

*Landholdings and Population in Arran from the Late Eighteenth Century**

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The island of Arran is situated in the Firth of Clyde astride the Highland Boundary fault zone: diversity of scenery is due to a wide range of geological and lithological forms. This variety has produced two contrasting divisions approximately equal in area, in an island only nineteen miles long by about nine wide. North of a line from Dougarie in the west to Brodick in the east, old and resistant Highland rocks dominate, much glaciated. Rugged mountains reach a height of 2,866 feet in Goat Fell, and accessibility is impeded except through the glens or valleys of the north-west to south-east Chalmadale and North Sannox (watershed nearly 640 feet), and of the west-south-west to east-north-east Glen an t-Suidhe and Glenshurig (watershed 770 feet) (Fig. 1). The southern portion contains a greater variety of younger lithological types at lower altitudes. Its undulating plateau-like surface is dissected by several rivers and their valleys, such as Clauchan Glen, Kilmory Glen and Glenashdale. A greater number of possibilities exist for communications, settlement and occupation.

Today the north is essentially characterised by large grazing farms and there are only a few other small holdings, all with mainly irregular field boundaries: settlement, if not dispersed, is frequently related to a former clachan. The southern part of the island shows much greater regularity of field patterns, and settlement is generally dispersed. There the pre-enclosure boundaries and cultivation rigs of the openfield can only occasionally be seen on the ground or from air photographs, within the newer regular fields, as in the Sliddery valley. Along the eastern side of the island, a further change has been the late nineteenth- and twentieth-century growth of the non-agricultural villages of Brodick, Lamlash and Whiting Bay, essentially service centres and tourist resorts. The villages apart, this distinction between north and south is the result of a two-stage agricultural revolution. During the second half of the eighteenth century John Burrel attempted to introduce some of the ideas and theories of the agricultural revolution for the owner, the seventh Duke of Hamilton. But it was not until the second decade of the nineteenth century that changes were really evident in the landscape, and then only in the southern half of the island. The patterns finally resulting in the north and south also symbolise Arran's position astride Highland and Lowland Scotland.

* Reference can be made to the Ordnance Survey Seventh Series One-Inch Map Sheet No. 66 for Arran.



Open fields in Arran, 1772. Pennant Collection, National Library of Wales

Heights in feet

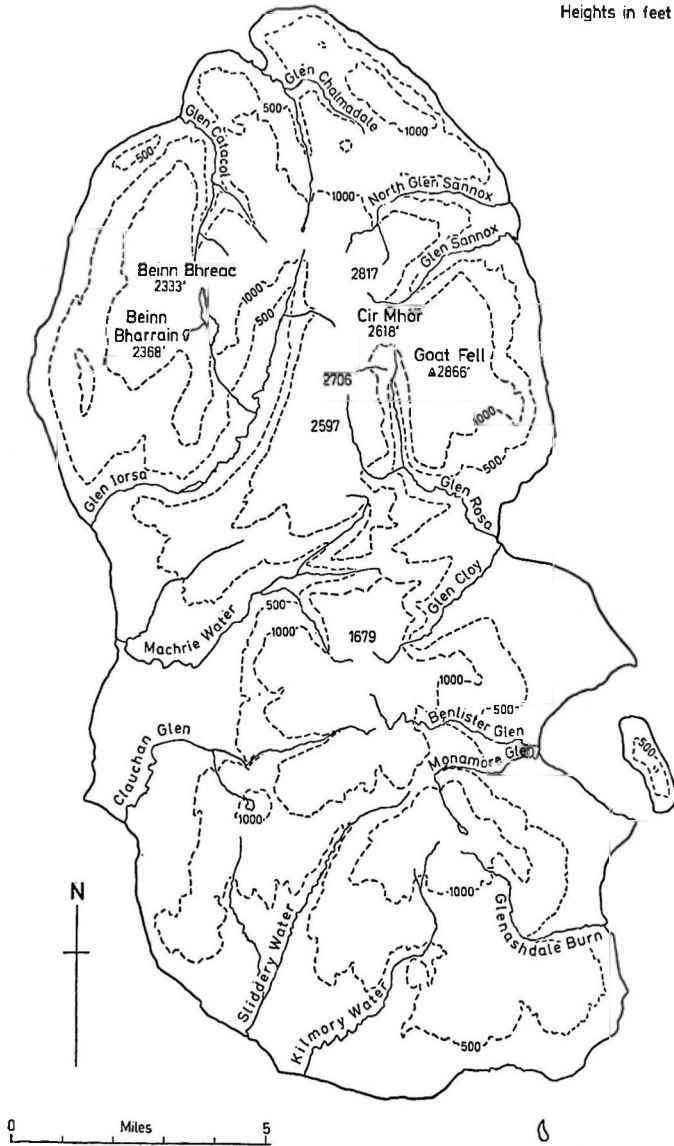


FIG. 1 Relief in Arran. Compiled from O.S. Seventh Series One-Inch O.S. Sheet no. 66. (See p. 49.)

Landholdings in Arran in the late eighteenth century

According to Mackenzie (1914:170) each holding in Arran was at the close of the eighteenth century being worked communally by a group of tenants jointly responsible for the rent. Each was worked in three divisions, infield or croftland, outfield and common pasture, the arable land being divided annually in strips amongst the tenants. Mackenzie's general picture is borne out by a study of contemporaneous rentals and leases, as well as by later documents, but requires some modification. The distinction between infield and outfield was not always strict. The numbers of people jointly responsible for the rent were usually much smaller than the total number of tenants and subtenants actually paying rent. Rentals and leases essentially concerned the principal tenants, in Arran often termed 'tacksmen'. But reference to subtenants, whether non-existent or numerous, was omitted in such MS sources. The increasingly numerous principal tenants and subtenants working the land conjointly (and more inefficiently) as the eighteenth century progressed became, in the last quarter of the eighteenth century and the first decades of the nineteenth century, the principal problem facing those responsible for the introduction and application of the ideas of the Agricultural Revolution in Arran as elsewhere along the West Highland seaboard (Storrie 1965:138-9). Mackenzie mentioned the beginnings of the revolution in Arran thus:

In 1766 the seventh Duke of Hamilton was a minor, and his tutors or trustees, considering that the leases of farms in Arran were now beginning to expire—the greater number by 1772—commissioned Mr John Burrel, factor at Kenneil, and Mr Boyd Anderson, to undertake the improvement of the island. (Mackenzie *op. cit.*: 173-4)

Burrel's instructions included a detailed list of eighteen 'articles' that tenants should be obliged to observe (Brodick MS A 2). In summary, leases were to be for nineteen years from Martinmas 1766 (for examples see Brodick MS B): each tenant was to have his own holding, individually enclosed; help was to be given for planning and erecting buildings on the new holdings; soumings of cattle and sheep were to be strictly enforced; improvement and cultivation of new ground were to be encouraged; dykes and enclosures, peat cutting and seaweed cutting were all taken into account. Burrel's Journal from May 1766 to 1772 included details of the sketches and surveys, and occasionally of soil testings, carried out on holdings on Arran (Brodick MS A 1).

From May to October 1772 John Burrel toured throughout the island. In his reports of individual farms, he usually gave the number of tenants 'presently possessing this farm'. For example, he described the 'half Merkland' of Gargadale as being 'presently possessed by three tenants Henry Henderson Neil McBride and Isobel Stewart'; and added that he proposed to make the holdings into one farm (*op. cit.* Report 44). In the case of the 'three Merkland' of Bennecarrigan,

presently possessed by eleven tenants. . . . I now determine to divide this great farm into five in order that it may be possessed by five tenants in place of eleven. . . . (*op. cit.* Report 46).

He added that a small portion of the land of Bennecarrigan was to be planned for fishers' lots.

A large map on a scale of about four inches to the mile appears to have been compiled on the basis of Burrel's survey (Brodick MS C). The features shown on this map are:

- (i) the existing clustered settlements or clachans
- (ii) the generalised rigs or strips of the common arable (infield and outfield are not clearly distinguished on the map)
- (iii) the common muirs or grazings
- (iv) the superimposed network of enclosures and plantations proposed by Burrel to indicate the new divisions into consolidated farms.

An untitled document (Brodick MS C) which the present author assumes to be a complementary key to this magnificent map listed:

- 1 Old Names of the Farms
- 2 Old Acres (Arable, Meadow, Pasture and Total)
- 3 Old Souming and Sowing (in Cattle and Bolls)
- 4 Old Rent (including ten per cent on the Rents Grassum)
- 5 Names of the Divisions as Now Designed
- 6 Acres they Contain (Arable and Meadow, Pasture, Pasture of the Moor, and Total Acres in Each Division)
- 7 New Souming and Sowing (in Cattle and Bolls)
- 8 Estimated Rent of Each Division
- 9 Acres Designed for Fishers and others
- 10 Acres proposed to be planted and Value of these at 10/- per acre
- 11 Arable, Meadow, Pasture and Moor, Total and Rent.

The details in this list broadly coincide with those depicted for the holdings on the sketches and maps—the names, the old rigs, old dykes, all drawn feintly. Superimposed much more boldly on the map were the proposed new plantations roughly indicating the extent of the new holdings (redrawn in Figs. 2 and 3). Further sources which complement the map include the rentals for 1766 and 1773, and the volumes of Burrel's Journal (Mackenzie *op. cit.*: 357–8 and 359–66; Brodick MS A). The rental for 1766 mainly listed 'Principle [*sic*] Tenants Names' under each holding. That for 1773, however, gave the same areal names, but each with its new division, and the words 'New Tacksmen's Names' were added, one to each division in the majority of cases.

The main difference between the two patterns was that the new holdings were drawn across different kinds of land, *i.e.* it was proposed that each consolidated holding should contain arable, meadow, pasture, and rough pasture, although the latter was sometimes left in common. Only in a few places, such as the Letters near Lamlash, did the lines of the lots or lotments coincide with those shown on later plans. But the natural division of the island into northern and southern portions was apparent in Burrel's proposals. The holdings in the north and west were to comprise large grazing holdings, with only a few smaller divisions marked. In the south, the proposals were

for somewhat smaller holdings, with only a few larger grazing farms on the moors inland from the coasts.

These proposals of Burrel, as first attempts at improving the island, seem now to be eminently appropriate as far as the landscape and economy were concerned. However, it appears that the main work accomplished was the formation of head-dykes, and Mackenzie claimed that

... the farms remained undivided and in joint tenancy despite the project of 1772, or reverted to this condition by the breakdown of the enclosing scheme.

(Mackenzie *op. cit.*: 195).

A comparison of Burrel's rentals and the map with later rentals of the last quarter of the eighteenth century, and with the literature, plans and rentals of the first quarter of the nineteenth century, confirms that this first attempt at improvement accomplished little. The lines along which the landholdings and settlement pattern of Arran developed to give its present-day appearance show little resemblance to those of the plan, apart from the enclosed area near the Duke's residence on Brodick Bay, and one or two other minor features.

A list of the 'New Setts for 1783' gave single tacksmen's names for 'the old farms', rent and soumings, and date of new nineteen-year leases as from 1782, 1783, 1784, 1785 or 1786 (Brodick MS D). Footnotes at the end contained references to exclusion of subtenants and cottars. In 1784 the factor, John Cochrane, described tacksmen and subtenants being roup'd, of tenants being replaced by others, of 'Bad Tenants' and so on (Brodick MS E). For instance, referring to the farm of Bennecarrigan, Cochrane said:

This farm was sett in 1776, to John McCook for £121. He, after continuing in it for three years, became bankrupt, his effects were roup'd, and the Duke lost by him, a full year's rent. This farm was in 1779 sett to twelve Tacksmen, most of these not being in condition to possess a twelfth, they have subsett the one half of each of their possessions, by which means, there are numbers of people in the farm, who possess only a Twentyfourth part of it. Since the twelve Tacksmen came to the farm, they have been continually wrangling with one another, and it was with the greatest difficulty, that the Factor could get any rent from them. . . .

Upon the whole after a review and survey of the State of Affairs in Arran, It appears to me clearly evident in general, that the opinion of the Factor is exceedingly well-founded with regard to the hurt arising to the real interest of the Duke in this part of his Estate, from two circumstances. The first is the too great number of Tacksmen in the farms. The second is the houses being almost always in a cluster together. These two inconveniences ought therefore to be certainly remedied as soon as possible.

For 1784 a 'rental of the Lands to be sold' included the lands to the north-east of the island, but they did not appear on subsequent rentals (Lennoxlove MS A). A 'Rental of the Lots around the Island of Arran for 1786' lists the 'Lots marked on plans' but so far these plans have not come to light (Brodick MS F). The lots seem to be some of the

'acres' designed for fishermen as mentioned by Burrel, but they do not appear to coincide either with the Burrel list, or with later maps by Bauchop and Yule.

That the agricultural situation in landholdings and tenants deteriorated further towards the end of the century is amply illustrated both in unpublished reports and in various estate documents of the time. The writer of the Old Statistical Account mentioned the increase of population and the increasing dependence on the potato instead of corn (Sinclair 1793:8 578). Note was also made of the temporary and permanent emigration, especially of menfolk, to naval, fishing and other forms of employment (*op. cit.*:9 170). The young people were frequently represented as not being able to find sufficient employment on the island, and going to adjacent shores. A report from the factor in 1800 stated that

The factor deems it necessary to premise, that the original plan adopted by Mr. Burrel for managing that estate [caused] the tenants . . . [to] run into great arrears, of no less than Three Years rent, and of necessity [they] soon became bankrupt. . . . When William Stevenson commenced Factor on the Estate at Whitsunday 1792 the whole tenants on the Estate were one and a half years rent in arrears; he by persevering, care and exertion . . . brought the whole Tenants . . . to liquidate arrears. . . . At Martinmas 1795 when the Leases of about two-thirds of the Estate came to be expired, it was for the interest of the Duke of Hamilton deemed highly necessary, not to let such a large proportion of the Estate for Leases of nineteen years at one time to Arran tenants, and especially to those who were not likely to improve in their mode of farming. (Brodict MS G)

At that time arrangements were made for new leases of five, eight, eleven, thirteen or nineteen years to tenants 'Who were from their character or circumstances likely to introduce some practical improvements'. A rental for 1800 illustrates the distribution of single and multiple tenancies in Arran in 1800: there had been few changes in distribution during the two previous decades, but most holdings were farmed by greater numbers of people (Brodict MS H).

Landholdings after 1800

Contemporaneous leases and decreets of removal illustrate the rapidly changing population numbers which were simultaneously rendering changes in the landholdings pattern more necessary and yet at the same time more difficult. Such MS sources give indications of the then Duke's attempts to effect change (Brodict MS J). Decreets of removal gave the Scottish landlord the power to remove tenants when required, and in 1804 in Arran, for example, decreets were served against a total of 708 tenants in eighty holdings. Few of the decreets were acted upon immediately, but the way was open for change. In the township of Shannochie which Burrel had proposed to divide into four holdings, for instance, the list of tenants in the 1804 decreet contained fifteen names, and these may have excluded unnamed subtenants. It is against this background of rapidly increasing numbers of tenants and population in the early nineteenth century (Fig. 10a), here as in other parts of the West Highland seaboard, that the agrarian changes which were

instigated in the first two decades of the century in Arran must be seen. This state of affairs also helps to account for the relatively large number of small lots or holdings which were the real result of the Agricultural Revolution in Arran. It is these outlines, little changed visibly, that characterise the present-day landscape, although population has declined and some holdings have been assimilated or have amalgamated.

Aiton in his agricultural review of Arran tells of his first travels there in 1810:

[I] was truly sorry to see such a valuable island as that of Arran, and so much of it capable of great improvement, remaining, in the nineteenth century, under the same barbarous system of management that it had been under for two centuries back. (Aiton 1816:viii)

The printing of Aiton's report was delayed, and he found, on making a second tour of the island in 1813 that

. . . liberal plans of improvement had in that interval been adopted by the noble proprietor, and were beginning to be acted upon in Arran. . . . (Op. cit. xi)

He described how

The Marquis [son of the late Duke] and his father have laid off a great number of farms of from 100 to 500 acres each, that are already either arable, or which are capable of being rendered so; and these are now letting to industrious tenants . . . from Ayr, Renfrew and Lanark . . . [they] have also laid off that part of the island which is best adapted to store husbandry into convenient sheep walks. . . . At the head of the different bays, and other places best adapted for fishing stations, small cottage tenements, of from 5 to 10 acres . . . are laid off, to be occupied by fishermen, or others employed occasionally on the sea, or in mechanical or manufacturing occupations. . . . That as many of the native inhabitants as possible may be induced to remain in the island, and encouraged to become industrious, the barbarous plan of joint or alternate occupancy is to be abolished at the end of the leases now running, and which terminate with crops 1814. (Op. cit. 84-85)

Other writers (e.g. MacCulloch 1819:317, 1824:25) reiterated the details of the changeover from the antiquated to the new order, and Mackenzie went so far as to say that

in 1815 . . . the improvement of the Duke's property in the island was taken in hand and pursued for the next twenty years with firmness and system . . . Runrig came to a violent end on the Hamilton lands, though it lingered elsewhere a while longer and may be said still to exist at Balliekie. (Mackenzie op. cit.:213)

A detailed examination of extant estate documents shows that a few changes were carried out early in the nineteenth century. They were the clearances and conversion to sheep walks of some of the interior farms in the south-west, and the creation about 1811 of several groups of lotments at bay heads in the east of the island, e.g. at Kingscross, Haigh and Laigh Letters, South Newton and Mossend (Lennoxlove MS B) (Fig. 4). Kingscross was divided into seven lots from 54 to 70 acres; Haigh Letter into twenty lots of $1\frac{1}{2}$ to 5 acres (though the majority were to be $3\frac{1}{2}$ acres) together with cow grazing on the moor; Laigh Letter into twelve lots with an average size of about $3\frac{1}{2}$ acres. It

1812

-  Joint Farms
-  Reorganised Lots
-  Single Holdings

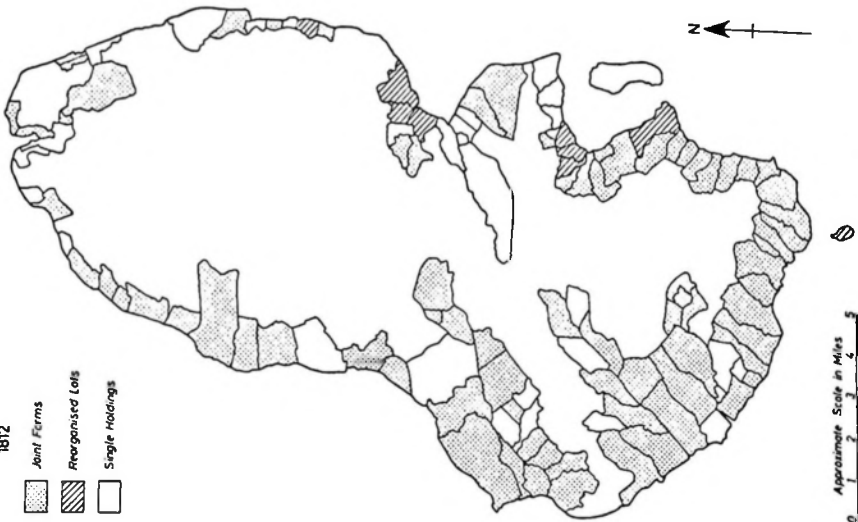


FIG. 4 Distribution of single and multiple tenancies for 1812 (Brodrick MS M, and Lennoxlove MS B). The new lots mentioned in the text are shown around the east coast bays. (See p. 56.)

BAUCHOP'S SURVEY
1807-1812

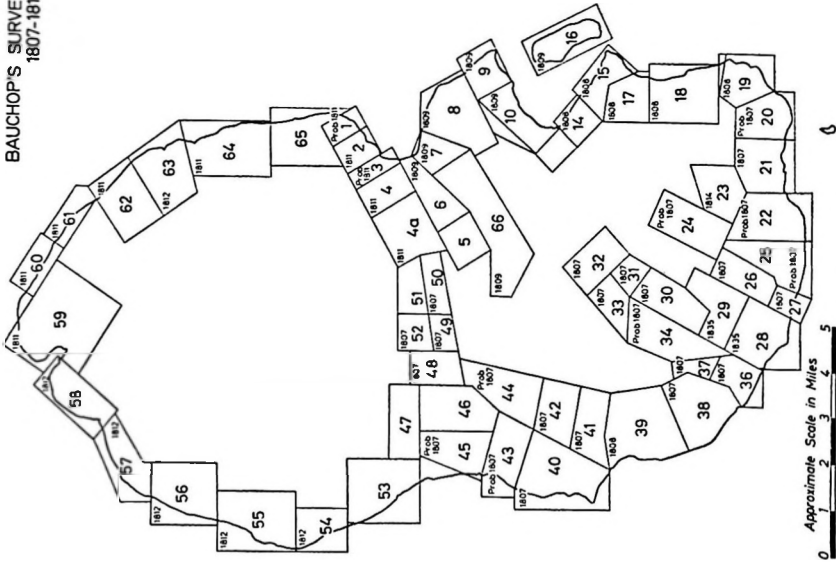


FIG. 5 Progress of Bauchop's survey, and distribution: of extant plans. (Brodrick MS K.) (See p. 58.)

seems from the manuscript that it was sometimes difficult to let these new lots as rentals were higher than the tenants had previously been accustomed to paying.

One of the most useful sources available to anyone studying the impact of the agricultural revolution on an area is a set of surveyor's maps showing the old patterns with the proposed new patterns superimposed. For this Arran is amply endowed (Brodick MSS K to M). Between 1807 and 1812 a set of large plans covering most of the settled areas of the island, and a few of the interior areas, was prepared by Mr Bauchop, on a scale of about twenty inches to the mile (Brodick MS K). The distribution of extant plans, and the progress of Bauchop's survey are shown in Fig. 5. Re-drawings of plans no. 22, 25, 28, and 29 are given in Figs. 6 and 7, and show the former cultivation pattern of interspersed infield/outfield and common muir, with an associated clachan; these features were drawn in black on the plans. A key with details accompanied each holding. Superimposed in red ink on most of the original plans for the southern part of the island were the new holdings or lots, each separately numbered and sized. Holdings with no red markings were those which became grazing farms around the edges of the interior, and the joint farms of the north-western area which did not belong to the Duke by this time.

These large scale plans were used by Bauchop to compile smaller scale maps showing the proposals for the island superimposed on the former pattern (Brodick MS L). Yule in 1814 produced a map on the scale of about two inches to the mile showing 'The Mode of Crofting and Letting in 1814, compiled . . . from R. Bauchop' (Brodick MS M). This map, which contains certain material additional to that on Bauchop's plans and maps, omits previous patterns, and shows only the proposed changes. Fig. 8 illustrates the outlines of these changes for proposed reorganised holdings, while Fig. 9 shows the pattern of landholdings in Arran after reorganisation in 1814/1815. Contemporaneous rentals affirm that the changeover in the areas proposed did take place fairly rapidly at least in regard to landholdings: settlement may often have taken longer to disperse from the old clachan, and in some cases has never totally done so.

The northern interior remained common pasture for the joint farms along the north-western coast. Apart from a few regular lotments at North and South Newton near Lochranza in the north, and those of North and South Corrie on the north-east coast, there were only a few other single small holdings such as Cock. The north-western part of Arran had become the possession of the Westenra family by this time, and despite the example shown in the southern part of the island, this north-western portion remained unchanged by the time of a report in 1838 (Lennoxlove MS C). This related that

The whole property is at present divided into eleven farms occupied by fifty tenants, there being on each farm several tenants whose sheep and cattle pasture in common and who possess their arable land in runrig.

Contemporaneous plans (Brodick MS P) confirm this communal farming. To this day these farms of the north-west show no regular pattern of fields and holdings, and they



FIG. 6 Redrawing of plans no. 22 and 25 of Bauchop (Brodict MS K) to show former joint townships, and new lots, in Kilbride Bennan, Shannochie, West Bennan and East Bennan. Settlement is still shown as being clustered as in the former clachan. (See p. 58.)

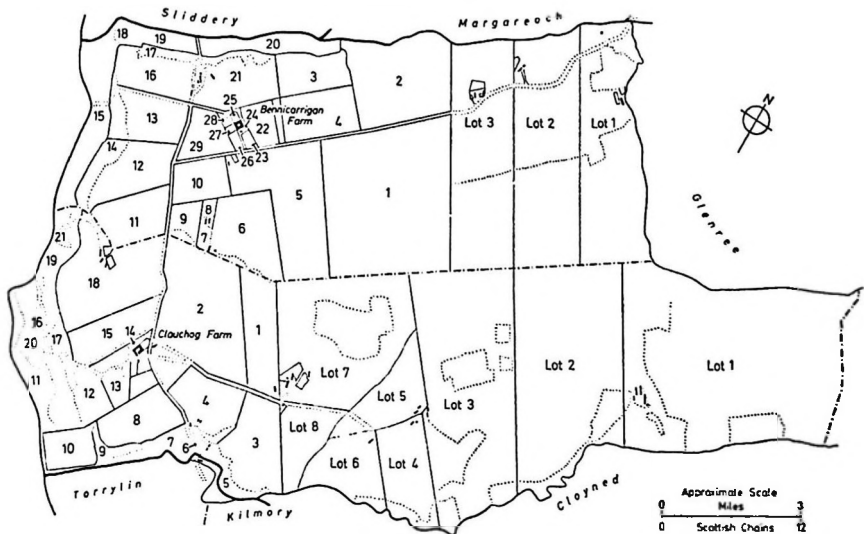


FIG. 7 Re-drawing of plans no. 28 and 29 of Bauchop showing new organisation of Bennecarrigan into farm and small lots. (Brodict MS K.) (See p. 58.)

1814



FIG. 8 Re-drawing of Yule, 1814 (Brodick MS N). The contrast between northern and southern Arran, and between interior and coast is clear. (See pp. 58, 61.)

1815

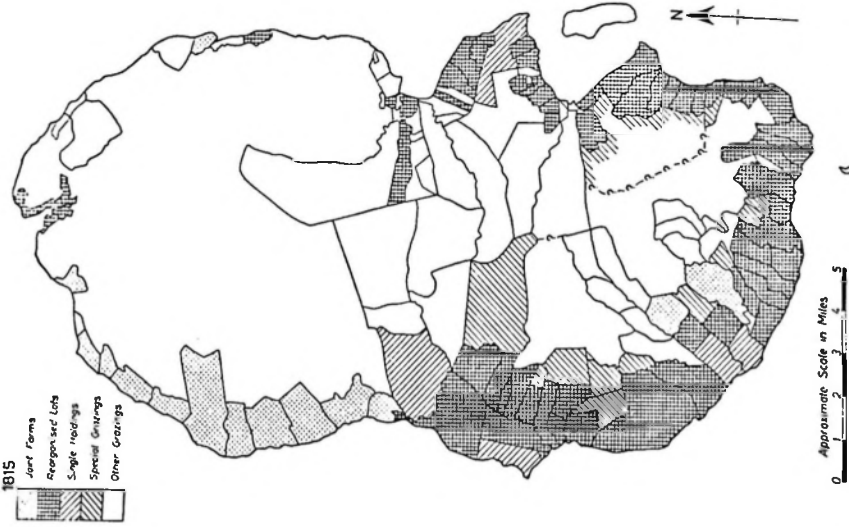


FIG. 9 Arran landholdings after the 1814/1815 reorganisation. (Brodick MS O.) The joint farms of the north-west remain, in contrast to the reorganised small holdings of the south, and the grazing farms of the interior. (See p. 59.)

have gradually dwindled in numbers of tenants in the twentieth century, until most are now single holdings such as Balliekin (Storrie 1967). In the north-east, apart from the above-named lots, the main change was in the clearance of the joint townships in the North Sannox valley in the late 1820s (Brodick MS O).

In the southern areas, only a few joint townships remained after 1815, e.g. at Cloyned, Glenrie and Levancorrach. The whole of the central interior and the upper parts of some of the south-western valleys comprised large sheep and grazing farms. Around the edges of these sheep walks, several portions of pasture were planned either as individual grazing farms or as common muir (moor) for some of the nearby proposed lots. It is not clear from either the maps or rentals which of these in fact was intended, though rentals of the 1820s refer to these blocks of land as 'vacant hill grazings', while rentals after 1830 refer to them as common grazings (Brodick MS O). The greatest changes of all, which have had the greatest impact on the present-day landscape of Arran were the creation of coastal small holdings or lots. The contemporaneous rentals confirm replacement of shares in common land for tenants and subtenants by consolidated lots for a reduced number of tenants, sometimes different tenants. About two-thirds of the newly-planned holdings appear to have had no common grazings. A comparison between Burrel's proposals (Fig. 2) and those of Yule's map (Fig. 8) underlines the difficult population problem facing landlords of estates along the seaboard of West Highland Scotland when they tried to implement the theories of the agricultural revolution. The reorganisation of 1814/15 necessitated clearances in a few instances, but more frequently only involved reduction in number of tenants. The holdings that resulted were much smaller and more numerous than those which Burrel had proposed forty years previously.

Even despite these reductions in population on the land, the population of the island as a whole continued to increase after these changes (Fig. 10a), and the rentals of the years immediately after 1815 occasionally showed evidence of a feature expressly forbidden—the increasing subdivision of holdings which were to have been tenanted by one person and his family. When the fourteen- and nineteen-year leases expired, the process of increasing the size of the farms was taken another stage, many small possessions being amalgamated (Mackenzie *op. cit.*: 214). The rental for 1830 confirmed this feature of subsequent amalgamation (Brodick MS O). In 1837 the factor described the agricultural pattern of Arran since the changeover, stating that the Duke's property then consisted of 458 farms of which 53 were fairly large, and the rest smaller possessions of two to forty acres. He discussed the care that had been taken to prevent subletting, and continued:

Ever since 1815 the improvement of the property has gone on progressively, but during the last seven years with increased speed. Many of the smaller possessions have been converted into farms of greater size. (Paterson 1837: 149)

From a study of subsequent rentals, it emerges that since Paterson's time, numbers of tenants have decreased at varying rates in different areas. The present landholdings,

though much reduced in number, are closely related in layout and appearance to the plans and maps of the 1815 period, as can be seen on later maps and plans (Ordnance Survey 1867 and 1896). Whereas, for example, Kilbride Bennan was laid out for twelve tenants, there is now only one farm there, with field boundaries relating to the twelve holdings. In some cases the clachans remained in the midst of new patterns of fields. In others, settlement later dispersed on to new holdings. By 1965 the main change in the landholdings pattern had been the appearance of the lands bought by the Forestry Commission, which were partly used for grazing and partly for plantation. In 1964 these lands amounted to nearly 14,000 acres (Forestry Commission 1964: Table 29). They were in three main blocks, in the north-east, centre and south-east of the island, with a small subsidiary area in the south. Under plantation in 1965 were over 3,500 acres, and another 1,500 were to be planted in the next few years. According to a survey conducted by the author in 1965, about twenty, or about one-sixth of the total number of other landholdings were over 500 acres, and included large grazings and shootings of several tens of thousands of acres in extent. There were also over 100 farms up to 500 acres in size whose average size was about 120 acres, although nearly three-quarters of them were in fact under 100 acres, and half of them were under 50.

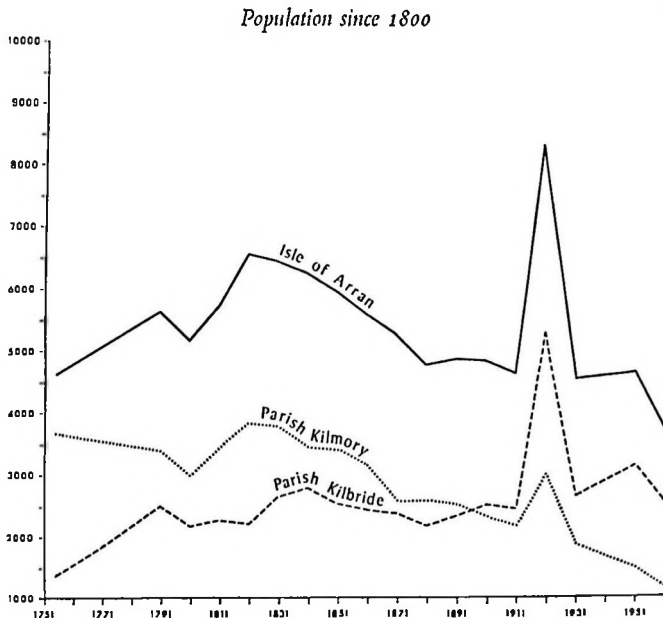


FIG. 10a Absolute population change in Arran and its two parishes, 1755-1965. (Kyd:1952; Census of Scotland volumes to 1961; author, 1965.) The Census for 1921 was taken in June, and was not a true representation of the total permanent population resident on Arran at that time. (See pp. 55, 61, 63.)

Despite migration across the Clyde, and emigration beyond, population in Arran increased from Webster's 4,600 in 1755 (Kyd 1952:32) to over 5,000 by 1801 (Fig. 10a). Its concentrations in 1801 (Fig. 11) accorded with the distribution of tenancies in 1800 (Brodict MS I). Population was essentially peripheral, with valley extensions inland. Settlement and population were predominantly in the southern half of the island, apart from the clusters on each joint farm in the north-west.

The increase from 1801 to 1821 (Fig. 10b) corresponded to that in most areas of the

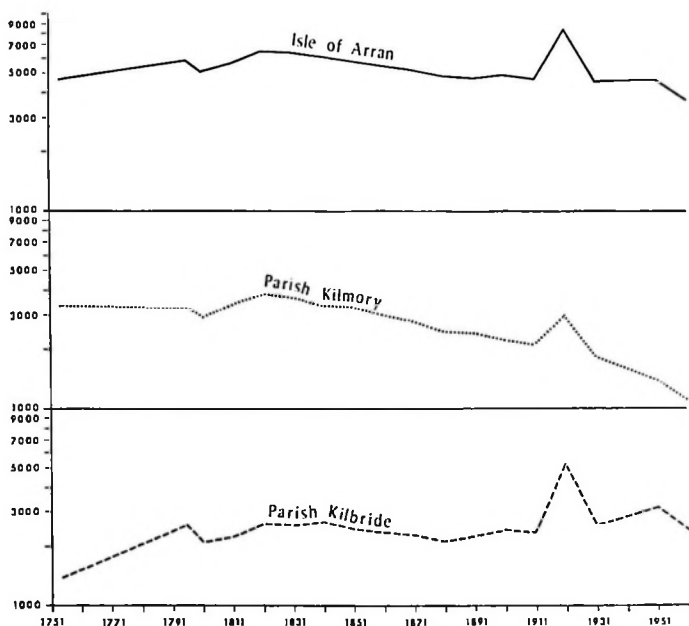


FIG. 10b Rate of population change in Arran for the same period as Fig. 10a (logarithmic scale).

West Highland seaboard. Thereafter, decline was gradual in Arran throughout the nineteenth century. With the increasing growth and importance of the eastern villages, connected with the rise in steamer traffic and the growth of the Clyde tourist industry, the two parishes of Arran showed divergent trends. Kilmory, the western rural half of the island, continued to decline, recently at a rapid rate, whilst the eastern parish, Kilbride, increased in population towards the end of the century, but declined even more rapidly than Kilmory between 1951 and 1965. The Census for 1921 was taken during the summer holiday season, and is therefore not a true representation of population in Arran.

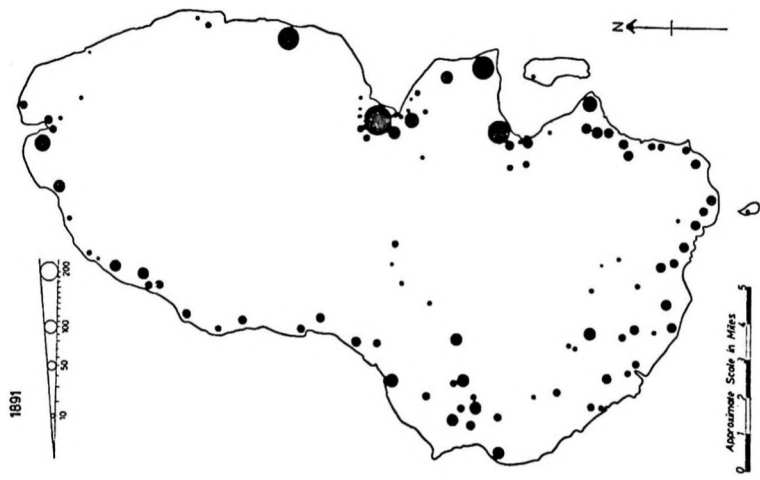


FIG. 13 Distribution of population in Arran, 1891.
(New Register House MS 1891r.) (See p. 64.)



FIG. 12 Distribution of population in Arran in 1841. (Based on New Register House, MS 1841.)
In this figure and the next one, the increasing size of eastern villages is seen. (See p. 64.)

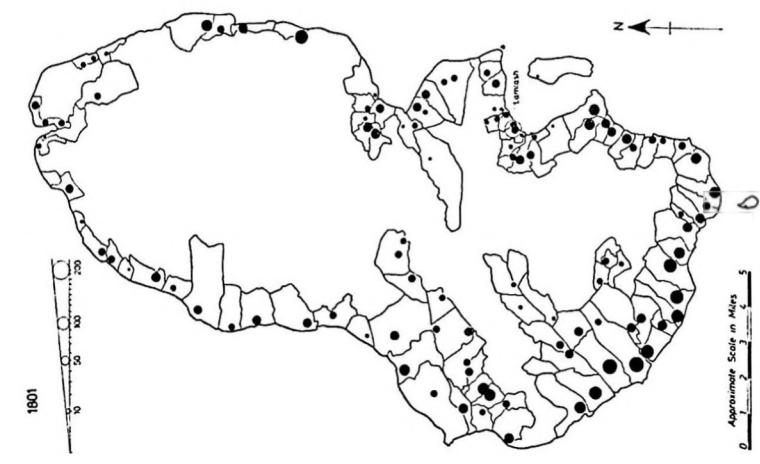


FIG. 11 Distribution of population in Arran in 1801. (Brodick MS 1.) (See p. 63.)

It is not possible to make a detailed study of the period of maximum population between 1821 and 1831 as Census information is not available for analysis; 1841 is the first census for which detailed information can be obtained (Storrie 1962:152) and as the population then was still considerably above that of 1801, a distribution map showing population distribution for 1841 has been compiled (Fig. 12). The major difference between 1801 and 1841 was the beginning of the greater concentration of population around the east coast bays in Brodick, and Lamlash, and in Lochranza in the north. This trend was emphasised by 1891 (Fig. 13). There had also been a reduction of rural population in the north, west and south. The growth of the eastern villages is not here examined in detail, but the other differences accord with the agrarian changes discussed earlier. Changing population and employment patterns corresponding to changing emphasis in the economy of Arran through the nineteenth century likewise emerge from a study of the census records. These have been analysed in detail for 1841 and 1861, and are summarised below, compared with results obtained during a 1965 survey by the author.

Household size in Arran

Although total numbers of population in Arran have decreased substantially, the numbers of households have not fallen at a corresponding rate (Table I). But the

TABLE I

Household size in Arran. (A household includes family and employees)

<i>Number of persons per household</i>	1841	1861	1965
1	67	83	443
2	127	160	477
3	139	165	172
4	175	160	125
5	190	149	53
6	150	117	30
7	122	101	9
8	79	71	4
9	48	48	1
10	27	30	—
11	11	16	—
12	4	8	—
Over 12	9	10	1
Total number of households	1,148	1,118	1,315

(Based on H.M. New Register House MS 1841 and 1861; author's survey 1965.)

HOUSEHOLD SIZE

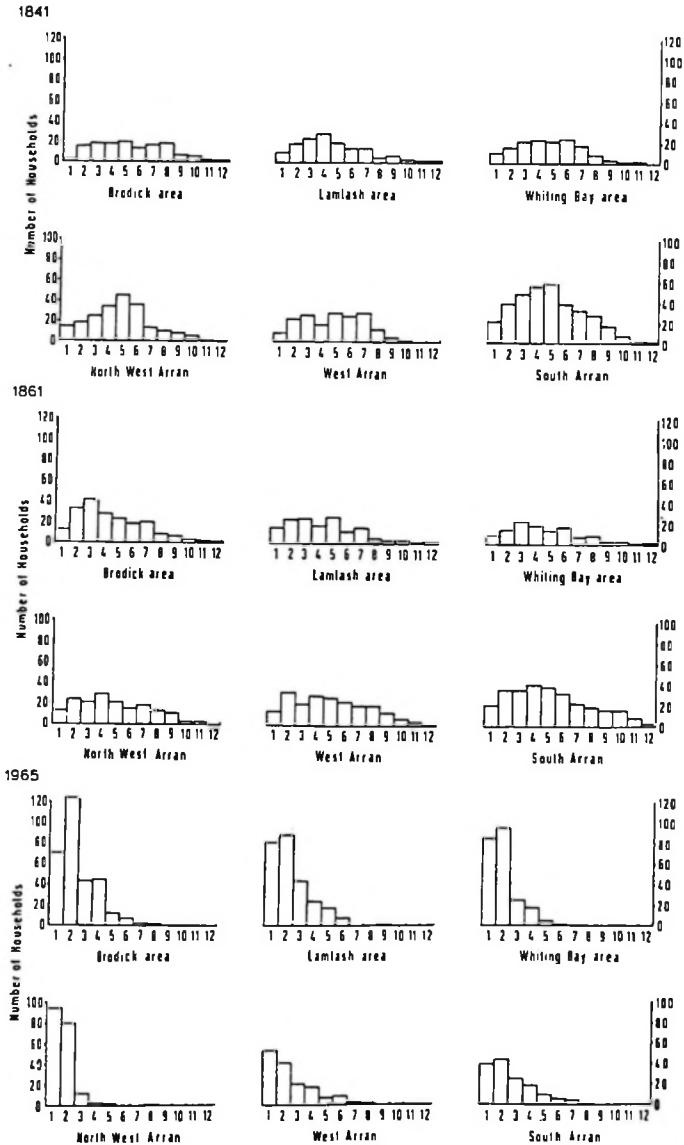


FIG. 14 Household size in Arran 1841, 1861 and 1965. Households with over 12 persons have been omitted; they usually number only one or two per area in 1841 and 1861 and there was only one in all Arran in 1965. Horizontal scale gives household size in numbers of people. (New Register House MSS: author's survey, 1965.) (See p. 67.)

numbers of people belonging to each household (*i.e.* family and employees) show a very different pattern. The average numbers per household for 1841 and 1861 were 5.3 and 5.0 respectively, compared with 2.3 for 1965. Between 1841 and 1861 an increasing tendency towards smaller numbers of people per household is apparent, although in both periods, the rural areas tended to have relatively more large households, especially in the west and south (Fig. 14). By 1965, 70 per cent of the households contained only one or two people; 22.6 per cent contained three or four, and 7.4 per cent had more than four people (Table I). Moreover a study of the regional differentiation (Fig. 14) reveals that the greatest concentration of small households is now to be found in the village areas and in the north and north-west. The west and south still have a wider range of household size.

Age groups and sex ratios

For Arran as a whole changing proportions of age groups are shown in Table II. The imbalance of 1965 is contrasted both with the nineteenth century in Arran, and with twentieth-century Scotland as a whole. A study of the data illustrated graphically for the regions of the island further illustrates this point (Fig. 15). In 1841, the predominant age group was that between 15 and 44 years of age: this was most pronounced in the rural areas of the north, west and south. People under 15 years of age outnumbered those in categories over 45. By 1861, the group 15-44 years was becoming less predominant, except in the rural west. Both 1841 and 1861 contrast strongly with 1965 when the numbers over 45 years far exceeded those under 15, and in some cases, even all those under 45 (*e.g.* the Whiting Bay area). In 1965 the areas with relatively more balanced age structures, though imbalanced in comparison to Scotland as a whole (Table II) comprised the Brodick area and the farming areas of the west and south (about half of the population is over, and half under 45). The Lamlash and Whiting Bay areas showed an increasing tendency towards an ageing population and small proportions of younger people (respectively 296:211 and 346:269 people over and under 45 years), while in the northern area of Lochranza and Corrie, there were 283 people

TABLE II
Percentage age groups in Arran

	ARRAN			SCOTLAND
	1841	1861	1965	1961
Over 65	7.7	10.7	26.7	10.6
45-64	16.5	23.3	29.5	24.4
15-44	38.2	36.0	26.0	39.2
5-14	25.2	18.5	12.4	16.8
Under 5	12.4	11.5	5.4	9.0
	100.0%	100.0%	100.0%	100.0%

AGE AND SEX GROUPS

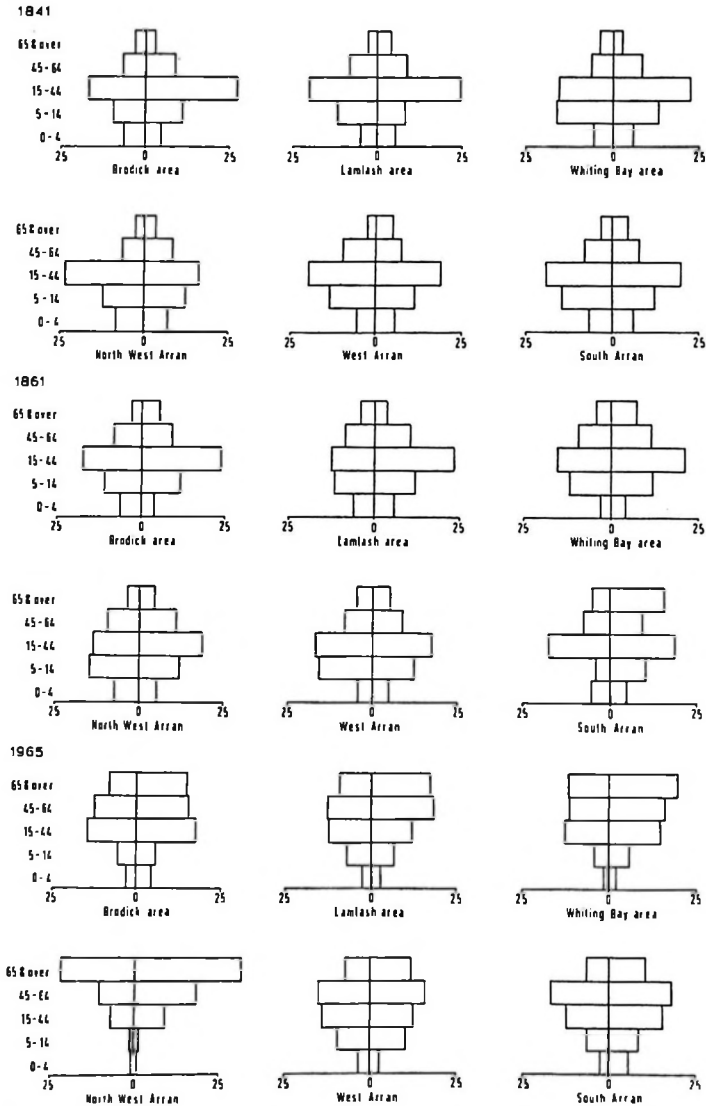


FIG. 15 Age and sex groups in Arran, 1841, 1861 and 1965. Groupings, from top to bottom of diagrams, are over 65; 45-64; 15-44; 5-14; under 5 years of age. Males are on left, females on right of diagram. (Source as for Fig. 14.) (See p. 67.)

over 65 and only 71 under that age: there were scarcely any young persons under 15 years.

Together with age structure differences there were also differing sex ratios (Table III).

TABLE III
Sex ratios (male to female) in Arran

	ARRAN			SCOTLAND
	1841	1861	1965	1961
	M : F	M : F	M : F	M : F
Over 65	100: 96	100: 93	100:163	100:157
45-64	100: 92	100:100	100:126	100:114
15-44	100: 86	100:127	110:107	100:105
5-14	100:116	100:116	100:116	100: 96
15-44	100: 86	100:127	110:107	100:105
5-14	100:116	100:116	100:116	100: 96
Under 5	100:128	100:165	100:114	100: 96

Again the 1965 structure in Arran differed from both nineteenth-century Arran and twentieth-century Scotland. Females outnumbered males in all categories in 1965, with higher than national ratios, especially in the older age categories.

Employment in Arran

In analysing the data for 1841 and 1861 for male employment the age groupings of 15-44 and 45-64 years of age have been used, as for 1965, though these categories are not perhaps so appropriate for nineteenth-century employment and population structures. In both 1841 and 1861, there were considerable numbers of males under 15 and over 65 in employment in Arran, but these have been excluded from the following results. Those under 15 years of age were predominantly in agricultural employment, while those above 65 had more varied occupations. The broad categories of employment discussed are shown in Tables IV and V.

TABLE IV
Employment of males between 15 and 64 years of age in Arran

	1841		1861		1965	
Agricultural	865	59.6	804	66.3	213	31.3
Maritime	239	16.3	255	21.3	23	3.4
Crafts	258	17.7	50	4.2	95	14.1
Shops, Inns, etc.	35	2.4	47	4.0	113	16.6
Professional	29	2.0	24	2.1	48	7.1
Miscellaneous	28	2.0	24	2.1	188	27.5
Total in employment	1,454	100.0%	1,204	100.0%	680	100.0%

Compared with 1841 and 1861, the almost complete disappearance in 1965 of maritime employment is noted (Table IV), together with the halving in importance of 'agricultural' employment. 'Services' were included in the 'miscellaneous' category, and

accounted for 44.1 per cent of the men of working age in 1965. Shopkeepers and hoteliers also showed an increase in numbers and importance, while 'craftsmen' have declined. There is an almost complete absence of manufacturing employment in Arran today, apart from a small creamery in the south of the island at Torrylin. The regional analysis for 1841, 1861 and 1965 (Table V) shows the different ways in which various

TABLE V

Regional data for employed males under and over 45 years of age in Arran

Categories for 1841 and 1861 are as follows:

Agricultural	farmers, agricultural labourers of all types, crofters, cottars, servants, estate workers, gardeners, and foresters.
Maritime	seamen (merchant and coastal), fisherman, coastguards, etc.
Crafts	weavers (woollen, linen and cotton), quarriers, and stone masons, plumbers, joiners and carpenters, shoemakers, tailors, bakers.
Shops, Inns, etc.	include dealers and hawkers.
Professional	schoolmasters and teachers, ministers of religion, bankers, etc.
Miscellaneous	policemen, insurance agents, miners, clerks, etc.

By 1965, the 'maritime' category comprises lighthouse keepers, piermen and coastguards; 'miscellaneous' includes employees of the Post Office and County Council, drivers, a few creamery workers, and additional services such as hallkeepers, groundsmen, etc. This accounts for the large proportions of the total which the category 'miscellaneous' comprised in 1965.

Age in years	BRODICK		LAMLASH		WHITING BAY		NORTH AND NORTHWEST		WEST		SOUTH	
	15-44	45-64	15-44	45-64	15-44	45-64	15-44	45-64	15-44	45-64	15-44	45-64
1841												
Agricultural	48	21	34	19	80	33	47	34	137	68	249	95
Maritime	11	2	25	19	9	6	118	20	11	4	9	5
Crafts	21	10	38	22	8	4	21	8	42	16	54	14
Shops, Inns, etc.	3	—	15	1	1	—	2	1	3	3	2	4
Professional	3	2	7	3	1	—	2	1	3	3	2	1
Miscellaneous	2	1	7	3	—	1	4	1	3	2	4	1
1861												
Agricultural	76	39	40	30	47	24	48	38	132	49	195	86
Maritime	17	11	9	10	19	12	46	26	5	2	5	10
Crafts	40	16	22	9	17	9	7	11	34	47	26	17
Shops, Inns, etc.	10	3	8	2	7	5	1	1	2	2	6	3
Professional	8	1	5	6	—	1	5	1	4	4	2	1
Miscellaneous	9	1	4	1	1	1	1	2	2	—	2	1
1965												
Agricultural	18	17	6	9	16	11	4	5	28	27	33	39
Maritime	1	1	2	5	3	1	1	—	—	—	—	4
Crafts	19	14	18	15	5	5	5	4	2	5	2	2
Shops, Inns, etc.	18	19	7	12	8	9	1	2	4	2	—	1
Professional	3	8	10	6	7	6	2	1	3	3	—	1
Miscellaneous	43	28	24	21	19	16	8	13	13	13	5	10

areas have been affected by the above changes. Employment in the north and north-west has declined since 1841 and 1861 when the area had a high proportion of men engaged in farming, fishing and crafts. The rural farming areas of the west and south have had agricultural reductions in employment in common with national trends. Again a national feature, the villages have shown decline in crafts, especially shoemaking, tailoring and weaving; on the other hand, they have increased their provision and proportions of 'services' in part related to twentieth-century standards of living, and in part related to the island tourist industry.

In 1841 and 1861 female employment was considerable comprising farm-workers and dairymaids, domestic help of various kinds (maids, cooks, laundrymaids, dressmakers), and occasional teachers, nurses and other professional women. Most households had one or more of these categories. In 1965, however, the female labour force of working age was much restricted, though it should be noted that the figures in Table VI do not reveal part-time employment, which is important in the villages during the tourist season. In the rural areas there is virtually no female employment except in agriculture and occasionally in professional service.

TABLE VI

Female employment in Arran in 1965

<i>Age in years</i>	ARRAN 1965			
	<i>All ages</i>	<i>15-64</i>	<i>15-44</i>	<i>45-64</i>
Boarding house, hotel, etc.	93	64	29	35
Other domestic	94	82	42	40
Shop, Post Office and clerk	121	111	61	50
Professional	33	33	18	15
Miscellaneous	23	16	9	7
Nil	1,295	564	233	331
Total	1,659	870	392	478

(1965: author's survey)

According to a survey carried out by the author in July 1965, population then resident in Arran was 2,993. In comparison to the 1961 Census, which gave a total of 3,712 for Arran, this represents a decline, over four years, of nearly 20 per cent. This is a higher rate of decline than the 20 per cent decrease between 1951 and 1961 (Fig. 10b). Even if one were to allow a 5 to 10 per cent negative error in the collection of population data in 1965, *i.e.* if the 1965 survey omitted that proportion, it can still be shown that the rate of decline was greater than on average during the 1951-61 period. Whether this represents an increase in the rate of emigration, or a decrease in the numbers of

people settling on the island, both certainly combined with a greater rate of natural decline, has not been established. A relatively low number of people, by Highland standards, was found to be in the categories 'periodically away' and 'permanently away'. These included persons still technically belonging to resident island families, but residing away from home for short spells (*e.g.* students) or for prolonged spells (*e.g.* in the merchant navy). The method by which the survey was conducted means that the totals of 33 and 106 respectively are only minimum estimates. They suggest that at least 150 families, or about 11 per cent of the total of 1,315 families, had at least one member of the family residing away from home in 1965.

The three main villages and their immediate hinterlands in 1965 contained about 1,850 people, or 62 per cent of the island's resident population (Table VII). The northern half

TABLE VII
Population groupings in Arran in 1965

	<i>Number</i>	<i>Per cent</i>
Brodick area	728	24.4
Lamlash area	615	20.5
Whiting Bay area	507	16.9
North and north-west Arran	353	11.8
West Arran	387	12.9
South Arran	403	13.5
Total	2,993	100.0%

(1965: author's survey)

of the whole of Arran contained only 353 people, or just under 12 per cent; and the other rural areas on the west and south accounted for the remaining 26 per cent. This uneven distribution of population has repercussions on employment, services, transport, and the other elements of the 'Highland Problem' which is discussed so continuously at the present day. Arran and Barra have had similar depopulation rates of around 20 per cent in recent years, yet Arran has not been treated in the past or at present as part of the Highlands and Islands, particularly in respect of legislation. Arran, like other counties with characteristics of the 'Highland Problem', *e.g.* Moray and Banff, was not included in the seven 'Crofting Counties' of the Crofters (Scotland) Acts of 1886, 1955 and 1961. With the establishment of the Highlands and Islands Development Board in 1965, the same seven counties were included in its area, at least for the time being. The problems of an imbalanced population and employment structure in Arran are of the same order and type as in many parts of the crofting counties. Again, Arran's position so close to the Lowlands of Scotland has probably contributed to easier and more rapid depopulation. Arran has often claimed that its scenery represents the 'Highlands in miniature'. But the Highland problem of depopulation which it exemplifies is of major dimensions. (See Storrie and Jackson, 1967, for further discussion on this point.)

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BRODICK MSS.

The following MS sources form part of a larger collection of material relating to Arran from the mid-eighteenth century onwards, consulted with the kind permission of The Lady Jean Fforde, Strabane, Brodick. They are included in list 0331 of the National Register of Archives (Scotland), but not specifically numbered therein.

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 P 1837 'Plan of the Lands of Dougary and Auchingallan, the property of the Hon. Henry R. Westenra, M.P.' Similar plans for the other townships of the northwest.

LENNOXLOVE MSS

Consulted by kind permission of His Grace the Duke of Hamilton, the following three items are part of a larger collection.

- A 1784 Rental of the Lands intended to be sold.
 B 1811 Memorandum Book for Arran 1811. Memorandum as to the Rents to be paid to the Marquis of Douglas for certain farms in Arran.
 C 1838 'Copy, Report of the Survey and Valuation of the lands in the Island of Arran belonging to Mr Westenra, by Mr Adam.'

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