East Mainland	84	88	78	38	67	172	684
West Mainland	815	297	87	21	7	24	1,407
Lewis	2,299	1,022	188	38	30	19	3,890
Burghhead	798	428	197	81	103	156	2,088
Shetland	210	268	217	125	133	118	2,096
	5,887	3,421	1,688	841	1,119	1,767	19,276

- Notes (1) The figures of croft acreages are based on a percentage check ranging from 99.2% in Lewis down to 36.9% in Shetland.
 (2) A total of 4,816 crofts with no known acreage are included in the total figure of 19,276 crofts.
 (3) The acreages are exclusive of common grazings.

Ancillary Employment

27. It will be clear from the table that a very large number of crofts are very small in size, and that numerically smaller crofts are concentrated into certain districts (particularly in large parts of the Outer Isles, Shetland and the North West coast of the mainland). In many of these cases it is not practicable for the crofter to follow a reasonable rotation, and for that reason and also because the main interest of many crofters lies outside agriculture, the standard of cultivation is low and little advantage is taken of the agricultural grants available through the Crofters Commission. On the other hand, in some areas, such crofts, though small, have had their agricultural capacity increased by improvement of common grazings and this must not be lost sight of. We have, however, had to consider to what extent this section of crofting should properly be regarded as an agricultural problem at all. Though there may be a continuing agricultural activity, the quality of the soil in many cases is poor, and the crofts are largely used for housing accommodation and to provide a base from which the crofter can engage in non-agricultural activities. We doubt whether the process of re-organisation (involving the amalgamation and enlargement of crofts, to produce more viable agricultural units) is really a practical possibility so far as these congregations of smaller crofts are concerned. In this connection we have noted comments by the Crofters Commission indicating that they do not, for example, contemplate reorganisation schemes on any scale in the Island of Lewis. We are convinced that the potential of these considerable numbers of very small crofts cannot be assessed purely on agriculture and that the problems presented by them are not primarily of an agricultural nature. The essential requirement is to ensure that there are employments and occupations for the occupants of the crofts and their families. This need has been fortunately met to some extent in Lewis by the Harris Tweed industry, while employment in the Merchant Navy has usefully supplemented the employment available on the crofts and in the Harris Tweed industry. We discuss the question of providing non-agricultural employment for crofters when we deal with other uses. At this stage, however, we record our view that the administration of these small crofts should no longer be directed primarily to their optimum agricultural use, the emphasis being on the vital need for suitable non-agricultural employments and occupations. This view is strengthened by the formal recognition given in section 5 of the Crofters (Scotland) Act 1961 to the right of the crofter to use, within reason, his croft for suitable gainful activities other than agriculture. This is of special relevance to the large numbers of small crofts of extremely limited agricultural potential.

28. The problems in crofting land use are, essentially, to be found in the crofts other than these very small units (though one must exclude from this the small number of crofts sufficiently substantial as to be full-time, viable agricultural units on any normal reckoning). The problems involved are well-known. We have only a minority of crofters actively improving their land and maintaining a good standard of husbandry (about one-third of crofters have taken up assistance available under the Crofters Agricultural Grants Scheme). Many crofts are grossly undercultivated or not cultivated at all, and in terms of agricultural land use there is a considerable waste of resources. This can be of significant importance to the social and economic viability of the local community.

Crofting Structure

29. Since most of the crofts are part-time agricultural units, difficulties tend to arise because the units are, on the one hand, too large for a crofter engaged in full-time outside occupation to look after in his spare time and, on the other hand, too small to provide the crofter with a reasonable living. The creation of ancillary employment by itself is not enough to solve the problem, since this would only tend to aggravate the neglect. We have, therefore, in this field of Highland agriculture, a potential capable of being considerably developed. This has been recognised, and the policy embodied in the Crofters Acts has as its objective the improvement of standards of husbandry and the improvement of the crofting structure. These are matters, of course, for the Crofters Commission and we can only commend the steady progress which they have made towards better standards of crofting. In their day to day handling of the statutory provisions, relating to absentee crofters, reletting of vacant crofts, assignment of crofts, subletting, apportionment of common grazings, and so on, a good deal of useful work has been done but the pace is inevitably very slow and formal reorganisation, to which the Taylor Commission⁴ attached importance, as a means of speedy redevelopment of crofting, has played a quite insignificant part in the total operation.

30. Some rationalising of the crofting structure has, of course, been taking place on a less formal basis. Where a crofting landlord is willing and in a position to do so, and sets himself a long-term pattern of development for his estate, a good deal can be achieved by way of amalgamation and enlargement of crofts over the years. Unfortunately few private landlords seem to have, as yet, adopted such a course. Where crofts are managed by the Department of Agriculture and Fisheries for Scotland it is clear that much

⁴ Report of the Commission of Enquiry into Crofting Conditions, 1954 - Cmd. 9091.

progress has been made by consciously working to a general plan. Experience in Skye, where the majority of the crofts are in the Secretary of State's ownership, illustrates the difference in the pace of such development as between publicly owned and privately owned crofts. This has resulted, in time, in a fuller use of the crofts where these have been consolidated. The survey of Skye crofting carried out by Aberdeen University in July 1962 shows that the proportion of unused or under-used croft land is spectacularly less in the areas where state-owned crofts predominate than in the others.

Development of Crofting Estates

31. To encourage private landlords to become more progressive the Commission is willing to prepare development proposals for crofting estates. These proposals would involve co-operation between the Commission and the landlord to make sure that crofts falling vacant passed to active crofters, and as far as possible were used to build up full-time units, e.g. it would be a very great help to the Commission if landlords were prepared to keep crofts vacant for a period where that is necessary to facilitate the carrying out of an orderly programme of enlargements. Also encouragement would be given by the Commission to active crofters in the township to repair and/or renew equipment with the aid of the grant and loan scheme; to expand their cropping and land improvement; and to apply for apportionment of improvable areas of the hill pasture. The proposals could also indicate all grazing land capable of growing trees that could be released from agriculture, and, in favourable circumstances, it might be possible to carry through a statutory or voluntary reorganisation scheme to create as many full-time family crofts as possible.

32. It has been suggested that a solution to the crofting problem would be for all crofts to be taken into the ownership of the Secretary of State. There would indeed seem to be ground for expecting that by that means the pace and quality of croft reorganisation and development could be greatly improved. Meantime, however, what seems to be lacking in the present arrangements is a satisfactory level of inducement. So far as formal reorganisation schemes are concerned, the consent of a majority of the crofters in the township is required, and success in face of the social pressures (elderly, inactive and conservative crofters, and younger active crofters unwilling to press their claims to the detriment of the elderly) is unlikely to be achieved on any significant scale. Again, the right of the crofter displaced by reorganisation to have his house and garden ground feued to him is clearly an insufficient incentive. Because of these inadequacies we are convinced that the

rationalisation of the crofting structure by the Crofters Commission, particularly as concerns the middle range of crofts, will require really effective methods to enable them to initiate and execute schemes of reorganisation. These will have to be matched with greater inducements to the crofters concerned to surrender all or some of their existing land where this is required. We note from their Annual Report for 1963 (paras. 139-143) that the Commission are undertaking a reappraisal of their functions and policies. We would welcome and support any suitable proposals by the Commission with a view to improving and rationalising the structure of the middle range of crofts. The question of provision of adequate services (roads etc.) is, of course, important. We recommend any action the Commission can take to bring about improvements in the crofting pattern using the existing statutory opportunities for enlargement, and bringing in non-crofting land where necessary. Progress in these directions would be a useful step towards the optimum use of agricultural land in the Highlands.

Grant and Loan Facilities

39. We have already discussed (paragraphs 24-25) the question of capital requirements of Highland agriculture generally and what we recommend there includes, of course, crofting agriculture. There are however particular aspects of the problem as it affects crofting. It has been represented that crofters are hampered in many cases in developing their land by a lack of capital to carry out schemes of improvement, particularly larger schemes on common grazings. It has been suggested that the substantial impetus given to the movement for regeneration of common grazings, which has produced such spectacular results in Lewis, is not being maintained, and that this may be partly due to inability to raise the balance of capital beyond the assistance given under the Crofters Agricultural Grants Scheme. Under this Scheme grants of 85 per cent are available for schemes of improvement, while substantial rates of grant are available also for various other items. While it may be that the rates for particular items merit review, we consider that, generally, the scheme provides fairly generous assistance by way of grant. Where the shoe pinches most for the crofter, so far as raising capital is concerned, is in the purchase of permanent improvements and the stocking of the croft at ingo, the purchase of stock required following schemes of land improvement, and probably most of all, in meeting the balance of cost (after grant is paid) for the larger scale schemes of improvement on the crofters' common grazings. Common grazings schemes can be expensive and not all the crofters in the township necessarily participate in the development. Loans are available under the Crofters Acts to assist crofters to meet their

ngoing liabilities (acquisition of permanent improvements, live-stock, etc.) but these are subject to fairly strict limits. The cost and amount of permanent improvements are generally much greater than in the past, and if croft land is to be fully exploited much heavier stocking will be necessary.

34. We are satisfied that crofters in many cases have found difficulty in raising the balance of capital from the usual sources (particularly the banks). To a considerable extent this is due to the limitations on security resulting from the crofting form of tenure. We doubt, in the circumstances, if the gap is likely to be adequately filled by private organisations, and we recommend therefore that consideration should be given to the possibility of extending the loans at present available (by raising the upper limits and applying them more flexibly) and to providing loans, on a limited scale, to supplement grants in respect of large regeneration schemes. We believe that if this need for capital is not met, the reasonable potential of croft land will not be developed; conversely, given suitable additional aid, crofters would, we are sure, greatly increase their contribution to the agricultural economy. Underlying all this there must be a high degree of confidence in the future - reasonable expectation of adequate prices for stock after improvement, for example - if crofters are to go ahead with their improvement schemes and if the organisations concerned with credit are to give favourable consideration to the crofters' needs. We must underline, therefore, the importance of the crofting development being matched with adequate marketing arrangements, reasonably assured price levels, and adequate machinery and contracting services.

Winter Keep

35. There is a particular problem arising or likely to arise from the increasing regeneration of common grazings by crofters. The benefits already accruing from such schemes in Lewis (both in improved quality of stock and increasing numbers of stock carried on the grazings) are impressive but the provision of winter keep to match the improved grazings capacity will become increasingly urgent. The provision of winter keep generally in the Highlands and Islands is a matter which we discuss later. In the present context, however, we draw attention to the need for keeping a balance in future schemes of crofters' land improvement, to ensure that grazings capacity does not outrun the winter keep facilities, making due allowance for the importation of grain for feeding where this can be done economically. One particular measure which could help crofters to meet this problem would be the extension of cropping

grants under the Crofting Counties Agricultural Grants (Scotland) Scheme, 1963 to include conserved grass as a crop (either as hay or as silage). In the West Highlands and Islands grass is the natural crop and we recommend that crofters should be assisted to extend their grass cropping no less than their other cultivations. Another aspect of land improvement in the crofting areas is mentioned by the Crofters Commission in paragraph 60 of their Annual Report for 1963. This is the need to ensure effective control and guidance over the subsequent management of the land improved. We recommend that this problem should receive special attention from the Department of Agriculture and Fisheries for Scotland, the Colleges of Agriculture and the Crofters Commission.

Access for Land Improvement

36. A further problem which the increasing number of land improvement schemes is bringing out in acute form is the provision of adequate access. Practically every scheme of land improvement - indeed of practically every form of land use (as we discuss later) - depends on accessibility. The problem has become more acute in Lewis as crofters now have to move into the less accessible areas (i.e. away from the areas of skinned peat adjacent to existing roads) for development. In some cases road access, although prohibitive in cost in relation to the scheme of land improvement itself, may also be useful for other purposes. It is important, we suggest, that such matters should not be considered in self-contained "compartments", but that the full implications to the community of the particular development should always be taken into account.

Crofter's Housing

37. We would refer, lastly, to the question of housing accommodation for crofters and standing buildings on crofts. Crofters' housing accommodation is important for two reasons - first, if crofting is to prosper, the standard of housing must be maintained and improved to give the crofter and his family reasonable living conditions. Second, one of the traditional ways in which the crofter has supplemented his agricultural living is in the provision of holiday accommodation for tourists. The accommodation of tourists (whether by way of 'bed and breakfast' or 'full board') is an activity which fits in admirably with the agricultural requirements of the croft. Crofters can in this way not only supplement their income but make a substantial and distinctive contribution to the development of the Highlands for tourism. The Crofters Building Grants Scheme, administered by the Department of Agriculture and Fisheries for Scotland, provides a generous measure of grant and

loan assistance. Between 1948 and September 1964 no fewer than 985 new croft houses have been built and 2,011 croft houses substantially improved, though the geographical incidence has been somewhat uneven, as will be seen from the following table:-

	<u>New Houses</u>	<u>Improvements to Houses</u>
Argyll	38	162
Caithness	13	78
Inverness - Mainland	35	126
Barra	8	27
South Uist	118	50
North Uist	17	40
Harris	31	66
Skye	112	341
Orkney	20	26
Ross and Cromarty - Mainland	51	254
Lewis	486	367
Sutherland	14	326
Zetland	41	115
	<u>985</u>	<u>2,011</u>
Total		

We strongly recommend that the fullest publicity should be given to the facilities available under the Scheme and that the Scheme should be administered as flexibly as possible and with regard to the wider requirements of the crofter.

LAND SETTLEMENT

38. Any review of agricultural land use would be grossly lacking if it did not deal with the special problems of land settlement and land reclamation. Land settlement has been carried out in the Highlands and Islands on a fairly substantial scale in the past, though little or nothing has been done since the war. The creation of new holdings is still urged by many people and bodies as a means of both establishing new population in the remoter areas and also preventing the drift of population from these areas and the deterioration of the crofting economy. There has generally been a feeling that, since crofting occupies such an important place in Highland agricultural economy, means should be sought to extend and develop it. The Taylor Commission on crofting has summarised (in paragraphs 109 and 110 of the Report) the considerations which led them to recommend "that an active and imaginative use should be made of land settlement powers in the crofting counties as a contribution to the solution of the crofting problem" and that "the promotion of

such schemes and their supervision once they are started should come within the purview of the new administrative authority" which they recommended and which was eventually established as the Crofters Commission. In making these recommendations they suggested that the land settlement powers already vested in the Secretary of State should be freely used to acquire land for land settlement purposes. In the event, the Government decided that the crofting policy following the Commission's Report (and contained in the Crofters (Scotland) Act, 1955) should be directed to the reorganisation and development of crofting and that the incorporation of land into crofting should be designed to strengthen and enlarge existing crofts rather than to secure the creation of completely new holdings.

39. We regard as an essential condition for land settlement that there should be, in the area and in the land in question, real potential for development. One of the circumstances giving weight to the representations for land settlement is the existence of large areas of uncultivated or undercultivated land throughout the Highlands, some of it used - and sometimes even badly used - for limited private sporting purposes. Even superficial examination of some of these areas makes it clear that they are not really suitable for land settlement. Nevertheless, if it were decided to embark on such development, a number of areas offer possibilities. The Taylor Commission referred in particular to the Island of Islay, which they thought would be most suitable for settlement, and also to the mainland of Orkney where they estimated that large tracts of heathery land amounting to some 10,000 acres could be used. These are, of course, not the only areas which offer possibilities.

40. In recent years a significant change has taken place in the structure and tenure of farming. The cost of setting up in a farm (even of modest size) is substantial, farming has been relatively prosperous and there has been a considerable pressure of demand for the limited number of farms available. This has resulted in rising land prices. Farms have been put on the market for sale rather than to let and they have been taken up by persons with substantial capital resources, who may not have the best interests of the agricultural use of the land at heart. Part of the case for land settlement is that it is one way in present circumstances by which land capable of development can get into the hands of able and active farmers, including younger farmers who might otherwise not be able to secure entry into the industry. In some countries action has been taken by the Government to ensure that such needs are met, e.g. by a State option to purchase agricultural land put up for sale.

41. Despite these circumstances, it has not been the policy of Governments since the war (irrespective of party) to undertake land settlement on any scale. Land settlement is not ruled out altogether (there have been one or two isolated cases) but, on current policy, the Government would have to be satisfied that there is a real need for this kind of development, that it would secure a social and economic purpose which cannot otherwise be achieved, and that the costs of doing so are not excessive in relation to the benefits likely to be derived. They have not been satisfied that land settlement on the traditional pattern would fulfil these criteria. Far from creating new small agricultural units, the Government have followed the current economic trends which point to the development of larger and more economic sized units. The Government's system of agricultural aids is accordingly directed to the improvement of the land and increased efficiency and production. The subject is, however, complex, and neither the trend nor the conclusions to be drawn from it can be in any way clear-cut. Strictly economic assessments of smaller farming operations cannot, for example, take full account of the willingness of the small farmer and his family to devote time and energy to their enterprise far beyond what is to be expected of ordinary industrial workers, and the small farmer does not have to cost his own, or his wife's, hours of labour. In any case, we have no doubt that for many years to come (in the absence of unforeseen cataclysmic changes in the agricultural economy) there will still be a keen demand for the smaller and middle size farms.

42. In their study of this question, the Panel have borne in mind its history and background. There are three points of general interest which we would make.

First, we accept that the creation of smallholdings of the kind established between the wars is not a practical proposition in present circumstances. These holdings were created to meet particular needs arising from economic depression and severe unemployment. If agricultural units are to be created, they must be of a viable size, capable of economic operation. The Panel take the view that this means a minimum size of unit, capable of sustaining a family. Views differ as to what this means in actual practice. It has been argued that a unit capable of providing a net income of around £500 a year would be sufficient. We feel that this is too low. What is necessary is that the net income should be sufficient not only to provide the farmer with an income of, say, £500-£600 a year, but also to leave sufficient slack for contingencies and, in particular, as the farmer gets older to enable one of his sons to take over gradually from him. Something more than a minimum one-man income is therefore required. As a "yardstick", and for the basis of our assessment of Highland farm viability mentioned in paragraph 8 we have had regard

also to the average earnings of industrial workers, and on the whole we think that a figure of around £750 per annum (this is in fact, about one and a third times the basic minimum wage of a tractor driver in agriculture) is necessary. This means that the minimum size of unit we have in mind is a small farm (which under modern conditions of management gives full-time employment) rather than the traditional type of smallholding.

Second, we have considered the problems arising from the undoubted difficulty which the younger, less well off 'farmer' has in securing the tenancy of a farm. The supply of farms is far less than the demand for them, and while this situation prevails there will inevitably be a large number of younger persons unable to obtain a place of their own. We cannot be doctrinaire about the virtues of a tenant-farmer as compared with an owner-occupier or indeed a large farm establishment run by a manager and employees. Provided the agricultural production is efficiently carried out, there is, and should be, a place for each type of operation. And the person with adequate capital resources is more likely to work his farm with full efficiency than is the impecunious person. The question arises, however, whether these larger agricultural sporting estates (and owner-occupied farms) are always worked efficiently and to full advantage. Our conclusion is that in a number of cases where the primary interest is sport, agriculture suffers. There is, moreover, the question whether, if the present trend in agriculture shuts out the potential enterprising person from farming, provision should be made by the State to ensure at least a limited measure of opportunity for them.

Third, one of the difficulties about the creation of viable holdings is, however, that if the agricultural unit is to be of adequate size, the numbers which a given area can sustain after it has been broken up into smaller units may not be any greater than on its existing basis of working. The case therefore must, to a large extent, depend on social and general economic considerations. The cost of creating units of the size envisaged would depend greatly on particular circumstances. In the majority of cases, new buildings and services would probably be required. The cost of erecting a new farmhouse and steading with roads, water and electricity supplies would seldom be less than £10,000 (the cost of providing house and steading would itself amount to at least £7,000). In addition improvements to the land, such as drainage, fencing or reclamation might be necessary while the tenant would have to find capital for stock and equipment. The total landlord and tenant capital required for a new unit, providing full-time employment for two workers, would certainly be substantial and probably in the region of £15,000 to £20,000. There is no possibility of this being

carried out without very extensive subsidy by the State. On the purely financial plane, land settlement is bound to be expensive.

Problem Areas - Mull

43. We have given special consideration to the possibilities of land settlement in two areas in which economic and social conditions call for development of one kind or another. These areas are the Island of Mull and the Durness area of North West Sutherland. We have given much thought to the problems of Mull, where severe depopulation has taken place and where the standard of agriculture has suffered from a marked trend towards the grouping of farms and from the merging of farms into sporting estates. It has been clear for some time that unless something radical is done, the Island of Mull will have declined to the point at which the revival of community life and a viable economy might no longer be possible. This situation will also, we understand, be reached soon in the Southern Uplands of Scotland unless adequate remedial measures are taken. The Forestry Commission have substantial schemes of afforestation in hand in the Island (they have already planted something like 7,000 acres out of a total of some 13,000 acres of plantable land acquired) but the speed of their planting operations is held back by lack of labour, a result of the rapid depopulation. Some of the agricultural land has got into the hands of persons with little or no agricultural experience and the running of some of the farms must, in our view, be grossly uneconomic. Apart from its long-term benefits we have no doubt that forestry offers the best immediate answer to Mull's problems. The recent introduction of the vehicle ferry is opening up the Island to tourist traffic, but the effects will take some time to develop. Basically, however, Mull requires a healthy agriculture, and this should support a reasonable number of agricultural workers and farmers. It is abundantly clear that this is not being achieved at present. We have therefore had to consider the prospects of creating farm units and the problems involved. A note setting out in more detail the main agricultural problems and our consideration of land settlement possibilities is contained in Appendix E. The essence of this is the demonstrable need and scope for improved land use and development. As will be seen from the note, we have concluded that a combination of forestry and improved agricultural use by active farmers of land at present under-used would greatly contribute to the solution of the problems of depopulation and decay of communities in Mull.

Problem Areas - North West Sutherland

44. The Durness district was examined following representations from local crofters and others that there were substantial areas of land capable of being used for land settlement and also for extending the grazings available to the local townships. It became clear, however, from our study of the position and the discussions we had with the local people that the farmers had encountered difficulties with recruiting shepherds, while the crofters were concerned less with the provision of new agricultural units or the enlarging of existing units than with the provision of regular, wage-earning employment. For this, they look towards forestry development in the area. Unfortunately, the prospects of the Forestry Commission acquiring substantial areas for planting within travelling distance of Durness/Welness are slight in present circumstances (this question is further discussed in the chapter on Forestry).

Enlargement of Crofts -

45. In trying to reach conclusions on this subject, we have had to face the fact that on current policy, the amount of land settlement being undertaken - even in the widest sense, including the taking in of non-crofting land for the enlargement of crofts - is minimal. There are no creations of new agricultural units, while the reorganisation provisions in the Crofters Acts have produced little or no result. We have, in paragraph 32, recommended the strengthening of the Crofters Commission's powers to effect township reorganisations. In the present context, however, we recommend that the possibilities of securing the enlargement of crofts in suitable circumstances, by taking in non-crofting land, without formal reorganisation, should be given the closest consideration by the Commission. What we have in mind is the many cases of crofts which are substantial but not quite viable units, where the incorporation of a modest area of non-crofting land would raise the croft to a state of economic viability. This should be done by voluntary negotiation where practicable but if necessary the use of Land Settlement powers should be considered.

Unified Land Management -

46. We cannot accept that, in the conditions prevailing in the Highlands and Islands, matters should be left as they are, and that nothing should be done to meet the needs which we have described. At the least, we consider that agricultural land already in the hands of the Secretary of State for Scotland or coming into his possession in the normal course (e.g. as a result of forestry acquisitions) should be used as far as possible to establish suitable

family farm units. There are at present 154,000 acres remaining from forestry acquisition in the management of the Department of Agriculture and Fisheries for Scotland. In most of these cases (viz. agricultural land remaining after the allocation of land for planting) considerable expenditure has to be incurred both to bring the land into a reasonable state of husbandry and to make it reasonably suitable for sale. We are convinced that this process, by which forestry plantations are separated from the surrounding land, with which they are and should be physically and economically managed, creates an artificial situation. We discuss this later when we consider the future of forestry in the Highlands, but we would emphasise here the importance we attach to a system of properly balanced estate management of State land. The present process of selling off agricultural land remaining from forestry acquisitions may be defensible in other parts of the country. But in the Highlands and Islands it can only lead to further difficulties and deterioration of the agricultural and social structure. We accordingly recommend that the Government's policy in this respect should be reversed and that such estates should be managed (including forestry and agriculture) as a unified land management task. As forestry acquisitions proceed, the effect of our proposal would be cumulative and would produce an increasing number of suitable agricultural holdings in areas where the injection of a new population of working farmers would stimulate the whole social and economic life. It is true, as we have said, that the creation of new holdings of viable size would be uneconomic in the narrower sense but development in these circumstances (where much of the permanent equipment is already there) would be less expensive than the creation of new units *de novo*.

Family Farms

47. We feel, however, that while opportunity should be taken of the land already available and becoming available in the normal course (in some cases, for example, acquisition for agriculture might precede acquisition for forestry), it is necessary to go further in areas of special need, such as Mull. In these areas we recommend that the Secretary of State for Scotland should exercise his existing powers and acquire suitable land for the creation initially of a limited number of family farms. Depending on the progress made with the creation of family farms on the lines we have suggested, the question of further developments on a wider scale should be given consideration. This would apply particularly to the possibility of creating new agricultural units following land reclamation on a substantial scale. We go on to discuss the question of land reclamation in the following paragraphs.

LAND RECLAMATION

48. Strictly speaking, land reclamation means the creation of new land. In our consideration of this question, however, we have not dealt in any detail with the possibilities of reclaiming land from the sea. The economics of such operations would no doubt rule out many proposals of this kind. A number of schemes have, however, been mooted from time to time. In 1949 the Department of Agriculture for Scotland proposed to reclaim an area of foreshore extending to some 400 to 500 acres of sands known as Cockle Ebb in Lewis, at an estimated cost of £12,500. It was anticipated that the reclaimed land would provide valuable grazings for the adjoining Tong Farm and enable 100 dairy cows to be carried. The Department submitted a proposal to the Scottish Land Court regarding the acquisition of Tong Farm on the grounds that "full and efficient use of the land on this farm for agriculture was being prevented by reason of the work not being carried out and fixed equipment not being provided". However, the Scottish Land Court rejected the proposal and the reclamation scheme fell through.

49. In recent years the Westminster Estate considered a scheme involving the reclamation of some 20 acres on Badnabay, Sutherland. This scheme was expected to provide valuable winter feed for cattle on the Estate but in August 1957, for various reasons, capital expenditure was suspended by the Estate and the proposal was dropped. Other schemes have been mooted for the shores of the Beauly or Cromarty Firths and for the Kyle of Tongue in Sutherlandshire where low tide reveals extensive areas of flats which, had they been situated in the Netherlands, would have been reclaimed from the sea. Imaginative and enterprising schemes have been very successful in that country where more farming land was so urgently needed. We believe that fresh consideration of these schemes (especially the one in Lewis) might well show worthwhile possibilities, not only in the agricultural land that would be created but also in the ancillary aspects - additional employment and a contribution in some cases to the improvement of transport facilities.

The Scope for Reclamation

50. The other main element in the development of land for agricultural use, leading possibly to the creation of new holdings, is the reclamation of poorer quality land (including peat) or land which has been allowed to deteriorate, for a better quality use. It is to this aspect that we have devoted attention. 'Land reclamation' in this sense is a comprehensive term, describing operations which may range from the simple application of lime and fertilisers with surface reseeded, to operations involving deep

drainage, ploughing, reclamation and subsequent treatment with fertilisers, leading to extensive and varied cropping. There can be no doubt about the scope for land reclamation in the Highlands. Estimates of the amount of land in the Highlands capable of being reclaimed have varied, but on the basis of the figures quoted in the Zuckerman Report⁸, there would seem to be probably some 100,000 acres of land immediately suitable and sufficiently accessible for reclamation. This is a figure which we are sure greatly underestimates the possibilities in view of the considerable developments in techniques in recent years which have radically opened up the technique of surface reseeding and other new methods of land improvement. The whole question is of such importance that, in addition to the specific recommendations we make later in this section we recommend that continuing study should be given to the methods and techniques of land reclamation and their application to Highland conditions; this is a matter which, we consider, the Panel should continue to study and produce further specific proposals in due course. This study should include all aspects of reclamation, including the improvement of hill land, peat land and reclamation from the sea.

51. A considerable amount of reclamation (in the 'improvement' sense) has been and is being carried out in the Highlands and Islands. Within the crofting field alone, something like 4,000 acres are being improved annually, and there are numerous other individual small schemes of reclamation. Most of these are of the simpler surface regeneration type of reclamation; schemes involving the 'full treatment', and schemes involving reclamation of deep peat are relatively few in number. Nevertheless, the results which have been obtained from even the simpler type of reclamation have been quite impressive. The Lewis crofters (who have already improved about 8,900 acres on their crofts and common grazings) are already finding substantial improvements both in the quality and the quantity of their livestock (increases of as much as 80 per cent have been mentioned). This very success may well create a further problem of reclamation since the improvements so far undertaken (on the grazings) have increased the need for winter keep to keep pace with the summer grazing capacity. The need for increased winter keep in the Highlands has always been evident. Current trends are accentuating this - not only the results of the grazings reclamation but also the trend towards greater hand-feeding of stock during the winter. We are therefore convinced that to meet the requirements of existing Highland agriculture, further efforts at reclamation, including surface regeneration and more fundamental reclamation for the provision of winter keep etc., are called for. The arrangements for

⁸ Forestry, Agriculture and Marginal Land - A Report by the Natural Resources (Technical) Committee.

assistance to crofters and others for such operations must be such as to provide a reasonable inducement and to ensure a reasonable return.

52. Up to the present time, it has been left to individual crofters and farmers (in co-operation with their neighbours, where appropriate) to undertake schemes of land improvement. The basic principle of Government policy in this matter has been to provide assistance to the individuals to encourage them to undertake reasonable schemes, leaving the initiative and the exact means and extent of the reclamation to the particular individuals. A corollary of this has been that such schemes have tended to consist mainly of small additions of 'improved' land to the farm or the croft or the common grazings. Unfortunately the loss of the Marginal Agricultural Production Scheme means a loss of stimulation for this kind of reclamation, and the new Winter Keep Schemes do not touch reclamation. There is undoubtedly scope for considerable extension of this kind of development throughout the Highlands. The further question is what scope and need there may be for extension to larger reclamation schemes, whether privately or publicly sponsored.

Group Reclamation Schemes

53. We believe that the time may be opportune for making a step forward in substantial schemes of land reclamation in the Highlands. The circumstances which point to this are, *first*, the availability of suitable machinery for the purpose (particularly the tractor with its various possible combinations); *second*, the increased knowledge of the techniques required for successful land improvement; *thirdly*, the availability of suitable fertilisers. One of the main obstacles to the economic use of the larger machinery required for full scale reclamation is the need for a sufficiently large area in which it can be used to advantage. The answer to this problem can be found either by a number of farmers and crofters co-operating in a joint scheme or in a group of schemes in the same area, or by the sponsoring of large individual schemes of reclamation. Various attempts have been made to develop co-operation for group schemes of reclamation, but the difficulties arising from the statutory requirements (e.g. under the Drainage Acts) and from the need to secure agreement amongst a sufficiently large number of farmers, have so far prevented any serious development along these lines. The successful development of machinery syndicates elsewhere for other agricultural purposes indicates that the difficulties in the way of such developments in the field of reclamation may not be insuperable. We feel that further efforts should be made to encourage group reclamation schemes and we recommend this for special consideration by the Scottish Agricultural Organisation Society Ltd.

Comprehensive Developments - Dalchork Farm

54. The possibilities of reclamation, both to provide winter keep and better grazing, have been shown by such schemes as those being undertaken by the North of Scotland College at Achary and elsewhere, and by the Department of Agriculture and Fisheries for Scotland in its development of the remaining agricultural land on Dalchork Farm. The improvements of the poorer grazings being undertaken at Dalchork will, it is hoped, show that the level of sheep stocking can be largely maintained, despite the loss of some 5,000 acres of the better grazing land on the farm to forestry (out of a total area of 23,000 acres). We commend this development, and recommend that it be continued until full results can be demonstrated at a suitable stage.

Pilot Reclamation Schemes

55. The advantages of reclamation are very real, and can be of considerable significance to the Highland economy, even on the basis of the limited individual schemes so far undertaken. Reclamation can extend the amount of arable ground, reduce overheads by increasing the scale of the enterprise, reduce the losses from rabbits and other pests, and generally improve the quality and quantity of the farm output. It is practically the only way by which the year by year substantial losses of good agricultural land to urban, industrial and other uses can be effectively made good (the annual loss of land from agriculture is estimated at 10,000 acres). Reclamation in the Highlands can therefore make a contribution of national significance. The effect on the economy and employment in the Highlands of larger scale reclamation could be quite considerable. It has been estimated that even a modest increase in the rate of reclamation in the Highlands (to about 10,000 acres per annum) would provide a substantial measure of employment (probably about 100 men). The agricultural production would be correspondingly improved. There are substantial areas, particularly across Sutherland and in Caithness, where sizeable schemes of reclamation could be undertaken. Some of this reclamation is quite expensive, but the returns in employment, agricultural production and benefit to the social conditions in areas of depopulation are of such value as to make it desirable that the assistance available should be sufficiently encouraging. Something more may well be required if momentum is to be gained, and it seems to us that one or two schemes set in hand by the Government would not only serve this purpose but would in themselves provide a much needed easement of employment and social conditions in the North of Scotland. We recommend that two schemes, each of, say, 500 acres, be undertaken in the first place.

GENERAL AGRICULTURAL CONCLUSION

56. We have made various recommendations which, it seems to us, would improve the agricultural land use and strengthen the economy of the Highlands and Islands. We must make clear our view that if agriculture is to be opened up in the Highlands and Islands and if standards of husbandry are to be reasonably assured, some special measures should be considered. We do not envisage compulsory standards of husbandry, and we doubt whether any action should be based on considerations of agricultural production alone. Where, however, it is clear that agricultural land is clearly failing to make its true contribution to the economy and social viability of an area which is in process of decay, and if the land is suitable for agricultural and forestry development, we recommend that the Secretary of State for Scotland should be prepared to exercise his powers of acquisition (either under the Land Settlement provisions or under the Forestry Acts), for development of the land by efficient farmers, with reclamation where the land offers possibilities for this.

FORESTRY

57. When we turn to forestry, we find problems of land use differing in kind or degree from those in agriculture. The whole question of forestry in the Highlands and Islands tends to raise strong feelings one way or another. There are those who would argue for a vast programme of tree planting, pointing to the evidences of large forests in past ages. There are equally extreme arguments against forestry, on the ground that it encroaches unpardonably into the very limited amount of better agricultural land. It is true that the kind of land suitable for forestry is generally also suitable for agricultural purposes, though the best land for tree planting is relatively wetter than the best land for agricultural purposes. Both agriculture and forestry would gladly give away the exposed, high 'hard tops' provided they could have the more sheltered areas, with better soils. The problem of settling how much land and the particular areas of land which should be devoted to forestry in the Highlands is therefore particularly difficult. So far as bodies like the Panel are concerned, one of the difficulties is that few, outside the Forestry Commission, have the necessary expertise and experience regarding planting in West Highland conditions. It must be recognised that forestry in many parts of the Highland area has, in large measure, to be on marginal and difficult sites. This means that the unique experience of the Forestry Commission is necessary for assessment of forestry economics in this area. In contrast, there is no scarcity of expertise and experience in farming. There is, therefore, a very real difficulty in assessing the relative economy of agriculture and forestry. This is accentuated by the variety of types of farming in different areas (the relative economics of those different types of farming are a difficult study in themselves). Forestry is, moreover, a much longer term affair and though there are fairly well-established methods of assessment of such longer term economics, any such assessment of forestry economics is necessarily based on present assumptions. A point which was made to us, as affecting North and West Highland conditions in particular, is that while much of the planting in many of these Western areas may be relatively uneconomic, subsequent crops of timber (for which roads and fences would already have been provided at the time of initial planting) should show a better economic return. Since the committal of land to forestry is long term (in agriculture a switch from one form of husbandry to another can usually be made fairly quickly) clearly care is required in deciding the nature and extent of planting programmes.

State Planting

58. In these circumstances the dependence on State planting as the main instrument for securing adequate forestry is to be expected, though the importance of private planting should not be underestimated. State planting in the Highlands is necessarily part of a National programme which, since the war, has been varied from time to time.

59. The present policy and arrangements for State planting are based on a due integration of agriculture and forestry. There has been no suggestion, for example, that the forest planting should be undertaken on a wholesale scale, with virtual extinction of agriculture in any district. Indeed, it is one of the basic objectives to ensure that large areas are not sterilised to agriculture and to ensure that good agricultural units are not extinguished. Conversely, no area has been excluded automatically from consideration by the Forestry Commission, other than on grounds of natural unsuitability. In their operations the Forestry Commission have adopted the principle of securing stability of employment and operation over a long period, rather than indulging in sudden bursts of activity followed by periods when little or no employment would be available. Finally, the Forestry Commission, though possessing powers of compulsory acquisition, have not, in practice, used them, relying on freely negotiated acquisitions.

Approval of Land for Planting

60. The reconciliation of agriculture and forestry requirements obviously calls for a well-defined procedure, and a procedure designed for that purpose has now been operating for some years between the Department of Agriculture and Fisheries for Scotland and the Forestry Commission. In essence the procedure involves the reference by the Commission to the Department of proposals to acquire land for planting, at the earliest stage, with an indication of the extent to which they would regard the land as suitable for tree planting. The Department examine the area proposed for acquisition to assess its agricultural quality and potential, the standard of current husbandry, and in the light of these they assess how much land could be set apart for forestry, generally with the aim of leaving a reasonably economic agricultural unit. In some cases, of course, the choice lies between retention in agriculture entirely or allocation to forestry entirely. The position is then the subject of discussion between the Department and the Commission, the Department's main interest being to safeguard reasonably the agricultural use of the land, while the Commission's aim naturally is to obtain the largest amount of plantable ground. This is important

to the Commission not only because of the amount of land available for planting, but also because the price which the Commission can offer in any particular case is governed to some extent by the amount of plantable land within the estate they propose to acquire in relation to the total land in the estate. In the event of unresolved difference between the Department and the Commission, the matter is referred for Ministerial decision. Where the land is tenanted, the Forestry Commission secure the physical use of the land for planting, generally by resumption, with resumption clauses in the leases.

Forestry Commission's Planting Programme

61. In recent years the Commission's actual planting has slightly exceeded the programme for the Highlands and Islands, forming part of the National planting programme. The figures are set out in the following table:-

<u>Year</u>	<u>Expected Planting</u>	<u>Actual Planting</u>
1959	10,000 acres	10,354 acres
1960	11,500 "	12,463 "
1961	13,500 "	12,820 "
1962	14,000 "	14,117 "
1963	13,500 "	13,696 "
1964	12,400 "	12,450 "
Total	74,900 acres	75,900 acres
Average	<u>12,483</u> acres	<u>12,650</u> acres

This achievement can be regarded as a very satisfactory accomplishment or as a reflection of the modesty of the programme laid down, depending on the point of view of the particular individual.

Review of Forestry Programme

62. The National forestry programme has recently been reviewed by the Government. As announced by the Minister of Agriculture, Fisheries and Food in the House of Commons on 24th July, 1963* it is planned to plant 450,000 acres in the decade from 1964-1973. The replacement of areas felled by the Commission or burned or blown are, of course, to be added to this figure. This annual average of 45,000 acres compares with a yearly rate of planting over the past

* (Hansard, Col. 1467-1472)

ten years of fully 50,000. It is the Government's policy "to continue to concentrate on acquiring land in the upland areas, particularly in Scotland and Wales, where population is declining and where the expansion of forestry can bring considerable social and employment benefits".

Private Planting

63. So far as private planting in the Highlands and Islands is concerned, the 1959 White Paper^a estimated that private owners would plant a total of approximately 20,000 acres during the years 1959-63. The actual planting carried out in those five years amounted to 19,645 acres.

Employment

64. One of the demonstrable benefits from a substantial forestry programme in the Highlands and Islands is the employment which it can give. The employment provided by forestry varies according to the stage reached in the development of a forest and according to the area involved, but it would seem that at the present point of development in the Highlands, the ratio is about one person employed for every 120 acres of forest planted. Though in total numbers and wide geographical spread forestry employment in the Highlands and Islands cannot as yet compare with the 9,561 employed in agriculture (not taking account of employment in services ancillary to agriculture), it is particularly beneficial because it is often located in areas suffering from depopulation and a general decline in community life; in its geographical incidence, the employment is sometimes provided in areas where otherwise there would be no opportunities for employment particularly as the Commission now employ workers from places up to about one hour's travel from the work. The Commission normally allow one of the daily journeys either in the morning or at night to take place within the Commission's time, while the other takes place in the workers' time. The employment is, accordingly, of a kind which can, if necessary, be fitted into the agricultural activities of crofters. At the end of September 1963, the Forestry Commission employed 1,779 full-time (including close on 200 crofters) and 28 part-time workers. Employment given by timber merchants and contractors amounted to between 200 and 300, and about 100 men respectively. The Forestry Commission employment in the Highlands represents 46 per cent of their Scottish employment total. Fuller details of employment in agriculture and forestry (and ancillary occupations) in the Highlands and Islands are shown in Appendix D. Despite the continuing new planting programme, the numbers employed by the Forestry Commission have been tending to decline in recent

^a Review of Highland Policy - Cmd. 785

years although there was an increase of 70 in 1962/63. There are various reasons for this downwards trend. Increased efficiency with increasing application of piece-work has been one of the main contributory factors; in some remote areas, there has been the difficulty of getting labour. Some increase in the Forestry Commission's labour force can be expected when pulp production begins in 1965.

Social Planting

65. In 1955 the Government authorised the Forestry Commission to undertake in the crofting areas a special programme of planting on social grounds even if it meant in some cases planting on land which would give a smaller return than was usually expected. A planting programme of 25,000 to 35,000 acres was provided for in 1955. In the zone specified (roughly the Western, crofting areas of the mainland, including Skye and Mull) some 35,234 acres have been planted by 30th September, 1963 of which, however, 22,128 acres were planted on ground already acquired before 1955. It would seem that the distinction between the ordinary planting of the Forestry Commission and the so-called 'special' planting under this programme has tended to lose some of its significance. This is because the Forestry Commission have, as a result of research in tree planting on poorer, exposed and peaty soils, been able to undertake planting on land and in situations which, even ten years ago, they would not have regarded as reasonable planting risks. They would therefore regard planting on these poorer sites, in the special planting zone, rather as the lower end of their normal planting scale (at this lower end the economics, they have explained, have become progressively doubtful). The Commission are continuing research and experiment in planting on poorer, exposed and peaty soils - in the Northern Highlands they are, for example, undertaking trials at Fiag, Lybster and Syre (in each of these areas planting is proceeding at the rate of 50 to 100 acres per annum).

Rural Development Surveys

66. It is against the background set out in the foregoing paragraphs that we have made our assessments and tried to reach conclusions. The first question we have had to ask ourselves is whether the present amount of forestry in the Highlands and Islands constitutes the best land use in the sense of our definition in paragraph 7. It can be said at the outset that in terms of the availability of land physically suitable for tree planting, the Highlands could stand a forestry programme substantially larger than the present one. This has been running at about 14,000 acres of new planting each year.

On the basis of the Rural Development Surveys (see Appendix B) it would seem that there are well over 1,000,000 acres of plantable land in the Highlands, of which on current standards about 500,000 would be 'cleared' from agriculture so that bearing in mind the increasing amount of regenerative planting of cut-over woodland, a twenty year programme of at least 20,000 acres per annum of planting by the Forestry Commission (in addition to continuing private planting on something like the present scale) would seem to be well within the bounds of physical possibilities. There are, however, other factors beyond simple physical suitability to be taken into account. We take the view that the present practice of not planting arable ground is the right one in Highland conditions. The amount of good arable ground is too limited for tree planting on it to constitute a good land use on any standards. Again, some of the plantable land is to be found on the common grazings of crofters and others. These grazings form an integral part of the agricultural management, and while we are satisfied that a good deal more than the very limited amount so far made available could be earmarked for forestry to the benefit of the crofting communities concerned, there are limits to the process. In certain parts of the Highlands, such as North-West Sutherland, the amount of land of reasonable quality is so limited that if it is taken for forestry this could only be at the cost of near extinction of the agriculture. The converse is true. Detailed investigations of the potentialities of the Parish of Assynt and of other parts of North-West Sutherland by the Group have brought out the dilemma very clearly. In the Parish of Assynt with a total area of 119,000 acres it was found that even at the cost of virtually extinguishing the agricultural use of the available better land only some 3,339 acres could be secured for forestry, giving a net additional employment of 7 men. Much of the land in question is crofting land, which would, in itself, create difficulties for any attempt to resume substantial parts fit for forestry. On the basis of a compromise between agriculture and forestry only 2,100 acres could be cleared for forestry, with an employment potential of some 5 men. The Melnees/Loch Loyal/Strathnaver area of North Sutherland was similarly examined. Some 3,400 acres were classified as plantable for forestry, with an employment potential of 7 men, but at some cost to the sheep farming carried on. In neither of these (or other) cases in this part of the Highlands were the proprietors willing to dispose of the land for forestry, sporting interests being involved as well as the agricultural considerations mentioned. On the other hand, experience with the Strathoykell development (see Appendix F) has shown that in suitable circumstances very considerable areas can be allocated to forestry without appreciable effect on the stock carried and the agricultural employment provided.

Planting Target

67. It is, therefore, in a matter of this kind difficult to be precise in estimates, and any decision as to a particular level of forestry must be, to some extent, an arbitrary one. We are, however, convinced that a programme of afforestation by the Forestry Commission of at least 20,000 acres per annum, in addition to private planting at a rate of about 3,000 acres per annum, can be fully justified, and, provided that known techniques of improving grazing lands were applied on a greater scale, the inroads into agriculture would not be excessive. Given the right procedures for acquisition (to which we refer later) there is no reason why such a programme should not be sustained for a considerable number of years ahead, without great detriment to pastoral agriculture, and with substantial benefits by way of employment, both in total and in the variety of jobs provided, and in housing and other social services. Again, given the right procedures, which we discuss later, we think that it should be possible for the Forestry Commission to improve on their acquisitions so that the programme would include sufficient better quality land to make the operation reasonably economic as a whole. The development of the pulp industry (and other timber using industries which might settle in the Highlands) should of course contribute to this end, though transport costs are obviously important; in this connection, the rates to be charged on the new vehicle carrying ferries should be fixed with such considerations in mind.

68. We have given careful consideration to the question whether continued provision should be made for 'special planting' in the crofting areas. It is unfortunate that this has failed to develop as envisaged, but we feel that, whether the problem is to be regarded as one of 'special planting' or as part of the main forestry programme, the underlying objective should be sustained. The Forestry Commission naturally look to areas of greater suitability for planting than are generally to be found in those districts where there are declining crofting communities - mainly along the Western and North-Western Seaboard including the Outer and Inner Hebrides. Nevertheless, on social grounds, these areas should be given special consideration, and whether plantings in these areas should be regarded as 'special' or merely included as representing the lower end of a wide range of economics in planting is perhaps a secondary issue. If the present procedure for acquisition is to be retained, we would recommend that a programme of special planting in these crofting areas should be separately provided and, to ensure an adequate approach, there should be separate financial accounting of such operations, within the Forestry Fund. On the other hand, if the changes in procedure for acquisition and reconciliation of agriculture and forestry interests which we suggest later in this

section are accepted, and give the standards which we are assured by the Forestry Commission are currently being applied, this particular problem should not arise.

Highland Planting - Geographical Distribution

89. Apart from the question of the total amount of planting in the Highlands, we have also considered whether there are areas in which too much land has been already afforested and conversely whether there are areas where too little forestry has been carried out. Figures setting out the areas of the counties, and the area of land taken up for forestry (plantable or yet to be planted) are set out below -

<u>County</u>	<u>Total Acreage</u>	<u>Area of land planted or to be planted at 30.9.63</u>	<u>Percentage of land planted or to be planted</u>
Argyll	1,990,521	195,100	9.8%
Caithness	438,926	3,364	0.8%
Inverness	2,695,094	222,771	8.2%
Orkney	240,648	-	-
Ross & Cromarty	1,977,254	111,278	5.6%
Sutherland	1,297,820	41,926	3.2%
Zetland	352,337	-	-
	<u>8,992,600</u>	<u>574,439</u>	

N.B. It is estimated that an additional 1,000,000 acres are suitable for planting.

It will be seen that forestry is most heavily concentrated in Argyll with Inverness also showing a substantial area of forest. It cannot be said that forestry, even in Argyll, is anywhere near 'saturation point'. One has only to compare the degree of afforestation there (9.8%) with a county like Kirkcudbright, (approximately 16% with some 100,000 acres of forest out of a total acreage of 574,024) to gain some measure of the leeway that still remains. (In some areas, of course, other difficulties besides the availability of land physically suitable for planting have to be faced, including, in particular, that of labour supplies in the remoter districts.) On the other hand the less fertile and more exposed areas along the west coast of the Mainland and in the Islands have yielded little to forestry. While the total acreage ever likely to be planted in these districts is relatively small in comparison with the more sheltered parts of Argyll, Inverness and Sutherland, there is, we

believe, scope for developments on a moderate scale. The case for this is not based merely on forestry considerations; such forestry development, even on a moderate scale, can be, and has been, crucial for the maintenance of sound local communities.

Planting in Smaller Blocks

70. This brings us to another aspect of forestry, i.e. the degree of flexibility which the Forestry Commission allow themselves regarding the size of individual plantation blocks. For initial planting, we understand that the Commission generally require a block of not less than 500 acres or an equivalent group of smaller blocks within reasonable radius. For 'satellite' blocks much lower areas are acceptable. It is undoubtedly more convenient and economical to develop forestry blocks in reasonable proximity to each other and particularly if there is a large plantation round which smaller blocks can be developed. Such a policy also brings other benefits. For example, with larger planting areas, it is easier to establish and sustain sizeable communities. We recognise that the Forestry Commission, since they are generally expected to operate as a commercial organisation having regard mainly but not exclusively to economic considerations, are to a large extent bound to develop their plantings in this way. Nevertheless, we feel that the policy should not be applied without substantial qualifications on both social and wider economic grounds. The greater flexibility would increase the contribution which forestry can make and does make to agriculture and amenity and to maintenance ofcrofting communities in the remoter areas. In terms of both shelter and 'mixed' rural economy there is much to be said for a considerable expansion of this kind of planting, even though the total effect on employment may be limited. We accordingly recommend that the Forestry Commission and the Department should give special attention to the question of making surveys of areas with a view to opening up possibilities of smaller scale planting, both in areas in which the Commission are already operating and in fresh areas.

Government Assistance for Private Planting

71. As to private planting, though this does not form a major part of the total forestry operation in the Highlands, it does make a significant contribution. At present, Government assistance is given to private growers mainly as grants under the Dedication Scheme whereby a landowner dedicates an area to forestry in perpetuity and covenants to manage the woodland for timber production in accordance with a plan approved by the Forestry Commission. The grant consists of a planting grant of £22.4/- per acre planted or restocked, coupled

with an annual management grant. Apart from dedication grants there is a grant of £22.4/- per acre for planting woodlands which, although not dedicated, are managed on a plan approved by the Commission; there is also a grant of the same amount for planting or replanting on estates of 150 acres of woodland or less which are neither dedicated nor managed according to an approved plan. Finally, there are advantages to be gained from the development of private forestry in relation to Estate Duty charges.

Publicity

72. We doubt whether any adjustment of these grants would result in a spectacular or even major increase in the amount of private tree planting in the Highlands, since this is necessarily governed either by the requirements of good estate management or by the personal preferences of the individual landowner. On the whole our expectation is the amount of new private planting will tend to decline, but it seems appropriate to base our calculations on a continuance of private planting at something like 3,000 acres per annum. It has been suggested that there are landowners who are prevented from embarking on forestry development through lack of capital, and that this is not met by the existing grant arrangements. The Forestry Commission have, in fact, recognised this particular difficulty and they have arrangements under which the Commission will acquire from such landowners land for planting on long lease, the land (with the trees) to be re-purchased at appropriate prices by the landowner. If the landowner decides to buy back the plantation he must agree to enter into a dedication agreement. Though the area of land in the Highlands dedicated for planting continues to increase, we feel that the dedication and other grant arrangements should be more widely accepted. In so far as there is insufficient knowledge and understanding of what is involved, suitable further publicity should help, and we recommend that this should be vigorously pursued by the Commission and other bodies concerned. Further possibilities of private planting could, we think, be opened up if tenant farmers could be enabled and encouraged to undertake planting. The chief obstacle (apart from general distrust of forestry) is that such planting is not an eligible item for compensation as a tenant's improvement under existing rules. We recommend that this exclusion should be removed and that tenant farmers should be eligible for the grant of £22.4/- per acre of planting, subject to suitable safeguard of the landlord's interest.

Acquisition of Land

73. We have given a great deal of thought to the arrangements for acquisition of land for forestry and to the handling of those parts of estates acquired for forestry but remaining in agriculture. The Forestry Commission rely wholly on voluntary negotiation for the acquisition of forestry land. Though they have statutory power to acquire land compulsorily this has, we understand, hardly ever been used. There are various reasons for this. The procedure laid down is somewhat complicated; there has been a fear that landowners generally would be less inclined to negotiate with the Forestry Commission if compulsory powers were being exercised on any scale; there is the possible difficulty of the Commission's being unable to demonstrate that a particular piece of land is essential to their requirements (rather than some other pieces of land); there is the fact that, in total at any rate, the Forestry Commission have been able to acquire as much land as they have needed to carry out the National programmes laid down. We appreciate the weight of these circumstances, but so far as the Highlands are concerned we have to make the following points. *First*, though the Forestry Commission have so far been able to make up their total requirements by voluntary acquisition, their experience in acquiring land in the Highlands has been somewhat mixed and, even with good years, little margin beyond the normal reserve has been secured. We think it particularly important that in view of the varying conditions from one part of the area to another, the reserve of land for planting in the Highlands should be maintained at as high a level as is reasonably possible. *Second*, there is the problem that in the Highlands the Forestry Commission very often have to compete not with agricultural offers but with offers by persons interested in the land for sport and amenity rather than agriculture. With such offers, commercial considerations play a smaller part, and even if the Commission were enabled to increase their general level of prices, they are bound to fail in competition with these classes of buyers. *Third*, the present arrangements tend, in our view, to lead to development of forestry around major acquisitions or in grouped areas, whereas a still wider geographical distribution of planted areas is desirable if forestry is to make a more effective contribution to the Highland economy and social stabilisation in thecrofting districts. *Fourth*, there is inevitably a reluctance on the part of tenant farmers to give up part of their land for forestry. They feel that the benefit is going mainly or entirely to the landlord. There is scope, we consider, for educating farmers to the advantages which properly planned forestry can bring to agriculture and to the wider public interest involved in an adequate forestry programme, and in paragraph 72 we have suggested specific changes in procedures to

enable and persuade tenant farmers to undertake planting. There is, however, likely to be a continuing opposition and misunderstanding by some tenant farmers.

Compulsory Acquisition

74. As already explained, the Forestry Commission have not resorted to their compulsory powers of acquisition, and we recognise the force of the considerations which have led them to adopt this policy. We have, however, had to consider whether any change is required to meet Highland needs as we foresee them. Two points are clear. First, it is with little margin to spare that enough land of the right quality has been obtained by the Commission to meet the planting targets of recent years, and we recommend that the annual rate of planting by the Forestry Commission should be increased to at least 20,000 acres. Second, there has been virtually total failure to fulfil the expectations of the programme of social planting in the western crofting areas where, we suggest, forestry is in some cases the best, if not the only means, of economic and social rescue and rehabilitation, and where, in our experience, there is a good deal of grossly under-used land capable of agricultural/forestry development. These two aspects are, in our view, to be considered together. Had we been concerned only with the global total of acquisitions by the Commission we might have recommended (though we should have done so with some hesitation), that the present voluntary arrangements be left to run at least until there was clear evidence of their inadequacy. But we cannot ignore the urgency of the need for forestry development in the crofting areas, and the clear evidence of the failure of the present acquisition arrangements in these areas. In any case there seems little doubt that an increased planting programme on the scale we recommend as necessary could not be carried through on the present basis of voluntary acquisition. We therefore recommend that the Secretary of State for Scotland should use his powers of compulsory acquisition in the Highlands and Islands as necessary to ensure the fulfilment of the total planting targets and to bring into productive use under-used land, particularly in areas of social and economic needs. We are, however, assured that the existing procedure for compulsory acquisition for planting by the Forestry Commission is too narrowly based and too cumbersome to become a fully effective instrument for the programme we envisage. In particular, it is at present related essentially to forestry requirements and would not seem to cover the acquisition of land for combined agricultural/forestry development. We further recommend therefore that the statutory procedure for compulsory acquisition of land for forestry be reviewed and amended as necessary to make it more flexible and less narrowly based.

75. We have described, in paragraph 60, the current arrangements for 'clearing' areas of land for forestry purposes, and the policy applied to the subsequent handling of the land, after acquisition and allocation for forestry. We recognise that these arrangements have proved effective, within the limits of the current policies, and that the Department of Agriculture and the Forestry Commission have acquired a high degree of expertise in dealing with the problems involved. We do not consider, however, that the present arrangements are the best in the circumstances of the Highlands, and certainly not designed to meet the situation arising from the substantially increased programme of afforestation which we recommend. Apart from the increased scale of forestry recommended, we feel that a fresh approach by the State is required to the task of acquisition and management of land acquired for afforestation, with agricultural and other potentialities. Generally speaking in the Highlands, estates are not to be regarded solely as agricultural units, or solely as forestry units or solely as sporting white. There is usually a gradation of land quality and type from fully sheltered low lying arable land through low quality exposed soil at high altitude, to bare, hard tops. Such estates, or natural local units, require a comprehensive approach and a unified management. As things are, the question of agriculture or forestry on any piece of land proposed for acquisition tends, in our view, to become an object of opposed views as between agriculture and forestry, and the resultant decision - a compromise between the two - not necessarily the best compromise in relation to a proper plan of management for the estate. If this difficulty is to be overcome, there would appear to be some case for a more closely integrated consideration of forestry acquisition proposals. What is required is, at least, an arrangement by which whole estates (or large sections of extensive estates) would be purchased by the Secretary of State for Scotland, perhaps from a Land Fund which would not, like the Forestry Fund, be confined primarily to forestry acquisitions. After acquisition of the estate, the process (which should be a continuing one) of planning its future pattern, including the possibilities of forestry, agriculture, sport and recreational activities (if appropriate) would be undertaken comprehensively.

Agricultural Remnants

76. This point is further illustrated by the arrangements for managing the agricultural remnants of forestry acquisitions. At present the Forestry Commission proceed with their forestry as a separate, self-contained operation, while the Department of Agriculture and Fisheries for Scotland are left to develop the agricultural remnants into a reasonable economic unit as far as

possible. Thereafter, under Government policy, the remnant is sold off (though in many cases where the land is tenanted, disposal cannot be effected or the land is sold to the sitting tenant). If there is land used only for sport (such as the higher ground) this is managed by the Forestry Commission. This situation tends to leave us with forestry becoming the governor of the future layout and management of the particular estate. Thus there have been complaints regarding the 'disregard' by the Forestry Commission of the sporting and conservation requirements for the higher ground, while there may be a risk at the other end of not very satisfactory agricultural units being thrown on to the market. If the State is to embark on this kind of acquisition and in the increased scale we envisage, and looking to the needs and conditions of the Highlands, it seems wrong that the opportunity should not be taken to develop and operate these Estates comprehensively and on principles of good estate management. There is the further point that in some cases the 'remnant' agricultural units are suitable for running by a working tenant-farmer (see paragraph 46). Whether this is to be done by closer integration between the Department of Agriculture and Fisheries for Scotland and the Forestry Commission or by a more fundamental change involving the development of a Lands Organisation is a matter to which further thought should be given. The importance of general ecological considerations should also not be overlooked and in any changes that may be made, provision should be made for consultation on these aspects.

Forestry Communities

77. As will be seen from Appendix E dealing with conditions in Mull, the Forestry Commission have experienced considerable difficulty in securing labour to carry out their planting programme there. This is an extreme example of a difficulty which they have encountered and continue to encounter in the remoter areas. In the earlier stages of their post-war planting programmes, the Commission followed a policy of providing accommodation for their workers in close proximity to the planting sites. This resulted in small isolated groups of houses which did not prove attractive to forestry workers, particularly employees with young families. The Commission's current policy is, however, to secure the accommodation of their workers either in existing communities or in larger, centralised new communities. This produces the problem of transporting workers daily to the planting sites, but we think it is the right approach and in line with the wider trend towards the development of sizeable communities capable of sustaining a reasonable standard of basic services. It is accordingly the Commission's general policy that houses for forestry workers should be provided by local authorities as part of the general housing provision for the areas concerned.

There are undoubted advantages in bringing forestry workers into the community by other than tied houses, but this practice does mean that the pace of forestry house provision depends on the attitudes and capacities of the particular local authorities who, in any case, have to give weight to other competing housing claims. We feel that the forestry situation demands more positive action. It is not enough to leave the matter to persuasion locally by the Forestry Commission, whether on their own behalf or on behalf of timber merchants working their forests. We recommend that the areas where further or faster planting could and should be carried on should be identified and that the Commission and the Scottish Development Department should together actively take up the question with the local authorities. If the latter cannot or will not make the necessary provision, the possibility of supplementing their building programmes should be pursued.

Conditions of Employment

78. It has been represented to us from time to time that the earnings and conditions of employment for forestry workers are less attractive than those prevailing in competitive employment available in the districts concerned, in particular agricultural employments. We have gone into this question carefully, and details of the comparative earnings in forestry and in agriculture are set out in Appendix G. Though an improvement in wages would tend to ease the Commission's recruitment problems, taking all the conditions of employment, including earnings, into account, we do not consider that forestry can be said to be at any real disadvantage, so far as actual earnings are concerned. It is possible that the incidental benefits of employment with the Forestry Commission are insufficiently understood and the Commission might usefully, in our view, consider special publicity. A better assurance of reasonable housing accommodation would also, we suggest, help in recruitment. Other factors which must be taken into account, however, are the stability of the forestry employment (with its year by year employment), the pension provisions attaching to such employment, and the opportunities for higher earnings through piece work. We recommend that the Forestry Commission should continue and develop, as far as possible, their policy of doing the maximum amount of work on piece work rates. The standard of housing accommodation for forestry workers is good, but, in the case of houses in remoter areas, we feel that the Commission should, even more than at present, vary its policy of relating rents of forestry houses to the general prevailing levels of local authority rents. Where houses have to be provided in isolated and remote areas, the addition of a forest holding provides a strong attraction. We understand that where a forest holding is available

the Commission have succeeded in finding a worker to occupy the house, even where this is in a remote area.

Contractual Arrangements

79. The Forestry Commission's practice of negotiating the sale of standing timber to private timber merchants is one about which some of our members have expressed misgivings. There has undoubtedly been considerable employment by timber merchants of migrant labour teams, not involving the settlement of families in the areas concerned. If this were to prevail, it would be quite contrary to one of the purposes for which the forestry programme was designed, viz. the arresting of depopulation by keeping and bringing workers, with their families, into the Highlands. And this is a danger about which we feel there should be the utmost vigilance. We have been assured by the Commission, however, that they have been conscious of this risk and that it is their policy, as the forests develop, to ensure that contracts with timber merchants are on the basis that gives the merchant a prospect of long-term continuity. This becomes more and more possible as the forests develop. This should enable and encourage the merchants to employ a settled labour force in the particular forests, and already some workers have been provided with houses and settled with their families. The Commission consult with local authorities, if necessary, about the provision of such houses. The Commission explain that it is a necessary part of their policy to encourage and support a healthy home-grown timber industry, and, for the future, their aim of long-term continuity of operation by individual merchants in their contract areas should be increasingly realised. We accept these assurances, but we cannot too much emphasise the importance of the retention and settlement of families as one of the essential requirements of the State forestry programme. Where this is not being effectively achieved by the use of timber merchants there should be, in our view, no hesitation by the Commission in taking on the work themselves. Indeed, we go further, and recommend that unless the use of timber merchants in the Highlands leads to settled employment, the practice is a disservice to Highland development and should be discontinued.

Shelter Planting

80. On the question of shelter planting, we have noted the Forestry Commission's awareness of the general advantages to be derived. We recognise the difficulty in the way of the Commission's establishing large numbers of small shelter blocks in districts where there is not already a substantial forest round which these smaller areas can be operated. It must, moreover, be accepted that in each

circumstances the case for shelter blocks or belt planting is to a large extent an agricultural one. And experience has shown that the private agriculturist fails to be attracted by the long-term advantages of shelter belt planting. The research that is being done on this aspect of forestry/agriculture should improve the state of knowledge as to the technical requirements but there is, even now, considerable scope for shelter belt planting in the Highlands. In this particular field also, the advantages to be gained from a closer integration of agriculture and forestry are evident.

Forestry on Croft Land

81. We have discussed, in paragraphs 73 and 74, questions concerning the acquisition of land for forestry. There is one special aspect of this to which we should refer. This concerns the allocation of crofting land for forestry. The Taylor Commission obviously hoped that, because of the advantages which forestry could bring to the crofting communities, it would be possible to use substantial areas of croft land for tree planting. In fact, it has proved extremely difficult for the Commission to obtain such land and the contribution of crofters by way of land has been altogether insufficient. The reasons for this are not difficult to find. The procedures which have to be gone through before crofting land can finally be allocated for forestry are fairly complicated, involving reference to the Land Court for resumption under Section 12 of the Crofters (Scotland) Act, 1955. All this entails consultations with the crofters in the township concerned, and while the younger and more active crofters might welcome the surrender of part of the common grazings for forestry, there is generally a hard core of elderly and less active crofters who see no advantage to themselves in disturbing the status quo. Again, even though there is willingness on the part of the crofters to give up part of their grazings, a forestry project can founder over questions of compensation.

82. If forestry is to make headway within the crofting areas, it is desirable that croft land should be made available where the need is clearly demonstrated and the effect on the crofting agriculture shown to be minimal. (In many cases loss of crofting land to forestry can be made up by increasing the grazing capacity of the land by means of reclamation or regeneration schemes). We accordingly recommend that consideration should be given to the strengthening of the provisions in Section 12(3) of the Crofters (Scotland) Act (which requires the Land Court to authorise resumption of crofters' common grazing land for forestry where the consent of the majority of the crofters and the approval of the Crofters' Commission have been obtained). This could be done, for example, by requiring the

Land Court not to withhold authority for resumption where the proposal has the approval of the Crofters' Commission and the Secretary of State has certified that it is in the public interest. Along with this, however, it is essential that adequate inducements should be given to crofters to encourage them to accept forestry on their Common Grazings. In particular we recommend the suggestion by the Skye Crofters' Union that compensation should be given, beyond the present minimal adjustments of rent, to enable the crofters, with the aid of Improvement Grants, to reclaim and regenerate the remainder of their Grazings so that the effects of abstraction of parts of the grazings for forestry, can be largely offset. In this connection it should be borne in mind that crofting tenure with its security and safeguards, is not dissimilar to occupation on feu, and loss of such land is not reflected in the relatively minor adjustments of rent that are applied in such circumstances. Another proposal, designed to bring crofters into active operation of forestry on common grazings, has been put forward by the Lochaber Crofters' Union. The proposal is that finance should be provided from Government sources to enable the crofters to plant substantial areas of crofters' common grazing, the crofters being provided with employment in the process, and having an assurance of whatever profits might be made on the venture. Such a development requires careful examination in its economic and legal aspects (fresh legislation would seem to be required to give the crofters the necessary authority to take over the grazings) and the Crofters' Commission are, in the first place, making a study of the issues involved and the implications of the proposals should be considered in the light of this. We would commend any practical measures which might emerge from their consideration and which would facilitate the development of forestry in crofting areas.

Educational Drive

83. Various questions affecting the relationship between forestry and sport, tourism, and conservation are discussed in the later sections dealing with these aspects of land use. It seems appropriate to conclude this section by re-emphasising the important part which forestry can play in any plan for Highland development. A twenty years' planting programme, at the rate of 20,000 acres per annum, taken with what has already been done and the associated activities that arise, would provide eventually something like 3,300 jobs, many of them in areas where alternative possibilities are practically absent. Relevant to our present enquiry, this would represent an effective and economic use of the land resource. It is difficult to think of a more rewarding means of Highland development than an imaginative and actively pursued forestry programme. This is not

merely a question of administrative provision. It requires a sustained effort of education and publicity, not only by the Forestry Commission, but in schools and amongst private land-owners and farmers, and we would hope that local education authorities and bodies like the Scottish Woodland Owners' Association Ltd., the Scottish Land Owners' Federation and the National Farmers' Union of Scotland would be encouraged and assisted to play their full part.

Economics

84. One last comment. The comparative economics of agriculture and forestry are obviously significant for the formulation of any programme affecting these uses of land. Such a comparison is, however, immensely complicated by the different time-scale, capital investment and trading costs relationships, Government fiscal policies both present and future, and, above all, the discounts and premiums to be applied for such factors as future demand for the various products and cost trends. The whole question is at present being investigated by the Natural Resources (Technical) Committee, and their Report is not expected until some time next year. We are satisfied, however, that the increased programme we recommend is well within the limits within which the economic, social and employment advantages of forestry may be accepted.

SPORT AND PHYSICAL RECREATION (INCLUDING TOURISM)

SPORT - DEER

85. So far as land used for sport in the Highlands is concerned, early consideration must be given to deer stalking. With agriculture and forestry, deer forests constitute one of the most widespread and extensive forms of land use. Something between one-quarter and one-third of the whole Highland area is regarded as deer forests. Apart from the total area taken up for this activity, significance attaches to the fact that agriculture (keeping of sheep) and sport (keeping of deer) are to some extent concurrent uses. The sheep and the deer graze the same areas. Though there tend to be misconceptions and exaggerations on this subject the head of stock in either case is bound to affect the numbers and standard of the other type of stock maintained. In this respect it differs largely from forestry, which physically excludes land used for planting with no intermingling of the uses, i.e. until the trees are 20/25 years old. This applies to red deer but not necessarily roe deer.

86. One of the difficulties in reaching satisfactory conclusions about the use of land for deer stalking is the widely conflicting attitudes to this sport, quite apart from the moral attitudes. In the Highlands, these are deeply rooted in the history and social conditions of the area. The fact that the lands are occupied and the sport carried on mainly by the landlords and a very limited number of persons, has given rise to antagonisms in which reason and unreason are freely mingled. We should, therefore, in the first place state the basis on which we have made our study of this question.

87. For the above purpose, we have kept in mind the broad definition we have set ourselves, in paragraph 7, i.e. our essential concern is with the most effective and economic use of the land, having regard to the agricultural, industrial and social, including recreational, possibilities and all needs of the area in question. Therefore, we do not take sides in any debates on the virtues or iniquities of this form of sport as it has developed in the Highlands. We accept - as indeed the circumstances force us to accept - that there are many areas for which recreational use, including sport and matters associated makes it clearly the best, if not the only feasible use of the land. Equally, we have considered, as objectively as possible, the competitive merits, in terms of economy, production, employment, social well-being, etc. of recreational requirements as a form of Highland land use, with the normal alternative possibilities of agriculture, and forestry.

Survey of Deer Stalking Grounds

88. For statistics of deer forests and their use in the Highlands and Islands, we have considered the details submitted by occupiers in connection with the Agricultural Returns, and also the very considerable and detailed information assembled by Mr. Kenneth Whitehead in his published survey of the major deer stalking grounds in Britain⁶. As will be seen from the statistics in Appendix C, the area of deer forests, as shown from the official returns, extended in 1957 to 2,234,000 acres in 147 deer forests. Mr. Whitehead's figures are considerably larger, the area amounting to 3,808,000 acres in 261 deer forests. The deer forests range, in altitude, from sea level, though the general minimum altitude seems to be about 1,000 ft. above sea level, the highest of them being at well over 3,000 ft. According to Mr. Whitehead, the total post-war annual kill on all forests would seem to be about 8,000 stags and 7,000 hinds, or about 1,000 tons of venison. It would seem that Mr. Whitehead has possibly classified as Deer Forests a number of areas which are not Deer Forests in the normal classification. There are deer on sheep farms, and in the case of owner-occupiers in particular, there is a tendency for them to include in their advertisements for letting of shootings such phrases as 'a few deer can be shot'. It might be convenient to refer to such places as 'deer shootings' rather than 'deer forests'. Where a subject is obviously agricultural, and deer shooting a marginal aspect of the management, we suggest that the term 'deer forests' should not be used. At the extreme end of the scale, deer on sheep farms proper should be regarded as marsudere and as such should be shot, particularly the hinds who tend to heft themselves on the ground. This would leave the term 'deer forests' to cover subjects (generally of a fair size) on which the management of deer plays an appreciable part in the total management.

Benefits from Deer Stalking

89. It might be convenient to consider the benefits deriving from deer stalking and thereafter to look at the disadvantages. The benefits are fairly clear:-

- (a) *Employment* - Though employment in this connection has gone down, the management of deer forests and the pursuit of deer still provide a useful measure of employment, some of it in conditions in which there is literally no other employment outlet.

⁶Deer Stalking in Scotland by G. Kenneth Whitehead - published in 1960 by Hollis and Carter

Admittedly, the employment is seasonal, but under normal management such employment fits in with the control of fishings on the same estate and a good deal of maintenance (e.g. of buildings required for the deer sport) is undertaken throughout the year.

(b) *Nature Conservation* - generally this form of land use involves the minimum of disturbance of the 'natural' use of the land, and provided there is proper management the objectives, good nature conservation, could be achieved. On the other hand, over-stocking with deer, with all its concomitant problems of destruction of herbage, marauding etc., can give rise to erosion, and irreversible run-down of the vegetation.

(c) *Possible agricultural use* - In many cases the use of these areas for sport is consistent with a measure of agriculture, i.e. seasonal grazing of sheep. We believe that the extent to which deer forest areas are capable of economic agricultural use tends to be exaggerated, and that in the majority of cases deer forests are only marginally usable for agriculture on any scale, at least in current conditions. It may be worth noting, however, that a survey was made in 1940 by members of the Scottish Land Court at the request of the Secretary of State with a view to assessing the possibilities of the deer forest as rough grazings. The results of the survey were summarised in the following terms in the Report of the Department of Agriculture for Scotland for the ten years 1939-48^o (pp. 11-12 of the Report) -

"Deer and the Use of Deer Forests

The decrease in the grassland area led to investigations into the possibilities of the deer forests as rough grazings. A survey was made in 1940 by members of the Scottish Land Court at the request of the Secretary of State, covering the deer forests in Caithness, Sutherland, Ross and Cromarty, Western Inverness, and North Argyll. Forests fully stocked or in process of stocking extended to 279,000 acres; permanent stocking was practicable on 989,540 acres, and summer stocking only on 249,695 acres. It was estimated that a total of 83,130 sheep and 1,950 cattle could be kept permanently on deer forests, while a further 39,350 sheep and 2,300 cattle could be grazed in summer only. The actual stock in June 1939 was 50,426 sheep and 1,593 cattle.

The achievement of such an increase depended upon the reduction of numbers of deer, and upon heather burning, drainage operations, and to some extent building. Reports indicated that the maximum carrying capacity, given the improvements mentioned, might be even greater. The Agricultural Executive Committees in the Highlands strove to have the fullest use made of these deer forest grazings. By 1944 the Secretary of State had taken possession of eight forests, or parts of forests, under Defences Regulation 51, and Glen Etive forest had been gifted to the nation by Lt. Col. A.E.D. Anderson, D.S.O., to provide facilities for experiment in the improvement of deer forest land in the raising of breeding stocks of hardy sheep and cattle suitable to the environment. On all deer forests in June 1945, there were 4,230 cattle and 148,179 sheep, increases of 168 per cent and 194 per cent respectively, over the 1939 figures.

The reduction of the deer population was preceded by a census of stags, hinds and calves in 1940. A Deer Control Officer for Scotland had been appointed, and a meeting of deer forest owners in Edinburgh in April 1940 had discussed a scheme for the disposal of venison as a not inconsiderable contribution to the nation's food supply."

It must be appreciated that the foregoing assessment and the great increase in the cattle and sheep carried on the deer forests during the years 1940-45 were related to war-time conditions and to the need for all-out agricultural production. No doubt this meant a running down of deer stock which would not be contemplated in normal conditions. Nevertheless, these results are indicative of the agricultural potential.

(d) *No alternative use* - in many cases there is really no alternative use for the land in question. This fact must be clearly recognised. One can refer to very large deer forests, extending to 50,000 acres and more, on which the possibilities of sheep rearing are negligible because of the poverty of vegetation, altitude and other natural factors. Only a minority of deer forests are, in fact, fit to carry a permanent stock of sheep and as this is a main consideration in suitability for agricultural purposes, the prospects of their being taken up for agriculture are negligible.

Disadvantages of Deer Stalking

90. This would appear to include:-

(a) *Effects on adjoining land -*

(i) From marauding. It can be argued that marauding is a mark of inefficient deer management, and to a very large extent this is true. On the other hand, we are concerned to deal with the situation as it is and is likely to be for some years ahead, and not with ideal conditions. In any case, even with the most effective management and control, there will no doubt always be a certain amount of marauding in difficult seasons.

(ii) By encouraging the spread of other pests. These include foxes, hoodie crows etc. In certain conditions also, there is a possible spread of infection of sheep through rank heather.

(iii) By imposing limits on drainage, access and fencing. There is also generally insufficient burning of heather on deer forests and this is possibly one reason for the spread of pests.

(iv) By damage to woodlands. Unless there is adequate fencing round the woodland in the early years of growth, heavy damage can be caused by deer.

(b) *Effects in the deer forest itself -*

(i) Limitation or exclusion of cattle or sheep stock. This is, as already mentioned, probably exaggerated in some cases. On the other hand, in some deer forests the effect on agriculture has been unfortunate.

(ii) Prevention or limitation of tree planting because of possible detriment to the shootings. One of the discouragements is the need for very expensive fencing.

(iii) Prevention or limitation of access by the public either to the deer forest itself or through it to places of scenic beauty. During the shooting season there is, of course, an almost complete embargo on public access. There is, moreover, during the rest of the year very often strong discouragement.

(iv) Prevention or limitation of proper drainage and management. It sometimes happens that an adjoining occupier is prevented from proceeding with a drainage scheme because its completion would require works on the deer forest itself.

(v) Encouragement of natural pests (already mentioned).

(vi) Deterioration of herbage. At its worst, this presents itself as erosion, where there is over-stocking.

(vii) In its present form deer sport is limited to very few people, and does not make any positive contribution to the development of the economy.

(viii) Employment is tending to become less. Moreover, apart from the housing of head stalkers, the houses provided for stalkers are generally extremely remote and this makes the employment less attractive. On one large deer forest (50,000 acres) the total employment is a head stalker and three others (one of them a shepherd/stalker). This is indicative of the relatively low employment from deer sport. Moreover, so far as general domestic workers are concerned the employment is limited to only a few weeks in the season, and in some cases the workers are imported with guests.

91. In assessing the relative benefits and disadvantages of deer sport as a form of land use in the Highlands and Islands, we have been concerned essentially with the position as it is now and is likely to be in the foreseeable future. On this assessment, we must accept continuance of a wide variation in standards of management. We would hope that these standards could be greatly improved, and we later make some suggestions to that end. Again, the employment provided by stalking is not likely to increase unless the economic return of the end product (venison) is raised; or unless, by increasing the numbers engaged in the sport (and the competition for it) new and increased charges for the sport can be applied, on a wider scale.

Examples of Deer Forests

92. We have considered in more detail several estates in the Highlands on which there are a number of deer forests. These forests are associated with hill farms and though some are let for sporting purposes the land use pattern is one of combined interest with sheep and cattle from farmers or crofters in the glens sharing the grazings with deer and with some forestry plantations on the lower slopes of the hills. The deer forests are extensive enough to permit of dual stocking except where there is heavy encroachment of deer from other areas in early spring months when wintering ground for sheep or early braided crops require a certain amount of protection and deer have to be reduced in numbers. Two examples can be quoted by way of illustration.

Estate A (Island) Extent - 15,000 acres of which 100 is arable. Altitude - 2,500 feet at the highest point. The farm on the Estate at present carries a stock of 3,800 Blackface ewes and 150 breeding cattle. Farm staff employed - 9. Annual production sale of sheep - £5,800. Annual production sale of wool - £4,260. Annual production sale of cattle - £3,465. Total - £13,525. An increase in forestry to 1,600 acres is proposed when the sheep stock will be reduced to 3,200 ewes but the labour force employed will be increased to 20 persons, 8 in agriculture and 12 in forestry. If the deer forest were let and developed fully as a sporting subject the number of deer

killed would be restricted to 20 stags and 20 hinds. This would bring in a revenue of about £250 but expenses in the form of keepers' wages and other maintenance expenditure would exceed £700 leaving a deficit of £500 per annum. The increased stock of deer to provide and maintain a kill of 20 stags and 20 hinds on this forest would involve a quite drastic reduction in sheep stocks on the higher hills.

Estate B (Mainland) is situated in predominantly deer forest country. The total acreage of this forest is 35,650 and rental £212. Present stocking is 4,600 ewes and 158 breeding cows, owned by some 20 crofters and 3 tenant farmers. Sporting interest is let in three sections, one to a sporting tenant who is permitted under the lease to kill 16 stags and 20 hinds annually. The other two sections are let to hotel owners who grant shooting facilities to guests. There is no restriction on the number of deer killed but the reduction in deer stock is proving to be inadequate. One keeper kept on the estate but additional labour employed in spring to reduce deer numbers because of encroachment on crofters' holdings by deer from neighbouring forests.

Management of Deer Forests

93. From the examination of these actual or typical examples we should be able to set down certain general principles and pursue one or two ideas. It has been pointed out that uses like forestry and hydro-electricity (involving the flooding of land for reservoirs) affect mainly the low-lying ground, leaving a good deal of the higher land untouched. It might seem that this should offer considerable scope for deer sport on these higher areas but, unfortunately, there is competition for the low-lying ground for winter feeding. It has been reckoned that for every acre below, say, 1,500 feet abstracted from agriculture some 10 acres above are rendered of little value for normal domestic stock. We think that the possibility of finding a fuller use for the higher ground should be specially followed up. The possibility of 'farming' deer, with a measure of manual feeding, should not be excluded. In any case, where forestry is being developed and where the primary use of the surplus land should be for sport, care should be taken to ensure that there is access to winter feeding ground and that there is enough of the latter to support a reasonable deer stock. This leads us to a further point, namely when deer forests are being disposed of, they should not be sold without wintering ground for the deer stock (or at least without ensuring that such wintering ground can be provided). This is of particular relevance to acquisitions of large tracts of land by the Forestry Commission which, in some cases, may leave remnants of deer forest incapable of proper management. We suggest that in such

cases the Forestry Commission should acquire the whole estate and that it should continue to be managed as a unit. Also that the shootings and fishings should not be leased to the sellers.

94. The limitation of the enjoyment of deer sport to a small number of people having access to private estates has led to insufficient recreational use being made of these areas of land. We feel that on all grounds - economic and social - it is desirable that such facilities should be available to a wider public, including particularly tourists interested in this kind of sport. It should be possible for tourists to have access to deer sport, on a flexible basis, as is available in the case of fishings. Obviously, estates in the hands of Government Departments and Authorities suggest themselves as possible subjects for experiment in this direction. We recommend that a number of such estates should be set aside and managed in this way, with a proper warden service, and providing shootings for varying periods, with all equipment provided, at set prices.

95. Conversely, acquisitions for forestry should not be considered in the narrower context of tree planting, but should be considered as estates to be acquired for combined purposes of agriculture, forestry, sport and recreation (we return to this point later).

Marauding Deer

96. We have mentioned our view that in some cases 'deer shootings' are really marginal adjuncts of sheep farming enterprises. In such cases, we think serious consideration should be given to the desirability of killing off the deer, which should be regarded essentially as marauders on farming land. More generally, it would seem that the Red Deer Commission, who have already done excellent work, could do still more effective work if they were given additional powers to initiate measures of control in areas where a better balance of deer and agricultural stock is desired. The general objective in all this should be

- (a) To distinguish the areas which are essentially and primarily deer forests from those which are primarily and essentially agricultural lands and to deal with the deer situation accordingly;
- (b) To open up selected deer forests to a wider range of public with benefit to tourism;
- (c) To find the best means of securing sufficient, but not more than sufficient, winter feed for the deer stock; and
- (d) To ensure reasonable access to points of scenic beauty for members of the public, without undue interference with deer sport. (This might mean in some cases clearance of deer from selected areas, or at least a decision to sacrifice deer sport in favour of access.)

SPORT - FISHING

97. No-one can have any doubt as to the importance of salmon and trout fisheries in the Highlands; where these natural resources are richly provided they offer development potential for tourism and, in some areas, represent commercial enterprise of considerable financial and employment value. The Panel have accordingly submitted views to the Committee on Scottish Salmon and Trout Fisheries, and the following paragraphs largely reproduce the considerations set out in their evidence.

Salmon

98. Salmon has a high commercial value and also a scarcity value and the availability of salmon angling has a very important role for the tourist industry in the Highlands and Islands. This benefit to income and employment is of especial importance and the full potential of salmon rod fishing as a tourist attraction should be developed and made available to visitors at the lowest practicable cost. A harmonious relationship at local level between fisheries proprietors, landlords and those with an interest in the development of the tourist industry is essential and we recommend the setting up of effective local machinery to bring together all the interests concerned.

Trout

99. Similarly, we consider that there is a great scope for expansion of trout fishing, particularly on lochs, as a valuable asset to the tourist industry. The existence of statutory protection provides an incentive to owners of salmon fisheries rights to develop their fisheries but no similar protection exists for trout fisheries. Because of the risk of damage to stocks by indiscriminate and uncontrolled fishing there is little hope of this asset being fully realised because inevitably it tends to restrict expenditure on maintenance and improvement of stocks and on the provision of fishing facilities. We are satisfied that there is a need for some statutory provision governing preservation, protection and control of trout fishings with means of enforcement and we recommend that a scheme should be introduced for voluntary registration of trout fisheries which would involve obligations and responsibilities as well as conferring protection.

Statutory Protection

100. It is further recommended that the Secretary of State for Scotland's general superintendence of salmon fisheries in Scotland

should be extended to include trout fishing on inland waters; that statutory protection of salmon and regulation of salmon fishing should continue and that similar protection should be afforded to trout in registered trout fisheries which should also be subject to regulation; that the primary administration of salmon rivers and/or registered trout fisheries (both river and loch) should be vested in district fishery boards; and that each district board should include elected representatives of various interests including a representative(s) appointed by the Secretary of State for Scotland. It is considered that the district fishery board should have the following powers:-

(a) To make Byelaws and/or Regulations (which would be subject to approval by the Sheriff(s) of the county(ies) concerned) for the protection and regulation of salmon and registered trout fisheries within its district.

(b) To employ a water bailiff (or bailiffs) to secure observation of the statutory protection measures and the board's Byelaws or Regulations. Such officials should have limited powers of search and arrest similar to these now held by bailiffs appointed by district salmon fishery boards.

(c) To prosecute (with the concurrence of the Procurator Fiscal) cases of poaching, fishing by illegal means or during close season and breaches of its Byelaws and/or Regulations.

(d) To levy rates on owners of salmon and registered trout fisheries within its district (possibly with provision for the local assessor to determine the rateable values, if not otherwise agreed).

(e) To carry out measures for the general improvement of the fisheries in its district, e.g. restocking, the removal of obstructions to open up new spawning grounds etc. (This power should be made subject to an appropriate procedure to enable interested parties to lodge objections, for hearing of these objections, for determination as to the overriding considerations and for awarding compensation as appropriate.)

Research

101. Although much research has already been undertaken into effects of hydro-electric development on freshwater fisheries, it is nevertheless recommended that funds should be made available for further research into the mixing of waters and variation in water levels in particular. Very little evidence is available of the habits of salmon and trout and research into this whole question,

perhaps ideally throughout the length of any river that may be available for this purpose, should be undertaken. The results of the research should be made available to the relevant authorities concerned with fishery protection and the development as well as to the organisations responsible for hydro-electric generation and water authorities generally.

Compulsory Acquisition of Fishing Rights

102. In view of the importance of salmon and trout fishing to the tourist industry in the Highlands it is further recommended that, as an ultimate sanction, the Secretary of State for Scotland should have powers for compulsory acquisition of fishing rights (with access as necessary) in the event of it being established by public inquiry that lack of access for visitors to the fishings in question is retarding development of the tourist industry in the area concerned. Administration and management of any fishing rights so acquired might appropriately be entrusted to district fishery boards.

Forestry Commission's Fishing Rights

103. A further point we should make concerns the fishings on land acquired by the Forestry Commission. We understand that in many cases the fishings have been let for long terms, to the seller or, more recently, to angling clubs. We recommend that the former practice should be reviewed, and that wherever possible such fishings should be retained in the Secretary of State for Scotland's hands for disposal in the best interests of the community, including availability for tourists.

RECREATION

104. There remains for consideration under this section the question of the availability and use of land for recreational purposes. In this matter we would distinguish between the recreational uses which involve an intensive and highly localised use of land and other forms of recreation which require extensive areas of land. In the former category there are activities such as tennis, putting, bowling, and the provision of local scenic viewpoints. In the latter category there are the wider ranging activities of hill walking and climbing, ski-ing, mountaineering and, on water, yachting and boating. (Golf, as a recreational activity, probably falls between the two categories, but on balance we would put it into the intensive local category of use).

105. We think this distinction is of some importance, because taking the Highlands and Islands generally we would not regard the

activities of the first category as presenting any special problems. Land is no doubt difficult to obtain for these purposes in certain areas but we do not see that the provision of adequate facilities in most localities need cause insuperable difficulties. In any case the existing processes of planning and other controls provide suitable safeguards against the improper allocation of land. Since golf courses take up somewhat more land than is required for the general run of 'intensive' recreational activities, the provision of golf courses probably raises more difficulties. We feel, however, that this ought not to prevent the provision of golfing facilities in most Highland localities. This is a form of recreation which is admirably suited for Highland holidays and for a very wide range of tourists. Every tourist centre of any significance in the Highlands and Islands should be equipped with a golf course and we recommend that this should be given urgent attention by the Local Authorities and Tourist Associations concerned.

Facilities for Recreational Activities

106. The provision of facilities for 'extensive' recreational activities is of perhaps greater importance in relation to land use generally. In this context, the value of land for recreational and tourist activities can be considered under the following heads -

- (a) Nature - viz., geology, vegetation and wild life;
- (b) Sport and fishing (already dealt with);
- (c) Walking, hill walking and climbing;
- (d) Other recreational activities such as pony-trekking, sailing, skiing and water skiing.

107. For the most part, it is necessary and desirable to approach these aspects and uses of land in the Highlands comprehensively. There are certain areas, such as the Cairngorm area with its development for winter sport, which lend themselves to planned, comprehensive study and development. The number of areas which might lend themselves to comparable comprehensive development in the Highlands is relatively limited, and we recommend that these should be identified and made the subject of special studies on the lines of that now being made of the Cairngorm area of the Eastern Highlands. Throughout the Highlands generally, however, there is a need for a systematic study and constructive action to establish suitable arrangements under which tourists and others may have access to and use of the land for recreation.

Nature Activities

108. A number of areas - see Appendix H - have been designated as nature reserves or as areas of special scientific interest, and activities within these areas are subject to rules laid down by the Nature Conservancy. We see no reason to suggest any substantial variation in these arrangements. There is, generally, a reasonable degree of access with safeguard of the special natural interest. We consider, however, that more areas should be identified and designated not necessarily as nature reserves in the full sense but rather as areas accessible to persons interested in the study and operation of nature. This would be designed to cater for the very large number of people who have an interest, though not necessarily a scientific or highly informed interest, in natural conditions. Within such areas there should be special provision of paths, indicators. The possibility of developing 'nature trails' on the lines so successfully followed in the National Parks of Canada and the United States should be actively pursued. The Forestry Commission have also started marking out and attracting the public to use forest walks. In addition, there is an acute need for more published information by way of guide books, leaflets and maps, and where tourist information centres are established they should, if possible, include a special section dealing with information about nature reserves, and the vegetation and wild life of the area.

Walking

109. The requirements in this connection are easily identified. Access should be, where possible, by means of identifiable footpaths, which should be suitably signposted. In addition, notes of guidance to users of such access paths should be posted or otherwise made available. These would include, for example, advice as to the need to avoid disturbance of game at certain seasons. Where footpaths or tracks are scheduled, they should be completed by the erection of footbridges where this is necessary. Again, there should be full information in published documents, and guidance at local tourist information centres. A good deal more is required, also, by way of provision of camping sites. These should be selected not only for their functional qualities, but also to be as unobtrusive as possible.

Other Recreational Facilities

110. One of the most spectacular developments has been the increase in pony-trekking throughout certain parts of the Highlands. So far this has been left mainly to the initiative of hotels, though the Scottish Council of Physical Recreation have arranged courses of instruction. The possibilities of extending this form of recreation

to completely new areas should be pursued. We have in mind, in particular, the Western Isles. Physical requirements for this form of recreation include the designation of bridle paths. Such designation should ensure that these paths remain open and not subject to closure at the will of a particular landlord. We doubt whether in this newer area this activity can be left to the initiative of local hoteliers (since hotels are fewer in number). This is a matter on which we suggest the Scottish Council of Physical Recreation might play a more direct part, by taking responsibility for the actual organisation of the ponies and the treks. So far as other recreational activities are concerned (mainly sailing, skiing and water skiing) we commend the activities of the Scottish Council of Physical Recreation and recommend that they extend their activities into those parts of the Highlands likely to experience substantial increase in tourist traffic.

Sailing

111. There is one particular aspect of sailing activities to which we think attention should be given. These have considerable potential but there is a serious lack of land facilities for their support. Without landing and harbour facilities of even a relatively primitive kind these forms of recreation cannot develop, and certainly not in competition with areas, inherently no more attractive, in the south. Yet the enormous congestion of south coast harbours and the higher charges exacted give real opportunities for success in developing Highland waters. We accordingly recommend that supporting facilities (landing and harbour) for sailing and fishing should be provided as required.

Planning & Publicity

112. Obviously, much of the initiative in the identification and designation of paths for access to areas of scenic beauty or natural attraction must rest with the local planning authorities, with the assistance of the district councils. We recommend however, that this task should be undertaken comprehensively, in consultation with the Scottish Council of Physical Recreation and the Central Departments. We recommend that a joint working group should be set up to plan the operation and to progress the work of identification and designation. They would also consider the further question of publicity, publication of guide books, equipping of information centres etc.

113. A particular aspect of this whole question of access arises in relation to the Forestry Commission's estates. These are very often located in areas of scenic attraction. The Commission have

had to provide, for their own purposes, roads through the forests, but these are usually barred to outside wheeled traffic. We commend the policy of the Forestry Commission generally to close roads to cars with the exception of rallies and organised visits but to provide access for other tourists. Their policy should however be kept under review in the light of forestry and tourist development. We recommend that as a general principle the Forestry Commission should arrange for the opening to tourists of roads to places of scenic beauty, under such conditions as they may reasonably find necessary; with access for wheeled traffic continuing to be strictly controlled. It may well be that in some areas the Commission would be justified in making charges for access and for car parks and we see no reason why, where that is practicable, the Commission should not be enabled to obtain a reasonable return.

Encouragement of Tourism on Crofts

114. Another aspect of tourism and recreational activities, which is of particular importance in the remoter parts of the Highlands and Islands, is the use by crofters of their croft land for non-agricultural activities in connection with tourism. The Crofters (Scotland) Act, 1961 enabled crofters to use their crofts, within reasonable limits, for non-agricultural purposes, to erect buildings in connection with these activities and to obtain compensation at outgo for such permanent improvements. The Crofters Commission have shown a keen awareness of the opportunities which this extension of crofters' rights opens up, and we commend the efforts which they have made to ensure that these opportunities are fully understood and seized by the crofting communities. The provision of accommodation in the croft dwellinghouse for tourists has been long accepted as a legitimate crofting activity. The rapid development of tourism in the Highlands, however, calls for much more than the use of the odd bedroom. The Department of Agriculture's Building Grants and Loans Scheme has now been extended to include the provision and improvement of croft accommodation for tourist purposes, including loans for the erection of chalets. The new Treasury Loan Scheme for small enterprises in the Highlands and Islands, administered through the Highland Fund, should enable crofters to participate in the tourist trade in other ways (tearooms, craft workshops etc). It is, in our view, fortunate that much of the main tourist development in the crofting areas will be in those districts where the agricultural potential of the croft is relatively small and where the provision of non-agricultural occupation is of special importance. We recommend that the various schemes to assist crofters wishing to participate in the tourist trade should be administered as flexibly and generously as possible in the interests both of the crofters concerned and as a fruitful form of land use.

INDUSTRIAL AND 'URBAN' USES.

115. The land uses to be considered in this context include the provision of sites for industrial development, for housing, schools and other public services, roads and hydro-electric development. Apart from the last-mentioned use, the requirements for these various purposes are highly localised, the choice for siting within the area concerned being generally limited by very specific siting conditions, and the issues that arise, so far as land use is concerned, are fairly clear cut. In almost every case, the issue that arises is one of change of land use rather than of intensification within the same category of land use (as, for example, might apply in the intensification of agricultural use). There are, moreover, well-established statutory procedures applying both to the general forms of plans for the use of designated areas and also for the consideration of particular projects involving a change of land use. Under the Town and Country Planning (Scotland) Acts local authorities are required to submit to the Secretary of State for approval development plans showing how they propose that the land in their district should be developed and used for the various purposes, and these plans are subject to periodical review and revision if necessary. Full opportunity is given for the submission of objections to published plans (or to alterations in these plans) and we have no doubt that these arrangements sufficiently safeguard against possible mis-use of land. Again, developments (other than minor developments) by local authorities themselves are subject, in one way or another, to the Secretary of State's approval, and this ensures that the possible effects on other interests are taken into account.

Development of Natural Resources

116. So far as use for industrial development is concerned, we can distinguish between factory industries (not using the natural resources of the area) and industries based on the exploitation of the natural resources. For the former, no special difficulties arise. Generally speaking a person seeking to establish an industrial enterprise in the Highlands will be enabled to find a site to suit his requirements as far as possible. The development of industries based on local resources raises somewhat different considerations. Generally speaking, such enterprises will be for the exploitation of natural resources. The nature and extent of natural resources in the Highlands and Islands tend to be under-estimated. These are summarised in Appendix I. We welcome the attention which the Scottish Council (Development and Industry) are continuing to

give to the possibilities of exploiting these natural deposits and to the collection and dissemination of information about them. It is, unfortunately, true that in many cases there are special difficulties either of remoteness of location or quality of the deposit (making special processing necessary in some cases) but we recommend that in all cases where the deposits exist, *prima facie*, in sufficient quantity and quality, the possibilities of exploitation should be effectively investigated. We believe that it is not good enough to leave the initiative in this respect to private concerns (who may have other preoccupations and who may find alternative sources of supply convenient). We recommend, therefore, that the means of investigating these natural resources should be given early attention by the new Natural Resources Council when it is established. Such investigation should include not only the scientific and physical aspects of exploitation, but also the probable economics. We understand that powers are already available (e.g. under the Town and Country Planning (Scotland) Acts) to enable the authorities to enter into private land for the purpose of surveying mineral deposits (and extracting the sample quantities as necessary).

Other 'Urban' Uses

117. We do not see any special difficulties arising in regard to the other 'urban' uses. The programme of Hydro-electric scheme construction has now been substantially overtaken, and there are, in any case, sufficient safeguards written into the statutory procedures, to ensure that a due balance of interest is preserved. Though the construction of roads may involve a conflict of land use (e.g. where the line of road passes through good quality farming land) the importance of good roads is such that we consider the advantages generally to outweigh any loss from agriculture, forestry or sport.

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

118. This survey makes clear that we regard land as of absolutely basic importance to the economy of the Highlands. In comparison with, say, central Scotland, where the emphasis is on the development of manufacturing industries and purely urban operations, the 'extensive' use of land in the Highlands and Islands mainly for agriculture, forestry, sport and recreation is bound to be a determining factor. Again, in contrast to conditions in central Scotland (and this is related also to the 'extensive' nature of economic activities in the Highlands) the numbers of population are relatively small. If the same number of people as are employed in one of the large factory developments in central Scotland were to find employment in the Highlands, it would make a decisive difference to a great many small communities. The nature of the contribution which the Highland economy makes and could increasingly make to the national economy is clearly of a different kind, and to be considered in different terms. But it is real and significant.

119. Our objective cannot simply be to make the fullest possible land use in the Highlands, without considering the cost. There must be a due balance of economic and social considerations. But clearly there is a good deal of under-used, and in some cases grossly mis-used, land in the Highlands. Much of this land could be better used. Highland and national interest requires that it should be. But that is only the beginning if real solutions are to be found. There must be active, practical measures to improve land use in the Highlands, on the lines we have thought out. No less positive plan for Highland economic development will work, and we cannot risk any further run-down.

120. Agriculture and forestry remain the vital 'key' means of achieving economic improvement and providing local employment. They must be co-ordinated. For agriculture, the aim must be to improve the quality of cultivation and husbandry and to strengthen the structure of the industry. Development and reorganisation ofcrofting agriculture are essential. The development of land acquired by the Forestry Commission but not required for forestry should be kept in the hands of the Secretary of State. Land reclamation and the creation of viable farming units to provide settlement for younger, active farmers on a selective basis are also necessary.

121. An imaginative and sustained programme of afforestation over the next twenty years is not only possible, but necessary. Compulsory acquisition for forestry will no doubt be needed (and should

not be shirked); and there should be greater readiness to plant entire estates where this would be advantageous.

122. As to the other 'extensive' uses of land and water - it is clear that the facilities could, and should, be made more widely available. Recommendations are made to these ends. Again, we think that more attention could be given to the part which can be played by land and water held in the Secretary of State's ownership. Changes must be made if the Highlands are to meet the challenge of continuing tourist trade.

123. If all this is to be effective, there must be changes in the arrangements for controlling and administering land affairs in the Highlands and Islands. What is required is a new, co-ordinated approach to the acquisition and management of land for afforestation. Such land should be acquired and administered as estate units, and not compartmentalised as it is at present. Estates should be managed comprehensively for agriculture, forestry and sport, according to the circumstances. At the least, this calls for a combination of the activities of the Department of Agriculture and Fisheries for Scotland and the Forestry Commission in these matters. We would not exclude the possibility of establishing a Department of Lands or other form of Lands Organisation as the proper solution.

Recommendations

124. Our detailed recommendations are set out in the following paragraphs:-

AGRICULTURE

- (1) That the Scottish Agricultural Organisation Society Ltd. should be enabled to strengthen and intensify their efforts in the co-operative field, particularly with regard to the marketing of livestock from the Islands, with appropriate financial support. (paragraph 22).
- (2) That more be done to ease and extend credit facilities for agriculturists in the Highlands and Islands (paragraph 25).
- (3) That the Crofters Commission take any necessary action to effect improvements in the crofting pattern using the existing statutory opportunities by enlargement, and bringing in non-crofting land where necessary. Such measures to be matched with more effective inducements to crofters concerned (paragraphs 32 and 45).

- (4) That consideration should be given to extending the loans at present available (by raising the upper limits and applying them more flexibly) and to providing loans, on a limited scale, to supplement grants in respect of large regeneration schemes (paragraph 34).
- (5) That crofters cropping grants should be extended to include conserved grass (paragraph 35).
- (6) That special attention should be given to the subsequent management of improved crofters common grazings (paragraph 35).
- (7) That the fullest publicity should be given to the facilities available under the Crofters Building Grants Scheme and that the scheme should be administered as flexibly as possible and with regard to the wider requirements of the crofter (paragraph 37).
- (8) That the Government's policy in regard to the selling off of agricultural land remaining from forestry acquisitions should be reversed and that such estates should be managed (including forestry and agriculture) as a unified land management task (paragraph 46).
- (9) That the Secretary of State for Scotland should exercise his existing powers and acquire suitable land for the creation initially of a limited number of family farms in areas of special need (paragraph 47).
- (10) That the Panel should continue its study of land reclamation in Highland conditions and make further specific proposals (paragraph 50).
- (11) That the Scottish Agricultural Organisation Society Ltd. should consider whether further efforts might be made to encourage group reclamation schemes in conjunction with the formation of machinery syndicates (paragraph 53).
- (12) That the improvements being undertaken at Dalchork Farm be continued until full results can be demonstrated (paragraph 54).
- (13) That, initially, two schemes of land reclamation each of, say, 500 acres should be set in hand by the Government (paragraph 55).
- (14) In certain circumstances land should be acquired by the Secretary of State for Scotland for improvement by efficient farmers (paragraph 56).

(15) That a programme of special planting in declining crofting communities - mainly along the Western and North Western seaboard including the outer and inner Hebrides - should be separately provided and, to ensure an adequate approach, separate arrangements for financial accounting of such operations be made within the Forestry Fund (paragraph 68).

(16) That the Forestry Commission and the Department of Agriculture and Fisheries for Scotland should give special attention to the question of making surveys of areas with a view to opening up possibilities of smaller scale planting, both in areas in which the Commission are already operating and in fresh areas (paragraph 70).

(17) That the Forestry Commission and other interested bodies should suitably publicise the help available for planting under dedication and other grant-aided schemes. It is further recommended that tenant farmers should be eligible for the grant of £22 4s. 0d. per acre of planting, subject to suitable safeguard of the landlord's interest (paragraph 72).

(18) That the existing rate of planting by the Forestry Commission in the Highlands be increased to at least 20,000 acres per annum, in addition to private planting at the rate of about 3,000 acres per annum (paragraphs 67 & 74).

(19) That the Secretary of State should as necessary use his powers of compulsory acquisition in the Highlands and Islands, both to ensure the fulfilment of the total planting targets and to bring into productive use under-used land, particularly in areas of social and economic needs. Further that the statutory procedure for compulsory acquisition of land for forestry be reviewed and amended as necessary to make it more flexible and less narrowly based (paragraph 74).

(20) That in areas where further or faster planting could and should be carried on, the Forestry Commission and the Scottish Development Department should, together, actively take up with the local authorities where necessary the possibility of supplementing their building programmes (paragraph 77).

(21) That the Forestry Commission should continue and develop, as far as is possible, their policy of doing the maximum amount of work on piecework rates (paragraph 78).

(22) That the retention and settlement of families as an essential requirement of the estate forestry programme cannot be over-emphasised and unless the use of timber merchants in the

Highlands leads to settled employment, the Forestry Commission should discontinue this policy and take on the work themselves (paragraph 79).

(23) That consideration should be given to the strengthening of the provisions in Section 12(3) of the Crofters (Scotland) Act, 1955, for example to require the Scottish Land Court not to withhold authority for resumption of land where the proposal has the approval of the Crofters Commission and the Secretary of State for Scotland has certified that it is in the public interest. Adequate inducements should also be given to crofters to encourage them to accept forestry on their Common Grazings (paragraph 82).

(24) That the suggestion by the Skye Crofters Union for greater compensation to facilitate the improvement of the remainder of common grazings (after abstraction of parts for forestry) should be followed up, and that the implications of the more far-reaching suggestion by the Lochaber Crofters Union be considered in the light of the Crofters Commission's study of it (paragraph 82).

SPORT AND PHYSICAL RECREATION (INCLUDING TOURISM)

(25) That a number of estates in the hands of Government Departments and Authorities should be set aside and managed in such a way that tourists interested in deer sports should have access to such land. Further, that a proper warden service should be provided and shootings made available for varying periods with all equipment provided, at set prices (paragraph 94).

(26) That effective local machinery should be provided to ensure a harmonious relationship between fisheries proprietors, landlords and those with an interest in the development of the tourist industry to enable the full potential of salmon rod fishing as a tourist attraction to be developed and made available to visitors at the lowest practicable cost (paragraph 98).

(27) That a scheme should be introduced for voluntary registration of trout fisheries which would involve obligations and responsibilities as well as conferring protection upon owners of trout fisheries (paragraph 99).

(28) That the Secretary of State for Scotland's general superintendence of salmon fisheries in Scotland should be extended to include trout fishing on inland waters; statutory protection of

salmon and regulation of salmon fishing should continue and similar protection should be afforded to trout in registered trout fisheries which should also be subject to regulation; the primary administration of salmon rivers and/or registered trout fisheries (both river and loch) should be vested in district fishery boards; and each district board should include elected representatives of various interests including a representative(s) appointed by the Secretary of State for Scotland (paragraph 100).

(29) That funds should be made available for further research into mixing of waters and variation in water levels in connection with the development of freshwater fisheries (paragraph 101).

(30) That, as an ultimate sanction, the Secretary of State for Scotland should have powers for compulsory acquisition of fishing rights (with access as necessary), in the event of it being established by public inquiry that lack of access for visitors to the fishings in question is retarding development of the tourist industry in the area concerned (paragraph 102).

(31) That the practice of the Forestry Commission to let fishings for long terms to the seller of land acquired for afforestation, should be reviewed, and that wherever possible such fishings should be retained in the Secretary of State for Scotland's hands for disposal in the best interests of the community, including availability for tourists (paragraph 103).

(32) That certain areas of the Highlands which might commend themselves to comprehensive development, e.g. for winter sport, should be identified and made the subject of a special study on the lines of that now being made of the Cairngorms area of the Eastern Highlands (paragraph 107).

(33) That the Scottish Council of Physical Recreation should extend their present activities into those areas of the Highlands likely to experience a substantial increase in tourist traffic (paragraph 110).

(34) That supporting facilities (landing and harbour) for sailing and fishing should be provided as required (paragraph 111).

(35) That the identification and designation of paths for access to areas of scenic beauty or natural attraction should be undertaken comprehensively by local planning authorities, assisted by district councils, in consultation with the Scottish Council of Physical Recreation and Central Departments; and

that a joint working group should be set up to plan the operation and progress of this work as well as considering further questions of publicity, publications of guide books, equipping of information centres, etc. (paragraph 112).

(36) That as a general principle the Forestry Commission should arrange for the opening to tourists of roads to places of scenic beauty, under such conditions as they may reasonably find necessary; with access for wheeled traffic continuing to be strictly controlled (paragraph 113).

(37) That the various schemes to assist crofters desirous of participating in the tourist trade, should be administered as flexibly and generously as possible in the interests both of the crofters concerned and as a fruitful form of land use (paragraph 114).

INDUSTRIAL AND 'URBAN' USES

(38) That in all cases where deposits of natural resources exist *prima facie* in sufficient quantity and quality, the possibilities of exploitation should be effectively investigated (paragraph 116).

(39) That the means of investigating these natural resources should be given early attention by the new Natural Resources Council when it is established and that such investigation would include not only the scientific and physical aspects of exploitation but also the probable economics (paragraph 116).

GENERAL

(40) That the comprehensive question of land use should be reviewed within 5 years (paragraph 13).

JOHN CAMERON *Chairman*

TOTAL AGRICULTURAL AND CROFT ACREAGES

(at 4th June, 1963 (a))

Acres

County	Total Area of Land (b)	AGRICULTURAL LAND (including Croft Land)				CROFT LAND ONLY			
		Crops and Grass	Rough Grazings (c)	Common Grazings	Total Crops, Grass and Grazings	Crops and Grass	Rough Grazings (c)	Common Grazings (a)	Total Crops, Grass and Grazings
Argyll	1,860,321	89,307	1,075,621	55,005	1,819,933	11,896	47,110	48,500	107,806
Caithness	438,928	85,022	294,169	25,481	400,672	30,539	39,309	15,400	85,238
Inverness	2,625,094	124,225	2,031,560	305,605	2,461,406	68,790	134,019	438,300	651,009
Orkney	240,848	111,922	74,001	1,478	187,431	17,155	14,861	-	32,016
Ross & Cromarty	1,877,254	132,009	1,331,961	447,359	1,901,319	29,948	32,187	454,300	516,435
Sutherland	1,207,820	27,832	976,272	195,966	1,200,180	14,903	81,087	258,000	354,000
Shetland	352,337	20,758	135,272	108,411	352,419	15,181	61,990	132,000	209,171
Crofting Counties	8,922,800	689,113	6,498,868	1,225,405	8,335,472	177,810	409,942	1,394,400	1,981,852
Rest of Scotland	10,076,006	3,707,228	4,652,132	25,028	8,385,488				
Scotland	18,068,806	4,306,371	11,150,998	1,246,500	16,705,965				

- (a) Figures from Agricultural Returns except for Croft Land Common Grazings acreages obtained from Crofters Commission.
 (b) Excludes inland water, tidal water and foreshore. As at 31st December, 1962, from information supplied to Scottish Development Department by Ordnance Survey.
 (c) Includes Deer Forest land situated within the farming unit.
 (d) Since Common Grazings are subject to widely varying conditions as to their regulation, and to their use, in some cases, by both crofters and others, the figures in these two columns headed 'Common Grazings' are not comparable in their detailed contents.

FORESTRY

PLANTING - OFFICIAL and PRIVATE
(at 30th September, 1963)

Acres

	Forestry Commission			Private Estates			Total		
	Area Planted	Area In Hand	Total	Area Planted	Area In Hand	Total	Area Planted	Area In Hand	Total
Argyll	114,700	85,600	150,300	54,600	10,800	44,800	148,500	45,600	194,100
Caithness	1,534	900	2,434	700	250	950	2,234	1,150	3,384
Highland	82,471	18,900	101,371	35,500	65,900	121,400	127,971	84,800	222,771
Orkney	-	-	-	-	-	-	-	-	-
Shetland and Orkney	55,217	5,181	59,378	19,100	28,600	61,900	72,517	28,961	111,278
Southland	15,000	5,900	22,898	10,000	8,500	19,100	28,468	15,460	41,928
Scotland	-	-	-	-	-	-	-	-	-
Total	287,788	65,581	350,309	120,500	117,650	238,150	388,288	188,151	574,439

FORESTRY

RURAL DEVELOPMENT SURVEYS

Acres

Name of Survey	Total area surveyed	Total plantable area	Plantable area recommended for forestry by Department of Agriculture and Fisheries for Scotland to date	Plantable areas acquired by Forestry Commission or approved for acquisition since Survey was started
Applecross Parish	109,500	5,500	4,400	-
Ardsairurchan	45,500	7,200	4,800	-
Arinsig & Moidart	48,000	8,200	5,600	-
Asayne Parish	119,000	5,300	2,100	-
Beinnacara Peninsula	14,000	4,900	2,400	319
Cairloch Parish	222,000	8,400	5,400	789
Jura	100,000	6,200	3,800	1,215
Kintyre	47,600	14,900	4,400	3,641
Mull	200,000	29,300	17,000	8,254
Skye	249,100	30,800	15,400	4,023
Spey (Inverness-shire)	430,000	180,400	86,600	8,173
Spey (Moray & Nairn)	230,000	76,700	66,800	35,889
Strathgairn	222,600	44,500	25,900	18,159
Sutherland (East and North)	600,000	88,700	53,400	8,503
Sutherland (North-west)	379,000	14,200	7,400	-
Tay	190,000	53,800	14,000	3,756
Ullapool	250,000	9,400	6,800	1,066
	3,087,900	554,200	314,700	89,435

DEER FORESTS IN THE HIGHLANDS AND ISLANDS
(at 4th June, 1957)

County	No. of Deer Forests	Acres				Stock	
		Area	Area of deer forests returning stock	Estimated grazable area in deer forests	Estimated grazable area in deer forests returning stock	Sheep	Cattle
Argyll	22	279,231	217,520	129,529	105,979	15,567	65
Caithness	5	59,174	56,005	40,912	40,120	-	3
Inverness	52	905,449	710,692	324,106	301,508	36,058	363
Ross and Cromarty	50	743,846	687,323	242,101	217,601	24,256	275
Sutherland	20	248,966	221,696	125,243	112,179	9,710	270
Total	147	2,235,666	1,945,539	858,993	775,187	94,191	1,068

TOTAL POPULATION IN HIGHLANDS AND ISLANDS
AND NUMBERS OF WORKERS EMPLOYED IN
AGRICULTURE AND FORESTRY

County	✓ Total Population	* Employed in Agriculture			δ Employed in Forestry Full-time	α Employed by Forestry Commission Full-time
		Full-time	Part-time	δ Total		
Argyll	60,385	1,615	213	1,828	1,037	829
Caithness	28,447	775	89	864	11	9
Inverness	81,933	1,631	215	1,846	657	525
Orkney	18,491	1,136	160	1,296	-	-
Ross and Cromarty	57,406	1,920	285	2,205	490	308
Sutherland	13,194	372	50	422	166	108
Shetland	17,525	272	137	409	-	-
Total	277,381	7,721	1,149	8,870	2,381	1,779

✓ Estimated resident population at June, 1963

* At 4th June, 1963

δ Census returns 1961

α At 30th September, 1963

δ These figures do not include some 4,000 occupiers of full-time farms and nearly 21,000 occupiers of other agricultural units (mainly crofts)

ISLAND OF MULL - AGRICULTURAL PROBLEMS

1. Mull can, for convenience, be divided into three fairly distinct areas which more or less coincide with the division of the island into three parishes. The Ross of Mull area which comprises the bulk of the parish of Kilfinichen and Kilvickeen held, and still holds, practically all the real crofts in the island; the mountainous area south of the narrow neck between Loch na Keal in the west and Salen bay in the east comprising the parish of Pennygow and Torosay held, and still holds, the large "in hand" deer-forest sheep-farming subjects of 10,000 - 30,000 acres; and the northern area, the parish of Kilninian and Kilmore, used to hold the bulk of the smaller tenanted farms. The "lay out" of this area has however altered in that two of the larger estates have in recent years changed over from comprising about half a dozen tenanted farms each to taking these places in hand and farming the whole estates more or less as one unit. Statistical details of the agricultural holdings in Mull are as follows.

Agricultural Holdings in Mull
at 4th June 1963

	<u>Parish of</u> <u>Kilfinichen</u> <u>and Kilvickeen</u>	<u>Parish of</u> <u>Kilninian and</u> <u>Kilmore</u>	<u>Parish of</u> <u>Pennygow</u> <u>and Torosay</u>	<u>Total</u>
No. of Holdings	113	88	59	260
Acreage of Crops and Fallow	270	490	139	989
Acreage of Crops and Grass	2,102	2,786	824	5,712
Acreage of Rough Grazings	44,221	61,114	83,087	188,422
Acreage of Common Grazings (information not included in occupier's returns)	10,262	2,330	391	13,003
Dairy Cattle	35	70	79	184
Beef Cattle	1,434	1,778	871	4,083
Sheep	22,348	30,820	25,897	79,063

The following details of crofts at 30th June, 1964 have been obtained from the Crofters Commission.

<u>No. of Crofts</u>	<u>No. of Crofters</u>	<u>Crofting Area</u>
158	141	2,114 acres crops and grass
		9,517 acres outrun
		10,298 acres common grazings

2. Agriculture is the main industry with forestry growing in importance and filling to some extent the gap caused by the decline in inshore fishing and the loss of employment which used to be afforded by the distillery at Tobermory.

3. Agricultural production is in the form of livestock rearing (cattle and sheep). This production is surprisingly good and is expanding alongside the considerable allocation of land to forestry and the fact that some of the estates are maintained mainly for sport. The expansion in production is due in considerable measure to the activities of three large producers.

4. The following comparison of agricultural returns for June, 1938 with the returns for June, 1963 show clearly the extent of the expansion in agricultural production which contrasts with the decline in employment provided by agriculture.

	<u>1938</u>	<u>1963</u>	
Cattle of all kinds	2,869	4,267	50 per cent increase
Sheep, including lambs	51,318	79,063	55 per cent increase
Total agricultural labour employed in three parishes of the Island: Pennygowan, Kilninian and Kilfinichen	239	143	Reduction of 40 per cent

5. The result of this division is that one finds three fairly distinct sets of conditions within the island. In the Ross of Mull one finds, not only in the agricultural background but in the social background also, a fairly typical crofting community who tend to look after their own community interests and make their own entertainment.

6. In the area comprising the large deer forest estates there is perhaps less cohesion of interests.

7. As indicated, the pattern is changing in the northern area with the advent of amalgamation of smaller farms into "in hand" estatee, and afforestation. There are few social activities outside the Burgh of Tobermory, which is within this area, and agricultural organisations have disappeared or have amalgamated with the Pennygown and Torosay area organisations.

8. Afforestation in the Pennygown and Torosay parish has been largely on portions of large in-hand properties and there has been no real "clearance" of whole units but, in the north, individual family units have been cleared and this along with amalgamation of family units has resulted in a very obvious reduction in the number of working farmers in the area. This is of course part of a process which went on slowly for some generations but the past 10-15 years have shown a sudden acceleration of the process and the lack of this class of farmer is now very evident.

9. Agricultural production in Mull is almost without exception confined to production of store sheep and cattle. A few breeding cattle in the form of cross-bred heifers are produced for sale and cast ewes sold may or may not go for crooeing in the South but the income from these is a very small proportion of the total which comes from sales of wedder lambs, a few 1 year and 2 year widders and young cattle (sold either as calves or yearlings) all of which go south for fattening.

One farm is run as a purely dairying enterprise, two others are small - part dairying/part stockrearing and one has pedigree Aberdeen Angus and pedigree Galloway herds.

10. It is clear that in its present state the agricultural prosperity of Mull depends largely on (a) ability to produce winter keep for hill cows (unless hay can be bought in for no more than around £12 per ton delivered on the island) and (b) management of hill sheep to produce lamb and wool crops at an economic level which is affected considerably by the variable market for store sheep.

(a) There are few farms on Mull which can produce sufficient winter keep for the number of cows which the grazings can summer and there would appear to be a tendency to overstock with cattle - which, in a bad hay-buying year, means that either the cows

suffer from malnutrition or so much hay is bought that there is a loss on the cattle enterprise. Conversely, development of land (e.g. by reclamation) capable of growing winter keep would improve the present imbalance between summer grazing and winter keep.

(b) Partly due to efforts to increase stock on low stocked grazings and poor prices for cast ewes there appears to be a tendency to keep a high proportion of over age ewes. Given a mild winter this may pay but in a severe winter such as 1961/62, the outcome is an exceptionally high death rate and exceptionally low lamb crops and wool clips. This is particularly so where the grazings are overstocked for then the younger sheep suffer equally badly and the loss becomes really serious both from the point of view of cash returns and maintenance of stock numbers.

11. In spite of increasing benefits from modern dips and drugs which, when used properly, can overcome most common sheep diseases, lamb marking percentages in Mull do not seem to have increased. There are far too many flocks where 55%-60% lambs marked is still regarded as good enough when it should be possible to save another 20%. This would mean an increase in receipts of at least £150 - £200 per annum on the "family" type farm.

12. There is little doubt that more efficient farming is required if the industry is to survive in Mull but it is felt that the social background prevents increased efficiency. Some farms are coming into the hands of people with little agricultural experience; during the spring and summer of 1962, five such subjects changed hands. The adverse publicity on agricultural conditions on Mull probably deters practical farmers from establishing themselves there, and yet when knowledgeable people visit the island they are impressed with the possibility of the grazings.

13. Transport difficulties have probably been over-emphasised. It may cost 3d. per head more to get lambs to market from Mull than from average outlying farms on the mainland but, on a 700-800 ewe farm producing a 75% lambing, this only represents an extra £3.15s. per annum or around 1d. per ewe on farms which are valued at about 5/- to 7/6d. per ewe against values of 15/- to 20/- per ewe on good mainland farms.

14. From a careful look at all its aspects it would seem that Mull is capable of providing agricultural conditions at least equal to the average in the Highlands of Scotland and one is forced to the conclusion that the difficulties of farming there are not due to inherent defects of the island.

15. Joint surveys have been made by the Department of Agriculture and Fisheries for Scotland and the Forestry Commission to assess the amount of plantable land in Mull. These have shown that there are some 29,300 acres of plantable land in the island. The Commission have planted about 7,000 acres out of a total of some 13,000 acres of plantable land acquired. They are planting at the rate of some 500 acres per annum and could do more if labour could be found.

16. As part of their study of conditions in Mull the Panel have examined the possibilities of land settlement in Mull. Three specific areas were considered in detail. The first of these is the farm of Glenforsa, managed by the Department of Agriculture and Fisheries for Scotland. This is a farm/estate extending to over 15,000 acres of rough grazing, with some 70 acres of arable, and at present run as 5 hirsels of 3,700 black face ewes with some 150 breeding cattle and followers. Some 1,600 acres of the estate have been earmarked for planting by the Forestry Commission. The desirability of breaking up the estate into 5 or 6 holdings had been considered by the Crofters Commission, and the Panel were able to take account of the Commission's investigation. There is no doubt about the practicability of dividing the estate in this way, though the resultant holdings would have the inconvenience (particularly so far as the holdings higher up the Glen were concerned) of having to share the low ground arable which is wholly situated at the seaward end of the estate. The cost of creating such holdings (viz. to provide for units of 600/800 sheep) would be considerable. Two sets of farm buildings could be used, but something like £16,000 would have to be spent to equip three of the holdings and this, together with expenditure on the estate generally, would involve a total sum of £50,000/£60,000. The labour employed on Glenforsa farm comprises 1 Manager, 5 shepherds and 2 others, while forestry should provide work for a labour force of 7 or 8. Divided into 5 holdings, as suggested, would not improve the 'population carry' of the estate. The Panel were, moreover, impressed by the value of the Glenforsa operation as a demonstration, within Mull, of sound agricultural methods. They felt in the circumstances that the balance of advantage lay with the further development of the farm along present lines for some years. Thereafter, it seemed to them, the question of division might usefully be considered though possibly into a smaller number of units than the 5 proposed. A further possibility in this connection would be the allocation of more land to forestry, providing steady wage-earning employment for perhaps a further 5 or 6 forestry workers.

17. The Panel next considered the land settlement possibilities of two privately-owned estates in other parts of Mull. The first of these consists of over 16,000 acres of which about one-third is

in hand. Their consideration of this latter part of the Estate showed that, with some re-adjustment, it could provide for rather more workers than at present, though this would not be due only to division. In addition, sufficient land could be taken for forestry, to provide full time work for about 6 men. The other area examined (an estate extending to over 8,000 acres) is not considered likely to provide material for sub-division for land settlement nor likely to provide land for afforestation which would provide any measurable amount of new employment.

STRATHOYKELL SURVEY

1. In 1948 the Panel suggested that the Forestry Commission and the Department of Agriculture for Scotland might undertake a joint survey of the Strathoykell area in the counties of Sutherland and Ross and Cromarty. The object of this survey would be to discover the potentialities of the area for agriculture and forestry development and to consider how such development could be planned in a unified scheme.

2. The two Departments surveyed in 1948 some 250,000 acres of land lying in the catchments areas of the River Oykell and Carron. This comprised some 15 estates with a total of 150 agricultural subjects, the great majority of which were crofts with common grazings, although these occupied a comparatively small portion of the total area. There were several farms in the area, some of them being tenanted but the farm lands were mostly in hand and worked by the owners.

3. With regard to forestry, it was found that of the 250,000 acres concerned, 2,000 acres were already planted, 7,000 acres consisted of scrub or felled woodland and a further 25,000 acres of bare land seemed suitable for planting. It was felt that the forestry would best be fitted in the general agricultural pattern if the bulk of the felled woodland and scrub could be restored to productive forest and some 13,500 acres of bare land could be planted. Including the 2,000 acres of existing plantation, this would eventually provide 22,500 acres of productive woodlands in the area. As at 31st December 1963, the Forestry Commission had been successful in acquiring 16,300 acres, of which 12,500 acres had already been planted. The number of men employed by the Commission in the Strathoykell area at September 1963 was 66 and 16 houses had been built or reconstructed for them by the Forestry Commission. A further 34 houses had been built by the County Councils concerned but, because of the difficulty of retaining labour, only three were occupied by Forestry Commission employees in September 1963, the remainder being let to other County Council tenants.

4. On the agricultural side it was hoped that there might be an increase of about 500 beef cows. Due to the abstraction of land for planting, the sheep stock of some 10,000 ewes would be unavoidably reduced in the first instance, but it seemed probable that the increased shelter and the possibility of grassland improvement in the neighbourhood of this shelter would eventually enable the sheep numbers to be restored.

5. It is felt that it is still too early to assess the effect of the afforestation scheme on the agriculture of the district but the number of breeding cows in the surveyed area more than doubled between June, 1947 and June, 1962, while the number of ewes has increased by 1,348 despite abnormal losses in the stormy conditions of the 1961/62 winter. A comparison of the stock carried in the Strathoykell area between 1947 and 1962 is as follows:-

	Beef Cattle		Dairy Cattle		All Cattle		Sheep	
	Cows	Others	Cows	Others	Cows	Others	Ewes	Others
June, 1947	266	378	118	94	384	472	15,933	17,029
June, 1954	589	630	137	60	726	690	16,119	19,372
June, 1958	792	774	67	36	859	810	17,107	20,910
June, 1962	769	937	33	22	802	959	17,281	20,184

Considerable advantage is also being taken of the Hill Farming and Livestock Rearing Acts, 1946-59. Twelve comprehensive schemes have been formally approved by the Secretary of State, covering 194,566 acres and the works proposed are estimated to cost £123,567. Grants of 50 per cent have already been paid on completed works of improvement costing in all approximately £85,100.

**SUMMARY OF CONDITIONS OF
FORESTRY COMMISSION WORKERS**

1. The Forestry Commission Industrial and Trade Council was set up in September, 1944 with the object of agreeing, and from time to time amending, wages and conditions of service of industrial workers in the Forestry Commission. Prior to September 1944 the Commission conformed to the provisions of the Agricultural Wages Acts.
2. In the Agreement provision is made for either side of the Council to raise matters of a general character as affecting other Government Departments either on the Trade Joint Council for Government Industrial Establishments or on the Joint Co-ordinating Committee for Government Industrial Establishments. Matters, on which there is disagreement and which do not raise issues of a general character, are, by consent of both sides, referred to the Industrial Court.
3. Forest workers have a basic 5 day working week, Monday to Friday, at an average of 42 hours exclusive of meal times and overtime. To achieve this result in Scotland the basic working week is 39 hours during the 13 week 'winter' period from the beginning of November when daylight hours are few and 43 hours during the remainder of the year.
4. Overtime is calculated on a daily basis as follows:-
 - Monday to Friday: First two hours at time and a third; thereafter at time and a half.
 - Saturday (before 2 p.m.): First two hours at time and a third; thereafter at time and a half (guaranteed minimum payment of 2 hours).
 - Saturday (after 2 p.m.): Time and a half.
 - Sunday: Double time.

Notes: (i) Pieceworkers who are required to work overtime additionally, are paid the appropriate overtime increase on plain time rates in addition to the agreed piecework rates.

(ii) Employees required to work on a paid public holiday receive pay for all hours worked at time and a half in addition to holiday pay at the normal rate.

5. Within the terms of the Agreement, two weeks annual holiday, on the basis of twelve months' service, are allowed and paid for at plain time rates. Workers with twelve years' or more service are allowed an additional two and a half days' annual leave. In addition, public and privilege holidays amounting to nine days in the year are granted and paid at plain time rates.
6. Piecework rates are negotiated locally and must be fixed so as to enable workers of average ability to earn, in the ordinary working hours, at least twenty-five per cent above plain time rates.
7. The Agreement covers time lost on account of bad weather. Time workers are paid for such lost time; pieceworkers are paid time rates for all stoppages of two hours or more.
8. Limited special leave with pay at plain time rate is granted in certain circumstances, e.g. marriage, urgent domestic distress, public work, training with Territorial Army, Naval Reserve, Royal Auxiliary Air Force, etc.
9. Travelling and Subsistence payments are in accordance with the Code of Industrial Travelling Rules for Government industrial employees. Full time employees are granted sick leave with pay in accordance with the scheme of Paid Sick Leaves for Government industrial employees (normally up to 13 weeks in any one year).
10. Full-time adult employees are eligible for establishment to the extent that the authorised complement of established posts permits. Three years' reckonable adult industrial service in a Government Department is a necessary qualification. On retirement, established workers with a minimum of ten years' reckonable service are entitled to a pension for life - 1/80th of annual wages for each completed year - and a lump sum gratuity equal to three times the annual pension. Besides the foregoing provisions for established staff unestablished industrial staff who leave the Commission's service after a minimum period of employment of five years are eligible, provided certain conditions are met, for a gratuity which naturally varies with the length of service.
11. The Commission's adult male forest workers are classed in two main grades - forest workers and skilled forest workers. In addition there is a gangster grade. The rates for these grades are given in Appendix G - II.
12. Special leads are paid to horsemen, trappers, etc. and craftsmen, plant operators, etc. are paid at the rates operating under the relative Trade Agreement.

FORESTRY COMMISSION WAGES

CURRENT WEEKLY RATES (GREAT BRITAIN) FROM OCTOBER, 1964

Leading Ganger	£11 8s. -d.
Ganger	£11 3s. -d.
Skilled Forest Worker	£10 7s. -d.
Forest Worker	£ 9 16s. -d.
Trapper	£10 1s. 6d.
	£10 7s. -d. after 6 months satisfactory service.
	£10 17s. -d. after 5 years satisfactory service.
Horseman	£10 7s. 6d.
Handyman	£10 7s. -d.

CURRENT MINIMUM AGRICULTURAL WAGE RATES

The current minimum weekly wage rates effective from 7th September, 1964 for adult male agricultural workers in Scotland are:-

	£	s.	d.
Shepherds and Grievees	11	3	9
Stockmen	10	18	9
Horsemen and Tractormen	10	12	3
Other adult male workers	9	15	-

These rates are related to the following hours:-

Shepherds and Grievees	Customary hours
Stockmen	Alternate weeks of 45 hours (Monday to Saturday noon) and 56 hours (Monday to Sunday)
Horsemen, Tractormen and Other adult male workers)	42 hours November to February and 46 hours February to November (Monday to Saturday noon) plus, for Horsemen, 4 hours stable work (Monday to Sunday) and, for Tractormen, 4 hours garage work (Monday to Saturday)

The minimum adult overtime rate of 6s. 6d. per hour applies to employment in excess of these hours. Overtime is also due for employment on six named public or privilege days (or days in lieu) in the year and, in the case of Shepherds, on an additional five days for each 26 weeks continuous employment.

The following benefits or advantages may be reckoned as part payment of a minimum wage in lieu of payment in cash:-

House	(from 3s. to 11s. per week depending on type and size)
Milk	(3s. 8d. per gallon not exceeding four pints per day)

Potatoes	(10s. to 14s. per cwt. depending on grade not exceeding 1 ton dressed or 30 cwts. undressed per year)
Board	(from 34s. to 47s. 6d. per week depending on age and sex)
Single Meals	(from 2s. 5d. to 2s. 11d. per meal depending on age)
Lodging	(from 4s. 6d. to 6s. per week depending on age and sex)
Bothy Accommodation	(10s. 6d. per week with attendance, 5s. without)
Hill Cows and Followers	(not exceeding two of each and grazing and byre to be provided)
Hill Sheep	(not exceeding 20 with not more than 5 hoggs)

No other benefit or advantage may be reckoned as part payment of a minimum wage.

Holidays with pay accrue at the minimum rate of one day for each five weeks of consecutive employment or engagement, the annual entitlement being 11 days. In addition paid public or privilege holidays amounting to 6 days in the year (16 days for shepherds) may be granted.

FORESTRY EARNINGS

AVERAGE EARNINGS IN NINE MONTHS, JANUARY-SEPTEMBER 1963

County	Forest	No. of Adult Male Forest Workers	Average Weekly Earnings
Sutherland	Dornoch	18	£10 10 10
Sutherland and Ross	Oykell	12	£12 3 2
Ross	Lael	13	£11 4 2
Inverness	Leanachan	12	£10 14 -
Argyll	Glenhurich	10	£10 17 6
Argyll	Sunart	20	£10 17 11
Inverness	Glenrigh	10	£11 9 1

Note: The above information is based on actual earnings.

AGRICULTURAL EARNINGS

The average actual earnings of agricultural workers in the crofting counties (excluding Orkney and Shetland) during the period June, 1962 - May, 1963 were:-

	Argyll	Caithness	Inverness	Ross	Sutherland	All five Counties
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Shepherds	11 11 -	11 7 6	11 16 -	11 1 1	11 16 3	11 11 2(59)
Stockmen	11 2 7	11 17 9	12 2 8	11 2 9	12 3 2	11 13 2(38)
Trectormen	11 6 5	10 8 -	10 16 5	10 6 9	12 19 3	10 15 2(68)
Horsemen	-	-	-	-	-	-
General Workers	10 12 3	9 15 8	9 15 -	8 18 -	10 4 -	9 19 5(54)
All Adult Male Workers *	11 3 5(69)	10 12 8(22)	11 7 -(44)	10 6 -(67)	11 15 9(17)	10 18 9(219)
Grievs	12 8 11	11 11 8	12 2 4	12 8 3	12 17 -	12 6 9(40)

* being the average for the above five classes and excluding grievess.

Number of workers in sample in brackets.

NATIONAL, FOREST AND LOCAL NATURE RESERVES AND
WILDFOWL REFUGES IN THE HIGHLANDS AND ISLANDS
(at 30th September, 1963)

NATIONAL NATURE RESERVES

Name and Year Declared	Acreage	Access and Restrictions (except where otherwise stated permits to visit are not required)
BEINN EIGHE, Ross and Cromarty. 1951 and 1962 (Part owned, part Nature Reserve Agreement).	10,807	Byelaws confirmed 1964 and 1963.
BEN LUI, Perthshire and Argyllshire. 1961 (Nature Reserve Agreement).	985	-
CAINNOCHMS, Inverness-shire and Aberdeenshire. 1964 and 1963 (Part owned, part Nature Reserve Agreement).	59,822	Access restricted in parts of Mar in situ.
CRAIGELLACHIE, Inverness-shire. 1960 (Nature Reserve Agreement).	642	-
HAAF GRUNEY, Shetland. 1960 (Nature Reserve Agreement).	44	-
HEEMANESS, Shetland. 1955 and 1968 (Nature Reserve Agreement).	2,363	-
INCHMADAMPE, Sutherland. 1966 (Nature Reserve Agreement).	3,200	Authority required to visit the Reserve in late summer and autumn.
INVERMAYER, Sutherland. 1960 (Nature Reserve Agreement).	1,263	-
INTERPOLLY, Ross and Cromarty. 1961 and 1962 (Part owned, part Nature Reserve Agreement).	26,827	Authority required to visit Drumric in late summer and autumn.
† LOCH DRUIDIRIO, South Uist, Inverness-shire. 1958 and 1962 (Part owned, part Nature Reserve Agreement).	4,145	Permits required during the bird breeding season.
NORTH ROMA AND BULA SGEIR, Ross and Cromarty. 1965 (Nature Reserve Agreement).	320	-
NOSS, Shetland. 1955 (Nature Reserve Agreement).	774	-

† Denotes Nature Reserves which is also a Wildfowl.

Name and Year Declared	Acreage	Access and Restrictions (except where otherwise stated permits to visit are not required)
RASSAL ASHWOOD, Ross and Cromarty. 1958 (Nature Reserve Agreement).	208	-
RHUM, Inverness-shire. 1967	26,400	Authority required to visit parts of Reserve away from Loch Sorsaort area.
ST. KILDA, Inverness-shire. 1967 (Leased from the National Trust for Scotland).	2,107	-
STRATHY BOG, Sutherland. 1960 (Leased).	120	-

Total acreage 138,791.

FOREST NATURE RESERVES

Name	Owner with whom Agreement concluded and date	Acreage
Arriundle Oakwood, Argyllshire.	Department of Agriculture and Fisheries for Scotland. 1961.	288

*Extract from Report of The Nature Conservancy for the year ended
30th September, 1963.*

NATURAL RESOURCES IN HIGHLANDS AND ISLANDS

Coal

Deposits of coal are worked at Machrihanish in the Mull of Kintyre (by the National Coal Board) and at Brora in Sutherland where the colliery was taken over in 1961, and is operated by a company formed by the miners with financial assistance from the Highland Fund Limited.

Peat

Peat deposits (most of which are in the Highlands and Islands) and their commercial exploitation were investigated by the Scottish Peat Committee whose second report was published in 1962. The Committee considered that the peat deposits represented a valuable source of raw material for industrial and horticultural purposes or for agricultural development and afforestation, which could be exploited and were bound to be utilised in due course. In the Highlands and Islands over 86 thousand acres of peat deposits, mainly in Caithness and Sutherland, were surveyed and deposits extending to 33 thousand acres in the island of Yell (Shetland) were partially surveyed. These areas were selected for survey partly by the possible requirements of the North of Scotland Hydro Electric Board and partly to provide a reasonable geographical selection of deposits which might be suitable for large scale exploitation. The Committee concluded that of the established methods of peat harvesting the milled peat method could be applied successfully in Scotland and they estimated that if all the major peat deposits were developed, close on 7 million tons of milled peat (equivalent to 2 million tons of coal) could be produced annually over a period of 25 years, most of this from the Highlands and Islands, and that possible uses would be for generating electricity, to provide fuel in the form of peat briquettes or, where appropriate, for horticultural purposes. The use of pressure dewatering methods in the large-scale exploitation of peat would be particularly beneficial in Highland conditions. The Committee were satisfied that electricity generation could be undertaken on a substantial scale in Scotland, using steam for generation and milled peat for fuel but the production costs would be higher than by other methods of generation. The Committee considered that there was great scope for further development of peat resources by bog surface cultivation (agriculture and forestry) and for the use of

peat for horticulture in which they saw the best immediate prospect for peat development in Scotland.

Seaweed

The Institute of Seaweed Research has carried out studies into the availability, growth and conservation of seaweed. It has been estimated that 10 million tons of seaweed grow in Scottish inshore waters. The Scottish seaweed industry has been based largely on the islands of North and South Uist and the Orkneys. The once flourishing kelp industry declined in the nineteenth century and came to an end in the 1930's. In the post war period red and brown seaweeds have been used in the alginate and seaweed meal and fertilizer industries. Alginate Industries Ltd., which is probably the largest alginate producing firm in the country, has three out of its four factories in the Highlands and Islands (at Lochboisdale in South Uist, Lochmaddy in North Uist and Barcaldine in Argyll). This firm undertakes its own research.

Water

Surface water, a natural resource available in comparative abundance in the Highlands and Islands, is already being utilised in industry (e.g. distilleries) and for the production of electricity. (The North of Scotland Hydro-Electric Board have 37 main hydro-electric stations with a generating capacity of approximately 598,000 kilowatts. Hydro-electricity is also generated by the North British Aluminium Company at Fort William and by the British Aluminium Company at Foyers and Kinlochleven.) The availability of an adequate fresh water supply was one of the factors leading to the establishment of an experimental atomic energy station at Dounreay (Caithness). Sea water was required for cooling and the strong seas were necessary for the disposal of the effluent.

Minerals*

Anthracite rock occurs in South Harris and there has been investigation by a commercial firm.

Clay occurs at Shian (Argyll) and might be of economic value. White Clay at Tresta (Shetland) has been investigated superficially.

Diatomite occurs (but has not been worked) in Unst and Fstlar (Shetland). Deposits in Lewis and in Skye have been worked.

Dolomite outcrops occur near Kyle of Durnees, near Loch Eriboll, at Inchmadamph at Elphin, (Sutherland) but these have not been

* From summary information supplied by the Scottish Council (Development and Industry).

worked. Working of dolomite at Duror (Argyll) ceased some years ago. In Ross and Cromarty dolomite of known economic value occurs at Loch Kishorn and Ullapool. The deposits at Ullapool are worked but at Loch Kishorn a steel company has so far been unable to carry out a full investigation which they wished to undertake.

Feldspar occurs in the syenite of Ben Loyal (Sutherland) and might be of economic value but has not been fully investigated. Considerable reserves remain near Northton and Rodel (South Harris) where feldspar was worked during the 1939-45 war. Feldspar of possible economic value also occurs in north-west Sutherland, Easter Ross and in widespread localities in Inverness mainland.

Iron-ore in Raasay (Skye) was worked during the 1914-18 war and considerable reserves remain.

Kyanite has been explored in Unst (Shetland) and a commercial firm is negotiating for working rights. Occurrences of kyanite have been investigated by the same firm in the Ross of Mull and near Glenelg.

Lead and Zinc deposits at Strontian (Argyll) are being investigated by a Canadian firm. Lead-zinc ore also occurs in Islay.

Limestone is being worked on the mainland of Shetland, at Torran (Skye) at Torlundy (Inverness-shire), near Campbeltown, mid Kintyre, in Islay and near Loch Awe in Argyll. A large deposit north east of Torlundy has not yet been exploited.

Magnetite has been worked near Sullom (Shetland). Deposits at Tiree (Argyll) have been investigated with negative result.

Potash-bearing shales outcrop in various localities in Sutherland, in Ross-shire and near Ord in Skye. A number of large firms are interested in the possibilities of commercial exploitation of the deposits containing 11% potash extending from Loch Eriboll in Sutherland to Loch Carron in Wester Ross.

Serpentine is being worked in Unst (Shetland).

Shell sand occurs in Orkney and in Caithness and is used locally for agricultural purposes. Shell sand is widespread along the west coast of the Outer Hebrides and along the west coast of the mainland of the Crofter Counties. It is extensively used in the Outer Hebrides but not on the mainland.

Silica (in the form of quartzite) of possible economic value occurs west of Loch Eriboll (Sutherland). Deposits in Inverness-shire north and south of Loch Leven have not been systematically explored. Silica (quartzite) near Ord (Skye) was formerly worked by

a refractory brick firm. High grade silica (in the form of sand) is worked at Loch Aline (Argyll) and exported south for glass making.

Talc is worked in Unst (Shetland).

INFORMATION BY COUNTIES IS AS FOLLOWS:-

Shetland Islands

Talc has been worked in Unst for many years and the production at present is about 7,000 tons per year. The material is exported to the south where it is ground and used for various purposes, e.g., fillers for paint and paper making.

Serpentine is being worked in Unst and is exported to the south for making refractories used in steel manufacture. Production of serpentine in Unst has varied between 1,600 and 7,000 tons per annum - depending on demand. Serpentine also occurs in Fetlar.

Kyanite has been explored in Unst and an agreement for working the deposit is being negotiated with the Firm who own the mineral rights in the area.

Diatomite occurs in small pockets in Unst, but these have not yet been fully explored. Diatomite also occurs in Fetlar; the deposit needs further investigation. Poor transport facilities (there is no pier) may deter exploitation.

Limestone is being worked on the mainland. It is ground and used locally for agricultural purposes.

Magnetite was explored during the last world war near Sullom on the mainland and worked for some years after the war.

White Clay has been investigated superficially at Tresta. It is worth further investigation. The clay might be used for a local craft industry (pottery).

Chromite and other minerals e.g. copper are not exploited.

Orkney Islands

Shellsand occurs and is used locally for agricultural purposes.

Caithness

A few years ago the Caithness County Council commissioned a survey of the mineral resources of the County. No new mineral of notable economic significance was discovered. Shell sand is worked for agricultural purposes.

Sutherland

Dolomite. A workable deposit of dolomite occurs on the east coast of Loch Eriboll. A subsidiary of a shipping company has considered the possibility of quarrying and shipping the dolomite in bulk to steel manufacturers. There are also large outcrops of dolomite at Inchnadamph and at Elphin.

Potash-bearing shales outcrop at various localities: east of Loch Eriboll, near Glen Coul, at Skieg Bridge, south of Inchnadamph, at Loch Awe in Assynt and at Knoekan, south of Elphin.

Silica, which occurs on the west of Loch Eriboll, is of possible economic importance and needs further investigation.

Feldspar occurs in north west Sutherland and in the syenite of Ben Loyal. These occurrences might be of economic importance and need further investigation.

Ross and Cromarty

Dolomite of known economic value outcrops at Loch Kishorn. Dolomite is being worked at Ullapool and is used mainly for agricultural limestone. A steel firm has expressed interest in this dolomite for use in steel manufacture.

Potash-bearing shales outcrop at Knoekan, Strathkanaird, Loch Broom (south of Ullapool), Kinlochewe, Achnashellach (Balnacra), and north of Loch Kishorn.

Diatomite has been worked on a small scale in Lewis and used for making car polish.

Feldspar of possible economic value occurs in Easter Ross.

Inverness-shire

Limestone is worked at Torran. The limestones is ground at Torran and sold in Skye mainly for agricultural use. (Some is used as roadstone.) Other deposits of limestone and dolomits occur in the Strath Suardale/Torran area. On the mainland limestone is worked and ground at Torlundy and distributed in Inverness-shire and Moray and Nairn for agricultural use. A large deposit exists north-east of Torlundy (east of the Spean Bridge), but this has not yet been exploited.

Potash-bearing shales outcrop near Ord in Skye.

Silica (in the form of quartzite) was formerly worked near Ord by a firm specialising in refractory bricks. Working of the silica was abandoned because the firm ceased to use silica refractories. Silica deposits occur north and south of Loch Leven near Kinlochleven, but these have not been systematically explored.

Diatomite was worked up to about three years ago in Skye at Loch Cuithir by a firm of diatomite importers. The working in Skye was abandoned because of the difficulty of drying the diatomite; the calcining plant which had been installed proved to be inefficient. Considerable reserves remain and with some enterprise working could economically be restarted.

Feldspar was worked during the 1939-45 war in two localities in South Harris - near Northton and north of Rodal. Considerable reserves remain and further investigation of these deposits is desirable. Feldspar of possible economic value also occur in widespread localities on the mainland.

Amorphosite rock occurs in South Harris, north-west of Rodal. The rock is being investigated as a possible bulk material for shipment.

Iron-Ore was worked in Raasay during the 1914-18 war. It was previously estimated that the remaining reserves were about 10 million tons but a recent geological examination brought the estimate up to a probable 80-90 million tons. A test drill hole is required to prove the north-westerly extension of the ore body.

Argyll

Limestone is worked in several localities: near Campbeltown, mid Kintyre, in Islay and west of Loch Awe. The island of Lismore is composed almost entirely of limestones.

Dolomite was worked at Duror for the manufacture of rock wool ("Rocksil") in Stirling. The working of the dolomite at Duror was stopped a few years ago because the quarrying became difficult.

Magnetite which occurs in Tiree, has been investigated with negative result.

Silica sand (high grade) was discovered at Loch Aline during the last war and has been worked successfully for a long period. The sand is exported south and is used mainly for glase making.

Lead and zinc depoelits at Strontian have been under investigation. In Islay there exists an area containing lead-zinc ore, lying on both sides of the road between Bridge-End and Port Aekaig. Numerous old workinge exist in the area; the latest working ceased in 1880.

Clay, which might be of economic value, occure at Shisa (Loch Creran).



DEPARTMENT OF AGRICULTURE AND FISHERIES
FOR SCOTLAND

**Land Use
in the Highlands
and Islands**

Report submitted by The Advisory Panel
on The Highlands and Islands
to the Secretary of State for Scotland
on 27th October 1964

EDINBURGH: HER MAJESTY'S STATIONERY OFFICE

1964

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Map of Highlands and Islands of Scotland showing the limit of main crofting areas.

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HIGHLANDS AND ISLANDS OF SCOTLAND

