

CHANGING IRELAND

REGIONAL ASPECTS OF AGRICULTURAL PRODUCTION IN IRELAND 1970-1980

This note describes the regional pattern of agricultural production in 1980 and the changes which occurred between 1970 and 1980. It is based on a more detailed review and mapping of the results from the 1970 and 1980 census enumerations for the Republic of Ireland and Northern Ireland (Horner, Walsh and Williams, 1984). Here the comments are restricted mostly to patterns referring to the level of the five ACOT (Agricultural Training Authority) regions in the Republic and to Northern Ireland (Tables 1 and 2).

Changes in production between 1970 and 1980 have been encouraged and facilitated by the structural and pricing policies of the European Community Common Agricultural Policy, which have been in operation in Ireland since 1973. These policies have emphasised and reinforced the need, of much longer standing, for modernisation in agricultural production. In this continuing adjustment, the capital/labour ratio has increased greatly between 1970 and 1980. There has been a very substantial increase in the level of investment in machinery, special purpose farm buildings and off-farm inputs such as fertilisers and concentrate feeds. At the individual farm level there has been a need for increased specialisation, with greater attention directed to the more profitable enterprises. The nature and magnitude of the adjustments have been varied over the country due, in part, to contrasting ecological, structural and demographic conditions.

Modernisation has been associated with changes in the quantities of land, labour and capital used by farmers. In 1980 there were approximately 292,000 holdings greater than two hectares (ha) in size in Ireland. Almost two-thirds were less than 20 ha while another 20% were less than 40 ha. There are very marked regional differences in farm size structure with 76% of all holdings in the Northwest but only 45% in the Southeast less than 20 ha. The average size of holdings over two ha in the Republic is 23.3 ha which varies at the regional level from 32.4 in the Southeast to 17.5 in the Northwest. Holdings of 30 to 40 ha predominate in south Leinster and east Munster. Over most of the midlands and north Munster holdings of 20 to 30 ha are most common, while in the West and Northwest the average size is between 11 and 20 ha in most districts. The minimum value is 11 ha around Swinford in Mayo. In Northern Ireland the average size is 21.5 ha. Between 1970 and 1980 the total number of holdings over two ha in the Republic declined by almost 16,000 (6.2%), the level of decline ranging from 5.0% in the Southeast to 7.5% in the Northwest. Over the same period there was a decline of over 9,000 (15.4%) in the number of holdings over two ha in Northern Ireland. Since most of the decline was among small holdings the average size increased by less than 1.5 ha (6.6%) in the Republic. The corresponding increase in Northern Ireland was 3.3 ha (18.1%).

Perhaps the most important change in Irish agricultural production in

TABLE 1
SELECTED CHARACTERISTICS OF AGRICULTURAL PRODUCTION, 1980

	<i>North-west</i>	<i>West</i>	<i>Midland & East</i>	<i>South-west</i>	<i>South east</i>	<i>N. Ireland</i>	<i>Ireland</i>
Holdings: avg. size (ha)	17.5	19.7	27.5	26.8	32.7	21.5	23.2
Holdings: % < 20 ha	75.8	75.6	58.4	52.4	45.3	65.0	63.9
Employment ¹	28.7	30.9	5.9	18.4	21.5	5.1	12.2
Tractors/100 holdings > 2 ha	53.1	42.8	70.0	69.6	81.4	95.8	66.3
Tractors/1000 ha agr. land	30.4	21.7	25.5	26.0	24.9	46.6	28.7
Tractors: % < 50 H.P.	83.6	85.3	60.3	66.0	56.0	66.1	69.3
Agric. land as % of total area	77.3	78.4	84.9	86.7	87.5	78.8	82.1
Tillage as % of total area	2.5	2.0	15.5	7.1	15.6	5.9	7.7
Cereals as % of tillage	67.7	58.3	85.8	77.5	83.4	71.6	79.5
Total cattle density ²	107.8	108.9	154.1	142.7	158.4	153.9	136.0
Dry cattle density ²	45.8	52.9	86.0	44.3	65.9	54.5	56.7
Breeding cattle density ²	34.7	28.0	37.0	66.6	55.4	59.6	47.0
Sheep density ²	54.5	81.5	51.5	36.2	89.5	108.3	70.3
Horses density ²	0.5	0.9	2.2	1.2	2.0	0.7	1.2
Working horses as % of all horses	27.4	55.5	12.0	39.0	16.3	5.3	25.6
Total L.U.Es density ²	89.1	93.0	129.5	118.4	135.4	130.3	114.6

¹ Persons in agricultural occupations as a percentage of total labour force, 1981

² Per 100 hectares land related to livestock

The regional subdivision for the Republic of Ireland follows that used by ACOT (The Agricultural Training Authority). Each region is composed of several counties, as follows: Northwest: Cavan, Donegal, Leitrim, Longford, Monaghan, Sligo; West: Clare, Galway, Mayo, Roscommon; Midland and East: Dublin, Kildare, Laois, Louth, Meath, Offaly, Westmeath; Southwest: Cork, Kerry, Limerick; Southeast: Carlow, Kilkenny, Tipperary, Waterford, Wexford.

recent times has been the replacement of human and animal labour by mechanised means of production. This substitution is related to the growing shortage and rising costs of farm labour and to the demands of the farming population for higher incomes, better working conditions and a better standard of living. Data from the 1981 census of population shows that there were 228,700 persons engaged in agricultural occupations in that year. This total is 110,000 (32.5%) less than a decade earlier. Persons in agricultural occupations now constitute only one-eighth of the labour force in Ireland, being just under one-sixth of the total in the Republic and only one-twentieth of the Northern Ireland total. Regional contrasts exist but they are less pronounced than formerly. Whereas over half of the workforce in the West region was engaged in agriculture in 1971, the proportion is now less than one-third in all except four counties: Mayo, Roscommon, Cavan and Leitrim. Decline has

TABLE 2
 PERCENTAGE CHANGE IN SELECTED CHARACTERISTICS OF
 AGRICULTURAL PRODUCTION 1970-1980

	<i>North- west</i>	<i>West</i>	<i>Midland & East</i>	<i>South- west</i>	<i>South- east</i>	<i>N. Ireland</i>	<i>Ireland</i>
Holdings:							
avg. size (ha)	8.2	7.0	6.0	5.7	5.2	18.1	8.6
Employment ¹	-37.4	-35.7	-27.0	-29.7	-27.4	-36.5	-32.5
Tractors	83.6	173.6	45.0	66.9	40.8	36.2	61.6
Tillage area	-27.0	-36.0	21.7	-7.1	16.2	-20.8	0.2
Cereals area	-19.1	-30.5	37.4	-2.6	29.8	-24.8	10.1
Total cattle	15.6	19.7	8.5	17.9	17.4	14.2	15.7
Dry cattle	17.4	27.3	10.1	16.2	15.2	15.5	16.8
Breeding cattle	16.9	12.3	9.5	27.3	26.8	16.4	19.8
Sheep	9.3	-23.4	-41.5	-2.5	-16.4	9.8	-13.8
Horses	-56.6	-64.1	-21.3	-53.3	-27.1	9.9	-42.4
Working horses	-85.5	-76.9	-76.9	-76.3	-79.1	-65.8	-77.8
L.U.Es	14.9	8.3	3.2	16.9	13.2	14.0	11.8
Pigs	-56.2	9.0	-14.6	-29.9	4.3	-35.3	-31.3
Poultry	12.2	-61.4	-36.5	18.2	-19.3	-42.2	-31.1

¹ Persons in agricultural occupations

been widespread in all areas between 1971 and 1981, ranging from 22.0% in Kildare to over 40.0% in Donegal and Leitrim.

Coupled with the decline in labour has been a reduction of over 67,000 (77.8%) in the number of working horses. By 1980 there were only approximately 19,000 working horses, with 63.8% of the total in the West and Southwest regions. By contrast only 8.7% of the total were located in the Northwest and Northern Ireland.

In 1980 there were approximately 145,000 tractors in use on farms in the Republic of Ireland, and another 48,700 in Northern Ireland. When related to the total number of holdings over two ha in an area these totals give densities of 60.2 per 100 holdings in the Republic and 95.8 in Northern Ireland. At the regional level the density in the West is only slightly over half that in the Southeast, while for the smaller-sized Rural Districts the range is from 4.9 around Clifden to 109.5 around Enniscorthy. The highest densities are mostly in the east and south where farms are large, and where there is a high level of specialisation in tillage and dairying. The density of tractors in relation to the area of agricultural land is less variable, ranging from 21.7 in the West to 30.4 in the Northwest. These contrasts are partly related to differences in the size of holdings, which also partly influences the scale of mechanisation. Thus, 56.0% of the tractors in use in the Southeast had a horse-power (H.P.) rating of less than 50, in contrast to 83.6% in the Northwest. Between 1970 and 1980 the total number of tractors increased by

61,000 (72.4%) in the Republic and 13,000 (36.2%) in Northern Ireland. Within the Republic almost 52% of the increase was in the West and North-west regions, where mechanisation levels were lowest in 1970. In addition to the increase in the number of tractors there were very substantial increases in the numbers of other items of machinery: 5,100 extra forage harvesters, 31,400 fertilizer distributors, 13,000 balers and 23,000 milking machines.

Alongside these changes in the inputs of agricultural production there have also been significant changes in the composition of agricultural output. The principal land use categories adopted in the agricultural census enumerations in Ireland are tillage, hay and pasture, rough grazing, woods and plantations, and 'other land'; in 1980 these accounted for 7.7, 59.5, 14.8, 4.6 and 13.2% of the total area respectively. The first three categories account for the total area of agricultural land, which varies from 77.3% in the Northwest to 87.5% in the Southeast.

Tillage occupies 634,300 ha (9.4%) of the total area used for agriculture, and accounts for approximately 12.0% of the value of gross agricultural output. It occurs mostly in the east and the south, where it occupies almost one-sixth of the total area. This proportion rises to between one-quarter and one-third in parts of Louth, east Meath, Kildare, Carlow, Wexford and around Middleton and Kinsale in Cork. In north Co. Dublin 42.6% of the area is under tillage. By contrast tillage land is of very minor importance in the West and Northwest regions accounting for less than 3.0% of the total area. While the total area of tillage in the country remained almost unaltered between 1970 and 1980, there was a significant change in its regional distribution, with greater concentration onto larger holdings in the Midland and East and Southeast regions.

The cultivation of cereals, potatoes and sugar beet accounts for over 94.0% of the total tillage land. Cereals account for 53.0% of the value of the output of total crops in the Republic of Ireland and 12.5% in Northern Ireland. Almost two-thirds of the cereal area is in the Midland and East and Southeast regions where advantage can be taken of the drier and sunnier conditions; cereals account for over 80% of the total tilled area in these regions, in contrast to 58.3% in the West. Over the decade the cereal area increased by 46,000 ha (10.1%). This overall figure resulted from an increase of 80,000 ha in the Midland and East and Southeast regions and a decline of 34,000 ha over the remainder of the country. Feeding barley is the most important cereal, accounting for over 80% of the total cereal area in Northern Ireland, counties Louth, Monaghan, Westmeath and Cork, and parts of Tipperary, Kilkenny, Waterford and Wexford. However, it is hardly grown at all along the west coast and in counties Leitrim and Fermanagh. Over the decade there was an increase of 155,000 hectares (72.5%) in the area under this crop. The expansion coincided with a rapid growth in the demand for concentrate feeds for livestock, especially for dairy and young cattle and pigs. Significant reductions of 44.3% and 66.8% in the areas under wheat and oats meant that their combined share of the total cereal area was reduced from 40% to 16%. The role of wheat in cereal production is most significant in the Midland and East region where it accounts for 16.1% of the total cereal area, in contrast to less than 3.0% in the Northwest and West — areas where oats still have a residual importance as winter grain for working horses. The area of tillage not under cereal crops (19.1% of the total) is mostly used for growing potatoes and

sugar beet. These crops account for 46.7% and 31.6% respectively of the remainder of the tilled area. The area under potatoes declined by 25.6% between 1970 and 1980 with 55% of the total decline concentrated in the West and Northwest regions. The area under sugar beet increased by just over 7000 ha (28.1%). However, this overall figure masks the regional contrasts which result from an increase of 8,450 ha in the Southwest and Southeast and declines elsewhere.

In 1980 over 90% of the total area of agricultural land in Ireland was used directly or indirectly to support livestock. The area of 'land related to livestock' is defined here as all agricultural land, minus the area given over to the main commercial crops: barley, wheat, potatoes, sugar beet, fruit and horticulture. Livestock and livestock products account for 87% of the value of gross agricultural output. In 1980 there were some 8.4 million cattle in Ireland, comprising approximately 3.5 million dry cattle, 2.9 million breeding cattle and 2.0 million calves. Cattle and milk accounted for 70.5% of the value of gross agricultural output in the Republic of Ireland and 60.8% in Northern Ireland. There is a distinct regional pattern in the density distribution of cattle, varying from 2347 per 1000 ha of land related to livestock around Bandon to 330 in the Glenties area. Overall, the densities in the West and Northwest are about two-thirds of the levels reached elsewhere in the country. An increase of 15.7% in the total number of cattle was facilitated by greater use of lime and fertilizers, better grassland management and use of machinery for activities such as hay saving, silage making and milking of cows. A notable feature of the change in cattle numbers was a decline in parts of Dublin, Kildare and in south-east Meath.

Dry cattle account for 41.7% of all cattle. While they are reared on approximately 80% of all holdings there is a high level of regional variation in the density distribution ranging from 859 per 1000 ha land related to livestock in the Midland and East region to 443 in the Southwest. The rearing and fattening of dry cattle is of greatest importance on the high quality pastures of the central lowlands, in the intensive arable districts in the south-east, on the flat to undulating lowlands of east Galway and Roscommon, and on the dry mineral soils in the drumlin regions of Down and Armagh. Breeding cattle include all cows, heifers-in-calf and bulls. There are marked regional variations in the density levels of breeding cattle, ranging from around 100 in west Galway to over 1100 around Bandon. The highest densities occur in the principal dairying districts in the south-west and in central and east Ulster. Over the decade there was an increase of almost 480,000 in the number of breeding cattle. While 60% of the increase occurred in the Southwest and Southeast regions there were also significant increases in parts of east Cavan, Monaghan, Down, Tyrone and north Antrim. Decreases, mostly of less than 10%, occurred in some eastern areas, notably Co. Dublin and parts of Louth, Kildare, Meath and Carlow.

Alongside these locational changes, there has been a major shift in cow breeds, with Friesian and Friesian cross animals accounting for some 80% of the cow herd in 1980, compared to less than 50% in 1970 and only 6% in 1960. The growing dominance of Friesians has been mainly at the expense of Shorthorns and reflects the utility of the Friesian as a good dual purpose breed for both the dairy and beef industries. Shorthorns remain of significance only in the West and Northwest regions where they account for

over one-sixth of the total cow herd.

In 1980 sheep accounted for 3·5% of the value of gross agricultural output. They are particularly important in mountain and hill areas where they have many advantages over other types of livestock. In the upland areas the highest densities occur in the east, with values of over 3000 per 1000 ha land related to livestock in north Antrim, south Down and Wicklow. By contrast, in the western upland areas the densities are mostly between 750 and 1500. The lowest densities occur in the dairying districts, on the poorly drained soils in the hinterland of the Shannon estuary and in the northern drumlin belt, especially in Cavan, Monaghan and Fermanagh where susceptibility to diseases is greatest and weight gains are least. Over the decade the total number of sheep declined by 13·8%. The greatest declines were in the lowland sheep areas, especially in east Galway and the Midland and East region. Increases occurred in the south-west uplands, west Galway and Mayo, Leitrim, Donegal and the more northern parts of Northern Ireland.

In 1980 there were some 77,000 horses and ponies in Ireland, 25% of them being classified as working animals. Most of the latter occurred in the western counties, with 56% of the total in counties Cork, Kerry, Clare, Galway and Mayo. In the remainder of the country they are of minor importance due to the advances in mechanisation. Approximately 45% of all thoroughbred horses are located in Kildare, Meath and Dublin; a further 34% occur in Kilkenny, Wexford, Tipperary, Cork and Limerick. 'Other horses' which account for 50% of the total, are mainly kept for hunting, show-jumping and general pleasure riding. These animals are strongly represented in the vicinity of the major cities and on the major farms in the south-east and in Munster.

Finally, since the different types of livestock vary in their requirements of land, labour and capital, and in the economic returns that may be derived from them, it is necessary to compute the total number of livestock unit equivalents (L.U.Es) for each region. The system of units adopted here is described elsewhere (Horner, Walsh and Williams, 1984, p. 36). In 1980 there were approximately 7·1 million L.U.Es in Ireland. The shares of the total accounted for by the different livestock categories in this calculation were: breeding cattle, 39·5%; dry cattle, 40·6%; cattle under one year, 9·3%; sheep, 9·4%; and horses, 1·2%. The corresponding proportions in 1970 were 38·0, 38·5, 9·7, 12·1 and 2·7% respectively. The pattern of livestock unit densities varies at the regional level from 891 in the Northwest to 1354 per 1000 ha land related to livestock in the Southwest. Densities in excess of 1500 occur in east Cork, north Kilkenny, Carlow, Wexford, east Meath and Down. By contrast densities below 500 are found in south-west Kerry, north-west Clare, west Galway, north-west Mayo and south Donegal.

In 1980 there were approximately 1,722,000 pigs in the country, of which 40·1% were in Northern Ireland. They account for 7·5% of the value of gross agricultural output in the Republic and 12·9% in Northern Ireland. For most producers, pig rearing remains a minor enterprise in a mixed farming system. In the Republic 53·6% of producers have only one or two breeding animals. However, most of the output comes from a relatively small number of very large scale producers. In the Republic less than 5% of the producers account for over 80% of the animals. One-third of the production occurs in Cos. Cork and Cavan, while another quarter is located in Wexford, Kilkenny, South Tipperary and Waterford. Between 1970 and 1980 there

was a decline of 31.3% in the total number of pigs, with the greatest decreases in the Northwest and Southwest and in Northern Ireland. Increases occurred in two areas: Wexford, Waterford and South Tipperary in the south-east and Offaly, Westmeath, Longford and Cavan in the midlands.

In 1980 there were over 21 million poultry in Ireland, 53.4% of which were in Northern Ireland. Eggs and poultry meat accounted for 3.8% of gross agricultural output in the Republic and 12.4% of gross output in Northern Ireland. Production is highly concentrated with approximately 30% and 17% of the total flock in the Republic located in Monaghan and south-west Limerick. The total number of poultry declined by 31.1% between 1970 and 1980, with the greatest decreases being in the West and Midland and East regions and in Northern Ireland. Whereas 39.1% of the total flock in the Republic of Ireland were located in Connaught, Cavan, Donegal, Clare, Cork and Kerry in 1970, the proportion in these areas had declined to 20.4% in 1980. Over the same period Monaghan and Limerick increased their share of the total from 24.6% to 46.8%.

In summary, the main developments in agricultural production between 1970 and 1980 were: (a) fewer farms, employing a significantly reduced amount of labour and more machinery, (b) an overall increase in the level of intensification of cattle, milk and cereals production, (c) significant reductions in the numbers of sheep, horses, pigs and poultry, and (d) marked regional shifts in the location of many agricultural enterprises, especially tillage, sheep, pigs and poultry. It has been suggested that economic factors have been dominant in shaping the patterns of change and relocation. While this note has indicated some of the main trends over the decade 1970-80 further research will be required to establish the interrelationships between these trends, and the precise role of such factors as market forces, policy measures, structural and demographic conditions in producing these trends. Additional research will be necessary to assess their significance for agricultural development in each of the regions over the next decade.

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MANUFACTURING CHANGES IN THE GREATER CORK AREA 1980-1984

During the 1970s a general mood of optimism existed in the Greater Cork Area for the continuation of industrial development and the fulfillment of its projected role to become a national growth centre.¹ This optimism and the positive forecasts for an expansion in manufacturing employment found